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A Spatial Analysis of the Israeli Military's Conduct in Gaza since October 2023

Report by Forensic Architecture

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1. Introduction

1 In this chapter we provide a short account of Forensic Architecture, describe who we are and what we do, what methodologies we used in this report, account for the way this project began, and provide a short background to the different aspects of Gaza's history relevant to the following chapters.

A WHAT IS FORENSIC ARCHITECTURE?

2 Forensic Architecture (FA) is a research agency based at Goldsmiths, University of London, that provides evidence and expert testimony for national and international courts based on analysis of evidence concerning potential human rights violations, war crimes, violations of International Humanitarian Law (IHL), and other potential crimes.

3 'Forensic architecture' is also the name of an interdisciplinary academic field developed within Goldsmiths since 2010. The term refers to the production and presentation of spatial evidence within legal and paralegal contexts.

4 As an independent university-based research agency, we have undertaken over 100 investigations around the world, including in Mexico, the United States, Colombia, Indonesia, Cameroon, Greece, Bosnia, Guatemala, Germany, Israel/Palestine, the United Kingdom, and Namibia.

5 Across our investigative research, we employ a suite of methodologies in spatial and architectural analysis, open-source investigation, digital modelling, and witness interviewing using three-dimensional digital models (specific methodologies applied in respect of this report are outlined in the methodology section below, and further, where necessary, in each chapter). We reconstruct incidents, including incidents of IHL and human rights violations, violations of the Genocide Convention, as well as conducting large-scale analysis of patterns of violations across larger territories and periods, by examining and analysing evidence obtained elsewhere.

6 Our work has been admitted in legal processes in jurisdictions around the world, including in the US, the UK, Germany, Guatemala, Namibia, Greece, Israel, and Colombia. Other investigations have been submitted to the International Criminal Court, and presented at the European Court of Human Rights (ECHR) and in the United Nations General Assembly. Our director, Eyal Weizman, was a member of the Technology Advisory Board of the International Criminal Court, helping to shape the early use of new media evidence in legal contexts. We have presented evidence in parliamentary inquiries, truth commissions, international media, and in exhibitions in cultural venues.

7 Since 2020, we have supported the growth of independent agencies worldwide that practise and apply our methods, including in Ramallah, Berlin, Bogotá, Mexico City, Rio de Janeiro, and many others. We often collaborate with these groups on common investigations.

8 We have received international recognition for our work. Our citation for a Peabody Award commended the agency for 'co-creating an entire new academic field', while our work was hailed as a 'scientific breakthrough' which has led to 'deep change in existing paradigms' by the European Research Council.

9 The majority of our funding – including funding for the original research including that which supported the original research from which this report is compiled – comes from academic research grants, and grant-making foundations in human rights, advocacy, and technology.[1]

10 FA is led by Eyal Weizman, Professor of Visual and Spatial Cultures and founder of the Centre for Research Architecture at Goldsmiths. Professor Weizman studied architecture at the Architectural Association School of Architecture in London and completed his PhD on human rights and spatial analysis at Birkbeck College, University of London. He has written extensively on contemporary human rights, both in the context of Israel/Palestine and more widely. Weizman has taught at institutions

[1] 'Funding Forensic Architecture' <https://forensic-architecture.org/about/funding> accessed 26 September 2024.

around the world, including as a Global Scholar at Princeton University and as a guest professor at the ETH Zurich. In 2019, he was elected Life Fellow of the British Academy and awarded an MBE for services to architecture in 2020.

11 Forensic Architecture is a multidisciplinary team. Its members hold degrees in architecture, journalism, computer science, and law from universities such as the Royal College of Art, University of Oxford, Goldsmiths, the Architectural Association, and Columbia University. All our team members are trained and mentored by our senior staff and by our director at our offices at Goldsmiths. Senior staff on this project include:

(a) Assistant Director Dr Samaneh Moafi holds an architecture degree from the University of Technology Sydney, and a PhD from the Architectural Association School of Architecture.

(b) Senior Researcher Nour Abuzaid completed a BSc in Architecture at Istanbul Technical University (ITU) and an MSc. in Architecture and Computational Design between ITU and TU Delft University, specialising in spatial analysis and computational systems.

(c) Dedicated Palestine researcher Dr Shourideh C. Molavi is a senior lecturer at the Institute for the Study of Human Rights at Columbia University in New York City. She has an educational background in International Humanitarian Law and holds a PhD from York University.

(d) Assistant Director Omar Ferwati studied architecture at the University of Waterloo, where he completed a Master of Architecture (MArch).

(e) Researcher Dr Peter Polack received a PhD in Information Studies from the University of California, Los Angeles (UCLA). He holds an MS in Computer Science and a BS in Computational Media from the Georgia Institute of Technology.

12 As a constituent entity of Goldsmiths, all research conducted by FA is overseen by Goldsmiths Research, Governance, Ethics and Integrity Committee through approvals processes under our Pro-Warden for Research. Research directions are discussed in consultation with the FA Advisory Board.[2] We abide by Goldsmiths' Research Ethics Code of Practice and Research Data Policy, as well as by national and international best practice standards, such as the UK Research Integrity Office Code of Good Practice, as well as the UK Data Protection Act 2018, and UK GDPR.

[2] 'Advisory Board Forensic Architecture' <https://forensic-architecture.org/about/advisory-board> accessed 26 September 2024.

B FA'S ANALYSIS OF ISRAELI MILITARY ACTIONS IN GAZA SINCE 7 OCTOBER 2023

13 This report draws on a research project independently undertaken following the start of Israel's military campaign in Gaza in October 2023. The project uses FA's research methodologies to construct a comprehensive dataset and interactive interface, which we refer to as the 'General Cartographic Database' ('GCD'; see more on the GCD in Methodology, below).

14 Data exported from the GCD has constituted the basis of several reports we have published since October 2023, including:

(a) **Inhumane Zones**: An assessment of Israel's actions with respect to the provision of aid, shelter, safe passage, and assistance to evacuees in Gaza; response to questions raised in the ICJ on 17 May 2024 (pub. 19 May 2024)[3]

(b) **Attacks on Aid in Gaza**: Preliminary Findings (short study and interactive platform, pub. 26 Apr 2024)[4]

(c) **Mass Burials at al-Shifa Hospital** (short study, pub. 10 Apr 2024)[5]

(d) **Israel's Ecocide in Gaza** (video investigation, pub. 29 Mar 2024)[6]

(e) **Humanitarian Violence**: Israel's Abuse of Preventative Measures in its 2023–2024 Genocidal Military Campaign in the Occupied Gaza Strip (pub. 7 Mar 2024)[7]

(f) **An Assessment of Visual Material**: Presented by the Israeli Legal Team at the International Court of Justice (ICJ), 12 January 2024 (pub. 26 Feb 2024)[8]

(g) **Israeli Disinformation**: Al-Ahli Hospital (short study, pub. 15 Feb 2024)[9]

(h) **Destruction of Medical Infrastructure in Gaza:** (interactive platforms, pub. 20 Dec 2023)[10]

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[3] 'Inhumane Zones: An Assessment of Israel's Actions With' (Forensic Architecture, 2024) <https://content.forensic-architecture.org/wp-content/uploads/2024/05/Inhumane-Zones-Report-Forensic-Architecture_WEBSITE.pdf> accessed 12 September 2024

[4] 'Attacks On Aid in Gaza: Preliminary Findings, Forensic Architecture' <https://forensic-architecture.org/investigation/attacks-on-aid-in-gaza-preliminary-findings> accessed 28 September 2024.

[5] 'Mass Burials at Al-Shifa Hospital, Forensic Architecture' <https://forensic-architecture.org/investigation/mass-burials-at-al-shifa-hospital> accessed 28 September 2024.

[6] 'No Traces of Life: Israel's Ecocide in Gaza 2023-2024, Forensic Architecture' <https://forensic-architecture.org/investigation/ecocide-in-gaza> accessed 28 September 2024.

[7] 'Humanitarian Violence in Gaza, Forensic Architecture' <https://forensic-architecture.org/investigation/humanitarian-violence-in-gaza> accessed 28 September 2024.

[8] 'An Assessment of Visual Material Presented by the Israeli Legal Team at the ICJ,' Forensic Architecture' <https://forensic-architecture.org/investigation/assessment-israeli-material-icj-jan-2024> accessed 28 September 2024.

[9] 'Israeli Disinformation: Al-Ahli Hospital, Forensic Architecture' <https://forensic-architecture.org/investigation/israeli-disinformation-al-ahli-hospital> accessed 28 September 2024.

[10] 'Destruction Of Medical Infrastructure In Gaza ← Forensic Architecture' <https://forensic-architecture.org/investigation/destruction-of-medical-infrastructure-in-gaza> accessed 28 September 2024.

15 This report is derived from our ongoing research into the Israeli military's conduct in Gaza and was provided to South Africa (SA) after being approached by SA to provide independent research and reporting for their ongoing submission in the case of Application of the Convention on the Prevention and Punishment of the Crime of Genocide in the Gaza Strip (South Africa v. Israel, henceforth the 'Case'). This report is also intended for public dissemination and for use in other legal and legal adjacent forums, as is consistent with FA's mandate and obligations as a university-based research agency.

16 The work in this report is derived from data gathered from open sources or shared with us by third-party organisations. FA has not received any material from South Africa or other participants in the Case that is covered by legal privilege or by a confidentiality order.

17 FA's provision of this report to South Africa follows the reports it has previously provided to South Africa:

(a) Inhumane Zones: An assessment of Israel's actions with respect to the provision of aid, shelter, safe passage, and assistance to evacuees in Gaza; response to questions raised in the ICJ on 17 May 2024 (pub. 19 May 2024)

(b) A spatial analysis of Israel's conduct in Rafah and across Gaza since the International Court of Justice Order for the Modification of Provisional Measures (submitted 5 September 24)

C SCOPE

18 This report aims to present patterns of 'incidents' – that is, attacks or acts of destruction committed by the Israeli military – within the area of the occupied Gaza Strip (hereafter 'Gaza') between 7 October 2023 and 16 September 2024. These incidents include attacks on homes, shelters, hospitals, and other medical facilities; public institutions such as universities, schools, and government buildings; places of cultural significance such as cemeteries, archaeological sites, and mosques; agricultural infrastructure such as fields, orchards, greenhouses, and water wells; and infrastructure for the transport, storage, and distribution of aid.

19 The report also investigates Israel's establishment of 'safe zones', and announcement of evacuation orders, which have resulted in the repeated large-scale displacement of the Palestinian population in Gaza.

20 The report interrogates the scale and nature of attacks, the extent of damage and the number of victims, as well as the organised nature of the acts of violence and the improbability of their random occurrence.

21 The report seeks to identify 'patterns' within these acts of violence, by which we mean the order of repetition of same, similar or related incidents, at different times and places. Such patterns may indicate that these attacks are designed, formally or informally, rather than occurring at random or in a haphazard way. Pattern analysis is derived from the collection and verification of individual incidents. Our database is made up of all incidents we have collected and verified (see verification framework below) between 7 October 2023–11 October 2024. While our dataset of incidents is limited by what we were able to verify within the timeframe provided, our analysis of this dataset demonstrates clear patterns of specific military conduct and practices repeated over time and through space; we outline these patterns as findings in each of the areas of study. FA uses its professional expertise to determine the presence of patterns but does not make determinations beyond those patterns directly observable from the data, nor does it make legal inferences or legally evaluate its findings.

22 To identify patterns across thousands of data points, we developed an interactive database-mapping software. The General Cartographic Database (GCD) turns rows of data entered by our researchers into a navigable 'map' of Gaza, within which it is possible to define regions, or periods in time, select certain categories of events (as above), and see all data which matches those criteria. This filtering enabled the identification of trends and patterns in the data.

23 The GCD allows us to study and present patterns related to all documented and verified incidents related to a single category of attack – for example, targeting of aid, destruction of medical infrastructure, or environmental destruction – across the entire territory of Gaza between October 2023 and June 2024. Importantly, the GCD allows us to study relations between incidents of more than one category. This enables us to consider whether relations exist between different types of attack.

24 We note that military actions are multifaceted, and patterns can exist across actions. The effect of military actions on the civilian population may not be fully captured by studying the pattern of repetition of a single type of action in isolation. The simultaneous, or proximate, application of different types of actions in the same territory may generate a cumulative and compounded effect, each action consequently aggravating the effect of another. Establishing relations between different types of actions

can also help determine whether these acts have been organised. Genocide is often understood as a process and a relation between many, rather than a single, act, composed 'of different acts of persecution or destruction'.[11]

25 The report goes on to offer a comparison between statements made by Israeli politicians, security personnel, and other public figures against identified patterns of acts documented on the ground.

26 We consider a **civilian status** to be conferred on any individual who is not a member of an armed group or armed forces and does not participate in hostilities.[12]

27 We consider attacks on civilians to be any act of violence against the civilian population and civilian objects, whether in offence or in defence, even if the attack does not lead to the death or injury of civilians.[13]

[11] Raphael Lemkin, Axis Rule in Occupied Europe: Laws of Occupation - Analysis of Government - Proposals for Redress, (Carnegie Endowment for International Peace, Division of International Law, Washington [D.C.], 1944) 92.
[12] 'Attacks on Civilians and Other Unlawful Killings, and Attacks on Civilian Objects | Global Protection Cluster' <https://globalprotection-cluster.org/index.php/Attacks_on_Civilians> accessed 14 September 2024.
[13] 'Attacks on Civilians and Other Unlawful Killings, and Attacks on Civilian Objects | Global Protection Cluster' <https://globalprotection-cluster.org/index.php/Attacks_on_Civilians> accessed 14 September 2024.

D STRUCTURE

28 The report is constituted by separate chapters, based on analysis of data and maps derived from the GCD, each interrogating different types of action. The chapters are as follows:

1 **Introduction** (present chapter) – setting out the scope, method, context of the report.

2 **Spatial Control** – including the physical shaping of Gaza according to a strategic design, and the forced displacement of civilians following evacuation orders.

3 **Displacement** – mapping the movement of civilians across Gaza.

4 **Destruction of Agriculture and Water Resources** – including the destruction of the means of agriculture, fields, orchards, greenhouses, and water infrastructure.

5 **Destruction of Medical Infrastructure** – including targeting of hospitals and other medical infrastructure, or otherwise forcing medical facilities out of operation, and the targeting of healthcare workers.

6 **Destruction of Civilian Infrastructure** – including the targeting of schools, mosques, and government buildings.

7 **Targeting of Aid** – including the targeting and destruction of infrastructure and personnel necessary for the transport and distribution of humanitarian and food aid.

8 **Cross-pattern Analysis** – examining the relation between the different categories of conduct studied in the other individual chapters.

9 **Conclusion** – observing the intersections and culmination of the report's findings and summarising the findings within each chapter.

29 The report contains an annexed study that considers the relationship between a series of statements made by Israeli state and army officials, advisers, journalists, soldiers, public figures, and spokespersons, and the patterns, nature, and conduct of Israel's military operations in Gaza from October 2023 to June 2024 as observed in this report.

E CONTEXT

30 Our pattern analysis extends beyond the establishment of relationships between contemporaneous incidents and seeks also to examine relationships to incidents across the region's history.

31 The following sections aim to provide historical context to the findings in this report regarding the current acts and conduct of the Israeli state and military.

1.1 Displacement

32 Nearly two million Palestinians, almost the entire population of Gaza, have been displaced since October 2023.[14]

33 On 13 October 2023, Israel ordered all Palestinians in Gaza City and its surrounding region to move southward, across Wadi Gaza. The separation of 'north' and 'south' Gaza crystallised into a fortified and de facto internal border roughly two kilometres north of Wadi Gaza, known as the 'Netzarim corridor'. It is important to note that the displacement of Palestinians since October 2023 occurred from the comparatively water-rich north to the arid south, and from the more fertile east to the dunes along the shoreline to the west (see Chapters 4, 3: Destruction of Agriculture and Water Resources, Displacement).

34 There are historical echoes to this displacement. Throughout the 1948 war, the Israeli military attempted to push Palestinians from north to south and across the border to Egypt. The Israeli military was unable to dislodge the Egyptian army from the road between Rafah and Gaza, thus Palestinian refugees remained in this sliver – or 'strip' – of coastal Palestine.

35 Approximately 70% of the Gazan population of 2.3 million are refugees, expelled into Gaza by Zionist paramilitary organisations and the Israeli military from 247 Palestinian trading towns, farming villages, and localities along the southern coast of Palestine, subsequently destroyed by the Israeli military.[15] By the time a ceasefire between Israel and Egypt was reached at the start of 1949, roughly 200,000 Palestinian refugees were trapped in an enclave slightly larger than 1% of Mandate-era Palestine with a prewar population of 80,000.[16]

36 In 1952, Israel demanded of the UN and Egypt that the Palestinian refugee population in Gaza be moved to Egypt's Western Desert.[17] In the early 1950s, Israeli raids on the Palestinian refugee camps and on Egyptian forces in Gaza led the UN and Egypt to make plans to relocate Palestinian refugees

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[14] Ibrahim Dahman, Tim Lister and Eugenia Yosef, 'Almost entire population in Gaza now displaced amid fresh Israeli offensive' (*CNN*, 6 July 2024) <https://www.cnn.com/2024/07/06/middleeast/palestinians-displaced-gaza-israel-intl/index.html > accessed 24 September 2024.

[15] Walid Khalidi, *All That Remains: The Palestinian Villages Occupied and Depopulated by Israel in 1948* (Washington D.C.: Institute for Palestine Studies, 1992), 127. Salman Abu Sitta, 'Mapping my Return', in All that Remains (1992: xvii–xx), Walid Khalidi, relying on the Palestine Index Gazetteer (1945) and the Village Statistics (1945), both compiled by the British Mandatory authorities, listed 418 depopulated and destroyed villages. However, Salman Abu-Sitta's figures list a total of 531 localities, these includes 77 destroyed Bedouin villages in southern Palestine (p.71). Ilan Pappe, in *The Ethnic Cleansing of Palestine*, discusses the origins of this Israeli policy.

[16] The paragraph above has many sources, regarding numbers of villages destroyed and of refugees expelled into Gaza, see Salman Abu Sitta, *Mapping My Return: A Palestinian Memoir* (The American University in Cairo Press 2016) especially but not exclusively, 26-28, 263. The destruction of villages to avoid Palestinian return has been discussed in Benny Morris, *The Birth of the Palestinian Refugee problem, 1947-1949* (Cambridge University Press, 1988), 132-196, specifically the destruction of wells were discussed in Benny Morris & Benjamin Z. Kedar*'Cast thy bread': Israeli biological warfare during the 1948 War* (Middle Eastern Studies, vol. 59 issue 5, 2023), 752-776.

[17] Benny Morris, Israel's Border Wars: 1949-1956; Arab Infiltration, Israeli Retaliation, and the Countdown to the Suez War (Clarendon Press, 1997), 88.

away from Gaza and into the Sinai desert along a planned freshwater canal from the Nile. Palestinians understood the plan as the denial of their right of return and organised against it. Palestinian protests culminated in 1955 and managed to stop the plan.[18]

37 Attempts to forcibly relocate the Palestinian refugee population were made again after the 1967 Israeli occupation of the Egyptian Sinai Peninsula, Gaza, the West Bank, East Jerusalem, and the Syrian Golan Heights, during the Israeli military raids into Palestinian communities in the early 1970s. At this time, Israel demolished large parts of the refugee camps in the north of Gaza, Jabalia and al-Shati, and forcibly relocated tens of thousands of refugees to Rafah in the south. Israel aimed to relocate them to the al-Arish area in northern Sinai, but this plan was resisted by Palestinian refugees.[19] Israel ended up constructing housing for refugees near Rafah.[20] In 1972, Israel used the structures of the abandoned Canadian and Brazilian UN camps, located on both sides of the Palestine–Egypt border in Rafah as the basis to house the displaced refugees from north Gaza. The Brazil Camp was abutting the border on the side of occupied Gaza, while the Canada Camp was located just beyond the border in occupied Sinai. Until April 1982, both sides of the old Egyptian–Palestine border were occupied by the Israeli military and movement across the border was free.[21]

38 The 1979 Egypt–Israel peace accord signed in Camp David stipulated that the Gaza–Egypt border would be separated by a one-hundred-metre-wide strip of cleared land. The strip – which came to be known as the Philadelphi corridor – was to be fenced through the middle. The agreement allowed for the residents of the Canada Camp to move back to occupied Gaza. But Israel delayed the return of refugees to Palestine. For years, five thousand Palestinian refugees from the Canada Camp remained in Egypt without local work permits, waiting to be transferred. It took almost two decades for Israel to follow through on the agreement and allow the Palestinians relocated to the Canada Camp to return to Gaza.[22]

39 From October 2023 to May 2024, Israeli government ministers were clear in their desire to see Palestinians expelled to Egypt though the Philadelphi corridor, but Palestinians were not permitted to cross into Egyptian Sinai en masse and the exit of Palestinians was limited by the Egyptian authorities.[23] On 15 May – one week after the Israeli invasion of Rafah and prior to Israel's subsequent announcement of its 'operational control' over the Philadelphi corridor on 29 May – Israel once again sought for Egypt to open the border to Palestinians leaving Gaza, a request that was refused by the Egyptian authorities.[24]

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18 'Survey Report, Northwest Sinai Project, Republic of Egypt' <https://www.un.org/unispal/document/auto-insert-195116/> accessed 27 September 2024; Jonathan Adler, 'How Plans to Move Palestinians to Egypt Backfired' (*New Lines Magazine*, 12 May 2023) <https://newlinesmag.com/essays/how-plans-to-move-palestinians-to-egypt-backfired/> accessed 27 September 2024.

19 Ilana Feldman, *Governing Gaza: Bureaucracy, Authority, and the Work of Rule, 1917-1967* (Duke University Press, 2008), 288.

20 Fatina Abreek-Zubieda, 'In the Name of Belonging Developing Sheikh Radwan for the Refugees in Gaza City, 1967-1982' in Luce Beeckmans, Alessandra Gola, Ashika Singh, Hilde Heynen (eds.), *Making Home(s) in Displacement: Critical Reflections on a Spatial Practice* (Leuven University Press, 2022) 117-137.

21 Sha'ath, Randā. (1989). Waṭanī 'alá marmá ḥajar: mukhayyam Filasṭīnī fī Miṣr [My Homeland is a Stone's Throw Away: A Palestinian Aamp in Egypt]. Jārdin Sītī, al-Qāhirah : Dār al-Fatá al-'Arabī.

22 The 1987 intifada delayed the first families' crossing until December 1989. By August 1992, 105 of Canada Camp's nearly 500 families had moved back to Gaza. But PLO support for Iraq in the 1991 Gulf War and the door closed again. The last families were not able to return until December 27, 2000. Gaza: A Legacy of Occupation: A Photographer's Journey, Dick Doughty and Mohammed El Aydi (West Hartford, CT: Kumarian Press, 1995). Preface & Historical Note (pp. xix - xxix); Sha'ath, Randā. (1989). Waṭanī 'alá marmá ḥajar: mukhayyam Filasṭīnī fī Miṣr [My Homeland is a Stone's Throw Away: A Palestinian Aamp in Egypt]. Jārdin Sītī, al-Qāhirah : Dār al-Fatá al-'Arabī; Dani Tsidkoni, 'The other side of the southern border' Davar 24 December 1982; Filiu, p.142

23 Patrick Wintour, 'Why Egypt has not fully opened its Gaza border for fleeing Palestinians' (2 Nov 2023) https://www.theguardian.com/world/2023/nov/02/why-egypt-has-not-fully-opened-its-gaza-border-for-fleeing-palestinians accessed 24 September 2024.

24 'Egypt Rejects Israeli Plans for Rafah Crossing, Sources Say | Reuters' <https://www.reuters.com/world/middle-east/egypt-rejects-israeli-plans-rafah-crossing-sources-say-2024-05-16/> accessed 27 September 2024; 'Israel in Effective Control of Entire Gaza Land Border after Taking Philadelphi Corridor in South | Israel-Gaza War | The Guardian' <https://www.theguardian.com/world/article/2024/may/30/israel-idf-philadelphi-corridor-rafah-gaza-control-palestine-war-hamas> accessed 27 September 2024.

40 The north-to-south population displacement across Gaza was complemented by expulsions from east to west. The patterns of displacement from east to west exist with the continuous extension of the Israeli-imposed 'buffer zone' (see: 'the buffer zone' below). Throughout its assault, the Israeli military has pushed Palestinian farmers from all areas close to the fences in the agrarian areas of Gaza, where farmers cultivated a narrow sliver of loess and clay soil east of Salah al-Din Road towards the southern and western parts of Gaza. On 1 September 2024, Israel's current Minister of Finance, Bezalel Smotrich, said, 'The Gaza Strip must be reduced. IDF forces must move two kilometres inland from the current border and clear everything in their path. This is an area that will never return to the Gazans.'[25]

[25] Sam Sokol, 'Smotrich Blasts "Surrender Deal" in Response to Gallant's Call to Reverse Cabinet Decision on Philadelphi Corridor' <https://www.timesofisrael.com/liveblog_entry/smotrich-blasts-surrender-deal-in-response-to-gallants-call-to-reverse-cabinet-decision-on-philadelphi-corridor/> accessed 14 October 2024.

1.2 The Settlements

41 Throughout the 1950s and 1960s, there was no fence around Gaza. The first was erected after the area was occupied in 1967, as a part of counterinsurgency raids led by Ariel Sharon, who, in the early 1970s, was the area's military commander. Settlements were placed according to the so-called 'five fingers' – which saw settlement blocs and security roads leading to them as the means to bisect, envelop, and segregate Palestinian populated areas throughout Gaza. Military bases, roads, and lines of fortifications were built over destroyed Palestinian lands. Together, settlements, roads, fences, checkpoints, and military infrastructure create an interlocking architecture of control that put a hold on Palestinian movement and many aspects of Palestinian life in Gaza.[26]

42 Settlements and settlement blocs created five wedges. The northern and southernmost settlements hemmed Gaza, while other settlement blocs cut the territory into three sections: the 'north' included Gaza City and the camps and villages that surrounded it. Between the north and the 'centre' – which included Deir al-Balah and the refugee camps of Nuseirat, al-Bureij, and al-Maghazi – Israel erected in 1972 a large, fortified settlement called Netzarim. The settlement was surrounded by several layers of fences and military bases. It was served by a major security route – meant for the exclusive use of the Israeli military and Israeli settlers – that led from a checkpoint entry in the eastern fence (see Figure 1.1). 'Security roads' like the Netzarim road have been frequently used to fragment Palestinian territories throughout the history of Israel's occupation of the West Bank and Gaza (see Chapter 2: Spatial Control).[27]

43 Where the military-controlled road serving Netzarim intersected with Salah al-Din Road, Gaza's main north–south traffic artery, the military established a large checkpoint and a base. The checkpoint was frequently closed and at other times used to monitor traffic. By the end of October 2023, the area of the former Netzarim settlement was occupied and soon after the Netzarim corridor was established (see Chapter 2: Spatial Control).

44 Another fortified settlement was Kfar-Darom, the first Jewish settlement to be established in Gaza in 1970. It was located between the centre of Gaza and the south – which included Khan Younis and Rafah. Kfar-Darom was located directly on Salah al-Din Road. Like Netzarim, it was a means of controlling Palestinian traffic. It had an adjacent military base and was served by a security road known as the Kissufim corridor. Like the Netzarim corridor, it created a barrier and channelled all traffic to the checkpoint on Salah al-Din Road. In the spring of 2024, the Kissufim corridor was occupied and reused by the military to raid Palestinian areas (see Chapter 2: Spatial Control). Throughout the years of direct occupation (1967–2005), north–south movement along the Salah al-Din Road was often blocked and regulated by other permanent or temporary checkpoints.

45 There were other Israeli security roads that bisected Gaza. For example, the Sufa Road, leading to the settlement of Morag (established in 1972), facilitated the separation of Khan Younis from Rafah.

46 The Philadelphi corridor is a road and a buffer zone that runs 14 kilometres along the border between Gaza and Egypt from Karem Abu Salem/Kerem Shalom to the Mediterranean. It includes the Rafah crossing terminal at the south end of Salah al-Din Road. The Philadelphi corridor was established in the spring of 1982, after Israel's withdrawal from Sinai following the terms of its peace accord with Egypt.

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[26] Eyal Weizman, *Hollow Land*, (Verso, 2007), 70; Ariel Sharon with David Chanoff, *Warrior: An Autobiography* (New York: Simon Schuster, 2001), 208-219.

[27] Ariel Sharon, *Warrior: An Autobiography* (2nd edn, Simon & Schuster, 2001) 259; Eyal Weizman, Hollow Land.

47 The largest bloc of settlements, Gush Katif, separated Rafah and Khan Younis from the coast and created a long beachside enclave of dunes known as al-Mawasi, inhabited by the local sedentary al-Mawasi Palestinian Bedouin tribe.

48 In 2005, Israel removed its settlers, destroyed the settlements and the military bases built in Gaza, and redeployed its ground forces behind the fences on the ceasefire line. Palestinian authorities used the area of the former settlements to construct public institutions, universities, and hospitals.[28]

49 Despite Israel having removed its settlements and military bases from Gaza in 2005, international organisations such as the Red Cross, the UN, the European Union, the African Union, as well as international courts and human rights organisations consider Gaza to be still occupied. Through land crossings and its control and presence in the sea and air space, Israel has 'effective control' over the lives of Palestinians in Gaza.[29]

[28] Eyal Weizman, *Hollow Land*, (London, Verso, 2007)
[29] 'IHL on the Occupying Power's Responsibilities in the Occupied Palestinian Territory | ICRC' <https://www.icrc.org/en/document/ihl-occupying-power-responsibilities-occupied-palestinian-territories> accessed 27 September 2024.



Figure 1.1. Israeli settlements in Gaza, May 2005.

1.3 The Closure/Siege

50 Exit from Gaza was regulated by other permanent checkpoints that grew into 'crossings,' or 'terminals'. In January 1991, during the first Gulf War, Israel began to demand that any Palestinian entering Israel obtain a special permit. This policy led to the separation of the West Bank/Jerusalem and Gaza.[30] In 1994, Israel built another set of perimeter fortifications consisting of an electronic fence, sentry posts, and patrol roads, and installed permanent checkpoints along the boundary controlling the movement of people and goods into and out of Gaza.

51 Over the years, and based solely on its own considerations, Israel has further restricted the fishing zone to varying extents, sometimes to a mere three nautical miles.[31] In the mid-1990s, following the signing of the Oslo Accords, Israel further restricted the ability of Palestinians to travel out of Gaza.

52 After Hamas took power in Gaza in 2007, Israel announced a blockade policy. It included prohibition on travel into and out of Gaza and severe limitations on the import and export of various products. Over the 17 years since, Israel has controlled the supply of essential goods to Gazans: food, diesel, electricity, and other forms of humanitarian aid. Every commodity, provision, and person entering Gaza was regulated and reduced to a minimum. This included limitations on the quantity of food (calculated down to the calorie), litres of fuel, and megawatts of electricity. The Israeli military calibrated this privation to a point that brought life in Gaza to a near standstill and created a humanitarian situation in which civil institutions, hospitals, and water and hygiene systems were barely able to function. The power shortage impacted water and sewage facilities. About 90 to 95% of the water pumped locally is contaminated.[32]

53 The 'humanitarian minimum' was outlined in a 2007 Israeli military document, 'Food Consumption in the Gaza Strip – Red Lines', which was made public by the Israeli rights group Gisha in 2012. The Israeli report determined that the minimum number of calories required to sustain Gaza's population of 1.5 million at a level just above the UN definition of hunger was an average of 2,279 calories per person per day. Numerical formulas with upper and lower thresholds defined what the military called the 'breathing space' – which is to say, the time left before hunger starts killing people.[33] They calculated the foodstuffs produced in Gaza and the number of people in the territory. The total number of calories arrived at was then divided into cereals, fruits and vegetables, meat, milk, and oil. These in turn were translated into tonnage and the number of trucks of international agencies to be allowed into Gaza.

54 Nearly all of Gaza's energy is supplied by Israel, both directly, from its electric grid, and indirectly, through fuel supplies to Gaza's only electrical power plant. From 2 February 2008, the Israeli military reduced the current supplied by each of the power lines by 5% every week for the subsequent several

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30 Leila Farsakh, 'The Economics of Israeli Occupation: What Is Colonial about It?' (presented at 'Comparative Occupations: Chechnya, Iraq, Palestine, Governing Zones of Emergency' Workshop, Middle East Institute, Harvard University, 25–26 February 2006).

31 'Conquer and Divide' <https://conquer-and-divide.btselem.org> accessed 27 September 2024.

32 'The Occupation of Water' (*Amnesty International,* 29 November 2017) <https://www.amnesty.org/en/latest/campaigns/2017/11/the-occupation-of-water/> accessed 27 September 2024."plainCitation":"'The Occupation of Water' (Amnesty International, 29 November 2017

33 'Food Consumption in the Gaza Strip - Red Lines' <https://www.gisha.org/UserFiles/File/publications/redlines/redlines-position-paper-eng.pdf> accessed 27 September 2024; Yotam Feldman and Uri Blau, 'Gaza Bonanza,' Ha'aretz (11 June 2009) < https://www.gisha.org/userfiles/File/HaaretzGazaBonanza.pdf > accessed 26 September; David R. Francis, 'What Aid Cutoff to Hamas Would Mean', Christian Science Monitor, 27 February 2006. See note 20; IDF humanitarian coordination, 'An Interview with Baruch Spiegel', 19 February 2009, edition 7, vol. 7, bitterlemons-international.org/inside.php?id=1066; Darryl Li, 'Disengagement and the Frontiers of Zionism,' 16 February 2008, Middle East Report, https://merip.org/2008/02/disengagement-and-the-frontiers-of-zionism/ accessed 26 September 2024; Yotam Feldman, 'Red Lines', Mita'am, May 2010 [Hebrew]. Eyal Weizman, The Least of All Possible Evils, London: Verso 2011.

months. Israel reduced the power plant's capacity by gradually reducing the supply of industrial diesel down to a level that the Israeli high court accepted as the humanitarian minimum.[34] This created chronic deficiency in medical treatment that fell well short of meeting the needs of the population.[35]

55 The current blockade has led to the collapse of Gaza's economy. More than 80% of the population relied on aid to meet basic needs; 60% suffered food insecurity; upwards of 40% were left unemployed.[36]

56 The system and infrastructure of the blockade were used to enact the present siege of 2023–2024 (see Chapter 7: Targeting of Aid). This is made explicit in Prime Minister Netanyahu's 18 October 2023 statement: 'we will not allow humanitarian assistance in the form of food and medicines from our territory to the Gaza Strip.' In mid-January 2024, after international pressure, Netanyahu returned to a policy of strictly regulated aid based on Israel's interpretation, nowhere internationally accepted, of what constitutes the humanitarian minimum in Gaza.[37]

[34] 'Electricity Shortage in Gaza: Who Turned Out the Lights?' (GISHA - Legal Center for Freedom of Movement, May 2010) <gisha.org/UserFiles/File/publications/ElectricitypaperEnglish.pdf> accessed 27 September 2024; 'Red Lines Crossed: Destruction of Gaza's Infrastructure' (Gisha, 11 August 2009) <https://gisha.org/en/red-lines-crossed-destruction-of-gazas-infrastructure/> accessed 27 September 2024.

[35] Al Mezan Center for Human Rights, Palestinian Centre for Human Rights, and Al-Haq, 'Assault on Gaza in Numbers' (January 2022) <https://pchrgaza.org/wp-content/uploads/2022/02/Gaza-Report-English.pdf> accessed 27 September; Forensic Architecture and B'tselem, 'Conquer and Divide,' <https://conquer-and-divide.btselem.org/map-en.html> accessed 27 September 2024.

[36] '15 years of blockade leaves Gaza facing a perpetual health crisis,' (Al Mezan Center for Human Rights, 15 June 2022) <https://www.mezan.org/en/post/33132/15-years-of-blockade-leaves-Gaza-facing-a-perpetual-health-crisis> accessed 27 September 2024.

[37] Lazar Berman, 'Netanyahu: We're Allowing 'Minimum' Amount of Aid Necessary in Order to Prevent Gaza Humanitarian Crisis' (*The Times of Israel,* 18 January 2024) <https://www.timesofisrael.com/liveblog_entry/netanyahu-were-allowing-minimum-amount-of-aid-necessary-in-order-to-prevent-gaza-humanitarian-crisis/> accessed 12 September 2024.

1.4 The 'buffer zone'

57 During the al-Aqsa Intifada of the early 2000s, Israel first imposed with gunfire an 'access restricted area' of around 100–150 metres into Gaza. In September 2005, after the evacuation of settlements and bases from Gaza, the Israeli military issued notice that Gaza residents must keep a distance of at least 150 metres from the perimeter fence. In some areas the military restricted Palestinians to 500 metres from the fence. After Hamas took power in 2007, Israel began to enforce access restrictions over a larger area, spanning 300 metres to one kilometre in some parts. From 2010 onwards, while the buffer zone was formally at 300 metres, farmers were allowed to approach up to 100 metres from the fence. No structures were allowed in this zone, Israel regularly bulldozed plants and structures in this area, and crops had to be under 100 centimetres in height. Israel enforced the buffer zone using live fire. It destroyed crops in the area using bulldozers and aerial spraying of herbicide. No structures were allowed in this zone.[38]

58 After Hamas took power in 2007, Israel further fortified the perimeter of Gaza with more fences, control towers, cameras, and remotely controlled machine guns. In recent years, Israel reportedly placed an underground barrier designed to block cross-border tunnels.[39]

59 In November 2023, the military announced an expanded buffer zone that would extend about one kilometre into Gaza, destroying cultivated farmland and undermining Gaza's food supply.[40] Israel has thereafter destroyed every building, greenhouse, field, or garden within the expanded buffer zone. Large parts of villages such as Beit Lahiya and entire neighbourhoods in Shuja'iyya were erased and Palestinian civilians were displaced to the west (see Chapters 2, 4, 3: Spatial Control, Destruction of Agriculture and Water Resources, and Displacement).

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38 'The Ever-expanding Gaza Buffer Zone,' GISHA - Legal Center for Freedom of Movement (30 June 2024) <https://gisha.org/en/the-ever-expanding-gaza-buffer-zone/> accessed 26 September 2024; Miriam Berger, 'Israeli spraying of herbicide near Gaza harming Palestinian crops' (*The Guardian*, 19 July 2019) <https://www.theguardian.com/world/2019/jul/19/israeli-spraying-of-herbicide-near-gaza-harming-palestinian-crops> accessed 12 September 2024.

39 'Israel completes 'iron wall' underground Gaza barrier,' Al Jazeera (7 December 2021) <https://www.aljazeera.com/news/2021/12/7/israel-announces-completion-of-underground-gaza-border-barrier> accessed 27 September 2024.

40 'The Ever-expanding Gaza Buffer Zone,' GISHA - Legal Center for Freedom of Movement (30 June 2024) https://gisha.org/en/the-ever-expanding-gaza-buffer-zone/ accessed 27 September 2024; Loveday Morris, et al. 'What Israel's Strategic Corridor in Gaza Reveals about Its Postwar Plans' Washington Post (17 May 2024) <https://www.washingtonpost.com/world/2024/05/17/gaza-israel-netzarim-corridor-war-hamas/> accessed 27 September 2024.

1.5 Agenda to resettle Gaza, 2023–2024

60 In 2005, Benjamin Netanyahu, who was at that time Israel's finance minister, resigned from government in opposition to Prime Minister Ariel Sharon's plan for the evacuation of the settlements in Gaza.[41] Since the 2005 evacuation, the settler movement, which now has deciding roles in the current Israeli government, has advocated for the rebuilding of the Jewish settlements in Gaza.

61 Though Netanyahu said that the renewal of the settlement project was 'an unrealistic step', and the government has not officially defined it as a goal of the war, over one third of the government publicly supports the settlement and the 'Judaisation of Gaza'. These include Finance Minister Bezalel Smotrich, who is also a minister in the Defence Ministry with sweeping powers over the occupied West Bank, who said, 'the cabinet's war goal includes long-term control by the IDF', and added that preparations should be made to renew the settlement of Kfar Darom, which was evacuated in 2005. National Security Minister Itamar Ben-Gvir stated that Jewish settlement in Gaza is key to Israel's security. The Israeli national-religious settler movement and lobby groups have supported the 'return' and the reestablishment of settlements which were evacuated in 2005. As the ground invasion began, Israeli soldiers started raising orange flags associated with opposition to the 2005 evacuation of settlements from Gaza. Soldiers made graffiti in different places across Gaza declaring the renewal of settlements there.[42] On the Israeli side of the fences, settlers have been gathering, awaiting an opportunity to enter. An Israeli military base established in the Turkish hospital on the Netzarim corridor, on the grounds of the former settlement of Netzarim, became the focus of the movement to resettle Gaza. Soldiers installed a Menorah, originally from the roof of the Netzarim Synagogue, near one of the buildings in the base, just outside the hospital which now functions as a synagogue named 'the synagogue for the eternity of Netzarim'.[43]

[41] Conal Urquhart, 'Netanyahu Quits over Withdrawal from Gaza,' *The Guardian* (8 August 2005) <https://www.theguardian.com/world/2005/aug/08/israel> accessed 12 September 2024.
[42] 'Road to Redemption: How Israel's War Against Hamas Turned Into a Springboard for Jewish Settlement in Gaza,' Ha'aretz (8 July 2024) < https://tinyurl.com/mrayxvnm> accessed 27 September 2024.
[43] Yarden Michaeli and Avi Scharf, 'Road to Redemption: Israel Seized 26 Percent of Gaza. Now, Jewish Settlers See Their Chance' Ha'aretz (8 July 2024) < https://tinyurl.com/mrayxvnm> accessed 27 September 2024.

1.6 Geography

62 Some of the patterns of destruction and displacement brought about by the Israeli military since October 2023 relate to the organisation of soil and climate in the southeastern coast of Palestine.

63 The western, coastal part of Gaza mainly consists of sand dunes. The eastern part, along the fences, is a narrow band, roughly 3-5 kilometres wide, of fertile agricultural soil (loess) where Gaza's agricultural sector is located.[44] There is a small section of even more agriculturally suitable clay soil in a band a few kilometres wide along the northern bank of Wadi Gaza.

64 Along the seam between sand dunes and agricultural soil runs the region's oldest route, known by the Romans as the Via Maris ('Way of the Sea'), which originally linked Egypt to Syria and Turkey. The 40-kilometre-long section of this road between Rafah and Gaza City is today the Salah al-Din Road mentioned above. The road is the focus of life in Gaza and was lined with workshops and small businesses.[45]

65 While Salah al-Din Road divides Gaza into an east and a west, Wadi Gaza divides it into a north and a south.

66 The draining of floodwaters from the Hebron mountains collects in tributaries that gather into Wadi Gaza, the largest seasonal stream of the area. It reaches the sea a few kilometres south of Gaza City. Throughout history, Wadi Gaza functioned as a defensive frontier. In European maps of Palestine from the nineteenth century, Wadi Gaza often marks the southern border of Palestine (the Holy Land), beyond which the desert begins. During the First World War, the Ottoman Fourth Army set its line of defence against the invading British Army along Wadi Gaza (this is the reason that the three large British military bases in Gaza – Nuseirat, al-Bureij, and al-Maghazi – are built on the southern bank of Wadi Gaza). In 1948–49, it was these three bases that turned into refugee camps bearing the same names.

67 Gaza is a climatic threshold. Annual rainfall in the north of Gaza is 500 millimetres a year on average, more than double that of the south. The sharp decline of rain responds to the direction of the coastline. Gaza is at the southeastern corner of the Mediterranean, and in the southern parts of Gaza the prevailing westerly wind no longer comes from over the Mediterranean, heavy with moisture. The result is that the north of Gaza is much lusher than the south, which is considered desert. The border of the desert is a shifting meteorological threshold and was marked along different lines in different periods. Its northernmost location was understood to be Wadi Gaza and its southernmost Rafah.[46]

68 The al-Mawasi area comprises the dunes of southwestern Gaza. Its residents cultivated the land in small depressions dug between the dunes to absorb shallow groundwater – the Arabic name refers to water siphoning – to irrigate small gardens. Since the end of 2023, this dune area was designated by the Israeli military as a 'humanitarian zone' for displaced people, despite lacking almost any infrastructure to support the number of people displaced there. Even after Israel designated the area as a 'humanitarian zone' it was continuously targeted from the air and invaded by the Israeli military on the ground (see Chapter 3: Displacement). Survival in this zone partially relied on Palestinians reverting to the area's traditional ways of obtaining water by digging wells following the traditional al-Mawasi system.

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[44] Khalid Fathi Ubeid, 'Quaternary Stratigraphy Architecture and Sedimentology of Gaza and Middle- to Khan Younis Governorates (The Gaza Strip, Palestine),'International Journal of Scientific and Research Publications, Volume 6, Issue 1 (January 2016)

[45] Jean-Pierre Filiu, Gaza: A History (Oxford University Press, 2014)

[46] Alexandre Kedar, Ahmad Amara, Oren Yiftachel, *Emptied Lands: A Legal Geography of Bedouin Rights in the Negev* (Stanford University Press, 2018); Eyal Weizman and Fazal Shiekh, *The Conflict Shoreline: Colonisation as Climate Change in the Negev Desert* (Steidl Verlag, 2015)

1.7 Previous work by FA on genocide

69 We have previously conducted research and provided legal evidence in two cases that concerned genocide. This included multiple investigations in Namibia and Guatemala.[47] Both genocides involved the displacement and killing of indigenous peoples, in addition to the destruction and transformation of indigenous habitat.

70 On 11–12 June 2024, Eyal Weizman and Paulo Tavares of Forensic Architecture presented evidence in the Guatemala Supreme Court in the trial of General Manuel Benedícto Lucas García, commander of the armed forces between 1978 and 1982, for the genocide (as well as forced disappearance and crimes against humanity) of the Ixil Maya people in Guatemala's west highlands.[48] The Ixil Maya inhabited this area with dispersed homesteads surrounded by small subsistence gardens set in clearings within the otherwise dense cloud forest. We demonstrated how the genocide involved the complete destruction and then the reconfiguration of this environment. We documented the way villagers were systematically executed, villages were razed, fields and forests were burned down, making it impossible for the population to gather foodstuffs and medicinal and ceremonial plants. Altering the environment was key to the destruction of Ixil culture. This destruction rendered the area uninhabitable and forced survivors to displace to areas under the control of the government. Alongside this destruction, a major project of construction and territorial reorganisation took place. Survivors were gathered into 'model villages' or 'poles of development', where the military controlled all aspects of life. Our investigation revealed how the destruction of the relation between their villages, their farms, and the forest environment they inhabited and on which their biological and cultural survival depended was an important element in their destruction as a distinct group. This was a well-honed colonial strategy known as 'territorial reductions' practised by Spanish colonists against indigenous people to free up the land for colonial settlement. Further physical intervention in the landscape included the paving of roads through the forest environment. These roads cut and subdivided the forest environment of the Ixil Mayans and allowed the military to travel unhindered across the territory.[49] Our expert opinion, presented and cross-examined in June 2024, showed that the cultural extermination, genocidal in nature, included a series of spatial design strategies through acts of destruction and reconstruction that aimed at the

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47 'Genocide In The Ixil Triangle ← Forensic Architecture' <https://forensic-architecture.org/investigation/environmental-violence-and-genocide-in-the-ixil-triangle> accessed 27 September 2024; 'German Colonial Genocide In Namibia: Shark Island ← Forensic Architecture' <https://forensic-architecture.org/investigation/shark-island> accessed 27 September 2024; 'Restituting Evidence: Genocide And Reparations In German Colonial Namibia' <https://forensic-architecture.org//investigation/restituting-evidence-genocide-and-reparations-in-german-colonial-namibia-phase-1> accessed 27 September 2024.

48 Mary Jo McConahay, 'Guatemala Genocide Trial Exposes Effort to Destroy Mayan and Catholic Cultures' <https://www.ncronline.org/news/guatemala-genocide-trial-exposes-effort-destroy-mayan-and-catholic-cultures> accessed 27 September 2024.

49 'Forest sites were cut down or burned, making it impossible for inhabitants to search out their medicinal and ceremonial plants, or go to certain sacred places to practice traditional rites, known as costumbre. Survivors were gathered into concentration camps that resembled the 'strategic hamlets' used during the U.S. war in Vietnam to separate the population from guerrillas. Sometimes called 'model villages,' where the military ruled, they 'gave rise to a population conducive to state control,' Weizman told the court... 'What happened in the region called the Ixil Triangle went beyond mass murder,' testified Eyal Weizman, director of Forensic Architecture at Goldsmiths, University of London, a research group. Weizman examines places where mass rights violations have occurred using on-site visits — termed 'ground truth' — and scientific tools such as aerial photography for Amnesty International, the International Committee of the Red Cross and the United Nations.... Weizman called it 'cultural extermination, genocidal in nature, destruction and reconstruction, including a series of strategies aimed at the complete transformation of the place where they lived.' Altering the environment was key to the destruction of Ixil culture. Forest sites were cut down or burned, making it impossible for inhabitants to search out their medicinal and ceremonial plants, or go to certain sacred places to practice traditional rites, known as costumbre. Survivors were gathered into concentration camps that resembled the 'strategic hamlets' used during the U.S. war in Vietnam to separate the population from guerrillas. Sometimes called 'model villages,' where the military ruled, they 'gave rise to a population conducive to state control,' Weizman told the court.'; Mary Jo McConahay, 'Guatemala genocide trial exposes effort to destroy Mayan and Catholic cultures' (National Catholic Reporter, 6 August 2024) https://www.ncronline.org/news/guatemala-genocide-trial-exposes-effort-destroy-mayan-and-catholic-cultures accessed 27 September 2024.

complete transformation of the environment where the Ixil Maya lived. The evidence was presented, cross-interrogated, and accepted by the court. It was also reported on in the media, signalling its centrality to the case.

71 In Namibia, we worked at the request of the Ovaherero Traditional Authority (OTA), the Nama Traditional Leaders Association (NTLA), and the Ovaherero/Ovambanderu Genocide Foundation (OGF) to collaborate in discovering and mapping the ancestral villages that were destroyed, and the concentration camps and transport routes that were constructed, during the genocide perpetrated between 1904–08 by Germany's colonial army on the Ovaherero and Nama peoples in a territory Germany had claimed and colonised as South West Africa. In February 2023, a letter was sent by several UN Special Rapporteurs to the government of Namibia, demanding the 'meaningful participation, through self-elected representatives, of the Ovaherero and Nama peoples in the negotiations … [for] effective reparative measures.' They have also noted the 'insufficient memorialisation of the genocide'.[50] We have thereafter worked with the OTA and NTLA to identify sites related to the genocide. In July 2024, our work was the basis for an Urgent Appeal/Early Warning to the UN Committee on the Elimination of Racial Discrimination (CERD) about impending destruction of cultural heritage in the site of the former concentration camp in Shark Island. The Shark Island Cultural Rights and Lüderitz heritage foundation have in consequence withdrawn their consent for the development of a port on the site.

72 The Ovaherero were cattle herders in the region's central plateau. In the early years of the colonisation process, land was taken piecemeal, until 1904, when the German colonial army destroyed the Ovaherero settlements around Okahandja and the foot of the mountain plateau of Waterberg. After that, the colonial troops channelled survivors into the Kalahari Desert, where tens of thousands succumbed to thirst and starvation. On 28 May 2021, following five years of negotiations, German Foreign Minister Heiko Maas announced in the name of the German government that it was formally recognising the atrocities committed against the Herero and Nama people as genocide, committing to work towards genuine reconciliation in remembrance of the victims.

73 The desert threshold is an important geographical marker mobilised in at least one other case of historical genocide. The Armenian genocide by the Ottoman army (1915–16) involved uprooting around a million Armenians and marching them to the Syrian desert, where many died of starvation, exhaustion, and disease.[51]

74 In German South West Africa, the ruins of Indigenous villages were transformed into concentration camps, military bases, police stations, and colonial farms to make way for what German geographer Friedrich Ratzel termed 'Lebensraum'. Nama and Ovaherero survivors were sent to concentration camps, where they were exploited for slave labour to build the colony's roads, railways, farms, and administrative outposts. More than half the prisoners died in their first year of captivity. In one such camp, on Shark Island, a windy and exposed peninsula near the South Atlantic port of Lüderitz, captives were starved, beaten, raped, and executed. After the genocide, the amount of land in German

50 'Mandates of the Special Rapporteur on the promotion of truth, justice, reparation and guarantees of non-recurrence; the Special Rapporteur in the field of cultural rights; the Special Rapporteur on extrajudicial, summary or arbitrary executions; the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context; the Special Rapporteur on the rights of indigenous peoples; the Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia and related intolerance and the Special Rapporteur on violence against women and girls, its causes and consequences' (23 February 2023) <https://spcommreports.ohchr.org/TMResultsBase/DownLoadPublicCommunicationFile?gId=27878> accessed 27 September 2024.

51 Raymond Kévorkian, *The Armenian Genocide: A Complete History* (Bloomsbury Publishing, 2011)

possession grew significantly. The Ovaherero and Nama descendants of the genocide victims were confined to 'ethnic homelands' separated by main roads and railway lines. In both cases, an important dimension in the perpetration of genocide was the design of the physical environment.

75 This design aimed to segregate the targeted population in a designated space whose perimeter was controlled, sometimes fenced, or otherwise secured. Entry and exit into this space were also controlled. The treatment of people within these zones was markedly different from those in surrounding areas. We showed that a recurrent element in genocide is displacement. To generate displacement, the perpetrators often destroy the life-sustaining environment from which it seeks to displace the targeted population. By destroying the means that sustain the biological, cultural, and political life of the targeted population, the perpetrators forced the targeted groups to leave. The destruction and transformation of the environment was often also undertaken to prevent the return of survivors to the area from which they were originally driven out.

76 In both cases, destruction and reconfiguration of the natural and built environment, and the relation between them, were used to establish concentration areas and exclusion zones, and involved the establishment of a series of spaces in which all life-supporting infrastructure was controlled. It was the architecture of these spaces that made possible 'deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part'.

F METHODOLOGY

1 *Overview and workflow*

77 This section provides an overview of FA's methodology relevant for the entirety of the report. Section-specific methods will be elaborated in each chapter methodology section.

78 All chapters are based on the following sources: images, videos, and other media online, including social media networks; surveys of relevant media publications; historical, academic, and civil society accounts and reports; as well as cartographic research of current and historical city plans.

79 To introduce the various methodologies we employ, it is necessary to start with an understanding of our workflow, which has five stages: collection, verification, interpretation, mapping, and analysis.

80 **Collection**: We collect information from a variety of media formats that include recorded videos, photographs, satellite and remote-sensing imagery, written and oral testimony, and text-based reports of incidents – from three types of sources:

(a) Using open-source research methodologies (see OSI below)

(b) Sent to us directly from individual sources (see Credibility below)

(c) Datasets shared with us by trusted organisations in our field (see Credibility below)

81 **Verification:** In relation to (a) and (b), materials are verified according to the verification framework outlined below. In relation to (c), we examine the third party's data-gathering methodology and sample the dataset to determine that the dataset meets our standards. If we deem it necessary, we investigate the file using verification software (see 'verification and interpretation').

82 **Interpretation:** Interpretation is the process of reading what the data pertaining to a particular incident tells us. For text-based materials, this means deriving the details of an incident, including its location, time, and context. Where necessary, our researchers corroborate the claims of an incident with visual evidence found in footage or satellite imagery, which may capture the incident or its aftermath (see 'verification and interpretation'). For visual materials, this involves close analysis of what is 'in the frame', and what is implied 'outside the frame' by the contents of the frame. This process varies depending on case context. It could include identifying the uniforms of soldiers or civil society personnel, identifying the presence of emergency services, or identifying any weapons or munitions (or munition fragments). Through examining these and other features, our researchers piece together what can be understood of what has unfolded within the incident captured by a piece of media. Commonly, the process of interpretation also involves cross-referencing between the subject data and other data apparently pertaining to the same incident. This process ends by providing a written description of the incident, which is stored within our incident database and subsequently the GCD.

83 **Mapping**: Once an incident is considered to have been verified, either as 'confirmed' or 'most likely', we enter that incident into our database, categorising and labelling it to include information such as sources, time of incident, location of incident. Each incident is given an identification number ('Incident ID') comprised of the abbreviated date of the incident and a unique code (YMMDD-12345). These IDs are cited and footnoted where the relevant incident is mentioned in the report, so that it can be directly corroborated with information pertaining to it in the database. All incidents that are referenced

in the body of the text are listed in the appendix of the chapter in which they appear, along with their primary source information. Additional source information can be found in the GCD. Incident data is also pulled into the GCD's cartographic interface, where it can be analysed in relation to other incidents in space and time. Incidents which are mapped in figures throughout the report are in the GCD along with their source materials.

84 **Analysis**: This research workflow, from data collection to verification and interpretation, to mapping within the GCD, is intended to facilitate 'pattern analysis'; a process of reading the constellations of data points with similar properties through which we make observations about the scale and character of a conduct or series of actions we are studying.

2 *Verification and Interpretation*

85 A majority of our investigative research, across case contexts, is founded in gathering, verifying, interpreting, mapping, and analysing digital media. The process of verification ensures, before a potentially valuable piece of evidentiary material is mapped and analysed, that it is authentic. While there are fundamental practices at the core of any verification process, the process varies across research contexts, depending on the form and combination in which material is received - that is, whether we are working with testimony, videos, images, audio recordings, or some combination of each or all of these.

86 The data on which this report is founded are primarily images or videos, either shared with us directly, or found online, through a process of open-source investigation (OSI). (A small amount of information came to us as testimony, either directly or via third-party organisations.) In almost every case, that image or video data presents an FA researcher with an explicit or implicit 'claim' associated. That claim could be a headline in news media, or the content of a post on X/Twitter or Telegram. Where a piece of evidentiary material comes to us with a claim associated, the process of verification begins most commonly from the question: does the image/video in question show what is claimed?

87 The process of verification also varies to meet the extent of interpretation and analysis required by the research objective. Given that the GCD is a cartographic tool, and that our research was concerned in substantial part with how impacts of Israel's military offensive in Gaza had played out in terms of space and regional geography, the process of verification in this research was often primarily – but rarely only – concerned with the question: where did the events captured in this video/image data take place? For example, a large number of posts on X/Twitter, published on 10 September 2024 claimed to show the aftermath of an air strike on the al-Mawasi 'humanitarian zone' on the same date, in which 19 civilians were reported to have been killed.[52] In the case of most of these X/Twitter posts, the video or image itself, in combination with other image data pertaining to the same incident, drawn from other posts, contains information sufficient to determine the location of the airstrike as indeed within the al-Mawasi 'humanitarian zone'. Further, the image, in combination with satellite imagery from the days before and after, contains information sufficient to determine that the airstrike indeed occurred on the day claimed – at the coordinates determined by the process of geolocation, there is no crater visible on 9 September 2024, but a crater is visible in imagery captured on 10 September 2024. The image, and other associated image data, does not in itself contain enough information to determine that 19 civilians died in the strike, as was reported by Gaza's health ministry.[53] However, that

[52] Incident ID: 40910-91667
[53] Bethan McKernan, 'Khan Younis Safe Zone: Israel Launches Deadly Strike on al-Mawasi, Gaza Officials Say' *The Guardian* (10 September 2024) <https://www.theguardian.com/world/article/2024/sep/10/khan-younis-israel-strike-al-mawasi-tent-camp-gaza-deaths-humanitarian-safe-zone> accessed 27 September 2024.

information is not required in order for this data point to contribute to addressing part of our research scope pertaining to attacks on and destruction within 'destination zones' and 'humanitarian zones' (see Chapter 3: Displacement).

88 A second example: a video posted online on 29 February 2024 claims to show the aftermath of an attack on a group of civilians waiting to receive aid from a truck at the al-Nabulsi roundabout, near the Netzarim corridor. The video contains information sufficient to determine that the incident took place at the claimed location. The content of the original video is not immediately, fully, and straightforwardly clear, and thus a process of careful interpretation of the video's content begins. That process of interpretation may involve cross-referencing the content of this video with other videos and images of the same incident from different angles – a process which requires that those videos are themselves geo- and chronolocated and interpreted. (In this way, it is evident that verification and interpretation of multiple images and videos may occur simultaneously; image and video sources may be mutually supporting.) The original image and video may also be cross-referenced with reports from news organisations, independent journalists, and NGOs, until such time – as in this example – that to the best of our researchers' understanding, the incident can be fairly described as claimed: as an attack on civilians waiting for aid distribution.

89 As the examples above demonstrate, verification is a process which responds to, and is determined by, the available evidentiary material, and by the questions that are asked of that material, and the objective of the process: what about the material is a researcher seeking to verify? The process of verification is not (or not only) a set of yes/no questions; the processes of verification and interpretation often overlap. Further, in some cases, we have found that while the incident transpired almost as described in the associated claim, the claim in some respects varied from or exceeded what can be known by the contents of the image/video material, and any associated and credible reports.

90 In this case context, the result of the process of verification and interpretation is that an incident is classified as **confirmed**, **most likely**, or **unknown** (see below). That classification is the result of the processes described above, or of an incident having been reported by a credible source (see Credibility below). Three categories of classification are defined as follows:

(A) Confirmed

91 In our professional assessment, this incident occurred as described by the associated claim.

92 An incident is classified as 'confirmed' if:

(a) there is image/video material documenting the incident which has been geolocated and chronolocated, and the content of the material corresponds to the associated claim

OR

(b) there is image/video material documenting the incident which has not been geolocated and/or chronolocated, but at least one credible source has reported on the same incident

OR

(c) there is no image/video material capturing the incident, but it has been reported by a credible source

(B) Most likely

93 In our professional assessment, this incident is most likely to have occurred as described by the associated claim.

94 An incident is classified as 'most likely' if:

(a) there is image/video material documenting the incident which has not been geolocated and/or chronolocated

OR

(b) it has not been reported by a **credible source** (see definition below)

BUT

(c) there is visual evidence pertaining to the potential incident via satellite imagery

(C) Unknown

95 In our professional assessment, insufficient image/video material or insufficient credible sources exist to confirm with any confidence a given claim.

96 A potential incident is classified as 'unknown' if:

(a) there is no image/video material documenting the incident

AND

(b) there are no reports by a **credible source**

AND

(c) the potential incident or its aftermath is not visible in satellite imagery

(D) Credibility

97 A process of 'source analysis' is used to establish whether an online source should be considered credible, drawing on best practice guidelines for the field, including the Berkeley Protocol on Digital Open-Source Investigations (the 'Berkeley Protocol'), and in line with established practices of other agencies in our field (including Bellingcat, Mnemonic, the Global Legal Action Network, and Airwars, among others).[54]

98 Our process of source analysis carefully considers the online footprint of a source, including information such as its posting history, biographical or other contextual information about that source, including whether the source has previously posted or shared reliable material, and whether the source has an observable history of good practice (including accurate and ethical reporting, for example). The

[54] 'Berkeley Protocol: on Digital Open Source Investigations,' (United Nations Human Rights Office of the High Commissioner, 2022) <https://www.ohchr.org/sites/default/files/2024-01/OHCHR_BerkeleyProtocol.pdf> accessed 27 September 2024.

credibility of a source may as such be established over time. It may also be relevant to our process of source analysis if a source is already well-known and trusted by other organisations in our network and field.

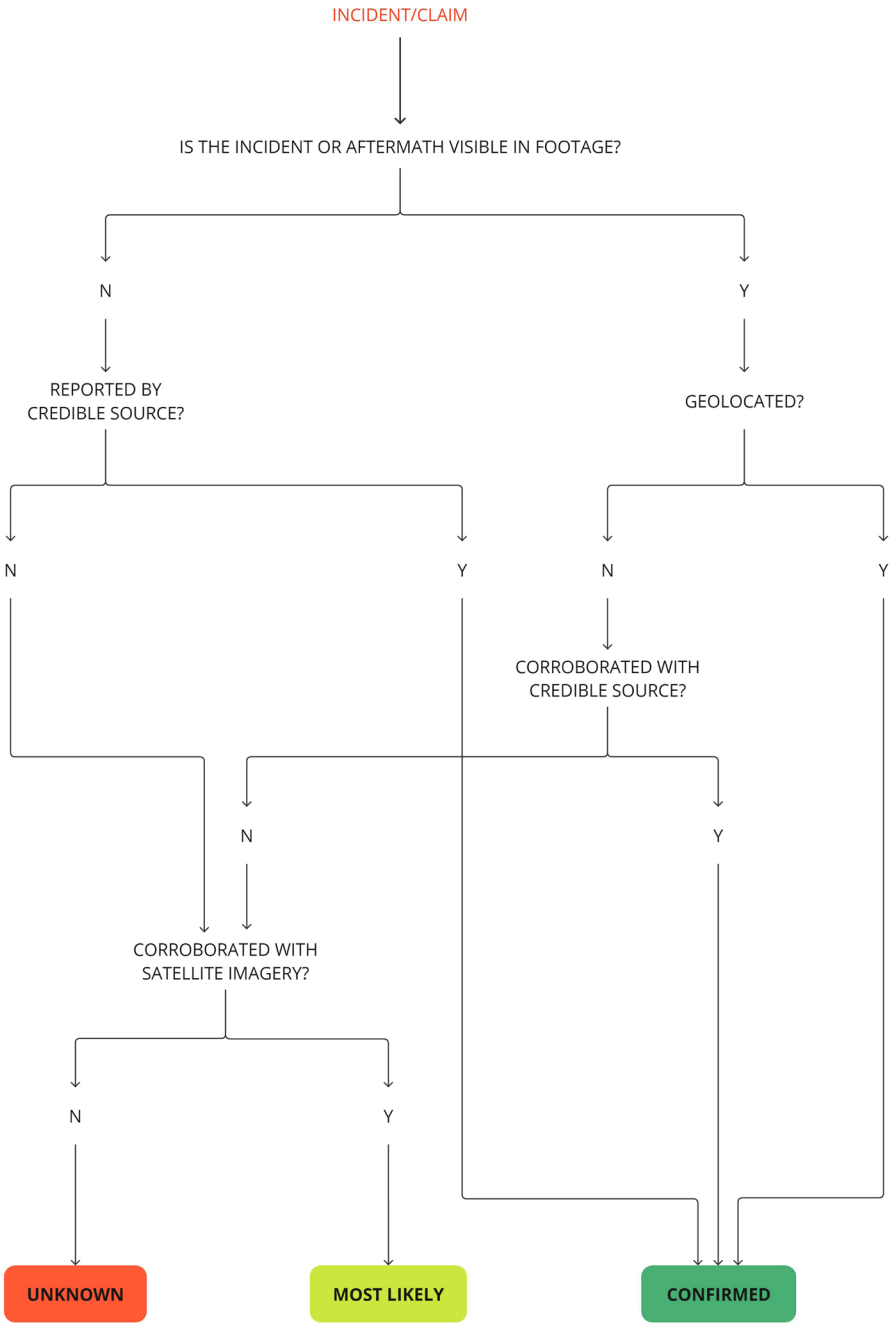

Figure 1.2. FA's verification framework flow chart.

(E) Mapping and analysis

99 Once data is considered confirmed or most likely, after the process of verification and interpretation described above, they are entered into the GCD to form the basis of the assessments arrived at throughout this report.

100 The GCD is designed to facilitate research based on the analysis of spatial and cartographic patterns over time. The GCD can be accessed at the following URL: gaza.forensic-architecture.org/database.

101 As described above, each recorded **incident** is collected, verified, geolocated, timed, and tagged. This allows for a high multiplicity of incidents to be cross-referenced and studied in relation to each other. Our researchers use the GCD to move across different levels of analysis and identify relations between **incidents**, **patterns**, and **repetitions** of acts of violence across the entire territory of Gaza and throughout the duration of the conflict. The GCD is conceived as both a tool of research and as a tool of **presentation**, allowing the extraction and presentation of multiple evidentiary threads.

102 The GCD is a cartographic documentation of actions conducted by the Israel Defence Forces (henceforth 'the Israeli military' or 'the military') in Gaza since October 2023, including aerial bombardment, shootings, artillery strikes, bulldozing, and demolition, organised as discrete 'incidents', but arranged in such a way that patterns and relationships between incidents may be discerned. Within the interface of the GCD, users can delineate a geographic region, a time period, or both, and retrieve information about all incidents we collected within that delineated domain. In this way, the GCD provides researchers with the raw data with which to analyse relations and potential patterns between incidents. All incidents are recorded in local time (Gaza), and place names are translated into English.

103 The GCD can display a variety of media formats which can be retrieved through direct links from the data points on the map. These include videos, photographs, recorded testimonies, aerial and satellite images, and sound files. The geographic base layers of the GCD include georeferenced satellite images and verified (see 'verification and interpretation') information from Humanitarian OpenStreetMap (HOSM). All data in this report is verified and confirmed as of 11 October 2024. The GCD will be continuously updated as part of our ongoing research.

104 **Note about the mapping of the Israeli ground invasion and ground forces presence:**

105 Our ground invasion data draws on cartographic reports published by the Institute for the Study of War (ISW) and the Critical Threats Project (CTP) at the American Enterprise Institute, which maps the geographic progression and extent of Israel's ground invasion day-by-day, based on third-party sources from 27 October 2023 onwards. We integrated two categories of data that CTP-ISW has mapped: 'Reported Israeli Clearing Operations' and 'Claimed Furthest Israeli Advances' in our research. We processed and mapped this data such that, for each report released, we could see and assess the furthest extent of the ground invasion to that date (in figure legends throughout: 'ground invasion') as well as the change in the extent of the ground invasion since the preceding report (in figure legends throughout: 'ground invasion recent').[55]

[55] 'Interactive Map: Israel's Operation in Gaza' (*ArcGIS StoryMaps*, 10 October 2024) <https://storymaps.arcgis.com/stories/2e746151991643e39e64780f0674f7dd> accessed 11 October 2024.

106 On 10 May 2024, CTP-ISW recessed their Israeli clearing operations layer in Gaza to cover only the areas in which the Israeli military was actively conducting clearing operations. This change in methodology is reflected in all data entries from 10 May onwards.[56]

107 All incidents analysed and mapped can be found in the GCD online. Sources for factual averments within this report which are not part of our incident database (GCD) follow the following criteria: text reports about events follow the verification framework's credibility criteria; the use of open-source footage follows the verification framework's standards for authenticity and geolocation; all statistics come from reputable and established organizations and experts.

108 All illustrations and maps by FA unless otherwise noted.

[56] 'Institute for the Study of War' (*Institute for the Study of War*) <https://www.understandingwar.org/backgrounder/iran-update-may-10-2024 > accessed 28 September 2024.

3 *FA Methodologies*

3.1 Open-Source Investigation (OSI):

109 OSI refers to a search for publicly available data on the open internet. OSI may constitute searches on social media, including use of hashtags, search operators, Boolean strings, and 'reverse image search', to find relevant documents, such as photographic or video images and audio files.

3.2 Geolocation

110 Geolocation is the technique by which researchers can determine the precise place at which an incident occurs. A definition is provided in the Berkeley Protocol on Digital Open Source Investigations:

111 'Geolocation is the identification or estimation of the location of an object, an activity or the location from which an item was generated. For example, it may be possible to determine the location from which a video or photograph downloaded from the Internet was taken using geolocation techniques. Such techniques could include, for example, identifying unique geographic features in a photograph with their actual location on a map.'[57]

3.3 Chronolocation

112 Chronolocation is the technique by which researchers identify, approximately or precisely, what date or time an image or video was captured by reference to the contents of an image frame, or digital information contained within the file. The approximate time at which an image or video was captured can be determined by reference to the file's metadata, by shadows visible within the frame, or by synchronisation with other media.

3.4 Environmental Analysis

113 **Satellite 'remote sensing' data** allows us to study and plot changes in site conditions and botanical transformation over time and monitor multi-year changes in vegetation patterns. Landsat 8 and MODIS satellite imagery and remote sensing data are the best state-of-the-art resources available to record, analyse, and map transformations across conflict regions and within the agricultural outskirts of cities.

114 **Environmental sensing** includes NDVI (Normalised Difference Vegetation Index) from Landsat 8 and MODIS, multispectral and infrared cameras, photosynthesis analysis. We calibrate information from NDVI and other remote sensing representations with ground-level images. See Chapter 4 – Destruction of Agriculture and Water Resources for a more detailed explanation of NDVI.

3.5 Cartographic Regression

115 Cartographic regression refers to the process of overlaying historical surveys, maps, and aerial photographs onto contemporary aerial imagery to track the transformation of the land and specific elements of the territory over time. Within the GCD, historical surveys, maps, and aerial photographs

[57] 'Berkeley Protocol: on Digital Open Source Investigations, ' (United Nations Human Rights Office of the High Commissioner, 2022), 190. <https://www.ohchr.org/sites/default/files/2024-01/OHCHR_BerkeleyProtocol.pdf> accessed 27 September 2024.

can be overlaid on contemporary satellite imagery to view changes over time for a given region, for example, to study a neighbourhood undergoing prolonged aerial attacks, or the degradation of vegetation in a field.

G SUMMARY OF FINDINGS

Chapter 2 – Spatial Control

1 *Quantitative findings*

1.1 We identified several key elements of the Israeli military's present system of spatial control in Gaza:

(a) A 1km-wide 'buffer zone' along the eastern perimeter of Gaza. Most buildings and all agricultural installations have been destroyed within this zone.

(b) The Netzarim corridor, running east to west, bisecting Gaza north of Wadi Gaza. The corridor is composed of a 6.5 km-long road with 2–3.5 km of cleared margins on its south side and 1.7–3.5 km on its north side, within which most buildings and agricultural infrastructure have been destroyed.

(c) Two permanent checkpoints at the intersections of the Netzarim corridor, with the two main north–south traffic arteries, Salah al-Din Road and al-Rashid Road. We also identified and analysed four temporary checkpoints throughout Gaza, operational at different times.

(d) Thirteen raid routes leading from Israeli military bases outside of Gaza into Gaza. The construction or widening of these roads often involved the destruction of most buildings and all agricultural lands in their path.

(e) The Philadelphi corridor, running east to west along Gaza's entire southern border with Egypt.

1.2 We also found that:

(a) The total area destroyed and cleared for the establishment of the four new elements above is 131.7 sq km, which constitutes 36% of the total area of Gaza. The buffer zone, the 'corridors', and the raid routes partially overlap.

(b) The area destroyed and cleared for the buffer zone amounts to 55 sq km, which constitutes 15% of Gaza.

(c) The surface area of the Netzarim corridor amounts to 35 sq km, which constitutes 9.6% of Gaza. The clearing of land for the corridor led to the destruction of five university buildings, a courthouse, a hospital, two resorts, a park, and a wastewater treatment facility.

(d) The area of land cleared for the benefit of the raid routes constitutes 62 sq km.

(e) The area of the expanded Philadelphi corridor amounts to 10.8 sq km.

2 *Pattern findings*

116 Israel's military campaign in Gaza between 7 October 2023 and 30 June 2024 involved the reshaping of the cultivated and built environment of the region through acts of **destruction** and **construction**. Large tracts of territory were cleared, including agricultural areas and buildings. In their place, the Israeli military constructed roads, temporary encampments, permanent bases, lines of fortification, and checkpoints. Our analysis found that these acts of destruction and construction were not haphazard, but followed consistent and clear spatial logic:

2.1 All agricultural fields, orchards, greenhouses, and other agriculture where the buffer zone, the corridors, and the raid routes were established have been destroyed. The construction of these new infrastructural elements has likely contaminated the soil, inhibiting future use (see Chapter 4: Destruction of Agriculture and Water Resources).

2.2 The Netzarim corridor divides Gaza into two 'zones':

(a) The 'north', from which Israel ordered the evacuation of civilians

(b) The 'south', which includes 'destination areas' (see Section A (Glossary) in Chapter 3: Displacement)

2.3 These zones are separated by checkpoints where Gaza's main north–south roads cross the Netzarim corridor.

2.4 The Netzarim corridor and the checkpoints facilitate displacement:

(a) Movement between the zones mentioned is restricted and controlled by checkpoints.

(b) The checkpoints exclusively allow for one-way movement by civilians from the north to the south (see Chapter 3: Displacement) and aid from 'south' to 'north' (see Chapter 7: Targeting of Aid).

2.5 Thirteen raid routes lead from the perimeter to the interior of Gaza. These routes facilitated repeated military incursions, and the extent of work invested in their construction suggests they may have long-term presence and be further employed for this purpose.

2.6 The majority of buildings in areas where the buffer zone, the corridors, and the raid routes were established have been destroyed.

2.7 The territorial reorganisation of Gaza is consistent with statements made by Israeli political leaders calling for a long-term Israeli military presence and the construction of permanent Jewish settlements in Gaza.[58]

2.8 The territorial arrangement imposed on Gaza through the abovementioned elements is key to understanding other dimensions of Israel's military campaign, such as the destruction of agriculture, the displacement of civilians, and the targeting of aid in particular areas (see Chapter

[58] 'Israeli Ministers Join Ultranationalist Conference Urging Gaza Resettlement,' *Reuters* (29 January 2024) <https://www.reuters.com/world/middle-east/israeli-ministers-join-ultranationalist-conference-urging-gaza-resettlement-2024-01-29/> accessed 26 September 2024.; See also Appendix: Study of the relationship between Israeli public statements and Israeli military conduct in the occupied Gaza strip.

3: Displacement, Chapter 6: Destruction of Civilian Infrastructure, Chapter 4: Destruction of Agriculture and Water Resources, and Chapter 7: Targeting of Aid).

Chapter 3 – Displacement

1 *Quantitative findings*

1.1 The territory including destination areas and the 'humanitarian zone' shrank over time:

(a) On 13 October 2023, this area included all of Gaza south of Wadi Gaza and covered 228.2 sq km (62.5%) of the total territory of Gaza.

(b) On 7 January 2024, it included Rafah, Deir al-Balah and the al-Mawasi 'humanitarian zone', covering 80.7 sq km (22.1%) of Gaza.

(c) On 6 May 2024, it shrank to include only the newly established 'expanded humanitarian zone', covering 60.9 sq km (16.6%) of Gaza.

(d) On 16 August 2024, the 'humanitarian zone' contracted. The area covers 37.9 sq km (10.4%) of Gaza.

(e) On 30 August 2024, three blocks have been reintegrated to the 'expanded humanitarian zone', expanding its extent to covering 47.4 sq km (13%) of Gaza.

(f) The boundaries of the 'humanitarian zone' established from 18 October 2023 changed 9 times by 30 August 2024.

1.2 Between 7 October 2023 and 31 August 2024, 84% of Gaza's total area was subject to evacuation orders.

(a) The 13 October evacuation order covered 37% of the total area of Gaza.

(b) After the grid-based evacuation orders were introduced on 1 December, most areas in Gaza were ordered to evacuate at least once. Between 1 December 2023 and 31 August 2024, 72 percent of Gaza's total area was subject to evacuation orders.

(c) By 6 May, only 6.9 percent (25.3 sq km) of areas in Gaza, excluding the area of the 'humanitarian zone', had not received an evacuation order yet.

(d) A total of 66 evacuation orders were issued between 7 October 2023 and 31 August 2024. Most orders refer to multiple blocks at a time.

(e) According to data published by the UN, 346 schools were used as shelters, 70% of them were attacked. [59]

[59] 'oPt Education Cluster - Schools Dashboard - Gaza 2023' <https://gis.unicef.org/portal/apps/dashboards/c6e0bfd744164b2f-84276071b1a83e78> accessed 26 September 2024.

2 *Pattern findings*

2.1 The Israeli military has continuously attacked all areas of Gaza such that no place can reasonably be considered safe.

117 The Israeli military has attacked:

(a) Destination areas, including the 'humanitarian zone'

(b) Israeli designated 'safe routes'

(c) Undefined areas, including civilian shelters

(d) Civilians from within evacuation areas

2.2 Destination areas have decreased in size, even as the displaced population has increased.

2.3 The Israeli military's use of evacuation orders has put civilians at risk by:

(a) Issuing inconsistent and incomplete information about the 'humanitarian zone'

(b) Issuing unclear and inconsistent evacuation orders

(c) Instructing civilians to evacuate to areas that were attacked soon after

(d) Issuing evacuation orders after having already begun military operations within the area in question

(e) Issuing a sequence of evacuation orders that displaced civilians multiple times

(f) Instructing civilians to displace to areas that had recently received evacuation orders

(g) Failing to specify the duration or expiry of evacuation orders

(h) Displacing civilians to destination areas that were previously targeted and destroyed

2.4 The Israeli military besieged displaced civilians and funnelled them into checkpoints where they were surveilled.

2.5 The Israeli military used 'protective measures' to displace Palestinians.

(a) The Israeli military first directed the displacement of civilians from the north to the south of Gaza

(b) The military then directed the displacement of civilians from the east to the west of Gaza

Chapter 4 – Destruction of Agriculture and Water Resources

1 *Quantitative findings*

1.1 Between 7 October 2023 and 30 June 2024:

(a) Approximately 83% of all plant life in Gaza was destroyed.

(b) Approximately 70% of Gaza's agricultural land, 104 sq km (out of 150 sq km) of fields and orchards, were destroyed.

(c) More than 3,700 greenhouse structures in Gaza, 45% of its total, were destroyed.

(d) More than 47% of groundwater wells and 65% of water tanks were destroyed or damaged. The status of 29% of the wells is unknown.

(e) None of the wastewater treatment facilities in Gaza have remained intact or functional.

2 *Pattern findings*

2.1 The Israeli military repeatedly destroyed agriculture and water resources across Gaza.

(a) Month-by-month analysis in this period shows a correlation between the destruction of agricultural lands and infrastructure, and the Israeli military's ground position.

(b) The destruction of agricultural lands and infrastructure was cumulative and repeated.

(c) Agriculture and water resources were destroyed using military equipment and weapons.

2.2 The Israeli military's conduct has likely caused contamination in Gaza's land and water resources.

Chapter 5 – Destruction of Medical Infrastructure

1 *Quantitative findings*

118 As a result of the Israeli military campaign in Gaza, between 7 October 2023 and 1 August 2024:[60]

(a) 35 of 36 hospitals in Gaza have gone out of service at one or more points during this time.[61]

(b) 31 of 36 hospitals have been targeted by Israeli military attacks.

(c) 11 of 36 hospitals have undergone a siege.

(d) 10 of 36 hospitals have been invaded by Israeli personnel.

(e) 5 hospitals have been besieged twice.

(f) 4 hospitals have been invaded twice.

(g) 1 hospital (Patient's Friends Society Hospital) has been attacked and forced out of service twice, having rebuilt and reestablished operations.

(h) 27 hospitals are within areas that received evacuation orders.[62]

(i) 4 field hospitals have been forced out of service and to evacuate.

[60] Many hospitals and field hospitals have been attacked multiple times and in different forms, and as such are accounted for in multiple categories of the quantitative findings.
[61] Whilst hospitals have been forced out of service, some hospitals have reestablished partial functioning after closure.
[62] This includes the 23 hospitals in northern Gaza that received evacuation orders on the 13 October 2023, as well as 19 evacuation orders and warnings directly to hospitals, that we have documented. 'Israel & OPT: Rescind Evacuation Order against Gaza Hospitals' (Amnesty International) <https://www.amnesty.org/en/documents/mde15/7347/2023/en/> accessed 26 September 2024.

2 *Pattern findings*

2.1 The Israeli military repeatedly targeted medical infrastructure across Gaza.

(A) The Israeli military's targeting of hospitals follows a consistent and discernible pattern of five typically consecutive phases:

(a) Evacuation orders and warnings (27 hospitals)

(b) Attacking the surroundings of hospitals (29 hospitals)

(c) Direct attacks on hospitals (31 hospitals)

(d) Putting hospitals under siege (11 hospitals)

(e) Invading hospitals (10 hospitals)

(B) The Israeli military's attacking of hospitals correlates with the advancement and presence of Israeli ground forces:

(a) The first hospitals in Gaza forced out of service by Israeli attacks were in areas into which the ground invasion first advanced

(b) The position of the Israeli ground forces correlates with where hospitals were subsequently forced out of service

(c) When large hospitals were attacked by Israeli ground forces, small hospitals in the surrounding area were often also attacked and forced out of service

(C) Sites of medical infrastructure where healthcare services were (a) reestablished and (b) introduced were subsequently targeted by the Israeli military:

(a) Hospitals where healthcare services reemerged endured subsequent attacks by the Israeli military

(b) Field hospitals introduced to support Gaza's healthcare system were closed due to Israeli military conduct

2.2 The timing of the Israeli military's attacks on hospitals correlates with the presence of displaced civilians at those hospitals

2.3 The Israeli military targeted medical personnel and facilities in a manner which causes damage to Gaza's medical system

(A) Healthcare workers have been direct targets of the Israeli military, as opposed to being indirect casualties of attacks on hospitals.

(B) The Israeli military destroyed and occupied hospitals even after they had been forced out of service and evacuated.

(C) The Israeli military's targeting of hospitals caused damage to Gaza's maternity services.

Chapter 6 – Destruction of Civilian Infrastructure

1 *Quantitative findings*

119 **Between 7 October 2023 and 6 July 2024:**

120 Of 110 health facilities in Gaza:

(a) 57% were attacked; 45 were damaged and 18 were destroyed (see Chapter 5: Destruction of Medical Infrastructure).

121 Of 353 shelters in Gaza:

(a) 71% were attacked; 219 were damaged and 31 were destroyed (see Chapter 7: Targeting of Aid).

122 Of 605 utilities (power plants, water wells, desalination plants, and fuel stations) in Gaza:

(a) 53% were attacked; 166 were damaged and 152 were destroyed, rendering them inoperable.

123 Of 564 education facilities – schools in Gaza:

(a) 75% were attacked; 334 were damaged and 91 were destroyed.

124 Of 44 education facilities – universities in Gaza:

(a) 81% were attacked; 18 were damaged and 18 were destroyed.

125 Of 45 government buildings in Gaza:

(a) 82% were attacked; 17 were damaged and 20 were destroyed.

126 Of 341 religious institutions in Gaza:

(a) 80% were attacked; 143 were damaged and 130 were destroyed.

127 Of 44 cultural heritage sites in Gaza:

(a) 91% were attacked; 10 were damaged and 30 were destroyed.

128 During the two-month period from 5 May to 6 July 2024 in Gaza:

(a) A total of 9,524 structures were destroyed.

(b) This is more than double the number of structures destroyed in the previous two months (29 February to 5 May), when 4,225 structures were destroyed.

(c) It also surpasses the earlier two-month period from 7 January to 29 February, when 8,899 structures were destroyed.

(d) A total of 10,308 structures were damaged.

(e) This is three times higher than the number of damaged structures in the previous period from 29 February to 5 May, which was 3,213.

129 An analysis of the road network shows that:

(a) Between 7 October and 7 November 2023, 47.3% of the main roads were damaged in north Gaza, cutting off large parts of the population from critical infrastructure.

(b) Between 7 October 2023 and 7 January 2024, 33.7% of the main roads were damaged in south Gaza, cutting off large parts of the population from critical infrastructure.

130 Please see chapter appendix for maps showing the spatial distribution of these findings across Gaza.

2 *Pattern findings*

131 Pattern findings of the attacks on civilian infrastructure are divided into two parts:

(a) an analysis of the first three weeks of the aerial bombing campaign in Gaza.
Time period: 7–28 October 2023
Scale of analysis: daily

(b) An analysis of the first ten months of Israel's military campaign in Gaza.
Time period: 7 October 2023–6 July 2024
Scale of analysis: monthly

132 Using both daily and monthly scales of analysis allowed us to observe the granular distribution of infrastructural destruction in space, while also identifying broader patterns across time. For further detail on this, please see 'Scope' in this report.

2.1 Our analysis of the first three weeks of the aerial bombing campaign in Gaza (7–28 October 2023) indicates:

(A) The timing of the Israeli military's airstrikes on specific infrastructure correlates with the time at which a higher density of civilians would be expected to be present.

(a) Strikes on residential buildings happened more at night than during the day.

(b) Strikes on commercial spaces, including bakeries and markets happened more during operational hours than outside of operational hours.

(B) Israel's attacks south of Wadi Gaza increased after it ordered civilians from the north to evacuate to the south.

2.2 Our analysis of the first ten months of Israel's military campaign in Gaza (7 October–6 July) indicates:

(A) Public infrastructure was destroyed even after it had been previously damaged, and when it was unlikely to be occupied.

(B) Areas in proximity to critical infrastructure were targeted:

(a) We observed repeated damage to service roads immediately surrounding critical infrastructure.

(b) We observed repeated destruction of buildings in the same vicinity, leading to accumulation of debris on the roads surrounding critical infrastructure.

(C) Repeated disruption of road networks isolated civilians in two ways:

(a) It was more difficult for civilians to leave areas in which infrastructure had been destroyed.

(b) It was more difficult for aid to reach civilians in those areas disconnected from the road network.

Chapter 7 – Targeting of Aid

1 *Quantitative findings*

1.1 We documented 322 incidents of aid-targeting between 7 October 2023 and 16 September 2024. Of which:

(a) 17 attacks were on bakeries

(b) 73 attacks were on shelters for displaced Palestinians, such as UNRWA-run schools, where food aid was received and distributed

(c) 60 attacks were on aid personnel

(d) 50 attacks were on civilians seeking aid – 37 of these occurred just north of the Netzarim corridor between January and March 2024. (More civilians were killed in attacks which we have classified as attacks on other targets.)

(e) 78 attacks were on aid infrastructure, such as warehouses and water treatment facilities

(f) 22 attacks were on convoys of trucks transporting aid through Gaza, which were coordinated by humanitarian aid organisations

(g) 6 attacks were on aid convoys en route to Gaza through Israel or the occupied West Bank, carried out by Israeli vigilantes during May 2024

(h) 16 attacks were on markets where aid was being obtained by civilians

(i) At least 17 of the attacks on aid personnel, convoys, and infrastructure targeted sites involved in operations that had been officially coordinated with Israel and recognised as 'deconflicted sites', understood to be exempt from Israeli military targeting, or 'safe'.

1.2 We documented the following attacks on aid sites and systems operated by UNRWA:

(a) Among the attacks on aid personnel, convoys, and infrastructure, at least 39 were on UNRWA personnel, facilities, or vehicles.

(b) In total, 195 UNRWA personnel were killed, including 177 staff members and 18 other aid workers.

(c) Another 40 UNRWA staff members have been detained by the Israeli military.

2 *Pattern findings*

2.1 Our analysis indicates that the Israeli military targeted sites and systems of aid distribution when and where they became the main mode of aid facilitation. We observed that this targeting followed a pattern of overlapping phases, during which attacks on the specified aid categories intensified:

(a) **October–November 2023: Bakeries** in the north of Gaza were targeted when they played a critical role in aid distribution, **during October and early November 2023.** By mid-November, there were no official bakeries still in operation in Gaza City.

(b) **October 2023–January 2024: Shelters** were targeted when they assumed a central role in housing people displaced by Israeli attacks, and facilitating the receipt and preparation of food aid, **from 13 October to December 2023.**

(c) **December 2023–February 2024: Palestinian police officers**, who we categorise as **aid personnel**, were targeted when they played a critical role in escorting aid convoys.

(d) **January–March 2024: Civilians** were targeted when gathering to receive aid from aid trucks that passed through the Netzarim corridor checkpoints into northern Gaza **from January to March 2024.**

(e) **March 2024: Aid administrators** from Palestinian organisations and groups that took up responsibility for facilitating aid delivery and distribution, who we categorise as **aid personnel**, were targeted when they began to play a prominent role **in March 2024**. Attacks on these personnel and organisations were extensive and deadly enough to eliminate their key administrators or otherwise force them to cease operating.

(f) **October 2023, December 2023, and May 2024: Aid distribution and storage sites**, including warehouses and markets, were targeted when they were actively operating to supply civilians with food, with severe attacks on Rafah crossing, Karem Abu Salem/Kerem Shalom crossing, and markets during periods of increased aid-entering.

(g) **May 2024: Israeli vigilantes** attacked aid convoys passing through Israel and the occupied West Bank under the watch and sometimes with direct support of Israeli military personnel.

2.2 The periods after which Israel increased the flow of humanitarian aid into Gaza (late December 2023; late March and early April 2024; early May 2024) coincide in time and space with an increase of Israel's targeting of the means of distributing that aid, including the logistics, personnel, and infrastructure necessary.

2.3 The targeting of aid occurred in tandem with the Israeli military's evacuation orders and coincides with its attempts to force Palestinian civilians to displace from the north of Gaza. The construction of the new internal border in the Netzarim corridor and the checkpoints within it supporting a one-way (north to south) movement of civilians coincided with the restriction of aid as a means of displacement.

2. Spatial Control

1 This chapter examines the Israeli military's system of spatial control in Gaza, including the buffer zone, the Netzarim corridor, the raid routes, and the Philadelphi corridor since October 2023.

A SUMMARY OF FINDINGS

1 *Quantitative findings*

1.1 We identified several key elements of the Israeli military's present system of spatial control in Gaza:

(a) A 1km-wide 'buffer zone' along the eastern perimeter of Gaza. Most buildings and all agricultural installations have been destroyed within this zone.

(b) The Netzarim corridor, running east to west, bisecting Gaza north of Wadi Gaza. The corridor is composed of a 6.5 km-long road with 2–3.5 km of cleared margins on its south side and 1.7–3.5 km on its north side, within which most buildings and agricultural infrastructure have been destroyed.

(c) Two permanent checkpoints at the intersections of the Netzarim corridor, with the two main north–south traffic arteries, Salah al-Din Road and al-Rashid Road. We also identified and analysed four temporary checkpoints throughout Gaza, operational at different times.

(d) Thirteen raid routes leading from Israeli military bases outside of Gaza into Gaza. The construction or widening of these roads often involved the destruction of most buildings and all agricultural lands in their path.

(e) The Philadelphi corridor, running east to west along Gaza's entire southern border with Egypt.

1.2 We also found that:

(a) The total area destroyed and cleared for the establishment of the four new elements above is 131.7 sq km, which constitutes 36% of the total area of Gaza. The buffer zone, the 'corridors', and the raid routes partially overlap.

(b) The area destroyed and cleared for the buffer zone amounts to 55 sq km, which constitutes 15% of Gaza.

(c) The surface area of the Netzarim corridor amounts to 35 sq km, which constitutes 9.6% of Gaza. The clearing of land for the corridor led to the destruction of five university buildings, a courthouse, a hospital, two resorts, a park, and a wastewater treatment facility.

(d) The area of land cleared for the benefit of the raid routes constitutes 62 sq km.

(e) The area of the expanded Philadelphi corridor amounts to 10.8 sq km.

2 *Pattern findings*

2 Israel's military campaign in Gaza between 7 October 2023 and 30 June 2024 involved the reshaping of the cultivated and built environment of the region through acts of **destruction** and **construction**. Large tracts of territory were cleared, including agricultural areas and buildings. In their place, the Israeli military constructed roads, temporary encampments, permanent bases, lines of fortification, and checkpoints. Our analysis found that these acts of destruction and construction were not haphazard, but followed consistent and clear spatial logic:

2.1 All agricultural fields, orchards, greenhouses, and other agriculture where the buffer zone, the corridors, and the raid routes were established have been destroyed. The construction of these new infrastructural elements has likely contaminated the soil, inhibiting future use (see Chapter 4: Destruction of Agriculture and Water Resources).

2.2 The Netzarim corridor divides Gaza into two 'zones':

(a) The 'north', from which Israel ordered the evacuation of civilians

(b) The 'south', which includes 'destination areas' (see Section A (Glossary) in Chapter 3: Displacement)

2.3 These zones are separated by checkpoints where Gaza's main north–south roads cross the Netzarim corridor.

2.4 The Netzarim corridor and the checkpoints facilitate displacement:

(a) Movement between the zones mentioned is restricted and controlled by checkpoints.

(b) The checkpoints exclusively allow for one-way movement by civilians from the north to the south (see Chapter 3: Displacement) and aid from 'south' to 'north' (see Chapter 7: Targeting of Aid).

2.5 Thirteen raid routes lead from the perimeter to the interior of Gaza. These routes facilitated repeated military incursions, and the extent of work invested in their construction suggests they may have long-term presence and be further employed for this purpose.

2.6 The majority of buildings in areas where the buffer zone, the corridors, and the raid routes were established have been destroyed.

2.7 The territorial reorganisation of Gaza is consistent with statements made by Israeli political leaders calling for a long-term Israeli military presence and the construction of permanent Jewish settlements in Gaza.[1]

[1] 'Israeli Ministers Join Ultranationalist Conference Urging Gaza Resettlement,' *Reuters* (29 January 2024) <https://www.reuters.com/world/middle-east/israeli-ministers-join-ultranationalist-conference-urging-gaza-resettlement-2024-01-29/> accessed 26 September 2024.; See also Appendix: Study of the relationship between Israeli public statements and Israeli military conduct in the occupied Gaza strip.

2.8 The territorial arrangement imposed on Gaza through the abovementioned elements is key to understanding other dimensions of Israel's military campaign, such as the destruction of agriculture, the displacement of civilians, and the targeting of aid in particular areas (see Chapter 3: Displacement, Chapter 6: Destruction of Civilian Infrastructure, Chapter 4: Destruction of Agriculture and Water Resources, and Chapter 7: Targeting of Aid).

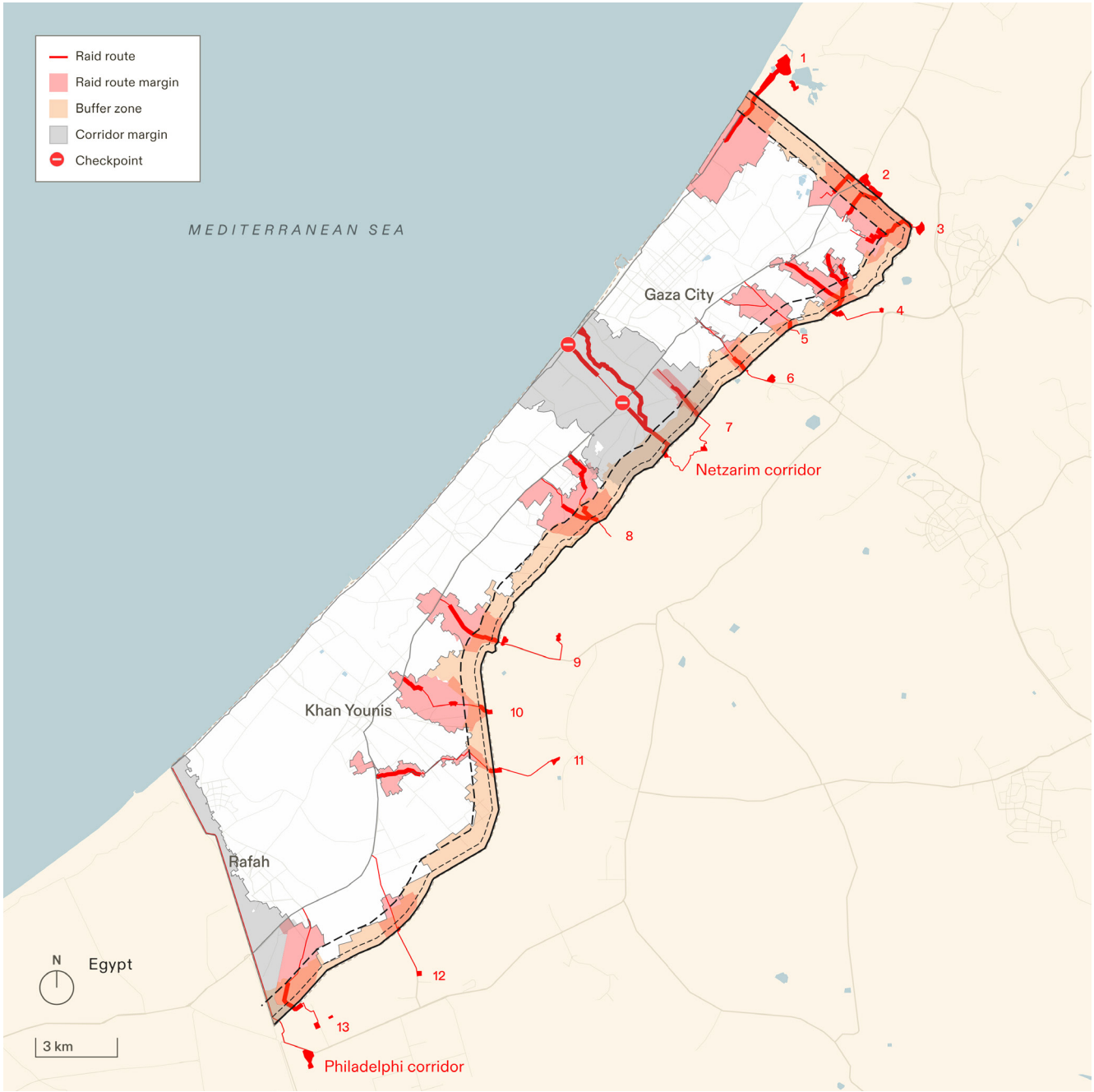

Figure 2.1 The total area destroyed and cleared for establishment of the buffer zone, raid routes, Netzarim corridor and Philadelphi corridor is 131.7 sq km, which constitutes 36% of the area of Gaza. The series of smaller dashed lines marks the 300m buffer zone in effect before 7 October 2023. The second, larger series of dashed lines marks 1km from the perimeter.

B BACKGROUND

3 In 1967, Israel occupied Gaza. In the early 1970s, it conducted a counter-insurgency campaign there. A matrix of physical structures was built, including settlements, roads, military bases, and checkpoints across Gaza. In 2005, Israel removed and destroyed its military bases and illegal settlements from Gaza and redeployed its military behind the established ceasefire line. More fortifications were constructed around the perimeter of Gaza: new fences, ramparts, bases, and electronic surveillance systems. Despite the 2005 Israeli 'evacuation' of Gaza, international organisations such as the Red Cross, the UN, the European Union, the African Union, as well as international courts and human rights organisations still consider Gaza an occupied territory. This is because Israel has 'effective control' over the lives of Palestinians in Gaza through its domination of access to the enclave via land crossings, the sea, and its air space.[2]

4 The Israeli ground offensive in Gaza that started on 27 October 2023 involved the installation of a new spatial system of territorial control. This new system repeats patterns of conduct and control established during the period of Israel's direct occupation of Gaza between 1967–2005. The system of spatial control which has emerged since October 2023 is composed of several elements. This chapter examines and analyses the elements that constitute this system, and the relation between them. Further chapters will present how these attacks have been conducted in relation to the imposition of this spatial system.

C SCOPE

5 In this chapter, we examine how the territory of Gaza has been reshaped by acts of destruction and construction between 7 October 2023 and 30 June 2024. It lays the ground for subsequent chapters by presenting the spatial system within which the incidents they describe take place.

6 Our analysis examines the following:

(a) The territory of Gaza has been reshaped by acts of destruction and construction between 7 October 2023 and 30 June 2024.

(b) Whether this reshaping is haphazard or following clear patterns.

(c) The consequences of this reshaping; and this in terms of:

(i) The amount and quality of land destroyed

(ii) The consequences for life in Gaza

(iii) The consequences for movement of civilians in Gaza

[2] 'IHL on the Occupying Power's Responsibilities in the Occupied Palestinian Territory | ICRC' (28 March 2023) <https://www.icrc.org/en/document/ihl-occupying-power-responsibilities-occupied-palestinian-territories> accessed 26 September 2024.

D NOTES FOR GEOGRAPHIC ORIENTATION

7 In the first week of its military campaign, Israel ordered Palestinians to evacuate south of Wadi Gaza, which thereafter divided Gaza into a new 'north' and 'south'. From early November, this separation crystallised into an internal border roughly two kilometres north of Wadi Gaza, known as the 'Netzarim corridor'. While parts of Gaza south of this line are often referred to as the 'south', this area includes both the 'centre' of Gaza – an area around Deir al-Balah and the refugee camps of Nuseirat, Al-Bureij, and Al-Maghazi – and the areas in the south around Khan Younis, Al-Mawasi, and Rafah.

8 Salah al-Din Road, running north–south, divides Gaza into east and west. The western area along the coast is largely composed of sand dunes, while the east is an area of agriculturally fertile agrarian soil called loess, as well as sedimented clay. Al-Rashid Road runs north to south between Salah al-Din Road and the coast.

E METHODOLOGY

9 **Geographic Information System (GIS)** (see Section D-3 (Methodology) in Chapter 1: Introduction) – For the key months of June and August 2024, we used approximately 120 georeferenced satellite images (from Planet) to calculate the areas that have been cleared for the purpose of constructing the buffer zone, the margins of the Netzarim and Philadelphi corridors, and the margins of the raid routes. The images are at 50cm resolution, and in five multispectral bands: RGB and near-infrared.

10 **Cartographic regression** and **before-and-after analysis** (see Section D-3 (Methodology) in Chapter 1: Introduction) – We used this method to identify and map the correlation between spatial elements across time, including boundaries of settlements and military bases, the new military roads, raid routes, additions to corridors, encampment areas, and earth berms. It also allows us to monitor spatial changes in Gaza in relation to specific military operations and tactics.

11 **Open-Source Intelligence (OSI)** (see Section D-3 (Methodology) in Chapter 1: Introduction) –We corroborated reported incidents with spatial changes in the environment of Gaza to assess the techniques by which the Israeli military endeavoured to exert spatial control.

12 **Geolocation** (see Section D-3 (Methodology) in Chapter 1: Introduction) – We used ground-level images to compare the destruction of a particular site on the ground with images from satellites. Such comparisons allow us to understand the nature of the structures registered in satellite imagery, such as checkpoints.

F TIMELINE

1 *First three weeks (bombing campaign): October 2023*

13 Israel's military campaign in Gaza, starting in October 2023, began with heavy aerial bombardment of Gaza's built-up, urban areas (see Chapter 6: Destruction of Civilian Infrastructure). On 13 October, Israel ordered the 1.1 million residents of Gaza City and its surrounding camps and villages to leave their homes within 24 hours and move south of Wadi Gaza. On 21 October 2023, the Israeli military's Coordinator of Government Activities in the Territories (COGAT) announced through Facebook: 'Anyone who is within 1000 metres of the security fence is putting his life in danger'.[3]

2 *Ground invasion of north of Gaza: October 2023*

14 The Israeli military's ground invasion, which began on 27 October, progressed along two main throughlines, enveloping Gaza City and its surroundings. One of the invasion routes progressed from north to south along the coastal al-Rashid Road. The other route created an east–west wedge just north of Wadi Gaza in an area that later became the Netzarim corridor.

15 Shortly after the invasion began, a large encampment made of earth berms was established along each of the military routes. Along the northern coastal route, a military encampment was built over the ancient archaeological site of Anthedon. Military bulldozers raised multiple earth berms, destroying archaeologically rich soil.[4]

16 By 31 October, the Israeli military had gained control of the area of the former Netzarim settlement.[5] By 6 November, it had reached the coast, closing off Gaza City from the south. Satellite images from 30 November confirmed the presence of earth berms around the Turkish–Palestinian Friendship Hospital (henceforth 'the Turkish Hospital') north of Wadi Gaza. The hospital was built on the site of the former settlement of Netzarim (see Chapter 1: Introduction).

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3 'المدنسق, Facebook' <https://www.facebook.com/photo.php?fbid=659312296309468&set=pb.100066921098856.-2207520000&type=3> accessed 26 September 2024.

4 'Living Archaeology In Gaza Forensic Architecture' <https://forensic-architecture.org/investigation/living-archaeology-in-gaza> accessed 26 September 2024.

5 Meg Kelly and others, 'Mapping Israel's Ground Assault into Gaza,' *Washington Post* (31 October 2023) <https://www.washingtonpost.com/investigations/2023/10/30/israel-ground-assault-gaza-map/> accessed 26 September 2024.

3 *Temporary Ceasefire: 24-30 November 2023*

17 During this period the Israeli military consolidated control of the area that would become the Netzarim corridor and extended the temporary irregular corridor from the eastern perimeter of Gaza to the coast.

4 *Ground invasion begins in the south: December 2023*

18 Our analysis shows further destruction of buildings and fields within the buffer zone along Gaza's perimeter. In the north, the destruction took place east of the refugee camps of Jabalia and Shuja'iyya; in the centre, it was most clearly detected between Deir al-Balah and the perimeter along Wadi Gaza.

5 *The occupation of Khan Younis: December 2023 –February 2024*

19 On 5 December 2023, the Israeli military began its invasion of Khan Younis and Deir al-Balah. In central Gaza, agricultural and domestic areas east of al-Bureij and al-Maghazi refugee camps were razed between late December 2023 and January 2024 (see Chapter 4: Destruction of Agriculture and Water Resources).

6 *Military campaign in the south deepens: February–March 2024*

20 Buildings and agricultural land were destroyed along the expanded buffer zone in the southeastern perimeter of the Gaza between Khan Younis and Rafah. Further destruction was visible along the northern perimeter of Gaza and in areas along the buffer zone south of Gaza City. The construction of the Netzarim corridor became visible on satellite images in February. The main road in that corridor was surrounded by a deep buffer zone in which every building or agricultural facility was destroyed.

7 *Partial withdrawal from south Gaza: April 2024*

21 Our analysis shows the destruction of large swathes of agricultural land and buildings north and south of the Netzarim corridor near Deir Al-Balah. During the second and third weeks of May, the Israeli military began the creation of a raid route east of Jabaliya.

8 *Ground invasion of Rafah: May–June 2024*

22 The destruction of structures and agricultural land during this time created wide margins along the raid routes. During May, further land clearings and earthworks were undertaken in the Netzarim corridor, including the addition of asphalt to more parts of the road and the expansion of military bases.

G SPATIAL ELEMENTS

1 *Buffer zone*

23 In September 2005, when Israel evacuated its settlements and bases from Gaza, the military ordered residents to keep a distance of at least 150m from the perimeter fence, though in practice, restrictions extended to 500m from the fence.[6] Israel enforced the buffer zone using live fire. After Hamas took power in 2007, Israel officially restricted access 300m from the fence, though in some areas this extended to 1 kilometre. From 2010 onwards, while formally the buffer zone was set at 300m, farmers were allowed to approach up to 100m from the fence. Israeli military bulldozers would invade Gaza and flatten areas within the buffer zone regularly. In 2019, research suggested that Israel was using bulldozers and the aerial spraying of herbicide to destroy crops in the buffer zone.[7]

24 On 21 October 2023, the Israeli military announced, 'Anyone who is within 1,000 metres of the security fence is putting their life in danger'.[8]

6 'Humanitarian update: Occupied Palestinian Territory November – December 2005' <https://www.ochaopt.org/sites/default/files/ochaHU11_1205_En.pdf> accessed 26 September 2024.

7 'The Ever-Expanding Gaza Buffer Zone,' GISHA – Legal Center for Freedom of Movement (30 June 2024) <https://gisha.org/en/the-ever-expanding-gaza-buffer-zone/?__cf_chl_tk=nYkqO106NwnXIvf9KXRr89z70jgCc4qkAFwYMZTHTpE-17263;%20)> accessed 26 September 2024.

8 'المنسق, Facebook' <https://www.facebook.com/photo.php?fbid=659312296309468&set=pb.100066921098856.-2207520000&type=3> accessed 26 September 2024.

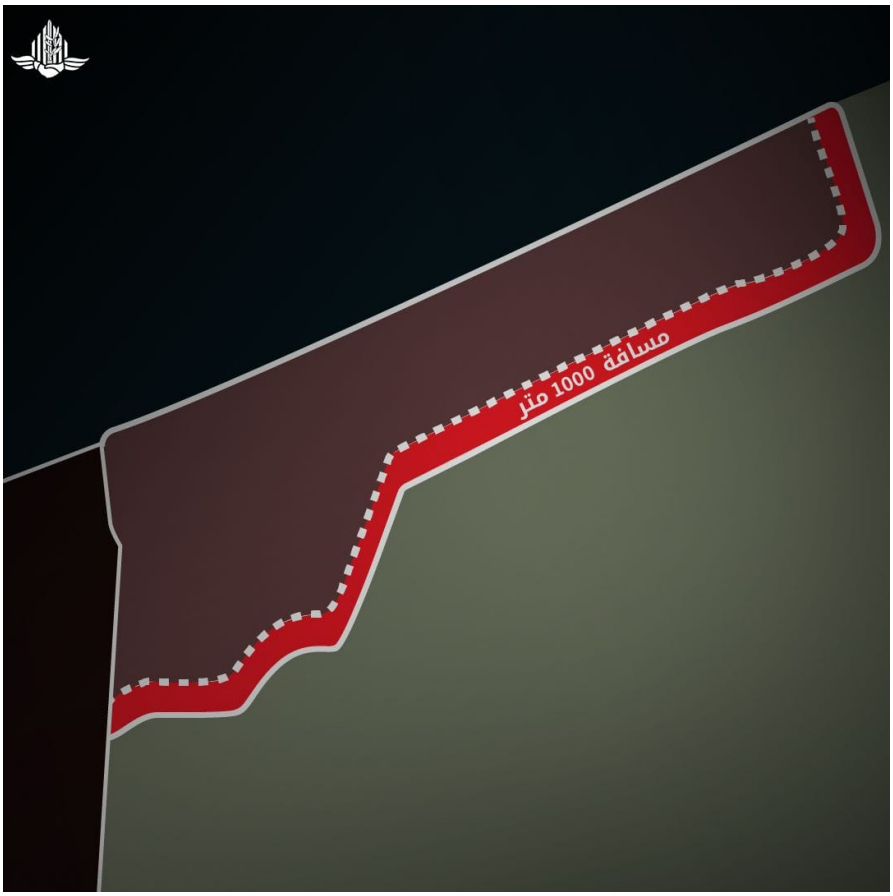

Figure 2.2. A map released by the Israeli military spokesperson with the 21 October announcement that 'anyone who is within 1000 metres of the security fence is putting his life in danger'. [Incident ID: M-41021-15028] Soon after this warning, Israel's military began expanding the buffer zone. Our analysis suggests that the buffer zone in some places reaches up to 2 kilometres from the fence line.

25 While the previous 300m buffer zone amounted to a total area of 18 sq km, our analysis shows that the total area destroyed for the expanded buffer zone (including its previous extent) amounted to 55 sq km of mainly agricultural lands.

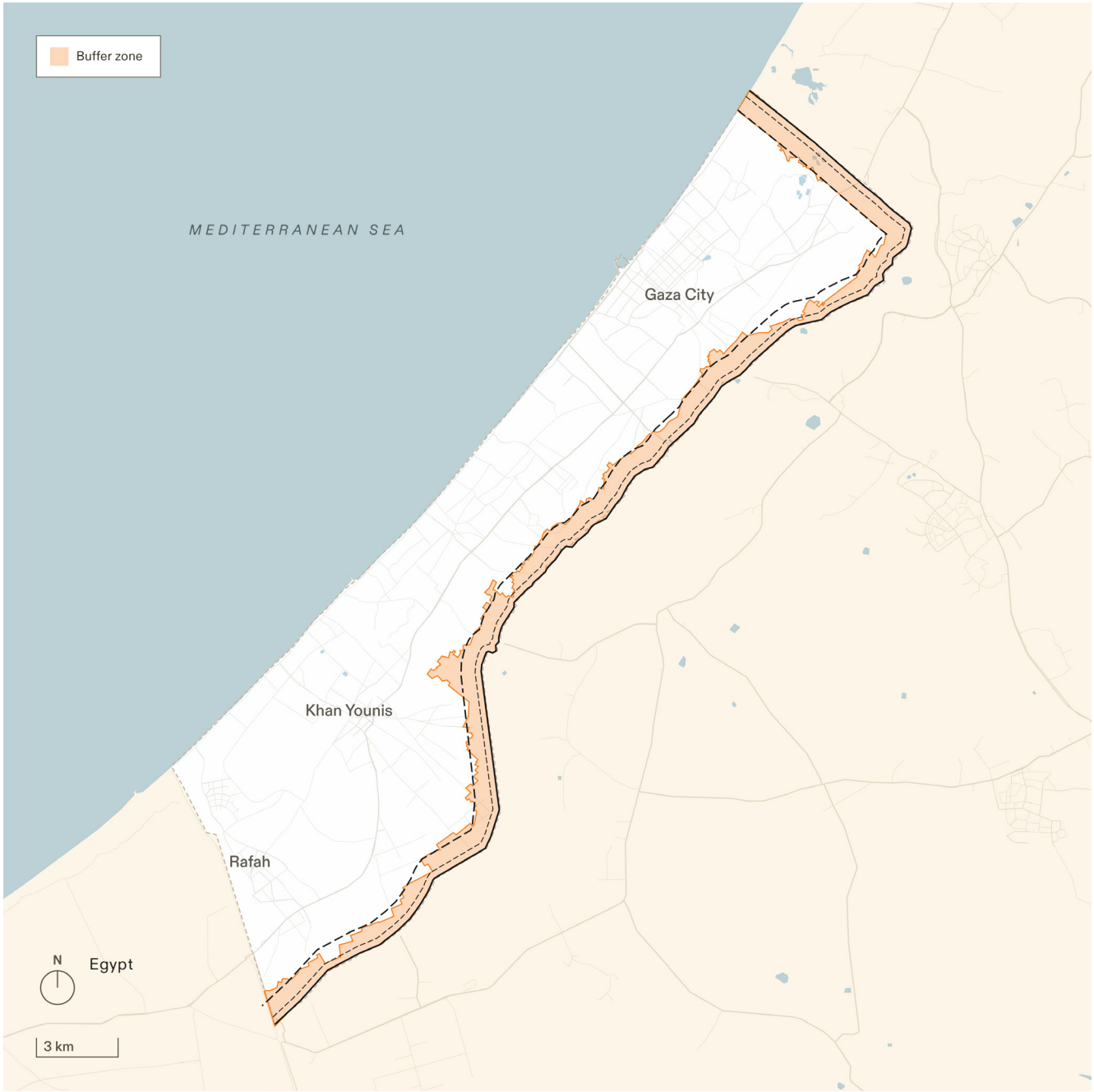

Figure 2.3. The buffer zone along Gaza's eastern perimeter. The series of smaller dashed lines marks the 300m buffer zone in effect before 7 October 2023. The second, larger series of dashed lines marks 1km from the fence line. The orange surface is the area flattened by the Israeli military as of June 2024, according to our analysis.



Figure 2.4. Destruction of homes in Shuja'iyya neighbourhood within the buffer zone. Orange line indicates the extents of the exposed and flattened area (August 2024).

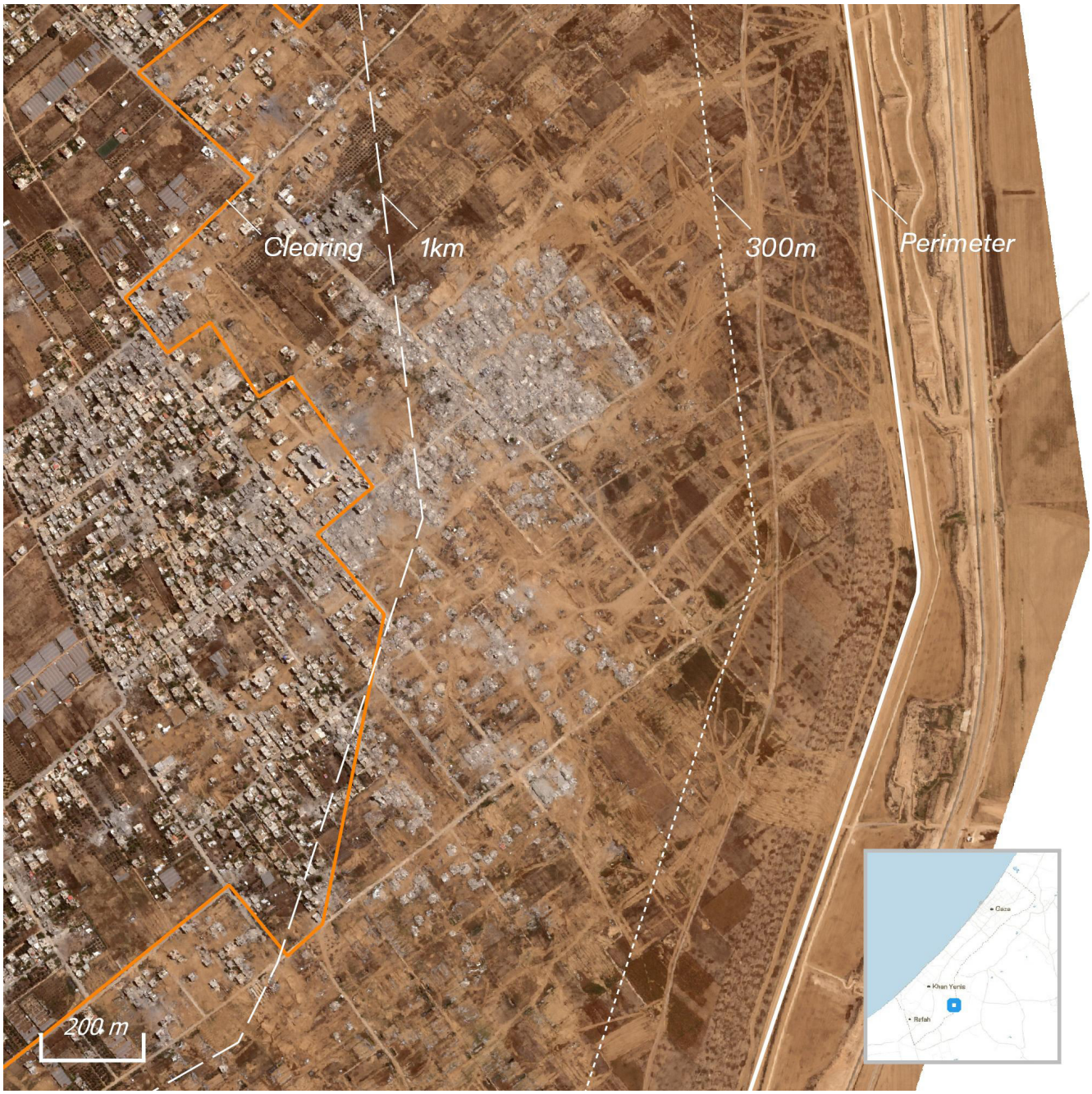

Figure 2.5. Destruction of homes in Khuza'a village due to falling within the buffer zone; orange line indicates the extents of the exposed and flattened area (June 2024).

26 Starting in early 2024, almost every structure within the buffer zone was razed to the ground. This included neighbourhoods (such as Shuja'iyya, see Figure 4), villages (such as Khuza'a, Khirbat Ikhza'a, and Al Sureij), homes, schools, and mosques. Almost all agricultural fields, orchards, and greenhouses in this zone were likewise destroyed.

27 The Israeli military destroyed buildings and agricultural land using bulldozers and explosives, not during active fighting but after taking control of the area.[9] The building rubble and the agricultural soil were piled up by military bulldozers and used to reshape the surface of the earth with an artificial landscape of high and long berms, enclosures, and hills, which also created barriers, hideouts, and fortifications for Israeli soldiers.

28 The buffer zone is a military zone. Palestinians are prohibited from entering it and civilians trying to approach it have been shot at. Routes and roads leading into and towards the buffer zone have been closed off, often with earth berms.

29 We verified two incidents in which civilians were killed in parts of the buffer zone east of Shuja'iyya. An incident reported on 5 April 2024 [Incident ID: 00000-73965] entailed the killing of a Palestinian civilian attempting to collect aid dropped within the buffer zone east of Shuja'iyya (Figure 2.6, Figure 2.7). An incident reported on 21 March 2024 [Incident ID: 00000-73966] entailed an Israeli soldier killing five Palestinians within the buffer zone in Shuja'iyya (Figure 2.6, Figure 2.8).

[9] 'Israel/OPT: Israeli Military Must Be Investigated for War Crime of Wanton Destruction in Gaza – New Investigation' (*Amnesty International*, 4 September 2024) <https://www.amnesty.org/en/latest/news/2024/09/israel-opt-israeli-military-must-be-investigated-for-war-crime-of-wanton-destruction-in-gaza-new-investigation/> accessed 26 September 2024.



Figure 2.6. We confirmed two incidents of Palestinian civilians killed in the Shuja'iyya part of the buffer zone at locations marked in white in this satellite image from March 2024.



Figure 2.7. Video published by Al Jazeera capturing the moment when Israeli troops shot at a Palestinian man attempting to collect aid dropped within the buffer zone. [Incident ID: 00000-73965]



Figure 2.8. A group of Palestinians killed near Shuja'iyya, within the buffer zone. [Incident ID: 00000-73966]

30 The declared buffer zone includes 58 sq km of mainly agricultural land, constituting about 16% of Gaza. The construction of the buffer zone displaced tens of thousands of civilians. Given that the eastern part of Gaza has the most fertile soil, and that most of its agricultural sector is located there, the creation of the buffer zone severely impacted Gaza's food production.

31 The damage to agriculture in the buffer zone was not limited to the destroyed surface but extended to the contamination of the ground beneath. The destruction and pulverising of built structures in the buffer zone released chemicals, metals, fire contaminants, explosive residue, unexploded ordnance, and other hazardous substances specific to clinics, laboratories, and industrial sites. In Gaza, asbestos is still present in older buildings and in refugee camps. Many of these hazardous substances may take several years to decay and thereby negatively affect the soil and groundwater for decades. It is also possible that human remains are buried in this vast quantity of building debris.

32 The destruction of buildings also released wastewater out of damaged pipes. The soil has been further contaminated with oil and petrol released from military vehicles. The destruction of irrigation systems and the movement of heavy military vehicles compress the soil and limit its ability to absorb water, destroying its ability to renew itself.[10]

33 The expanded buffer zone correlates with statements made by Israeli political leaders. For example, on 18 October 2023, Israel's then foreign minister Eli Cohen said: 'At the end of this war, not only will Hamas no longer be in Gaza, but the territory of Gaza will also decrease.'[11]

34 On 1 September 2024, finance minister Bezalel Smotrich declared his support for the further expansion of the buffer zone and for making it a permanent fixture. 'This morning the Gaza Strip must be reduced. IDF forces should move two kilometres inland from the current border and clear everything in their way. This is a territory that will never be returned to the Gazans.'[12]

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10 'Environmental Impact of the Conflict in Gaza: Preliminary Assessment of Environmental Impacts,' United Nations Environment Programme (2024), 7.<https://www.un.org/unispal/wp-content/uploads/2024/06/environmental_impact_conflict_Gaza.pdf> accessed 26 September 2024; Kaamil Ahmed and others, '"Ecocide in Gaza": Does Scale of Environmental Destruction Amount to a War Crime?' *The Guardian* (29 March 2024) <https://www.theguardian.com/environment/2024/mar/29/gaza-israel-palestinian-war-ecocide-environmental-destruction-pollution-rome-statute-war-crimes-aoe> accessed 26 September 2024.

11 Jacob Magid, 'Foreign Minister: At War's End, Not Only Will Hamas Be Gone, but Gaza's Territory Will Shrink,' Times of Israel (18 October 2023) <https://www.timesofisrael.com/liveblog_entry/foreign-minister-at-wars-end-not-only-will-hamas-be-gone-but-gazas-territory-will-shrink/> accessed 26 September 2024.

12 Sam Sokol, 'Smotrich Blasts "Surrender Deal" in Response to Gallant's Call to Reverse Cabinet Decision on Philadelphi Corridor,' Times of Israel (1 September 2024) <https://www.timesofisrael.com/liveblog_entry/smotrich-blasts-surrender-deal-in-response-to-gallants-call-to-reverse-cabinet-decision-on-philadelphi-corridor/> accessed 26 September 2024.



Figure 2.9. Satellite image from 19 January 2024 shows the construction of the buffer zone in Khan Younis.

2 *The 'Netzarim corridor'*



Figure 2.10. Civilians evacuating from north to south Gaza were required to cross military checkpoints on al-Rashid or Salah al-Din Roads. Until the beginning of 2024 these were temporary checkpoints.

35 The location of the Netzarim corridor corresponds to one of the first areas invaded by the Israeli military. Starting on 29 October 2023, the military moved into this sector from east to west. As of the time of publication, the Israeli military has not left this area. The corridor, which bisects Gaza, was created gradually. It is located two kilometres north of and parallel to Wadi Gaza and cuts off Gaza City from the rest of Gaza.



Figure 2.11. Satellite image from 30 November 2023 shows the signature of a new irregular route (in red) enveloped by new earth berms (in yellow).

36 We used satellite imagery from 30 November 2023 to map a new irregular route being built north of Wadi Gaza (Figure 2.11). In satellite imagery from 20 March 2024, we detected a new road – straight and wide – along the same orientation, approximately 0.5km south of the previous route (Figure 2.12).

37 It appears to have been constructed as a permanent road. The ground was pressed by heavy compactors and paved with a layer of asphalt (Figure 2.20). What was colloquially known as the Netzarim corridor received an official road name – Route 749 – in keeping with Israel's traffic system, suggesting a longer-term intention that it be integrated into this existing system. The military placed flags along the road and soldiers reportedly refer to it as 'the blue and white Netzarim route'.[13] Since its paving, the road has enabled military vehicles to travel along it at high speeds, with large supply trucks providing for the bases and checkpoints created along it. The Israeli military has also installed observation and communication towers all along the road.[14]

38 On both sides of the road, we identified that the military had created earth berms a few metres high to protect the road from being observed from the surrounding areas or targeted by snipers.

39 Satellite imagery from mid-August shows large-scale destruction on both sides of the road. Destruction of all agricultural infrastructure and most buildings extended for about 2 to 3.5km on the south side and 1.7 to 3.5km on the north. On each side of the berms, the military destroyed all existing structures, except for a few buildings requisitioned and appropriated by its units. It also uprooted all the agriculture in this area, following similar patterns to the destruction enacted in the buffer zone (Figure 2.12).

[13] Yarden Michaeli and Avi Scharf, 'Road to Redemption: Israel Seized 26 Percent of Gaza. Now, Jewish Settlers See Their Chance,' *Haaretz* (8 July 2024) <https://www.haaretz.com/israel-news/security-aviation/2024-07-08/ty-article-static/.premium/israel-seized-26-of-gaza-now-jewish-settlers-see-their-chance/00000190-77cd-d705-a7f5-fffffcbc0000> accessed 26 September 2024.

[14] 'Telegram: Contact @newss93' <https://t.me/newss93/26398> accessed 26 September 2024; Michaeli and Scharf [n 13].

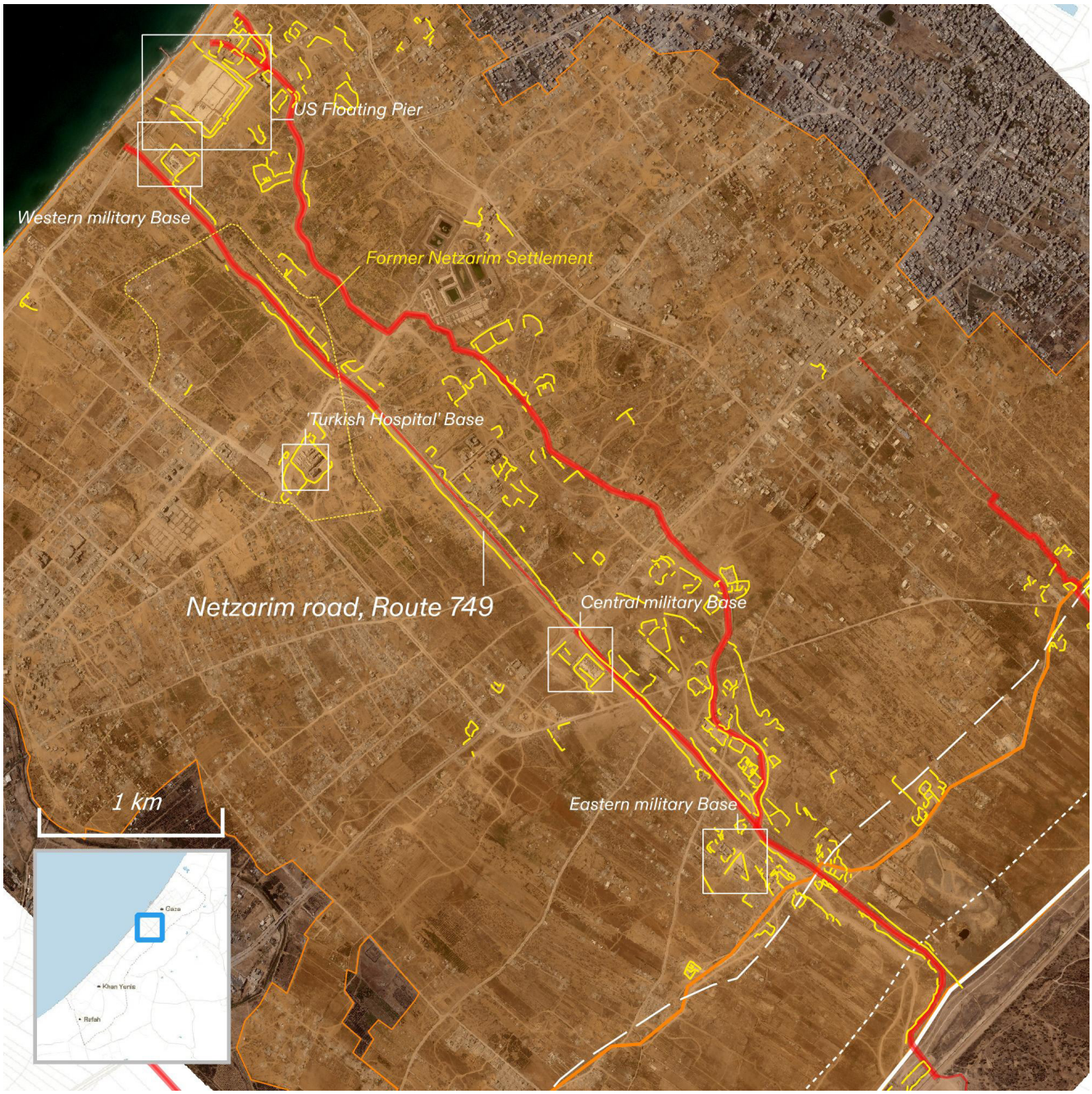

Figure 2.12. Satellite image from 26 August 2024 showing the new Netzarim road and the irregular route (both in red) enveloped by earth berms (in yellow). New infrastructure along the Netzarim corridor includes four military bases and a causeway for the US floating pier.

40 We used before-and-after analysis to identify the destroyed structures. Several public buildings and other infrastructure, including two parks, five universities and university campuses (including the al-Israa University, the al-Ummah University, the University of Palestine, the faculty of medicine of the Islamic University of Gaza, and the faculty of law of al-Azhar University), a courthouse (see Chapter 6: The Destruction of Infrastructure), a wastewater treatment facility, and the 'Turkish hospital' were located in this area. All buildings but the Turkish hospital, which became a military headquarters, were destroyed (Figure 2.13, Figure 2.14).

41 We calculated that the total area destroyed for the road and the cleared zone around it was 35 sq km by August 2024 – constituting 9.6% of Gaza.

42 Palestinians are forbidden from entering or crossing this zone, except along two roads, Salah al-Din Road and al-Rashid Road, which lead to checkpoints where they intersect with the Netzarim corridor. These checkpoints are equipped with remotely controlled biometric sensors.

43 We identified four Israeli military bases built along the Netzarim corridor (Figure 2.12). The 'eastern base' was built around a former school building in the destroyed village of Juhor ad-Dik. The 'central base' was built where the Netzarim corridor intersects with Salah al-Din Road, also the site of an aforementioned checkpoint (Figure 2.20).

44 The Turkish hospital base is built in and around the requisitioned hospital.

45 The 'western base', where the Netzarim corridor intersects the al-Rashid Road, is the second of the two major checkpoints.

46 Satellite and ground images reveal paved surfaces, prefabricated, air-conditioned housing units for the soldiers, showers and bathrooms, tall antennas, as well as power infrastructure, communications towers, electricity, and lights.[15] Protruding past the shoreline as if to continue the road into the sea was a causeway leading to the 'floating pier' built by the US military in April to May 2024. This pier was dismantled in July 2024. The Netzarim corridor housed the logistical heart of the Israeli military and its partners. The border, the pier, and the checkpoints comprise a single logistical complex.

47 The corridor acts as a launchpad for military operations in Gaza. It is also creating a permanent internal border through Gaza, one through which the military can control the movement of Palestinians.

[15] 'Housing, Showers, Electricity: These Are the Outposts the Israeli Army Is Building in the Heart of Gaza,' *Haaretz* (18 April 2024) <https://www.haaretz.com/israel-news/security-aviation/2024-04-18/ty-article-magazine/.premium/housing-showers-electricity-these-are-the-outposts-the-idf-is-building-in-central-gaza/0000018e-f1da-dbb3-a3bf-f5df02120000> accessed 26 September 2024.



Figure 2.13. Satellite image from July 2023 showed the location of important Gazan institutions in the area where the Netzarim corridor would later be created by the Israeli military.



Figure 2.14. Satellite image from 26 August 2024 shows the former location of important Gazan institutions in the area where the Netzarim corridor was constructed by the Israeli military. The road (in red) is enveloped by earth berms developed by the Israeli military (in yellow).



Figure 2.15. Satellite image from 2005 showing the former Netzarim settlement.

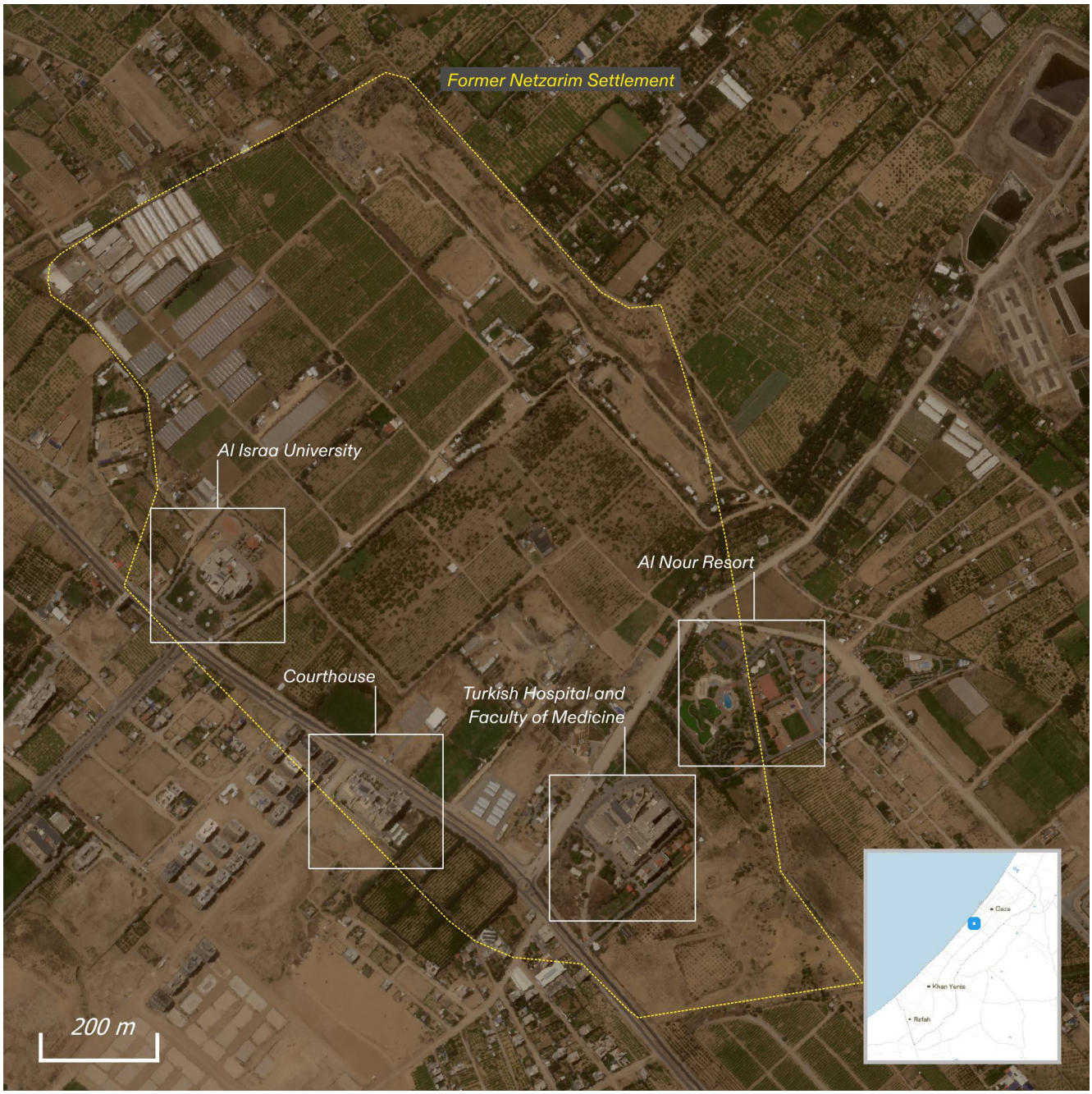

Figure 2.16. Satellite image from July 2023 showed the area where the former Netzarim settlement was located until 2005 (in yellow). Before 7 October, this area was the site of several public institutions, including al-Israa University and the Turkish Hospital and Faculty of Medicine.

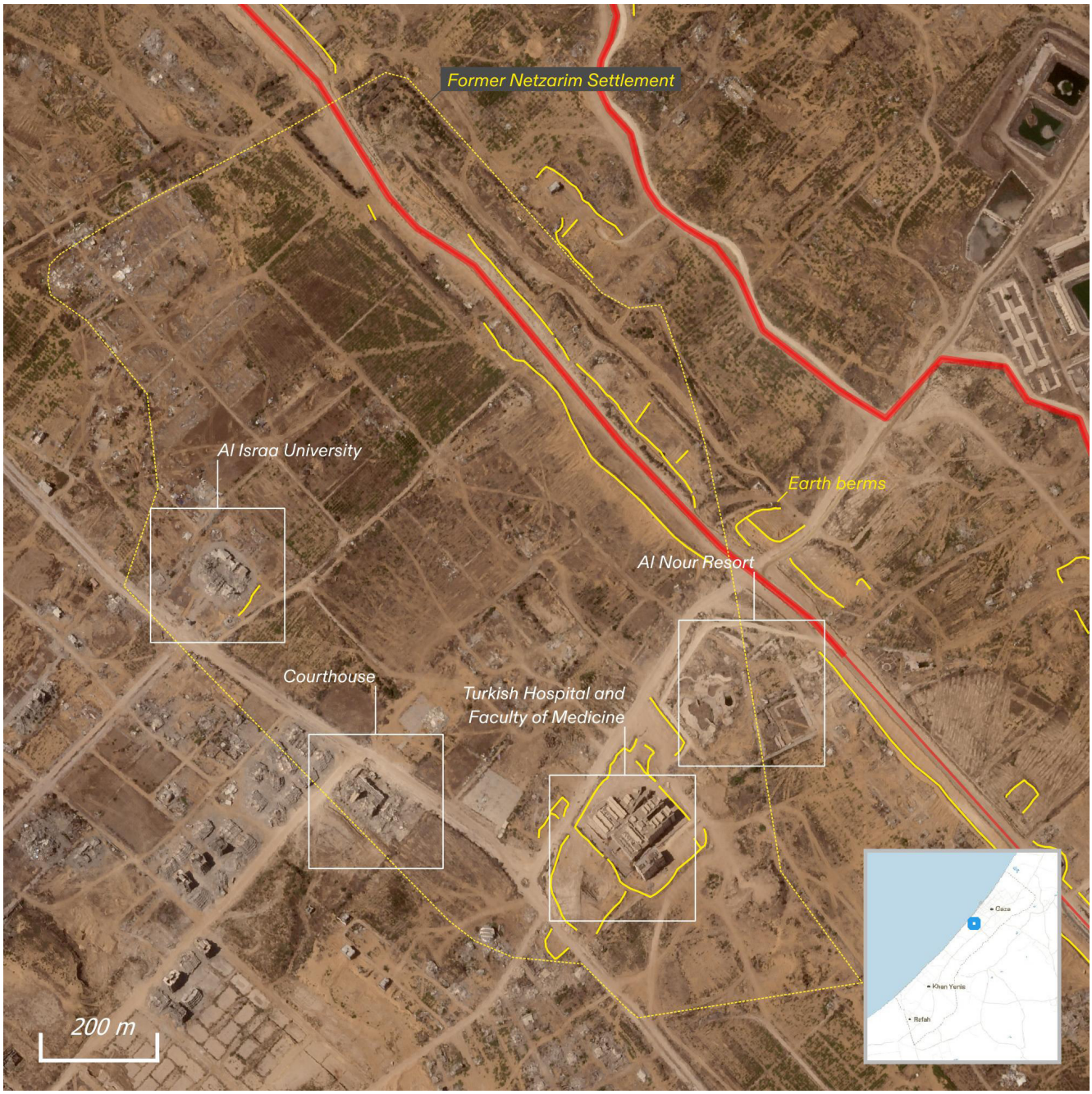

Figure 2.17. Satellite image from August 2024 of the area where the Netzarim settlement was located until 2005 (boundaries marked by yellow dashed line) shows the devastation and level of destruction brought to public institutions of Gaza (white annotation). Solid yellow lines indicate new earth berms.



Figure 2.18. Satellite image from July 2023 showing the area where the Netzarim corridor is located today. Before 7 October, this area was the site of the Faculty of Law of Al-Azhar University.



Figure 2.19. Satellite image from August 2024 showing the area where the Faculty of Law of Al Azhar University was previously located. Yellow lines indicate new earth berms.

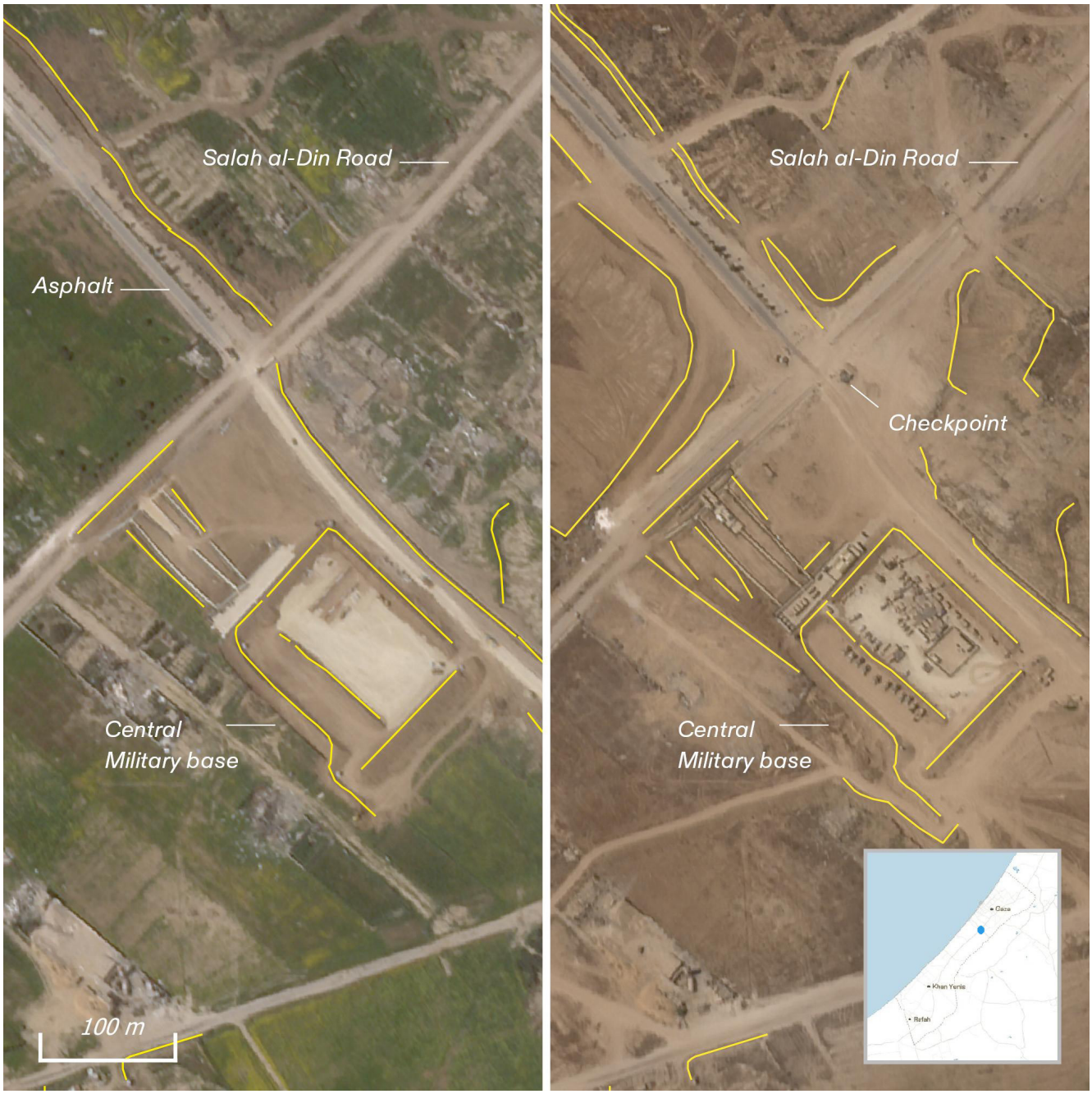

Figure 2.20. Comparison of satellite imagery between 14 March 2024 (left) and 7 August 2024 (right) shows the construction of a base and a checkpoint at the intersection of the Netzarim corridor and Salah al-Din Road. Note the use of asphalt along the new road at the centre of the Netzarim corridor. Yellow lines indicate new earth berms.

48 We have documented over 30 incidents in the period between January and March 2024 where civilians seeking aid have been killed within the margins of the Netzarim corridor (see Chapter 7: Targeting of Aid for incidents of targeting civilians seeking aid along the Netzarim corridor).

49 Many members of the Israeli government, as well as other politicians, cultural figures, and soldiers, have advocated for a long-term military presence and the establishment of settlements in the area.[16]



Figure 2.21. The original Menorah that stood on the roof of the synagogue in the abandoned Netzarim settlement (and has been preserved by Israeli settlers expelled in 2005) was placed in front of a synagogue in the Netzarim corridor, next to its original location, indicating a desire for a reestablished presence. Increased numbers of religious ceremonies in the area conducted by Israeli soldiers may suggest tentative steps towards the establishment of new settlements. [17]

[16] Michaeli and Scharf [n 13].

[17] Moshe Ben Shitrit [@moshebs11], 'הכנסת ספר תורה ב"מסדרון נצרים". לאן מכניסים אותו בדיוק? למה? האם זו פעולה מאושרת? הזייה. אין מילים אחרות לתאר את זה' https://t.co/lvNDSXSv8z' <https://x.com/moshebs11/status/1766830282219372906> accessed 26 September 2024.

3 *Checkpoints*

50 In addition to the two checkpoints where the Netzarim corridor intersects with Gaza's two main north–south arteries, we identified several temporary checkpoints operational at different times in different parts of Gaza between November 2023 and February 2024.

51 Earth berms, surveillance cameras and speakers are among the defining spatial features of these checkpoints. The surveillance cameras were used for facial recognition.[18] Displaced civilians passing through them were instructed to hold up their IDs and make their faces visible to the cameras (see Figure 2.22).



Figure 2.22. Video still showing a Palestinian man holding up his ID while passing through a temporary checkpoint established by the Israeli military in late January 2024 inside al-Mawasi 'humanitarian zone'.

[18] Sheera Frenkel, 'Israel Deploys Expansive Facial Recognition Program in Gaza' *The New York Times* (27 March 2024) <https://www.nytimes.com/2024/03/27/technology/israel-facial-recognition-gaza.html> accessed 26 September 2024.

3.1 Permanent checkpoints

52 The two main checkpoints, and some of the temporary ones, are equipped with a facial-recognition system (see Figure 2.24, Figure 2.29) connected to a large database of photographic and biometric data.[19] As a result, Palestinians passing through these checkpoints have their faces scanned and movements registered without their consent. Facial-recognition systems were already installed prior to October 2023 in the terminals at the Erez and Rafah crossings. At many of the temporary checkpoints, some unmanned, we identified cameras mounted on tripods that were situated on nearby earth berms.

[19] Sheera Frenkel, 'Israel Deploys Expansive Facial Recognition Program in Gaza' The New York Times (27 March 2024) <https://www.nytimes.com/2024/03/27/technology/israel-facial-recognition-gaza.html> accessed 26 September 2024.



Figure 2.24. The Netzarim corridor divides Gaza into a new 'north' and 'south', with two checkpoints located where the corridor intersects with the main traffic arteries.

53 From March 2024, the checkpoints along the new Netzarim corridor managed the flow of aid trucks northward from Rafah (see Chapter 7: Targeting of Aid). Aid convoys that made the risky northbound journey from Rafah to Netzarim were stopped and delayed at these checkpoints, one of several means by which the Israeli military was in control of the flow of aid.[20]

54 These checkpoints were referred to as 'drains'.[21] The 'drains' were equipped with megaphones and surveillance cameras. While soldiers were positioned around the checkpoints, the checkpoints themselves appeared to operate automatically (Figure 2.25).

55 It is unclear what information is being collected, but a reported case of a civilian passing through a 'drain' being recognised by soldiers without having shown their ID suggests that surveillance cameras at checkpoints are connected to a database gathering intelligence about the Palestinian population.[22]



Figure 2.25. Frames from a video published on 6 March 2024 show the checkpoint at the intersection of the Netzarim corridor and al-Rashid Road. [23]Left: a queue of displaced civilians is held behind the checkpoint. Right: the checkpoint includes two CCTV cameras and a speaker installed on a container.

20 Loveday Morris and others, 'What Israel's Netzarim Corridor in Gaza Reveals about Its Postwar Plans - The Washington Post' *Washington Post* (17 May 2024) <https://www.washingtonpost.com/world/2024/05/17/gaza-israel-netzarim-corridor-war-hamas/> accessed 26 September 2024.

21 Hebrew word: נקזים

22 Frenkel [n 18].

23 Tamer, تامر [@tamerqdh], 'الأن دخول 15 شاحنة من الطحين إلى شمال غزة . مشاهد توثق لحظة دخول الشاحنات ، ويمكننا أن نشاهد الممر الارهابي الامني الاسرائيلي الذي يعبر منه المدنيين الفلسطينيين للانتقال من الشمال إلى الجنوب ، وهنا تتم عملية الاعتقال عند الكاميرات . https://t.co/KTrDKYyMbZ' <https://x.com/tamerqdh/status/1765345329921065432> accessed 11 October 2024.

56 On 14 April 2024, thousands of displaced Palestinians attempted to return to their homes in the 'north' (Figure 2.26), resulting in the men in the crowd reportedly being shot at by the Israeli military.



Figure 2.26. Thousands of Palestinians, including many women, marched north along al-Rashid Road towards the coastal checkpoint on the Netzarim corridor in an attempt reach north Gaza on 14 April 2024. Video source: AFP, via CNN.[24] This group was confronted with live fire.

[24] 'Watch: Palestinians head to northern Gaza and the Israeli army warns of a dangerous combat zone,' *CNN - Arabic* (16 April 2024) <https://arabic.cnn.com/middle-east/video/2024/04/16/v154725-palestinians-gaza-idf-digvid-ldn-orig> accessed 26 September 2024.

3.2 Temporary checkpoints

57 We geolocated multiple temporary checkpoints in different parts of Gaza, mostly around what the Israeli military declared as 'safe routes' through which Palestinians were instructed to evacuate.

(A) Temporary checkpoint at Netzarim corridor, November 2023

58 Satellite images from 14 November 2023 show a temporary checkpoint established by the Israeli military at the intersection of Salah al-Din Road and the emerging Netzarim corridor (Figure 2.27, Figure 2.28).

59 During the first day of the ceasefire in November 2023, a civilian was killed by Israeli sniper fire close to this checkpoint while attempting to return north (see Figure 2.29).



Figure 2.27. Planet satellite imagery from 17 November 2023 shows a demarcation line extending the full width of Gaza from east to west. This military route is located slightly north of where the Netzarim corridor road would be constructed in early 2024. Left: Wadi Gaza is marked by a blue line. Right: Maxar satellite imagery from 14 November shows that a checkpoint was installed where the demarcation line (indicated by a solid orange line) intersects with Salah al-Din Road, the sole evacuation route in November 2023.



Figure 2.28. Left: aerial view of the checkpoint on Salah al-Din Road. Right: the checkpoint as viewed from an Israeli military position (cone of vision marked with a camera icon on the left image).



Figure 2.29. Still from a video recorded on Salah al-Din Road, approximately 450m south of the checkpoint discussed above. The checkpoint is approximately 75m north of the Israeli tank marked with a white frame in the image on the left. The location of the camera is marked on the map bottom left. The video shows the body of a Palestinian killed while reportedly attempting to go back north and the location of an Israeli sniper. [25]

[25] Anadolu English [@anadoluagency], 'Israeli Soldiers Shot and Wounded a Palestinian Who Tried to Cross Salah Al-Din Street in Gaza City to Northern Side of the City' <https://x.com/anadoluagency/status/1728450660310409436> accessed 26 September 2024.

(B) Temporary checkpoint in al-Mawasi 'humanitarian zone' January 2024

60 Satellite imagery and videos from the ground show the layout of a temporary checkpoint in al-Mawasi 'humanitarian zone' in January 2024. Earth berms, a security camera, and speakers are the defining spatial features of this checkpoint.



Figure 2.30. Left: Satellite image showing a queue of displaced Palestinians coming from the direction of Khan Younis trying to enter al-Mawasi 'humanitarian zone', 29 January 2024. Right: still from a video of displaced Palestinians passing through the same temporary checkpoint on the way into al-Mawasi. A security camera and speakers are visible on the left side of the image near a concrete block, 29 January 2024.[26]

[26] Fahad [@FAQ234], 'من إحدى نقاط تفتيش اللاجئين النازحين في خان يونس ، جندي صهيوني يتحدث بنفس منطق وأسلوب الصهاينة العرب في تويتر. اتضح أنه كلام يملى عليهم ويرددونه https://t.co/FVUrRabMgO' <https://x.com/FAQ234/status/1752445840826732590> accessed 26 September 2024.

(C) Al-Amal Hospital temporary checkpoint, 5 February 2024

61 Satellite imagery shows the layout of a temporary checkpoint by al-Amal Hospital in February 2024. Earth berms and military tanks arranged strategically at the intersection are the defining spatial features of this checkpoint.



Figure 2.31. A temporary checkpoint by al-Amal Hospital. Satellite image from 4 February 2024 shows the way the streets were reconfigured to restrict the movement of Palestinian civilians forced to flee from al-Amal Hospital along a path that was controlled by the Israeli military.

(D) Temporary checkpoint around Nasser Hospital, 14-15 February 2024

62 Our analysis shows that the Nasser Hospital in Khan Younis was besieged in the early stages of the ground invasion of the area (see Chapter 3: Displacement). Satellite imagery and videos from the ground suggest that civilians taking shelter there were forced to evacuate through a makeshift military checkpoint installed near the north gate of the compound (see Figure 2.31). A video taken at the north gate of the complex showed evacuees standing in a queue in front of an Israeli checkpoint that was set up at al-Khadamat football stadium and extended to the road adjacent [Incident ID: 00000-73968] (see Figure 2.32, Figure 2.33).



Figure 2.32. Left: still from a video taken at the north gate of Nasser medical complex shows displaced civilians forced to evacuate the hospital standing in a queue.[27] Right: video published on 9 March 2024 showed the condition of the stadium used as a checkpoint after the military withdrawal from Khan Younis.[28]

[27] شبكة قدس الإخبارية [@qudsn], 'تغطية صحفية: جيش الاحتلال يحتجز النازحين على حاجز؛ بعد إجبارهم على الخروج من مجمع ناصر الطبي بخانيونس. https://t.co/QSIsiwAD96' <https://x.com/qudsn/status/1757717990210969949> accessed 26 September 2024.

[28] حسن اصليح, Hassan [@hassaneslayeh], 'ملعب خانيونس مقابل مستشفى ناصر كان مقر للجيش https://t.co/XV5scqtoWr' <https://x.com/hassaneslayeh/status/1766450233951625490> accessed 26 September 2024.



Figure 2.33. Satellite image from 17 February 2024 shows traces of a temporary checkpoint and control area established through earth berms (in yellow) close to Nasser Hospital in Khan Younis. Displaced civilians were forced to evacuate through this checkpoint (in white). CRS: 31.348379838824492, 34.293365817725686

4 *'Raid routes'*

63 Our analysis of sequential satellite imagery since October 2023 has identified thirteen 'raid routes' leading from roads and military bases outside of Gaza to facilitate raids deep within the territory (Figure 2.34). Some of these routes were newly formed, but many were revivals of routes that had been used during the period of Israel's official occupation of the Gaza Strip (Figure 2.35).

64 These routes facilitated military incursions and were often used more than once (see Figure 2.43, see Chapter 8: Cross Patterns, Figure 8.9). Their construction – or where relevant the widening of those that already existed – involved the destruction of all structures and agriculture within a wide margin on either side.

65 The Israeli military destroyed structures located up to 500m on each side of these routes. On both sides of the routes, we identified earth berms for military encampments (Figure 2.37, Figure 2.40, Figure 2.41) These berms are often created using agricultural soil or the rubble of buildings the military demolished. Often the raid routes lead to Salah al-Din Road, possibly to facilitate the creation of temporary checkpoints to block traffic.



Figure 2.34. A map showing the thirteen raid routes. Thick red lines mark the new roads developed by the Israeli military from the perimeter fence to Salah al-Din Road crossing the urban areas on their way. Thin red lines mark the existing routes appropriated by the Israeli military. The further dashed line marks 1km from the perimeter fence.

66 Figure 2.34 legend, from north to south:

1. The coastal route tracing the road to the former settlements of Elei Sinai and Dugit.
2. A split route from the Erez checkpoint along Salah al-Din Road, passing through the former settlement of Nisanit.
3. A new route leading directly to the town of Beit Hanoun.
4. A split route leading to the Jabalia refugee camp.
5. A route through the old Nahal Oz border crossing (closed since 2010) to Shujaiya and central Gaza.
6. A route through the old Karni border crossing (closed since 2011) into southern Gaza.
7. A route to Salah al-Din Road, parallel to and north of the Netzarim corridor.
8. A route leading to the al-Bureij and Nuseirat refugee camps.
9. A route through the old Kissufim checkpoint (closed since 2005), ending where the settlement of Nezer Hazzani was located until 2005.
10. A route cutting through the north of Khan Younis.
11. A route from a military base between Nirim and Nir Oz also cutting through Abasan al-Kabera.
12. A route from the old Sufa checkpoint (closed since 2008).
13. A route through the northern edge of the Yasser Arafat International Airport (inoperable since Israeli bulldozers tore up the runway in January 2002).

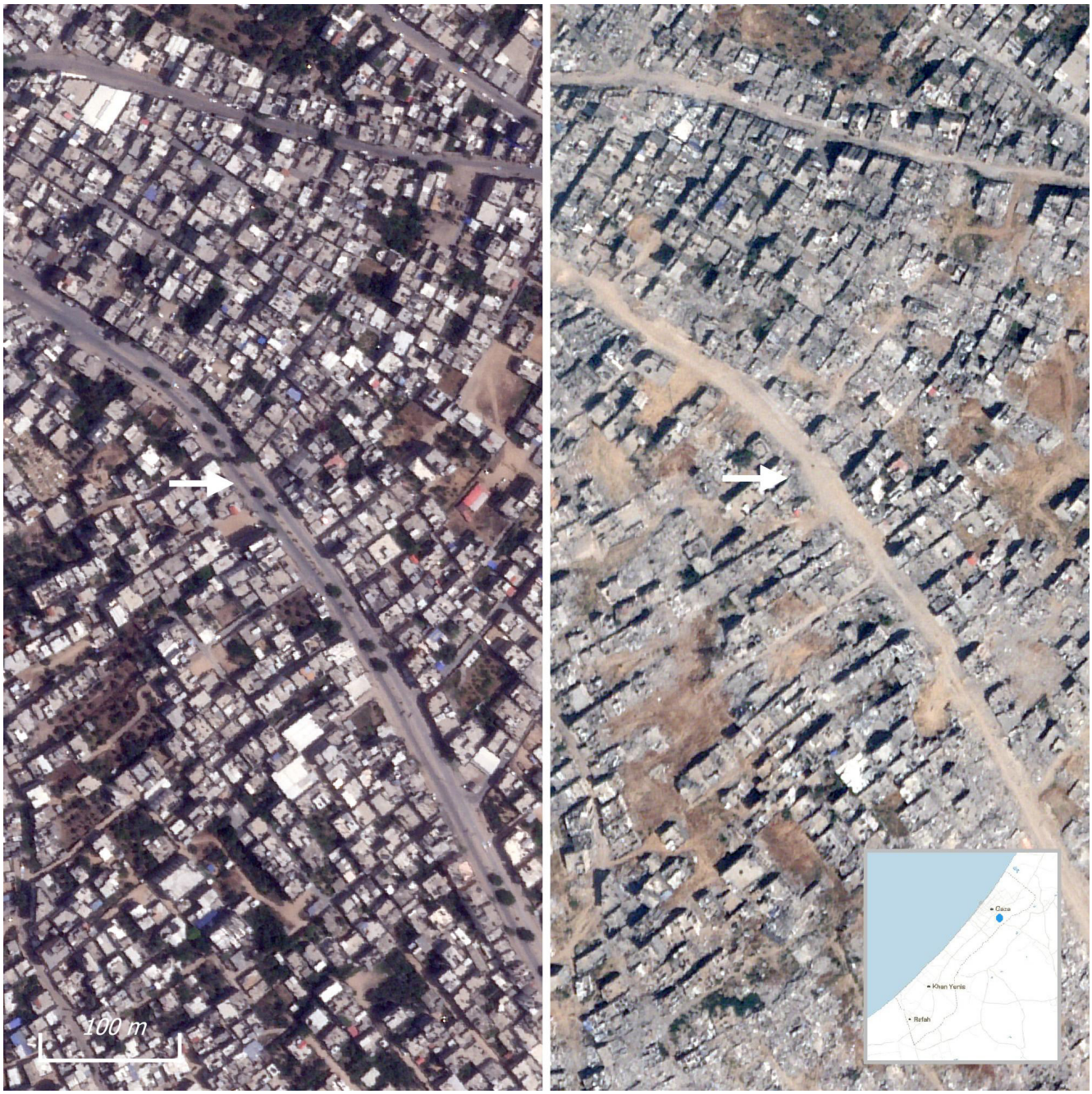

Figure 2.35. Before-and-after satellite image of an existing road (Baghdad Street) appropriated as raid route 6.



Figure 2.36. Before-and-after satellite image of a new raid route, raid route 2, in Beit Hanoun.



Figure 2.37. Bottom: annotated satellite image from June 2024 showing the layout of raid route 1 (in red). Earth berms are marked in yellow. Staging area 1 along the perimeter is partially covered with asphalt. Encampment 1 by the perimeter fence is partially covered with asphalt. Multiple encampment areas (marked by E) are set up along the raid route every few hundred metres. Top: close-up details of encampments (1, 3, 5) showing a sample of the different staging areas along raid route 1.

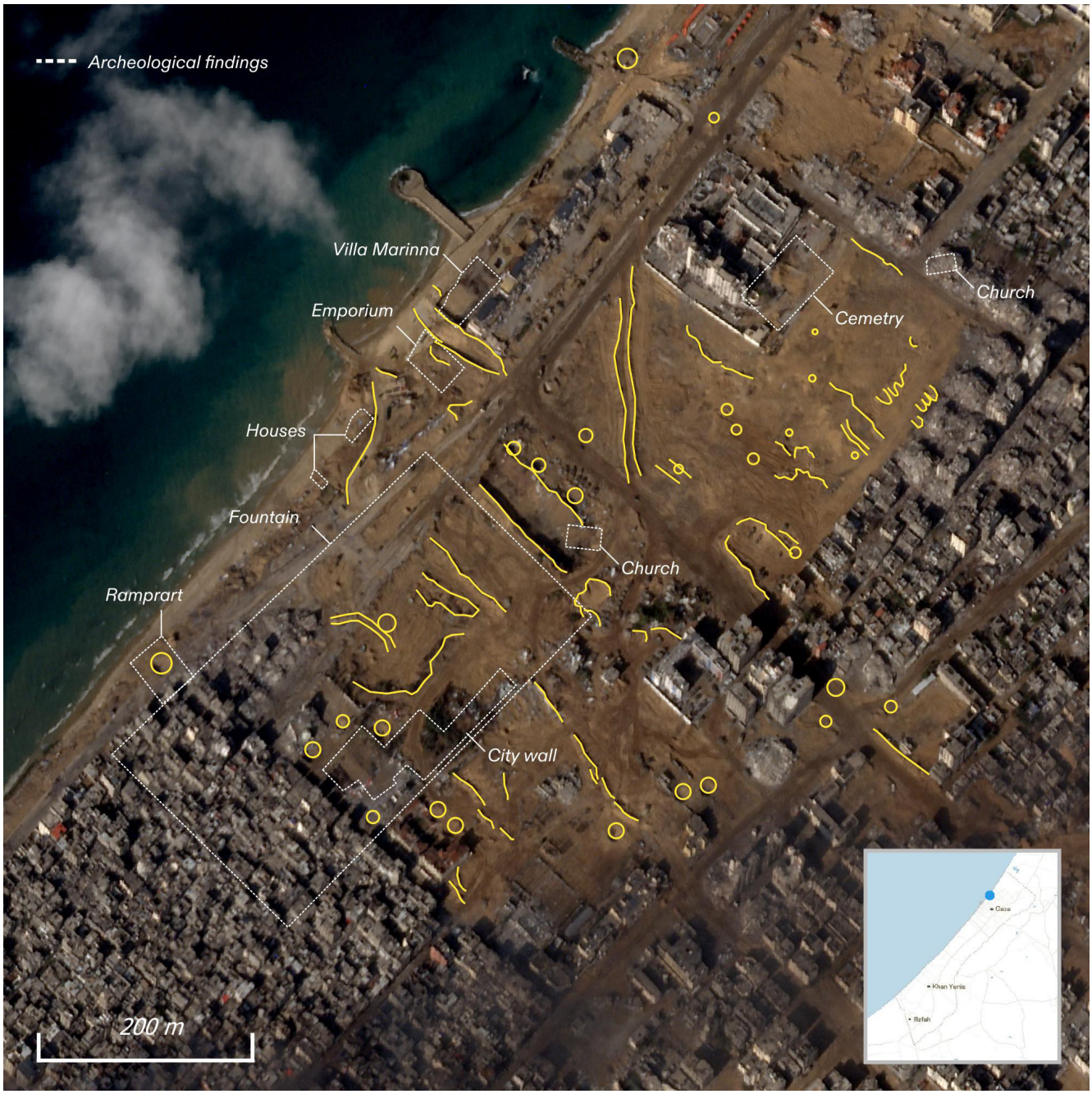

Figure 2.38. Annotated satellite image from 14 November 2023 showing bomb craters, earth berms, and excavations by the Israeli military (all marked in yellow) on the archaeological site of Anthedon (in white) near al-Shati refugee camp. Marking the end of route 1, this area is one of the first large encampments established by the Israeli military in Gaza shortly after the start of the ground invasion.



Figure 2.39. Image showing the area near the archaeological site on the ground.



Figure 2.40. Bottom: annotated satellite image from June 2024 showing the layout of route 2 (in red). Earth berms are marked in yellow. Encampment area 1 along the perimeter is fully covered with asphalt. Multiple encampment areas (marked by E) are set up along the raid route every few hundred metres. Top: close-up details of encampment areas (1, 2, 3) along raid route 2.

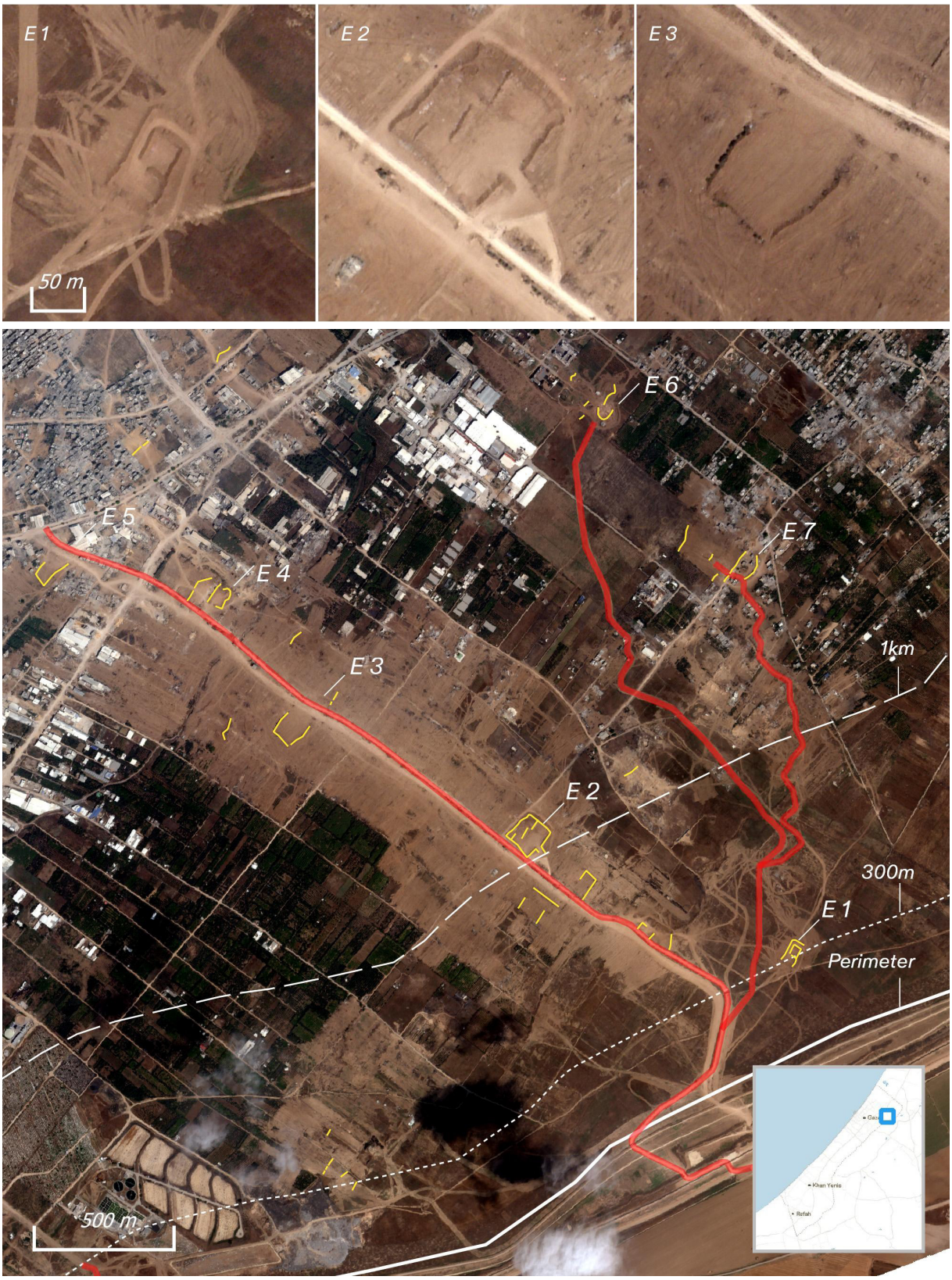

Figure 2.41. Bottom: annotated satellite image from June 2024 showing the layout of raid route 4 (in red) and the multiple encampment areas (marked by E) set up along the route. Top: close-ups of encampment areas (1, 2, 3) along raid route 4 .(For temporal analysis of the development of this route overtime see Chapter 4: Destruction of Agriculture and water resources, Figure 4.43, Figure 4.44, Figure 4.45, Figure 4.46).



Figure 2.42. Annotated satellite image from June 2024 showing an earth berm alongside raid route 10 in Khan Younis, closing off access to Palestinians. This berm is over 1km into Gaza and marks the edge of the expanded buffer zone – an Israeli military no-go area off limits to Palestinians.

67 The Netzarim corridor, the Philadelphi corridor, the clearings around the raid routes and the buffer zone together constitute, according to our calculations, 131.7 sq km or 36% of the total area of Gaza.

68 Moving along the raid routes, the Israeli military established control over Salah al-Din and al-Rashid Roads, the two main north–south traffic arteries in Gaza. The Israeli military has blocked parts of these roads on multiple occasions (see Figure 2.43).

69 Our analysis points to a correlation between the path of raid routes and Israeli ground invasion throughout the period between December 2023 and June 2024. The newly established raid routes were used to facilitate repeated rounds of invasions of built-up Palestinian areas (see Figures 8.5, 8.6).



Figure 2.43. Diagram shows that Israeli ground invasion in Khan Younis repeatedly occurred along the raid routes 9, 10, and 11. From top right to bottom left dates include: 5 December 2023, 7 December 2023, 6 January 2024, 23 January 2024, see also Figures 8.5, 8.6).

5 *Berms*

70 In areas it invaded, the Israeli military frequently raised earth berms. These result from the landscaping of an area using military bulldozers to create raised mounds made of soil or building rubble. The berms create lines of separation or fortification. They are mainly located along the raid routes, within the buffer zone, and along the Netzarim corridor.

71 Some are stretched linearly along the roads, possibly for obscuring vehicles travelling along them. Others are laid out as small enclosures for military encampments or are used to channel traffic through temporary checkpoints.

72 In raising the berms, bulldozer operators use both soil and building rubble. The use of soil negatively alters the agricultural surface.

73 Some destroyed buildings in the cities and camps are spray-painted with the names of people presumed missing (Figure 2.47). Still, before any recovery work is undertaken, and without permission or notice, this rubble has been used as building material by the Israeli military for the creation of earth berms.

74 We have also identified instances where the Israeli military dug up areas that contained cemeteries to obtain extra dirt to pile onto earth berms (Figure 2.44, Figure 2.45, Figure 2.46).



Figure 2.44. Before-and-after comparison of satellite imagery from October 2023 (top) and December 2023 (bottom) shows the destruction of the al cemetery by the Israeli military. Large areas of the cemetery were ploughed, earth was dug, and berms (marked in yellow) were set up and the site was effectively turned into a military encampment.



Figure 2.45. Before-and-after comparison of satellite imagery from October 2023 (top) and December 2023 (bottom) shows the destruction of the Beit Hanoun cemetery by the Israeli military. Large areas of the cemetery were bulldozed (annotated 'ploughed'), earth was dug and berms (marked in yellow) were set up and the site was effectively turned into a military encampment.



Figure 2.46. Before-and-after comparison of satellite imagery from October 2023 (top) and January 2024 (bottom) shows the destruction of the al-Fallujah cemetery in Jabaliya by the Israeli military. Large areas of the cemetery were bulldozed (annotated 'ploughed') and earth was dug.



Figure 2.47. Left: images showing that rubble may contain human remains. The text spray-painted in red reads: 'Omar and Usama under the rubble'[29] Figure 2.48; Right: rubble used for the construction of the causeway in the Netzarim corridor leading to the US military's floating pier [30]

[29] Hosam Yahia [@HosamYahiaAJ], 'آثر أهالي الشهداء الذي حُبس أبناؤهم تحت الأنقاض، ولم يستطيعوا أن يخرجوهم نتيجة عدم وجود المعدات الثقيلة، أن يتركوا هذه العلامات التي ستحفظ أسماء شهدائهم كما ستحتفظ الأنقاض بأجسادهم، الله يرى. <https://x.com/HosamYahiaAJ/status/1725966613831188890> accessed 26 September 2024.

[30] Middle East Eye [@MiddleEastEye], 'Photojournalist Hazem Suleiman Posted a Video on Instagram Showing Trucks Transporting Rubble Left behind from Israeli Bombardments in Gaza to Construct a Port. Suleiman Posted the Video with the Caption, The New Port Is Being Built under American Sponsorship"' <https://x.com/MiddleEastEye/status/1770705555398832425> accessed 26 September 2024.

6 *Philadelphi corridor*

75 The Philadelphi corridor runs along the international border between Gaza and Egypt. Before October 2023, the area destroyed by the Israeli military on the Gazan side of the Philadelphi corridor extended to 100m (Figure 2.49).

76 Data published by ISW shows that the Philadelphi corridor was not invaded for the first eight months of hostilities and was only seized by the Israeli military in May 2024. According to our calculations Israel extended the buffer zone along this corridor to a width of up to 450m from the border by June 2024 (Figure 2.50).

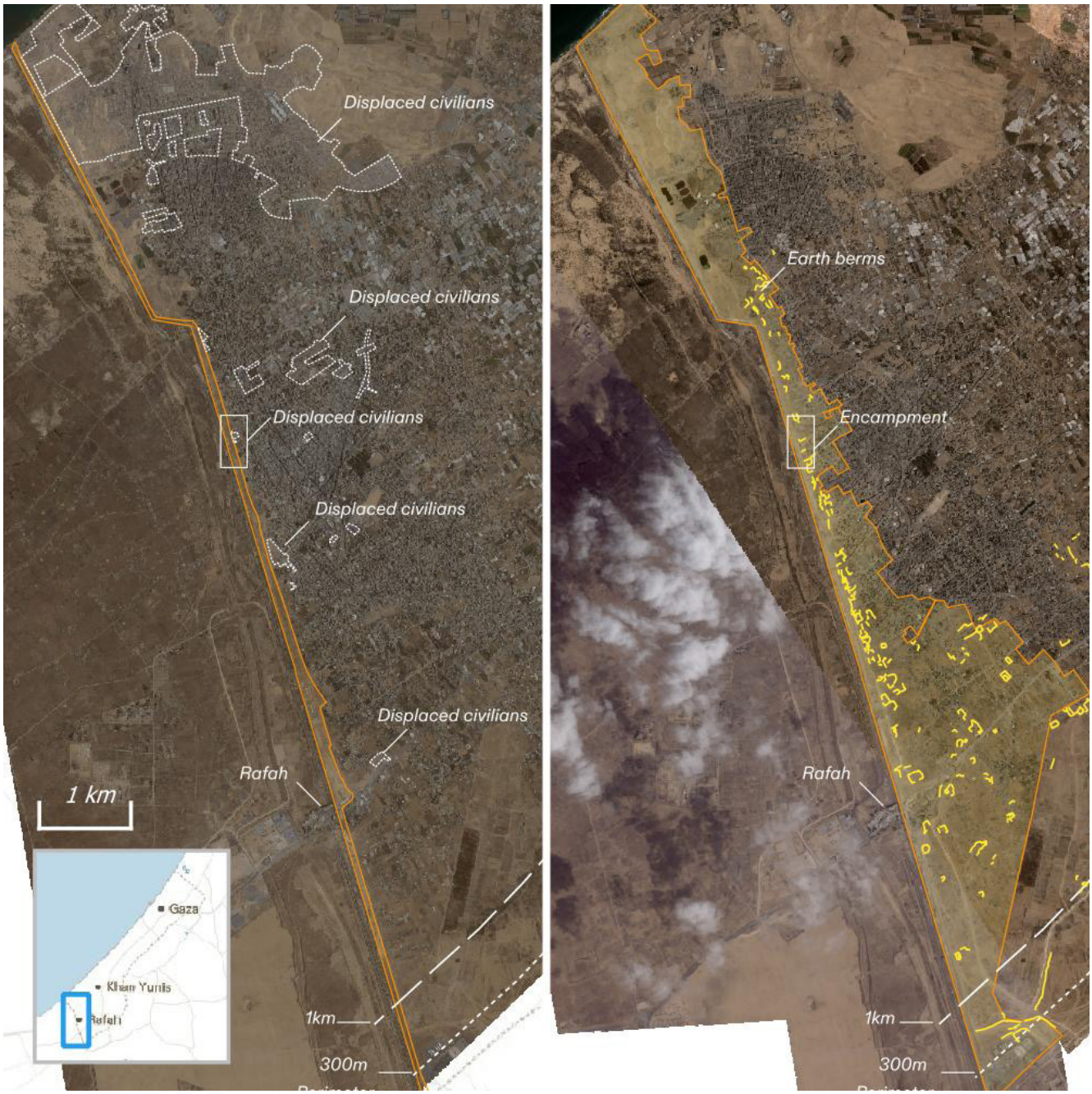

Figure 2.49. Before-and-after comparison of buffer zone on 1 April 2024 (left) and 18 June 2024 (right). Orange indicates the surface area of the corridor.



Figure 2.50. Before-and-after comparison of satellite imagery from April 2024 (left) and June 2024 (right) showing the extent of the clearing.

77 Incident ID

ID	Date	Location	Latitude	Longitude	Source	Verification
00000-73965	2024-04-05	East of al-Shu-ja'iyya	31.486179	34.485402	https://www.youtube.com/watch?v=mXuJvR3Z0z4	Confirmed
00000-73966	2024-03-21	al-Shu-ja'iyya	31.483891	34.473652	https://twitter.com/ytirawi/status/1770910935714033927	Confirmed
00000-73968	2024-02-14	Nasser Hospital	31.348379	34.293365	https://x.com/qudsn/status/1757717990210969949	Confirmed

3. Displacement

1 This chapter examines the 'protective measures' put in place by the Israeli military, including warnings, evacuation orders, 'safe routes', 'humanitarian zones', and their impact on Gaza's civilian population.

A GLOSSARY

2 **'Evacuation order'**: a communication issued by the Israeli military ordering civilians to evacuate a particular area. An evacuation order can be communicated by airdropped leaflets, posts on social media (most often X or Facebook), phone calls, text messages, or by loudspeaker.

3 **'Evacuation grid'**: a map published by the Israeli military on 1 December 2023 dividing Gaza into more than 600 irregularly shaped blocks, each with its own assigned number. The military has thereafter used this map to designate 'evacuation areas' and 'destination areas' by referencing the numbers on the block (see below).

4 **'Evacuation areas'**: areas from which civilians are ordered to leave via evacuation orders.

5 **'Destination areas'**: areas to which the Israeli military has ordered civilians to move from evacuation areas; this includes blocks within the 'evacuation grid' and the Israeli-designated 'humanitarian zone'.

6 **'Humanitarian zone'**: an area designated by the Israeli military as safe from military incursion, with access to humanitarian aid. The Israeli military has also referred to this area as the 'humanitarian area.'

7 **'Undefined areas'**: areas without a clear status; they have neither been designated as evacuation areas nor destination areas. This is not a term used by the Israeli military but rather one we are using to refer to this category of area.

8 **'Evacuation arrows'**: graphic arrows used in the maps attached to the evacuation orders issued by the Israeli military. These annotations are used by the Israeli military to direct civilians from evacuation areas to destination areas. This is not a term used by the Israeli military but rather one we are using to refer to this annotation.

B SUMMARY OF FINDINGS

1 *Quantitative findings*

1.1 The territory including destination areas and the 'humanitarian zone' shrank over time:

(a) On 13 October 2023, this area included all of Gaza south of Wadi Gaza and covered 228.2 sq km (62.5%) of the total territory of Gaza.

(b) On 7 January 2024, it included Rafah, Deir al-Balah and the al-Mawasi 'humanitarian zone', covering 80.7 sq km (22.1%) of Gaza.

(c) On 6 May 2024, it shrank to include only the newly established 'expanded humanitarian zone', covering 60.9 sq km (16.6%) of Gaza.

(d) On 16 August 2024, the 'humanitarian zone' contracted. The area covers 37.9 sq km (10.4%) of Gaza.

(e) On 30 August 2024, three blocks have been reintegrated to the 'expanded humanitarian zone', expanding its extent to covering 47.4 sq km (13%) of Gaza.

(f) The boundaries of the 'humanitarian zone' established from 18 October 2023 changed 9 times by 30 August 2024.

1.2 Between 7 October 2023 and 31 August 2024, 84% of Gaza's total area was subject to evacuation orders.

(a) The 13 October evacuation order covered 37% of the total area of Gaza.

(b) After the grid-based evacuation orders were introduced on 1 December, most areas in Gaza were ordered to evacuate at least once. Between 1 December 2023 and 31 August 2024, 72 percent of Gaza's total area was subject to evacuation orders.

(c) By 6 May, only 6.9 percent (25.3 sq km) of areas in Gaza, excluding the area of the 'humanitarian zone', had not received an evacuation order yet.

(d) A total of 66 evacuation orders were issued between 7 October 2023 and 31 August 2024. Most orders refer to multiple blocks at a time.

(e) According to data published by the UN, 346 schools were used as shelters, 70% of them were attacked.[1]

[1] 'oPt Education Cluster - Schools Dashboard - Gaza 2023' <https://gis.unicef.org/portal/apps/dashboards/c6e0bfd744164b2f-84276071b1a83e78> accessed 26 September 2024.

2 *Pattern findings*

2.1 The Israeli military has continuously attacked all areas of Gaza such that no place can reasonably be considered safe.

9 The Israeli military has attacked:

(a) Destination areas, including the 'humanitarian zone'

(b) Israeli designated 'safe routes'

(c) Undefined areas, including civilian shelters

(d) Civilians from within evacuation areas

2.2 Destination areas have decreased in size, even as the displaced population has increased.

2.3 The Israeli military's use of evacuation orders has put civilians at risk by:

(a) Issuing inconsistent and incomplete information about the 'humanitarian zone'

(b) Issuing unclear and inconsistent evacuation orders

(c) Instructing civilians to evacuate to areas that were attacked soon after

(d) Issuing evacuation orders after having already begun military operations within the area in question

(e) Issuing a sequence of evacuation orders that displaced civilians multiple times

(f) Instructing civilians to displace to areas that had recently received evacuation orders

(g) Failing to specify the duration or expiry of evacuation orders

(h) Displacing civilians to destination areas that were previously targeted and destroyed

2.4 The Israeli military besieged displaced civilians and funnelled them into checkpoints where they were surveilled.

2.5 The Israeli military used 'protective measures' to displace Palestinians.

(a) The Israeli military first directed the displacement of civilians from the north to the south of Gaza

(b) The military then directed the displacement of civilians from the east to the west of Gaza

C BACKGROUND

10 Over the past two decades the Israeli military has been using phone calls, text messages, social media posts, airdropped leaflets, and announcements communicated on loudspeakers (sometimes on drones) to warn civilians of impending attacks and order them to evacuate an area. Often, the military has used 'roof knock' strikes, which involve the firing of a low-explosive missile – usually from a drone – in proximity of civilians, at street level or at the roof of a building that is subsequently to be destroyed. Some of these warnings have given residents just a few minutes to collect their belongings and vacate a house, a building, or an institution before it was bombed. Since the 2008–09 Israeli attack on Gaza, the use of warnings has been scaled up to encapsulate larger neighbourhoods.[2]

11 A well-communicated 'warning' can be a protective measure, but the system is a double-edged sword. The Israeli military argues that if residents are warned and do not evacuate, the responsibility for their safety no longer rests with the military, ultimately eroding the distinction between civilians and combatants.[3]

12 This lack of critical distinction has become increasingly problematic as it has become more and more difficult for civilians to keep up with the evolving evacuation, destination, and 'humanitarian zones'. Since October 2023, the Israeli military has issued 'evacuation orders' with such frequency, and covering such large areas of Gaza, that a great majority of Gaza's population has been displaced, often from one unsafe area to the next, without guarantees of safety or access to infrastructure essential for survival.[4]

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[2] Eyal Weizman, The Least of All Possible Evils, London, Verso, 2011, pp. 121–22

[3] Eitan Diamond, 'Before the Abyss: Reshaping International Humanitarian Law to Suit the Ends of Power' (2010) 43 Israel Law Review 414 <https://www.cambridge.org/core/journals/israel-law-review/article/abs/before-the-abyss-reshaping-international-humanitarian-law-to-suit-the-ends-of-power/9806A089AB5A7464A45BF10DD702C658> accessed 26 September 2024 [Note: Asa Kasher, 'Operation Cast Lead and the Ethics of Just War', Azure, no. 37, summer, 2009: 43–75]

[4] 'Meetings Coverage and Press Releases | Meetings Coverage and Press Releases' <https://press.un.org/en/2024/sc15564.doc.htm;%20https:/www.doctorswithoutborders.org/latest/there-no-safe-place-gaza> accessed 26 September 2024; 'Israel Working to Expel Civilian Population of Gaza, UN Expert Warns' (*OHCHR*) <https://www.ohchr.org/en/press-releases/2023/12/israel-working-expel-civilian-population-gaza-un-expert-warns> accessed 26 September 2024; 'Anatomy of a Genocide' <https://www.ohchr.org/sites/default/files/documents/hrbodies/hrcouncil/sessions-regular/session55/advance-versions/a-hrc-55-73-auv.pdf> accessed 26 September 2024.

D SCOPE

13 Our analysis covers the period between 7 October 2023 to 31 August 2024 and examines the following:

1 ***Evacuation orders announced by the Israeli military, in terms of the following elements:***

(a) Evacuation areas

(b) Progression of evacuation orders over time

(c) How and where evacuation orders were announced

(d) The 'evacuation grid' system

(e) How lack of clarity and inconsistency in the format of evacuation orders may have contributed to civilian harm

2 ***Destination areas, including the 'humanitarian zones'[5] designated by the Israeli military, in terms of the following elements:***

(a) How and where destination areas and 'humanitarian zones' were announced

(b) Attacks on and destruction within destination areas and 'humanitarian zones'

(c) Changes to boundaries of destination areas and 'humanitarian zones'

(d) The status and extent of civic and medical infrastructure within destination areas and 'humanitarian zones'

(e) Undefined areas and their consequences for civilians[6]

(f) Attacks on shelters, including schools and hospitals serving as shelters

[5] Israel has announced multiple destination areas in Gaza since October 2023, and one 'humanitarian zone', in al-Mawasi. This report will use destination areas to refer to all zones including al-Mawasi, unless stated. Discussion of the designated area in al-Mawasi will refer to it as a 'humanitarian zone', following Israel's terminology.

[6] Since October 2023, Israel has at different times defined regions of Gaza as (1) areas subject to evacuation orders in anticipation of military activity, (2) areas where civilians are instructed to evacuate to (regions, or individual buildings, i.e. shelters). The status of an area that is not defined as (1) nor (2) is not certain and, as our analysis shows, this uncertainty appears to have led to civilian harm. This report refers to those areas not defined as (1) or (2) as (3) 'undefined areas'.

E METHODOLOGY

1 *Evacuation orders*

14 To document evacuation orders (among other announcements made by the Israeli military), we collected information from online profiles and platforms to which those orders were posted, including:

(a) the X/Twitter account of Lt. Col. Avichay Adraee, Arabic-language spokesperson for the Israeli military[7]

(b) the Facebook account of the Israeli military's Coordination of Government Activities in the Territories (COGAT)[8]

15 We downloaded the evacuation grid dataset from a webpage run by the Israeli military.[9] From that data, we created three cartographic datasets within the GCD, in GeoJSON format:[10]

1.1 A dataset for 'evacuation orders' that used the evacuation grid system.

16 We tagged any 'block' (i.e. one of more than 600 sub-regions of Gaza defined by the 'evacuation grid') referred to in an evacuation order with the date corresponding to that order. If an evacuation order was annotated with arrows suggesting the direction of movement/evacuation, we traced these arrows and added them to the dataset. We then tagged each dated block according to whether it in fact fell within the area defined by the given evacuation order, with one of the three following tags:

(a) If the block in question was highlighted in a map but not specified in the text description of the map (i.e. whether the order was internally inconsistent)

(b) If the block in question was specified in the text description of the order, but not highlighted on the map itself (again, whether the order was internally inconsistent)

(c) If the block in question was highlighted fully, or only partially in the order

1.2 A dataset for 'evacuation orders' that did not use the evacuation grid system.

17 The bounded regions were entered into the dataset, annotated with the dates on which they were highlighted for evacuation, and the date on which that region was announced as subject to an evacuation order.

18 A dataset was created for names of places (e.g., 'Deir al-Balah') specified in evacuation orders that did not have clearly marked boundaries or corresponding numbered blocks. If an evacuation order was annotated with arrows suggesting the direction of movement/evacuation, we traced these arrows and added them to the dataset.

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7 'افيخاي ادرعي (@AvichayAdraee) / X', 26 September 2024) <https://x.com/avichayadraee> accessed 26 September 2024.
8 *Coordination of Government Activities in the Territories* <https://www.facebook.com/cogatonline> accessed 26 September 2024.
9 'استنادًا إلى أخلاقية وقيم مؤسستنا العسكرية جيش الدفاع ينشر قائمة بأرقام بلوكات لتوجيه سكان غزة في إخلاء المناطق المستهدفة | الموقع الرسمي لجيش الدفاع الإسرائيلي <https://www.idf.il/152678/> accessed 26 September 2024.
10 GeoJSON is an open standard format designed for representing simple geographical features, along with non-spatial attributes.

19 Imported into the GCD, these datasets (which were regularly updated as new data points occurred) 'map' and visualise the extent of areas subject to evacuation orders, and their progression and variation over time. We use Map IDs as a referencing system through which a unique code is ascribed to each individual map of evacuation orders. These orders, along with source information, can be found in the Chapter Appendix.

2 *Extent of the ground invasion*

20 Our ground invasion data draws on cartographic reports published by the Institute for the Study of War (ISW) and the Critical Threats Project (CTP) at the American Enterprise Institute, which maps the geographic progression and extent of Israel's ground invasion day-by-day, based on third-party sources from 27 October 2023 onwards. We integrated two categories of data that CTP-ISW has mapped: 'Reported Israeli Clearing Operations' and 'Claimed Furthest Israeli Advances' in our research. We processed and mapped this data such that, for each report released, we could see and assess the furthest extent of the ground invasion to that date (in figure legends throughout: Ground invasion) as well as the change in the extent of the ground invasion since the preceding report (in figure legends throughout: Ground invasion recent). On 10 May 2024, CTP-ISW recessed their Israeli clearing operations layer in Gaza to cover only the areas in which the Israeli military was actively conducting clearing operations. This change in methodology is reflected in all data entries from 10 May onwards.[11]

3 *Satellite image analysis*

21 We analysed satellite imagery collected by Planet to identify:[12]

(a) The presence, growth, and clearance of tent camps formed by displaced civilians

(b) Craters from explosive munitions

(c) Israeli military checkpoints, ramparts, and armoured vehicles

22 We included any significant or relevant satellite imagery within the GCD.

4 *Eyewitness accounts*

23 To minimise the possibility of any risk to individuals, we did not conduct interviews with civilian eyewitnesses while they were in Gaza. Interviews were conducted only with international medical staff who spent significant time in Gaza following 7 October 2023, but who had subsequently left the region (see Chapter 5: Destruction of Medical Infrastructure).[13]

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[11] 'Institute for the Study of War' (*Institute for the Study of War*) < https://www.understandingwar.org/backgrounder/iran-update-may-10-2024 > accessed 28 September 2024.

[12] 'Planet Satellite Imaging' (*Planet*) <https://www.planet.com/> accessed 26 September 2024.

[13] 'Destruction Of Medical Infrastructure In Gaza ← Forensic Architecture' <https://forensic-architecture.org/investigation/destruction-of-medical-infrastructure-in-gaza> accessed 26 September 2024.

F ELEMENTS WHICH IMPACT CIVILIAN DISPLACEMENT

24 The following is an extended explanation of the primary elements that have shaped civilian displacement across Gaza since October 2023.

1 *Evacuation orders*

25 Since October 2023, the Israeli military has used airdropped leaflets and posts on social media to instruct residents of various areas of Gaza to evacuate from evacuation areas towards designated 'destination areas'.

26 Other methods have reportedly included phone calls, text messages, and drone-mounted loudspeakers.[14] Instructions have at times included designated 'safe routes' (see below), and information to the effect that any civilians remaining in the 'evacuation area' are at risk of physical harm or death.

27 All evacuation orders recorded in our dataset are listed in the appendix to this chapter.



Figure 3.1. An airdropped leaflet containing an evacuation order, issued on 13 October 2023. 'Urgent Statement! To the residents of Gaza City [.] Terrorist organisations have started a war against the state of Israel, Gaza city is now a battlefield. You must leave your homes immediately and head to the areas south of Wadi Gaza. For your safety: You must not return to your homes until further notice from the Israel Defense Forces. Known public shelters in Gaza City must be evacuated. It is forbidden to approach the security wall, and anyone that approaches it exposes themselves to death. For your safety and the safety of your families, you must evacuate your homes immediately and head to the areas south of Wadi Gaza.' Israel Defense Forces

[14] Steve Hendrix, Miriam Berger and Hazem Balousha, 'Israel Touts Civilian Warning System, but for Gazans, Nowhere Is Safe' *Washington Post* (6 December 2023) <https://www.washingtonpost.com/world/2023/12/06/israel-gaza-civilians-protection/> accessed 26 September 2024.



Figure 3.2. A leaflet collected by al-Mezan Center for Human Rights in October; the text in the rectangle says: 'Those who choose not to evacuate from the north of the Strip to south of Wadi Gaza, could potentially be identified as accomplices in a terrorist organisation.'

2 *Evacuation Grid*

28 On 1 December 2023, the Israeli military published a web-based interactive map that divided Gaza into over six hundred numbered blocks.[15] The map was presented as a tool to inform Palestinian civilians which areas were being ordered to evacuate, and to identify destination areas to relocate to: 'a safe way to protect your security, your lives and the lives of your families'.

15 'استنادًا إلى أخلاقية وقيم مؤسستنا العسكرية جيش الدفاع ينشر قائمة بأرقام بلوكات لتوجيه سكان غزة في إخلاء المناطق المستهدفة' <https://www.idf.il/ar/-جيش-الدفاع-الإسرائيلي/جيش-الدفاع-الإسرائيلي/swordsofiron-011223-150/> accessed 26 September 2024.

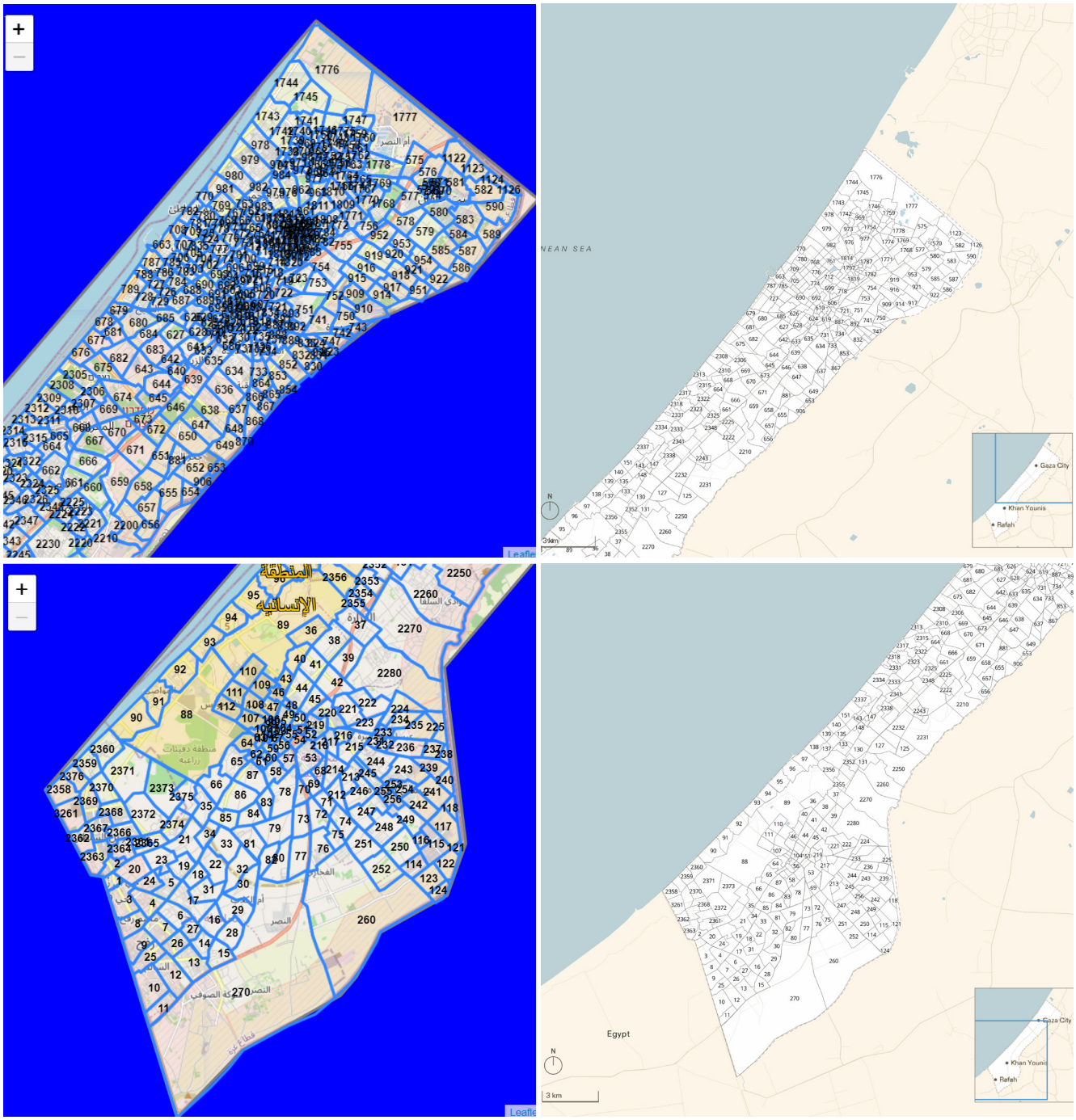

Figure 3.3. Left: the original source for the evacuation grid (north and south Gaza), made public on 1 December 2023. Right: the numbered blocks which constitute the evacuation grid imported into the GCD.

29 While the grid was first published on 1 December, news reports described the system as 'part of a short-lived plan to rebuild the Gaza Strip under Israeli occupation', dating back to 'the early 1970s'.[16]

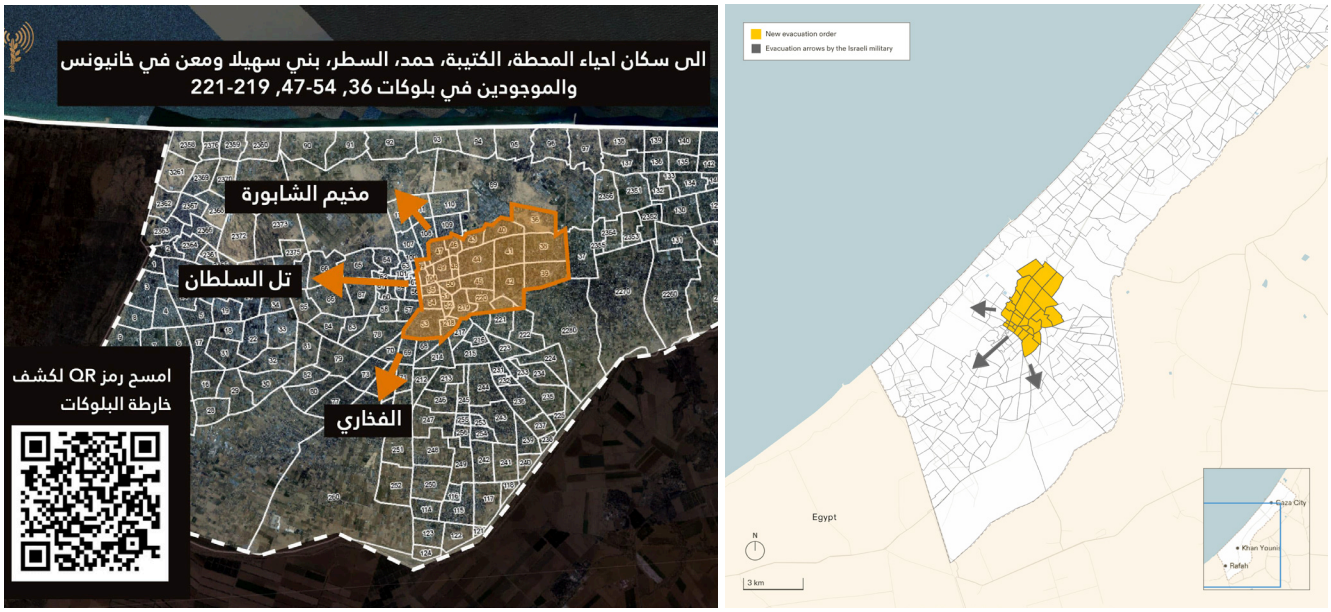

Figure 3.4. Left: an example of an evacuation order from 3 December 2023 using the evacuation grid. Right: the same evacuation order in the GCD, with the 'evacuation arrows' also traced and mapped.

[16] 'The IDF's Confusing, Ironic Evacuation Map for Palestinians in Gaza - Israel News - Haaretz.Com' <https://www.haaretz.com/israel-news/2023-12-06/ty-article/.premium/the-idfs-confusing-ironic-evacuation-map-for-palestinians-in-gaza/0000018c-3b63-de12-a3af-3bef79640000> accessed 26 September 2024.

3 *Destination areas*

30 Along with the evacuation orders, Israeli officials announced areas across south Gaza where people should go 'for their own safety'.

31 The boundaries of what we call destination areas have often not been effectively communicated, either verbally or visually. The following is a list of all declared destination areas recorded in our dataset:

3.1 13 October 2023–1 December 2023: Palestinians were instructed to move south of Wadi Gaza.

3.2 After 1 December, as areas south of Wadi Gaza began receiving evacuation orders, the Israeli military continued urging Palestinians to go to the 'humanitarian zone' in al-Mawasi, in addition to the destination areas of Rafah and Deir al-Balah.

32 Starting from the first 'evacuation order' directed to Khan Younis in the south on 2 December 2023, the Israeli military instructed Palestinians to evacuate to Rafah. In some of these orders, they instructed Palestinians to evacuate to 'known shelters' in some neighbourhoods in Rafah. [Map ID: M-31213-94253]

33 Starting from 22 December 2023, the Israeli military instructed Palestinians to go to shelters in Deir al-Balah, again without specifying a specific boundary of an area there. On one occasion the military dropped a leaflet that highlighted blocks in the evacuation grid in Deir al-Balah, indicating that people should move there for 'their safety' (see Figure 3.5).



Figure 3.5. An evacuation order dropped as a leaflet uses the evacuation grid to mark numbered blocks in Deir al-Balah as safe.

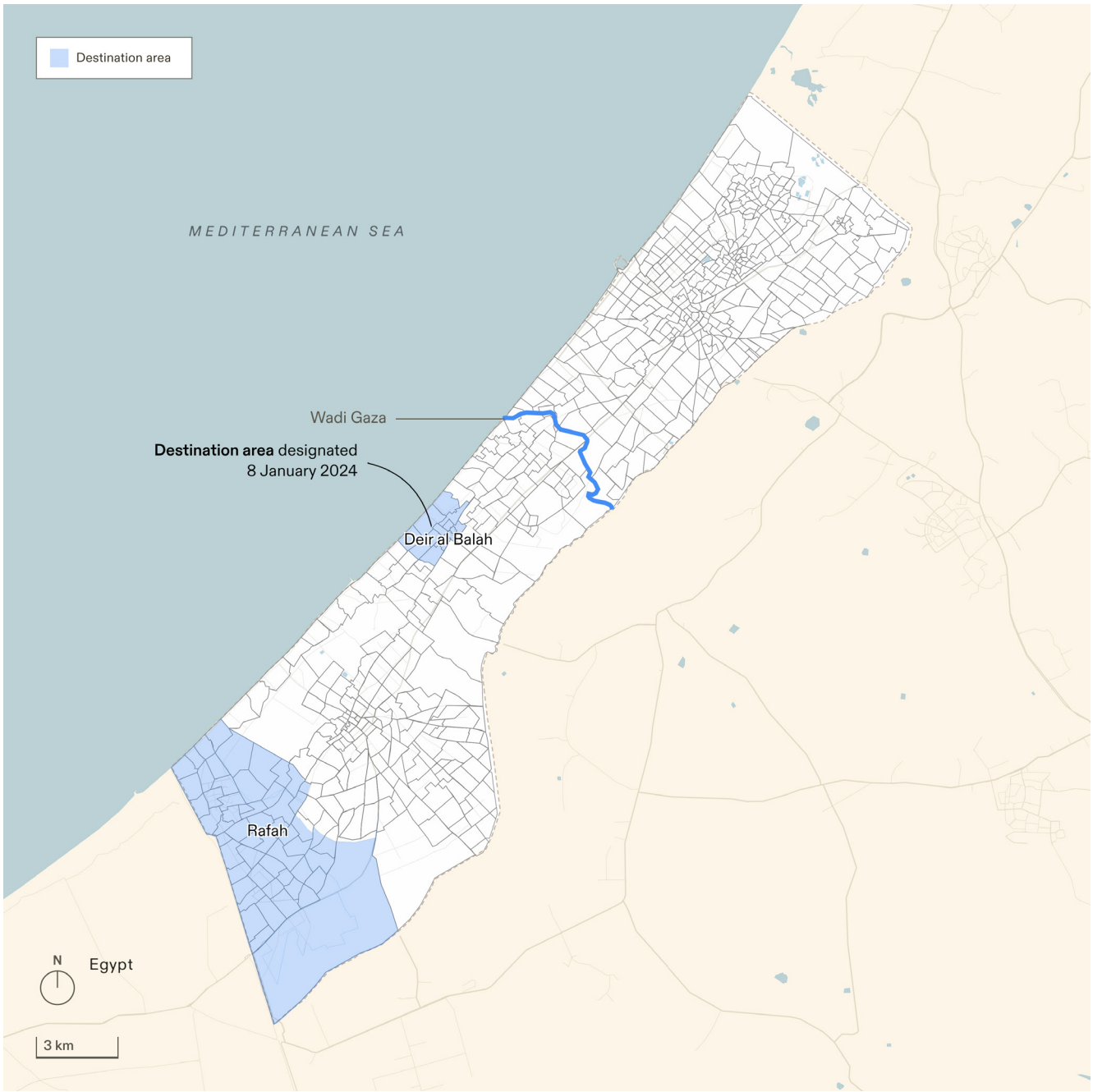

Figure 3.6. Map showing the destination areas of Rafah and Deir al-Balah highlighted in blue.

4 *The al-Mawasi 'humanitarian zone'*

34 The al-Mawasi area exemplifies the ambiguous and elastic nature of the boundaries assigned to destination areas.

35 Al-Mawasi is a region along the coast of Gaza, west of Khan Younis. On 18 October 2023, the Israeli military made their first public reference to the al-Mawasi 'humanitarian zone'.[17] [Map ID: M-31018-68118][18]

36 On 28 April 2024, the Israeli military announced in English, and then again on 6 May in Arabic, that the al-Mawasi 'humanitarian zone' was to be expanded into areas to the north of the original 'zone'. At the same time, this 'expanded humanitarian zone' now excluded areas to the south, which had been included in the original 'humanitarian zone' (as published on 6 December 2023).[19]

37 By 6 May 2024, when the Israeli military began its invasion of Rafah and ordered the evacuation of Palestinian civilians from there to the 'expanded humanitarian zone' in al-Mawasi, the boundaries of the area had already been altered at least three times. Since 6 May, six different versions of the boundaries of the al-Mawasi 'expanded humanitarian zone' have been published. [Map IDs: M-40506-11366, M-40722-47808, M-40727-15438, M-40811-40811, M-40816-40816, M-40830-23436]

5 *'Safe Routes'*

38 Some Israeli evacuation orders have also defined 'safe' relocation routes for civilians travelling from areas subject to evacuation orders to destination areas. Safe routes have reportedly been attacked since as early as 13 October 2023.[20]

39 On 13 and 14 October 2023, following the 13 October evacuation order, the Israeli military posted a map on Facebook indicating two 'safe routes' for evacuation from northern Gaza. The routes ran along Salah al-Din Road and al-Rashid Road, the two main roads running north–south through Gaza.[21] These two routes have also subsequently been referred to as 'safe routes' and 'humanitarian corridors' (see Figure 3.7).

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17 'COGAT [@cogatonline], "The IDF Calls on #GazaCity Residents to Evacuate South for Their Protection. Al-Mawasi Is Where International #HumanitarianAid Will Be Provided as Needed"' <https://x.com/cogatonline/status/1714497441091682646> accessed 26 September 2024.

18 The distinction between a 'humanitarian zone' and a 'safe zone' has never been clearly explained. Throughout this report, where we refer to destination areas in general, al-Mawasi should be understood to be included, even as we refer to the al-Mawasi 'humanitarian zone' when speaking about that area alone.

19 'Israel Defense Forces [@IDF],"We Seek to Help Alleviate the Suffering of the Civilians in Gaza That Has Resulted from the War That Hamas Started on October 7, When It Massacred and Kidnapped Israelis." Watch IDF Spokesperson RAdm. Daniel Hagari Discuss the IDF's Ongoing Efforts to Increase Aid' <https://x.com/IDF/status/1784624831511626121> accessed 26 September 2024.

20 'Bethan McKernan and Sufian Taha, "Gaza Civilians Afraid to Leave Home after Bombing of "Safe Routes", *The Guardian*' <https://www.theguardian.com/world/2023/oct/14/gaza-civilians-afraid-to-leave-home-after-bombing-of-safe-routes> accessed 26 September 2024.

21 'المنسق, Facebook' <https://www.facebook.com/photo/?fbid=655329013374463&set=pb.100066921098856.-2207520000> accessed 26 September 2024;
'المنسق, Facebook' <https://www.facebook.com/photo/?fbid=655000310074000&set=pb.100066921098856.-2207520000> accessed 26 September 2024.



Figure 3.7. Two maps published by the Israeli military, identifying Salah al-Din Road and al-Rashid Road as evacuation routes on 13 and 14 October 2023. The Arabic title reads: 'The safe route to transfer civilians south.'

40 Salah al-Din Road was drawn incorrectly in maps published by the Israeli military. The red line depicting Salah al-Din Road does not follow that road's true trajectory, which curves south of Khan Younis (see Figure 3.8).



Figure 3.8. Left: the humanitarian corridor via Salah al-Din Road was marked as closed on 20 January 2024, with diversion ordered onto al-Rashid Road.[22] Right: the true trajectory of Salah al- Din Road on 20 January 2024.

22 'افيخاي أدرعي- Avichay Adraee, Facebook' <https://www.facebook.com/photo.php?fbid=941611483997126&set=pb.100044448488923.-2207520000&type=3> accessed 26 September 2024.

6 *Shelters*

41 Many schools and hospitals in Gaza have acted as shelters for displaced civilians (see Chapter 2: Spatial Control). According to data published by the UN in July, 346 schools were used as shelters (see Figure 3.9). 70% of these were attacked, 30 were destroyed and 214 damaged.[23]

42 Alongside destination areas, many evacuation orders by the Israeli military have instructed civilians to relocate to 'well-known shelter points', such as school buildings. 'Shelters' in this context are supposed to refer to buildings in Gaza that the Israeli military has agreed not to target and has designated safe for civilians. However, the Israeli evacuation orders did not specify which schools were protected.

43 Numerous orders released by the Israeli military, including the order from 2 December 2023, instructed civilians to evacuate to unspecified 'known shelters' and 'schools' in various regions. Such orders assume that all civilians are aware of the location of these shelter points (see Figure 3.10).

[23] 'oPt Education Cluster - Schools Dashboard - Gaza 2023' <https://gis.unicef.org/portal/apps/dashboards/c6e0bfd744164b2f-84276071b1a83e78> accessed 26 September 2024.

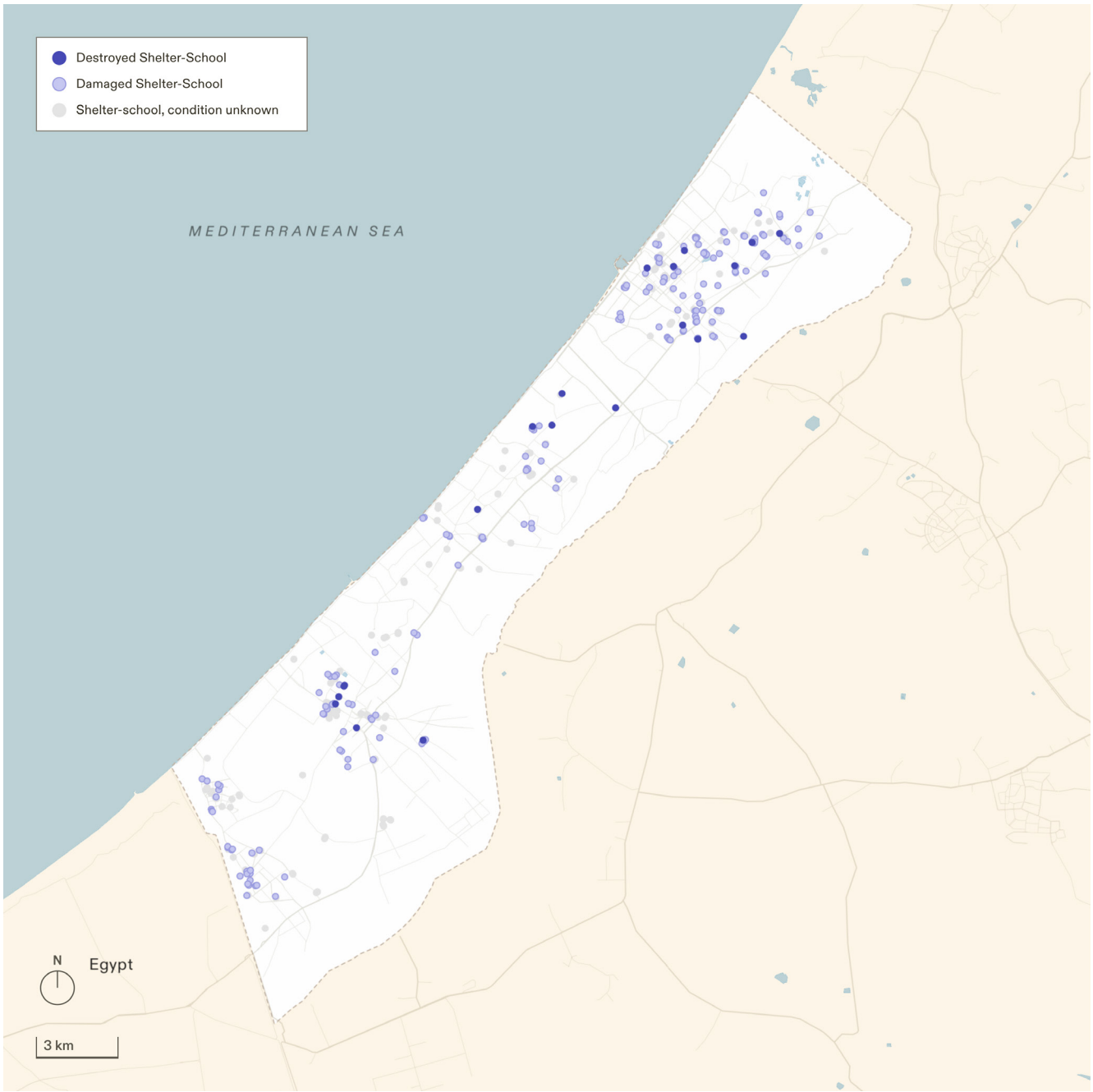

Figure 3.9. Map of schools in Gaza used as shelters as of 6 July 2024.



Figure 3.10. Evacuation orders posted on 2 December 2023. The post instructs Palestinians to evacuate to 'known shelters' and 'schools' in al-Daraj neighbourhood and western Gaza City, but does not specify which schools are protected.

7 *'Undefined areas'*

44 While the Israeli military has designated many fluctuating evacuation and designation areas since October, some parts of Gaza were never described as one or the other. This report refers to these areas as 'undefined areas'. Our analysis shows that Palestinian civilians were attacked in these areas despite never having been ordered to evacuate from them.

G PHASES OF DISPLACEMENT

1 *Displacement from the north: 7 October–24 November 2023*

45 The first evacuation orders, issued on 7 October 2023, related to four neighbourhoods across Gaza (see Figure 3.11). These evacuation orders show the first use of the 'evacuation grid' that the Israeli military would later announce publicly on 1 December 2023.

46 On 13 October 2023, an evacuation order for northern Gaza was disseminated via airdropped leaflets. The order instructed all people residing north of Wadi Gaza, approximately 1.1 million Palestinians, to evacuate their homes within 24 hours and move south of Wadi Gaza (see Figure 3.12).

47 Two Facebook posts by an Israeli military spokesperson, on 13 and 14 October, described Salah al-Din Road and al-Rashid Road as 'safe routes' to use to evacuate south.[24] We verified reports of civilians being attacked on Salah al-Din Road on 13 October as they attempted to go south [M-31013-12535] (see Figure 3.13).

48 On 21 October, a map released by the Israeli military announced that 'anyone who is within 1000 metres of the security fence is putting his life in danger.' (see Figure 3.14). [M-41021-15028]

49 In October, the Israeli military published three different boundaries for the area defined as the 'humanitarian zone' in al-Mawasi (see Figure 3.15).[25] The boundary published on 30 October was repeated multiple times and the map is accompanied by text in Arabic, which translates to 'illustrative drawing' or 'explanatory diagram' in English.

50 By the end of November, the Israeli military had invaded large parts of the area north of Wadi Gaza and demarcated a line, likely carved out by a military bulldozer, approximately 3km north of Wadi Gaza. This line appeared to serve as the operational boundary dividing the 'north' from the 'south'. Palestinians who fled south were stopped from returning north through two checkpoints at the intersection of this demarcated line and Salah al-Din Road and al-Rashid Road (see Figure 3.16).

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24 'افيخاي أدرعي- Avichay Adraee, Facebook' <https://www.facebook.com/photo/?fbid=882048216620120&set=pb.100044448488923.-2207520000%3B%20on%2014%20October%3A%200> accessed 26 September 2024; 'افيخاي أدرعي- Avichay Adraee, Facebook' <https://www.facebook.com/photo/?fbid=882450609913214&set=pb.100044448488923.-2207520000> accessed 26 September 2024.

25 'افيخاي أدرعي- Avichay Adraee, Facebook' <https://www.facebook.com/photo.php?fbid=889430129215262&set=pb.100044448488923.-2207520000&type=3> accessed 26 September 2024; 'COGAT [@cogatonline], "The IDF Calls on #GazaCity Residents to Evacuate South for Their Protection. Al-Mawasi Is Where International #HumanitarianAid Will Be Provided as Needed".' <https://x.com/cogatonline/status/1714497441091682646> accessed 26 September 2024; "افيخاي أدرعي- Avichay Adraee, Facebook' <https://www.facebook.com/photo.php?fbid=896287658529509&set=pb.100044448488923.-2207520000&type=3> accessed 26 September 2024.

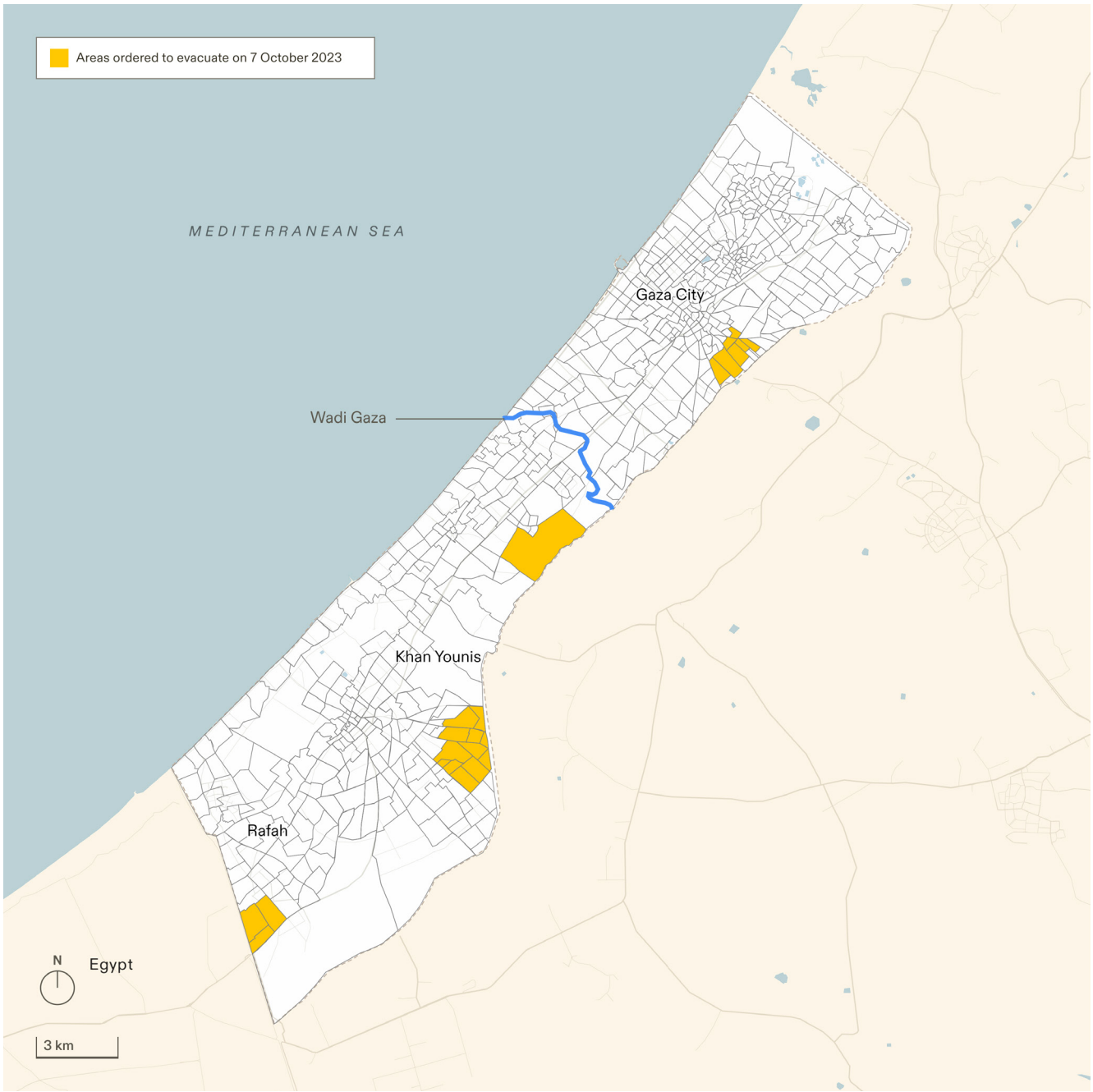

Figure 3.11. The four areas in Gaza that received evacuation orders between 7 and 9 October 2023 (in yellow). The map accompanying these orders used the 'evacuation grid' that was introduced publicly by the Israeli military on 1 December 2023.

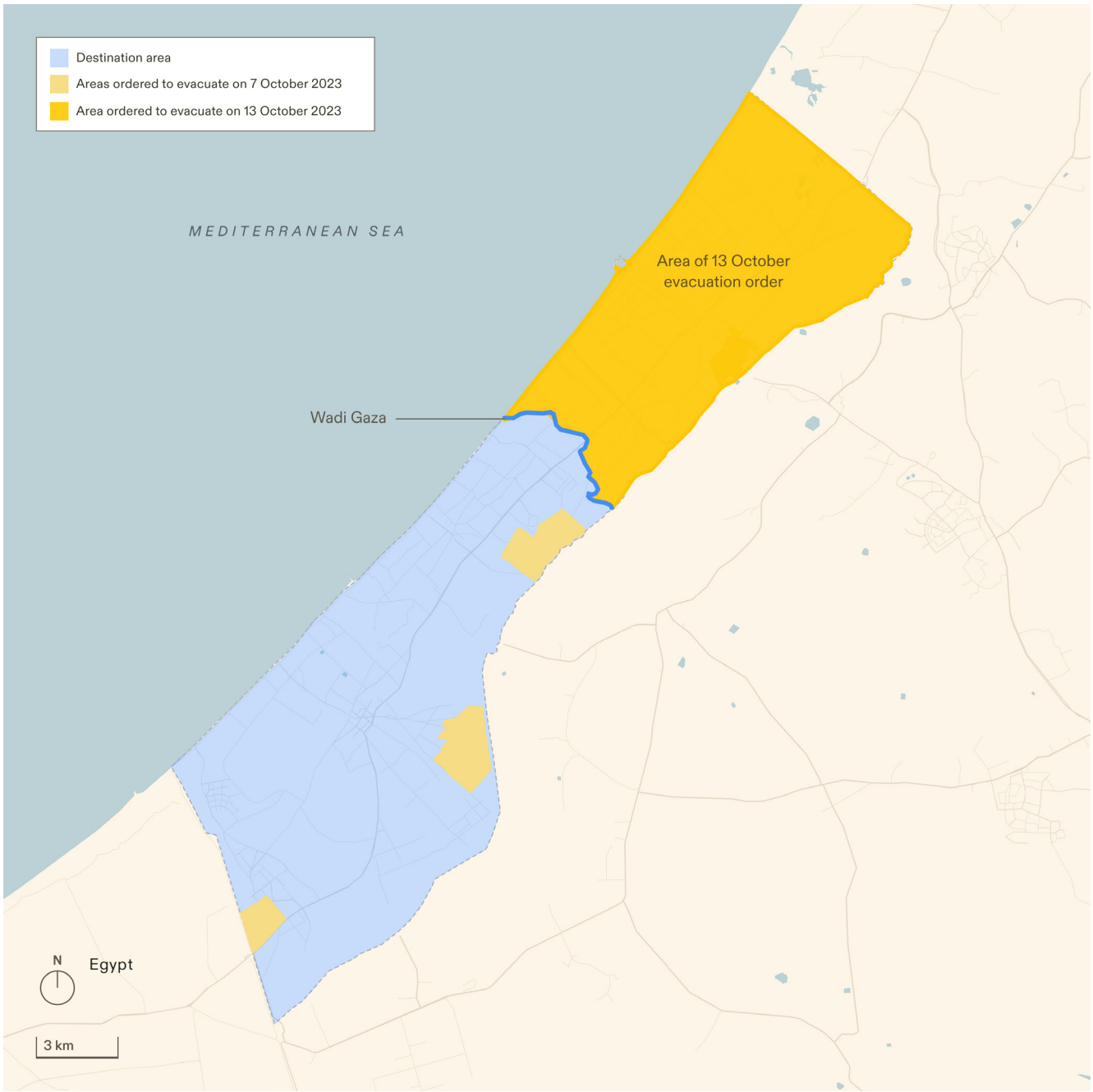

Figure 3.12. The 'evacuation area' covered by the 13 October evacuation order is highlighted in yellow.

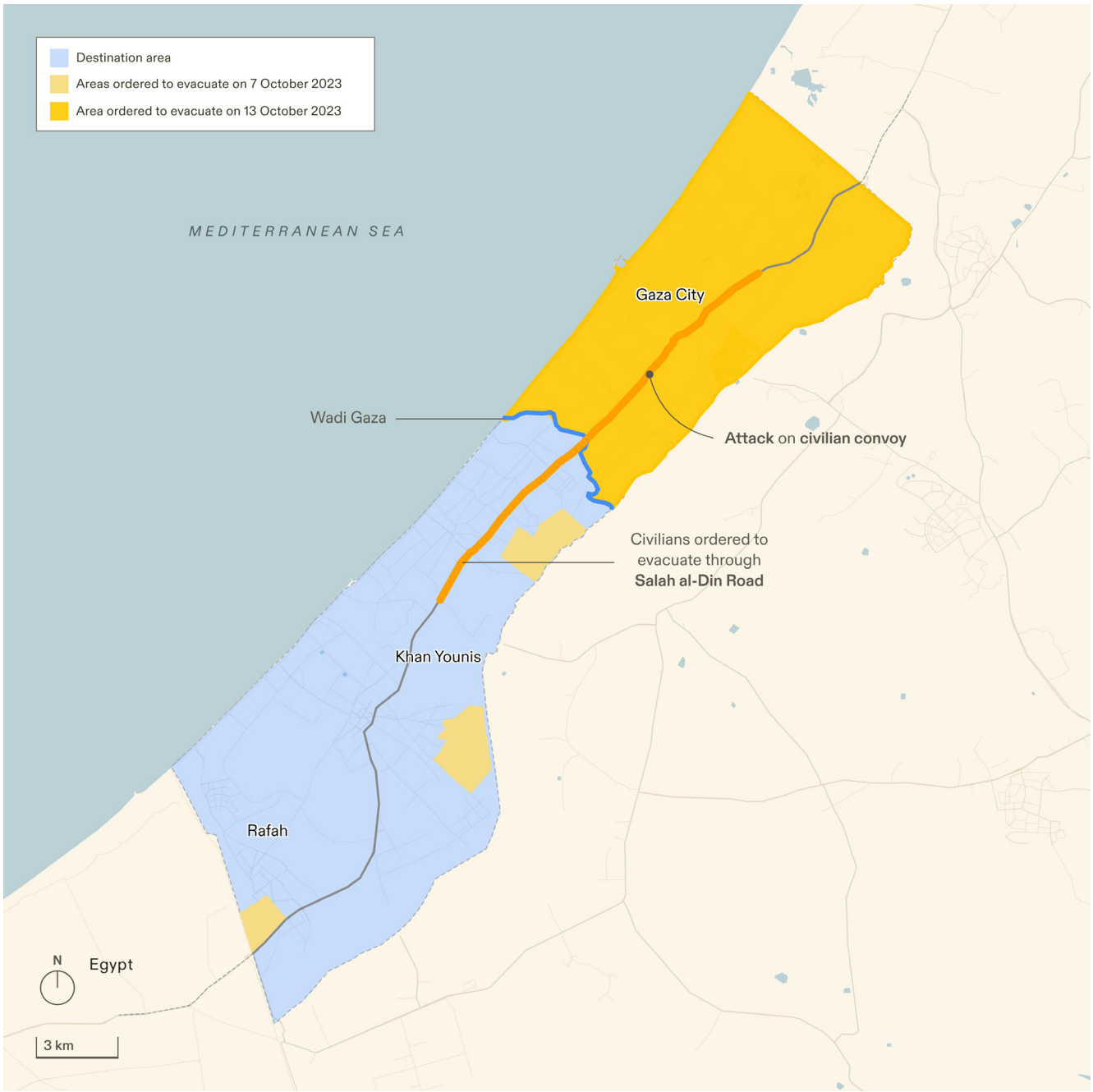

Figure 3.13. Part of Salah al-Din Road declared 'safe' by the Israeli military on 13 and 14 October and the location where civilians were killed while attempting to evacuate 'south' along Salah al-Din Road.

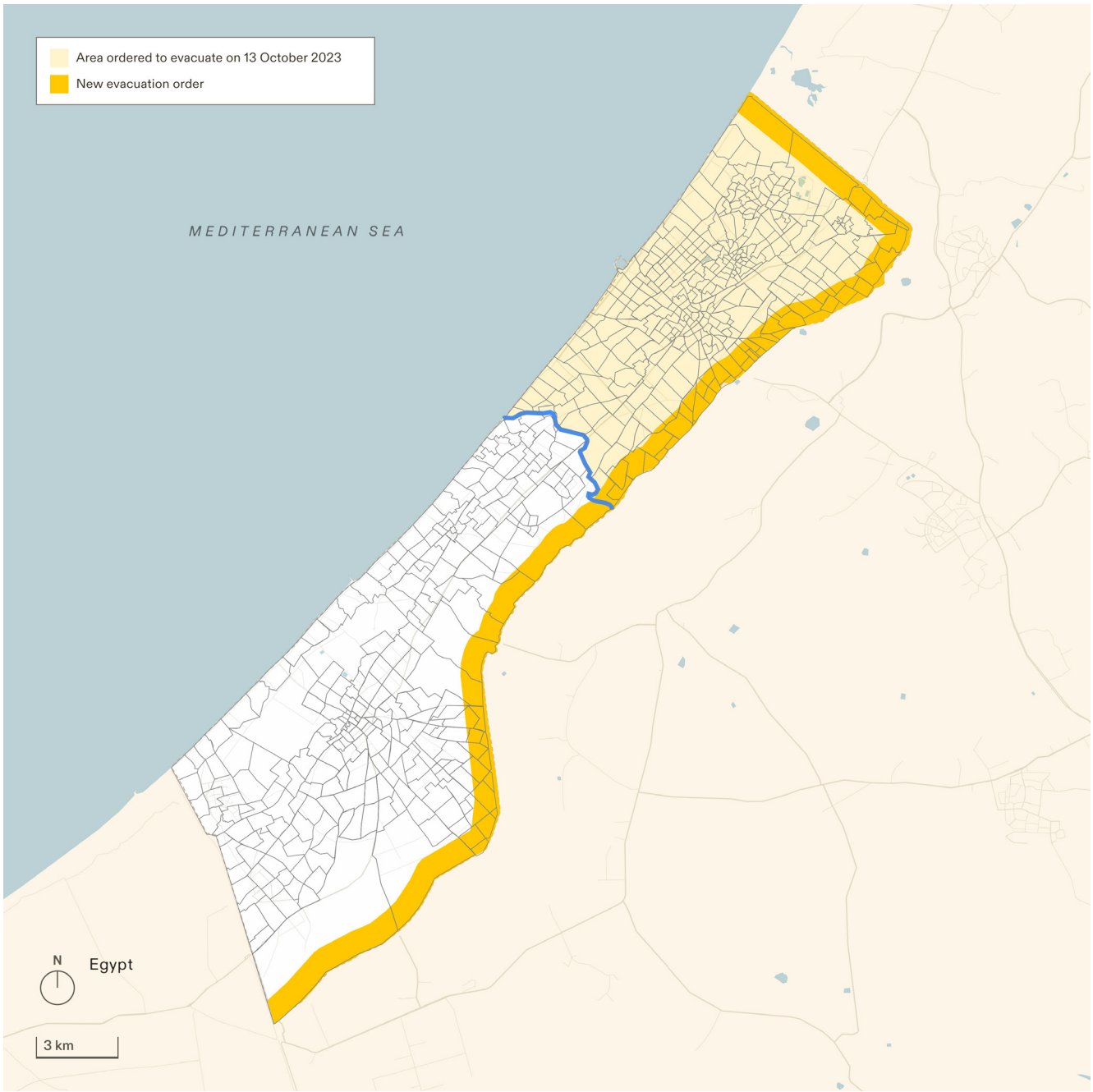

Figure 3.14. The 'evacuation area' covered by the buffer zone released on 21 October 2024.



Figure 3.15. Three distinct boundaries published for the 'humanitarian zone' in al-Mawasi in October.

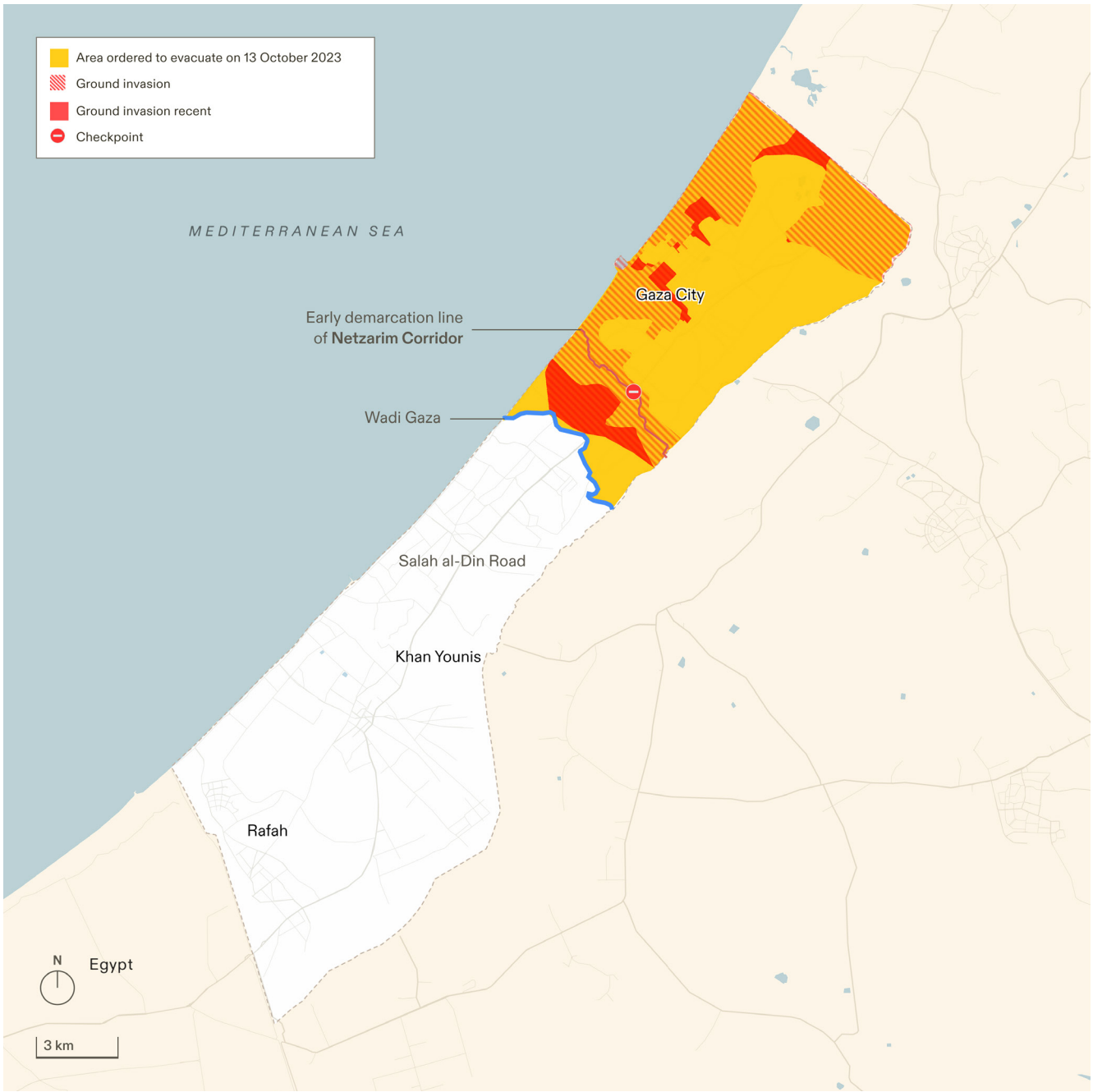

Figure 3.16. A map showing the extent of the Israeli ground invasion by the end of November overlayed with the area ordered to evacuate on 13 October (in yellow). The Israeli military have demarcated a line between north and south. Palestinians who fled south were stopped from returning north through a checkpoint at the intersection of this demarcation line and Salah al-Din Road.

2 *Displacement from the south: 1 December 2023–6 May 2024*

51 On 1 December 2023, the Israeli military published the 'evacuation grid' (see Figure 3.17).

52 A day later, on 2 December 2023, the Israeli military issued the first evacuation orders in the south for a large area east of Khan Younis, ordering civilians to move towards Rafah. The 'evacuation grid' was also used in north Gaza in two additional orders, instructing civilians in Jabalia to evacuate to (see Figure 3.18).

53 The following day, on 3 December, the Israeli military ordered additional areas in Khan Younis to evacuate, with one of the evacuation arrows on their published map directing civilians towards al-Fakhouri area in east Khan Younis, which had itself received an evacuation order a day prior (see Figure 3.19).

54 On 6 December 2023, the Israeli military claimed Palestinian fighters had fired rockets from the 'humanitarian zone' in al-Mawasi and published a map that showed a considerably larger 'humanitarian zone' than had been rendered in maps from October directed at Palestinians (this zone now included the site from which the rockets had supposedly been fired) (see Figure 3.20).

55 Further areas in Khan Younis received evacuation orders as the Israeli ground invasion expanded into the area, blocking parts of Salah al-Din Road on 20 December 2023 (see Figure 3.21).

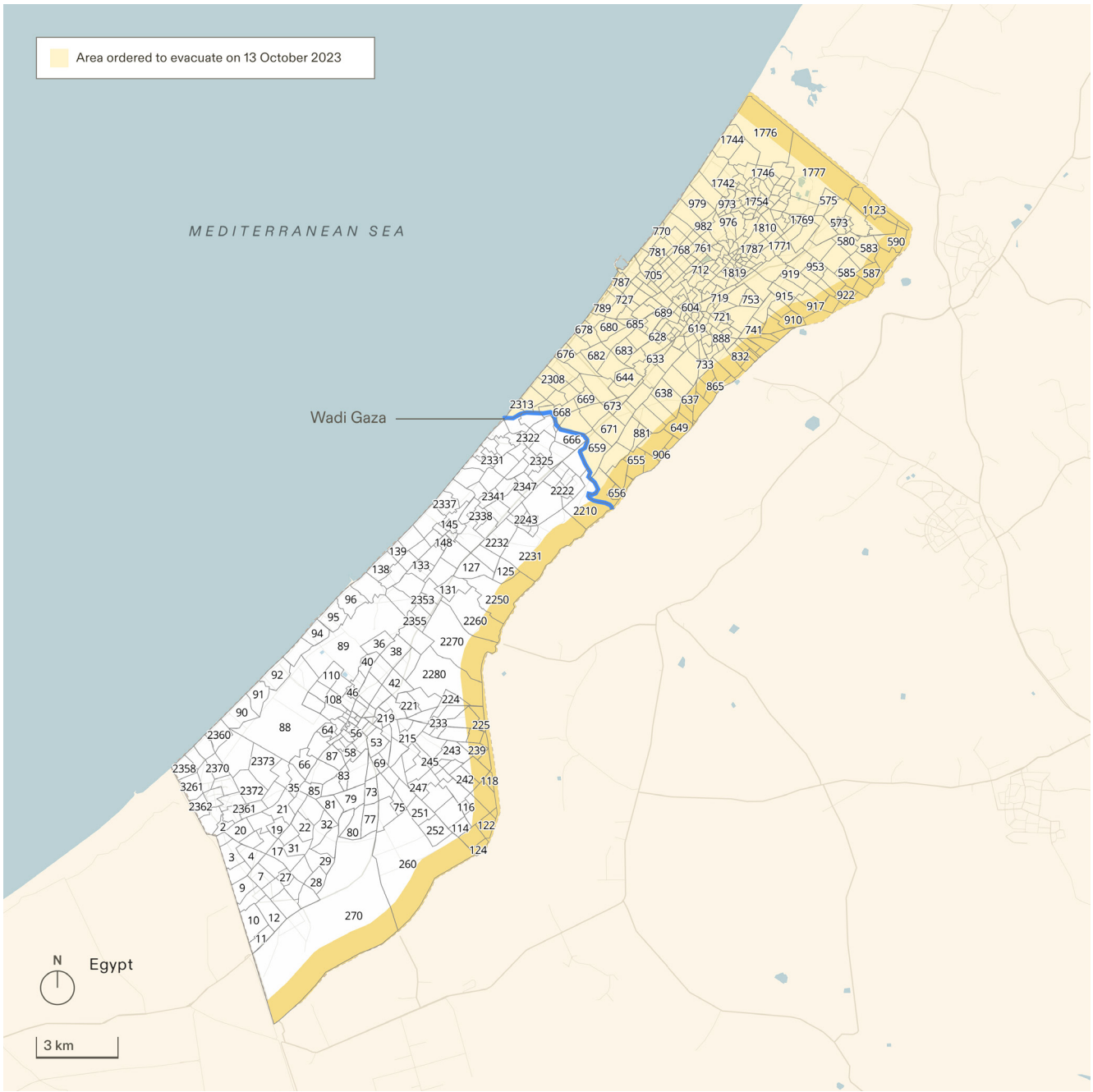

Figure 3.17. The evacuation grid, published on 1 December 2023, divided Gaza into numbered blocks.

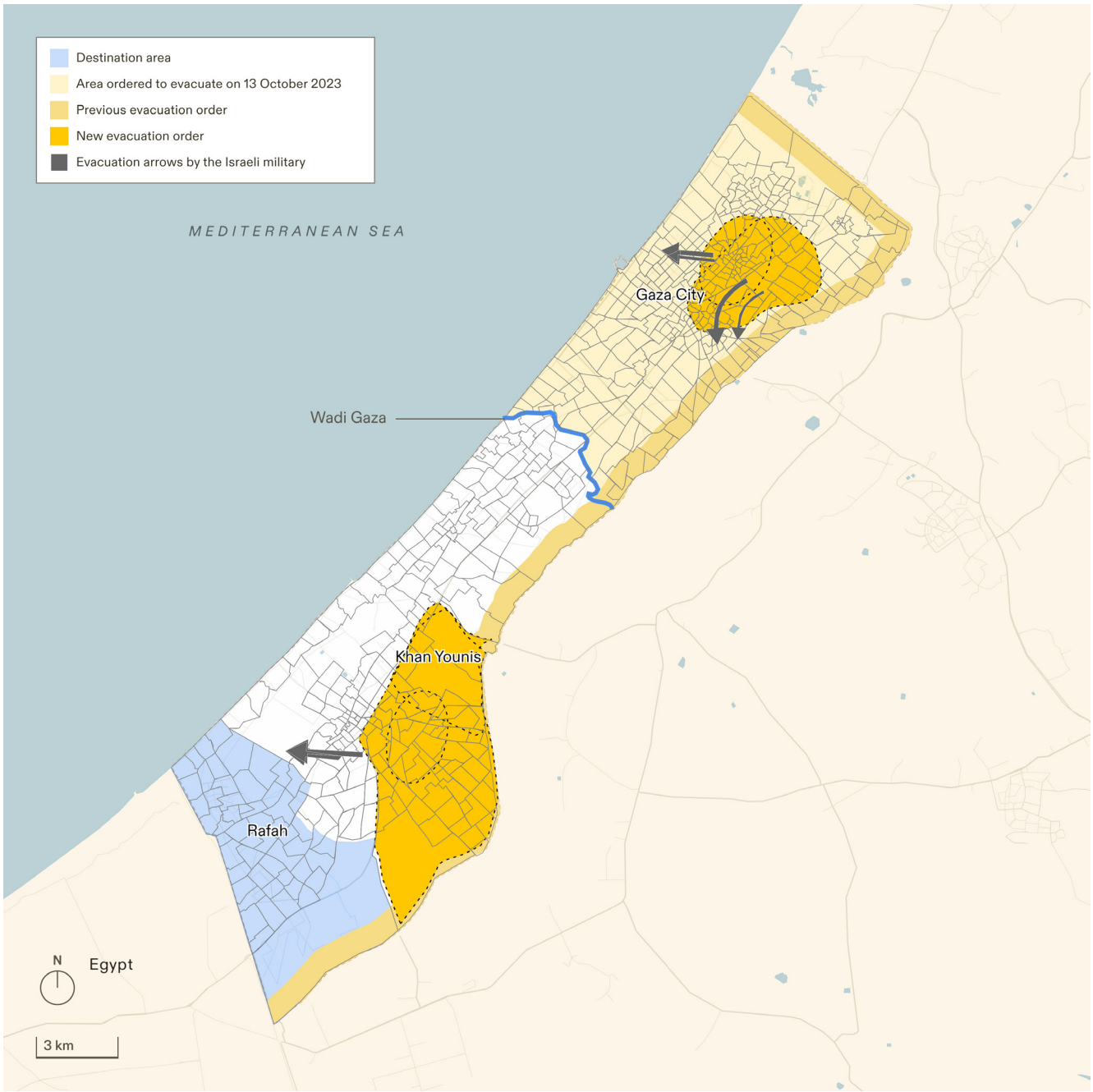

Figure 3.18. On 2 December 2023, a day after the evacuation grid was published, the Israeli military issued multiple evacuation orders using the 'evacuation grid' system. Three orders instructed civilians in large areas of Khan Younis to evacuate. Two additional orders instructed specific areas in north Gaza (which were already subject to the 13 October evacuation order) to evacuate.

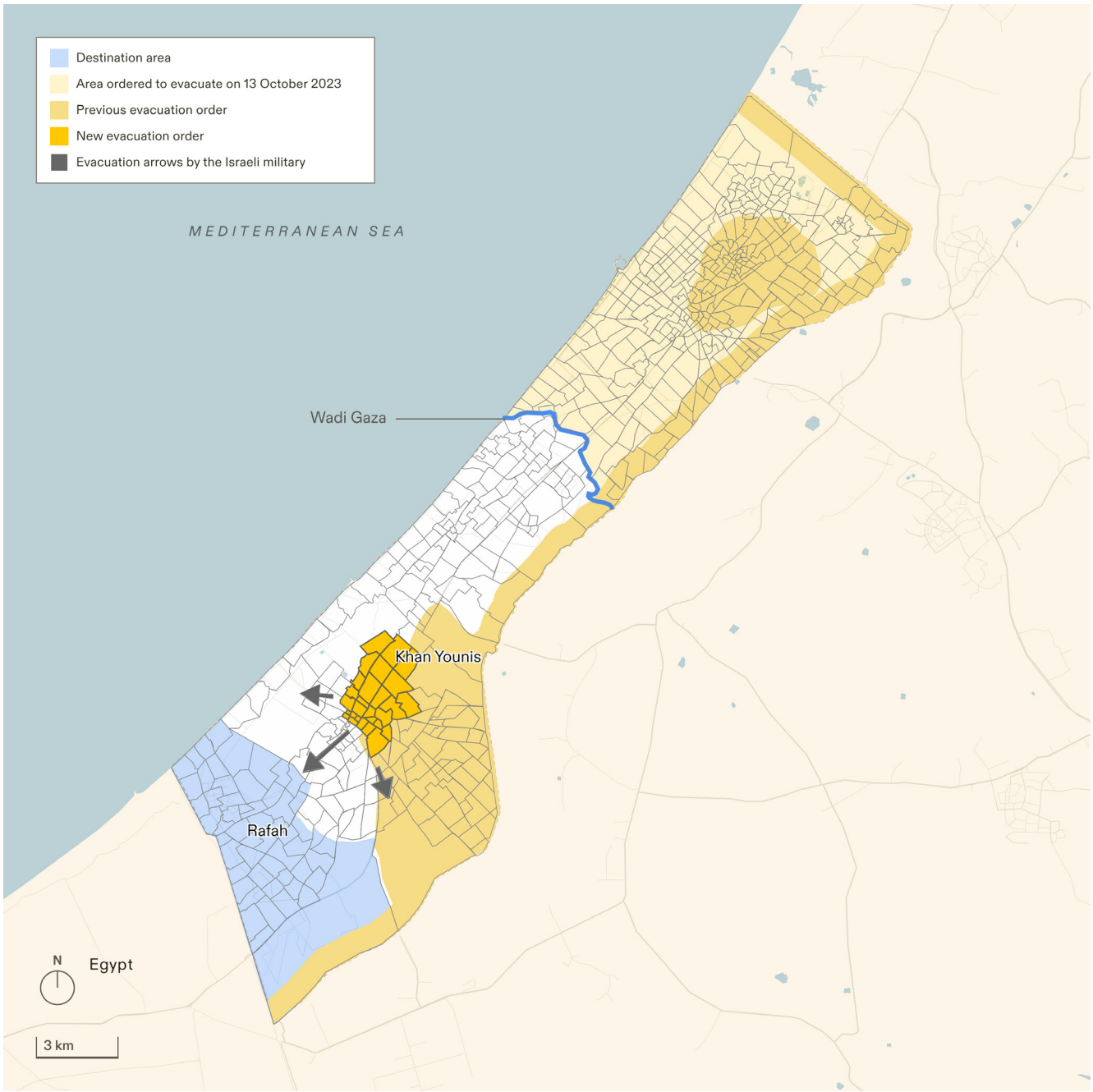

Figure 3.19. On 3 December 2023, the Israeli military issued another evacuation for the centre of Khan Younis. Two of the arrows shown on the map directed Palestinians to go to Tel al-Sultan and al-Shaboura in Rafah, and the third towards al-Fakhouri, east of Khan Younis – an area that civilians were instructed to evacuate from just one day earlier (see Figure 3.18).

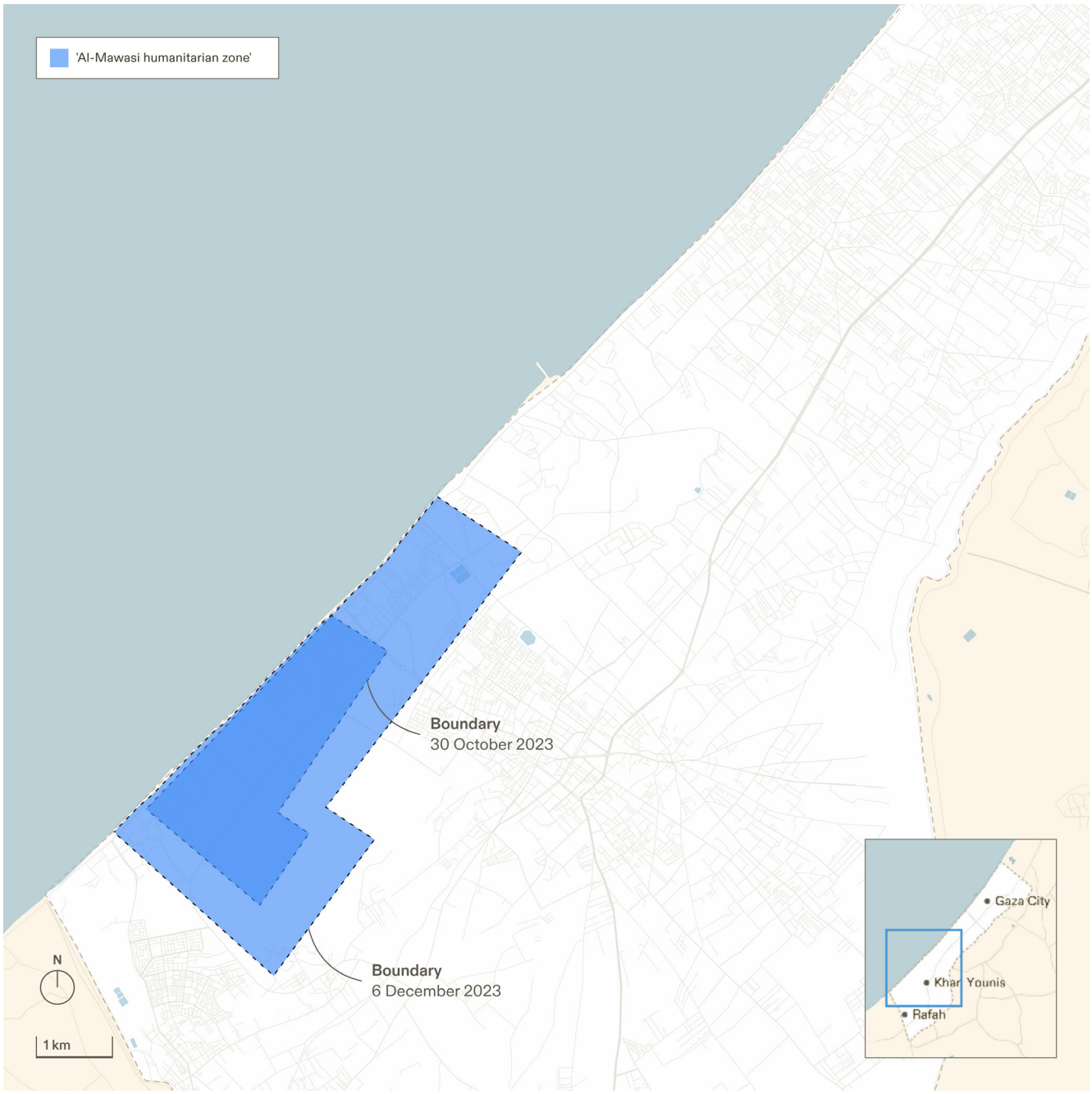

Figure 3.20. The new boundary of the 'humanitarian zone' in al-Mawasi as published on 6 December 2023.

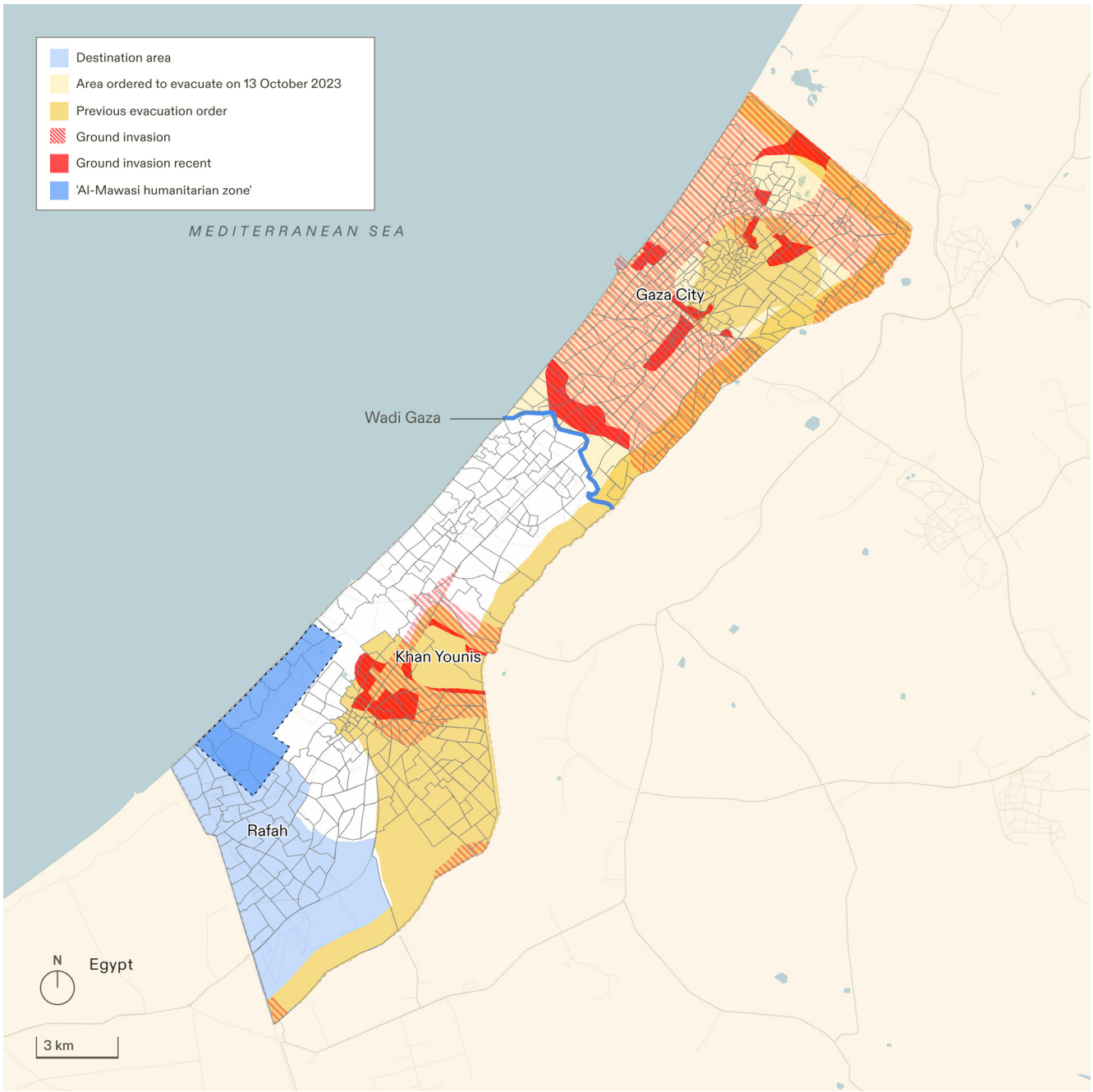

Figure 3.21. The Israeli invasion of Khan Younis started in early December 2023. By 20 December, the military reached Salah al-Din Road and blocked parts of the 'safe route'.

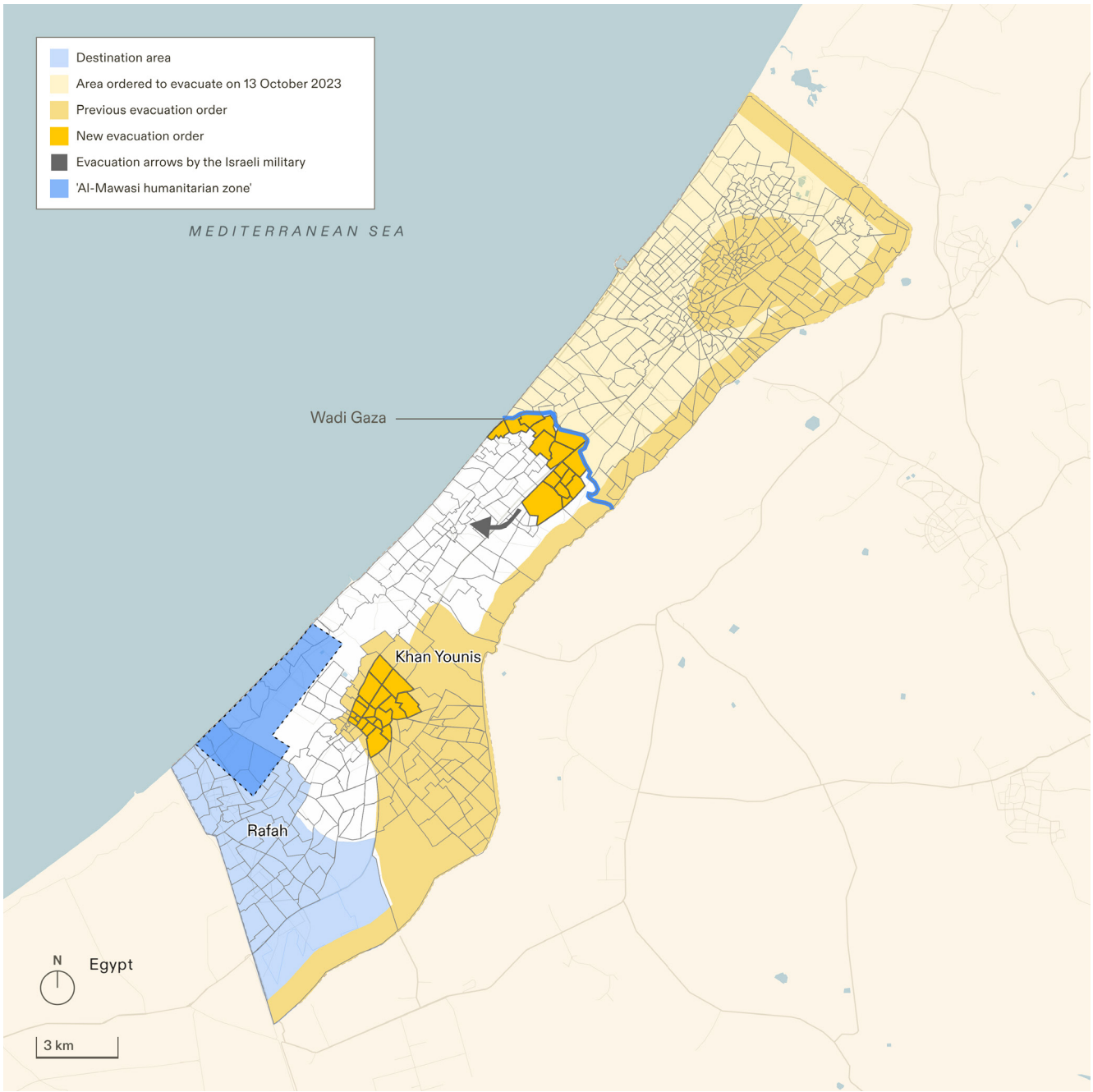

Figure 3.22. On 22 December 2023, the first evacuation order was issued for 'central' Gaza, the area immediately south of Wadi Gaza.

56 On 22 January 2024, the Israeli military invaded the declared 'humanitarian zone' of al-Mawasi. We geolocated two videos identifying Israeli tanks inside the zone (see Figure 3.23) before adjacent blocks in Khan Younis received evacuation orders (see Figure 3.24 and Figure 3.25).

57 By the end of the month, the Israeli military had invaded al-Khair, the only hospital in the 'humanitarian zone' and forced it out of service. The Israeli military also ordered the evacuation of two of the largest shelters in the area, al-Aqsa University, inside the 'humanitarian zone', and the UNRWA Khan Younis Training Centre (KYTC), adjacent to it (see Figure 3.25, Figure 3.26, and Figure 3.27).

58 Moreover, the Israeli military established a checkpoint inside the 'humanitarian zone' and at the intersection of roads between these shelters (see Figure 3.25, Figure 3.28, and Figure 3.29).



Figure 3.23. We have geolocated this video showing Israeli tanks on 22 January 2024 inside the boundary of the 'humanitarian zone' in al-Mawasi. The video was filmed from inside al-Aqsa University before Palestinians taking shelter there were forced to evacuate.

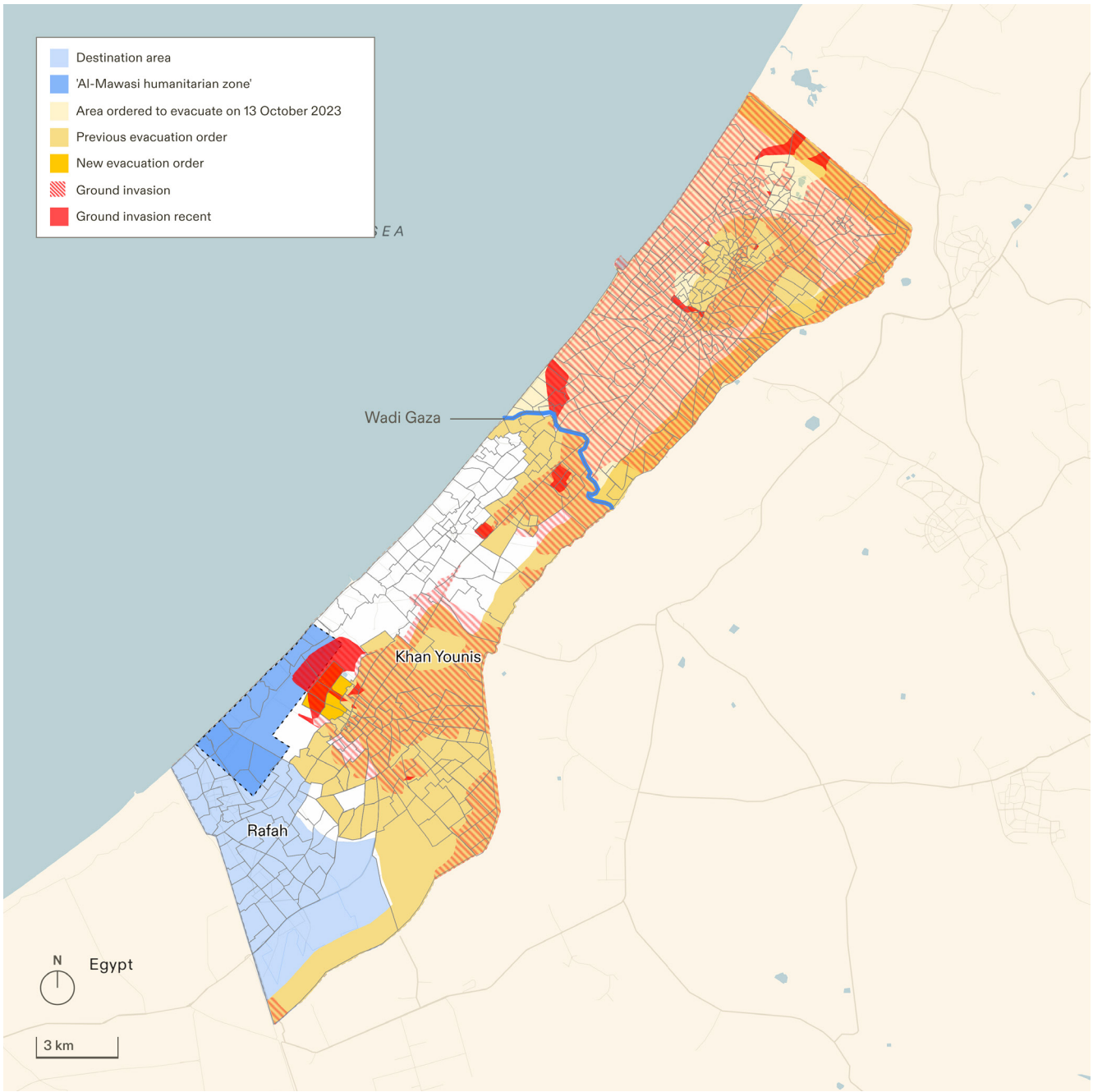

Figure 3.24. By 23 January 2024, the Israeli invasion of Khan Younis expanded into areas that did not receive any evacuation orders, even reaching into the 'humanitarian zone' in al-Mawasi.

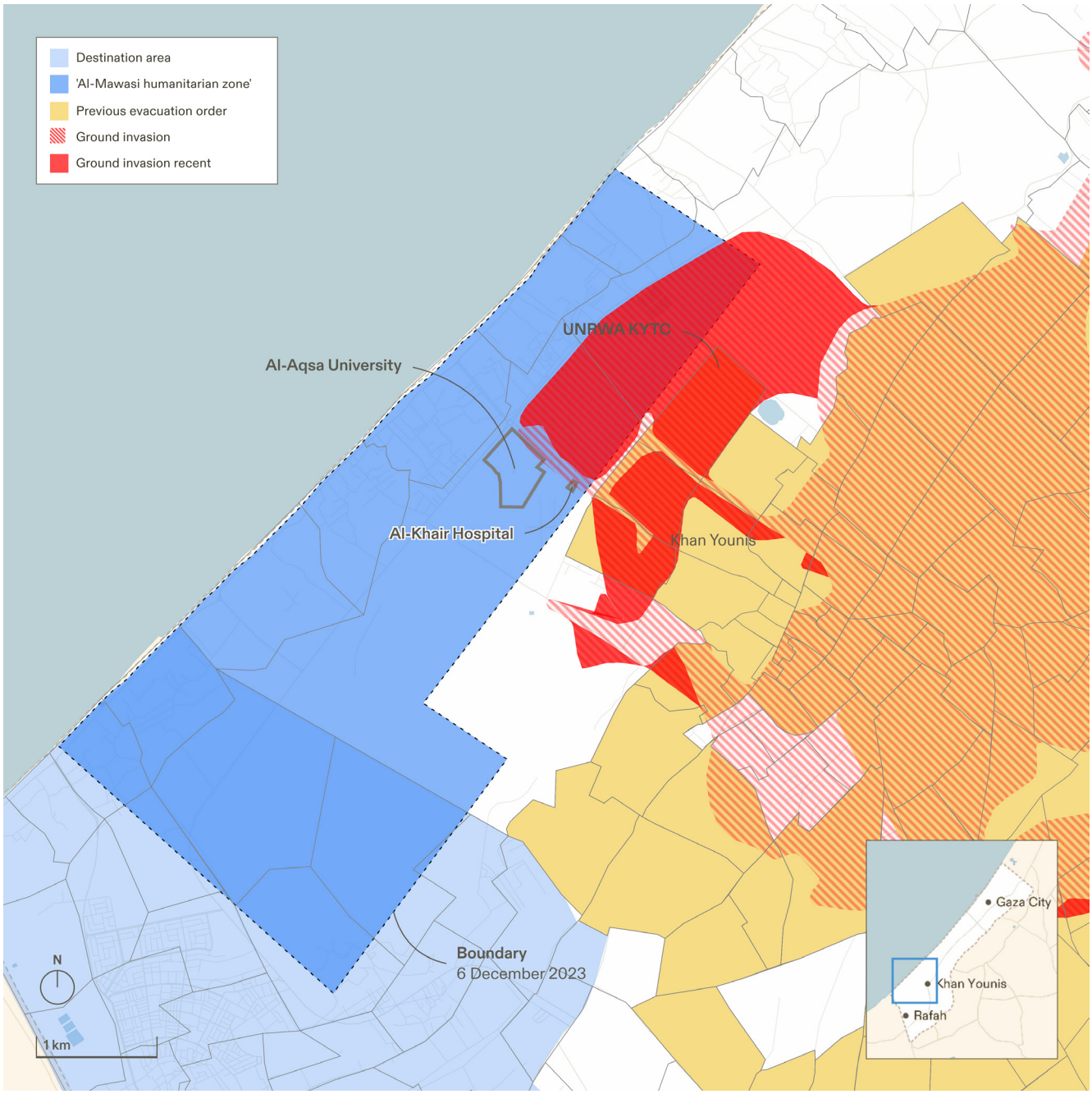

Figure 3.25. Between 22–26 January 2024, the Israeli military invaded the 'humanitarian zone' in al-Mawasi and forced the evacuation of two of the largest shelters in the area: al-Aqsa University, inside the zone, and the UNRWA Khan Younis Training Centre (KYTC), just outside it. The military also invaded al-Khair hospital, the only hospital in the 'humanitarian zone' and forced it out of service. Moreover, the military established a temporary checkpoint at the intersection of roads connecting Khan Younis with al-Mawasi (see also Figure 3.78).



Figure 3.26. Planet satellite imagery from 19 October 2023 shows the campus of al-Aqsa University before it became a shelter; satellite imagery from 14 January 2024 shows the density of tent camps inside the university as it became a shelter; and satellite imagery from 29 January 2024 shows the evacuation of the tent camps and the damage to the university campus following military activity inside the 'humanitarian zone' on 22 January 2024.



Figure 3.27. Planet satellite images showing the UNRWA Khan Younis Training Centre (KYTC), used as a shelter for displaced people on 30 November 2023, and after it was cleared and destroyed by 4 February 2024.

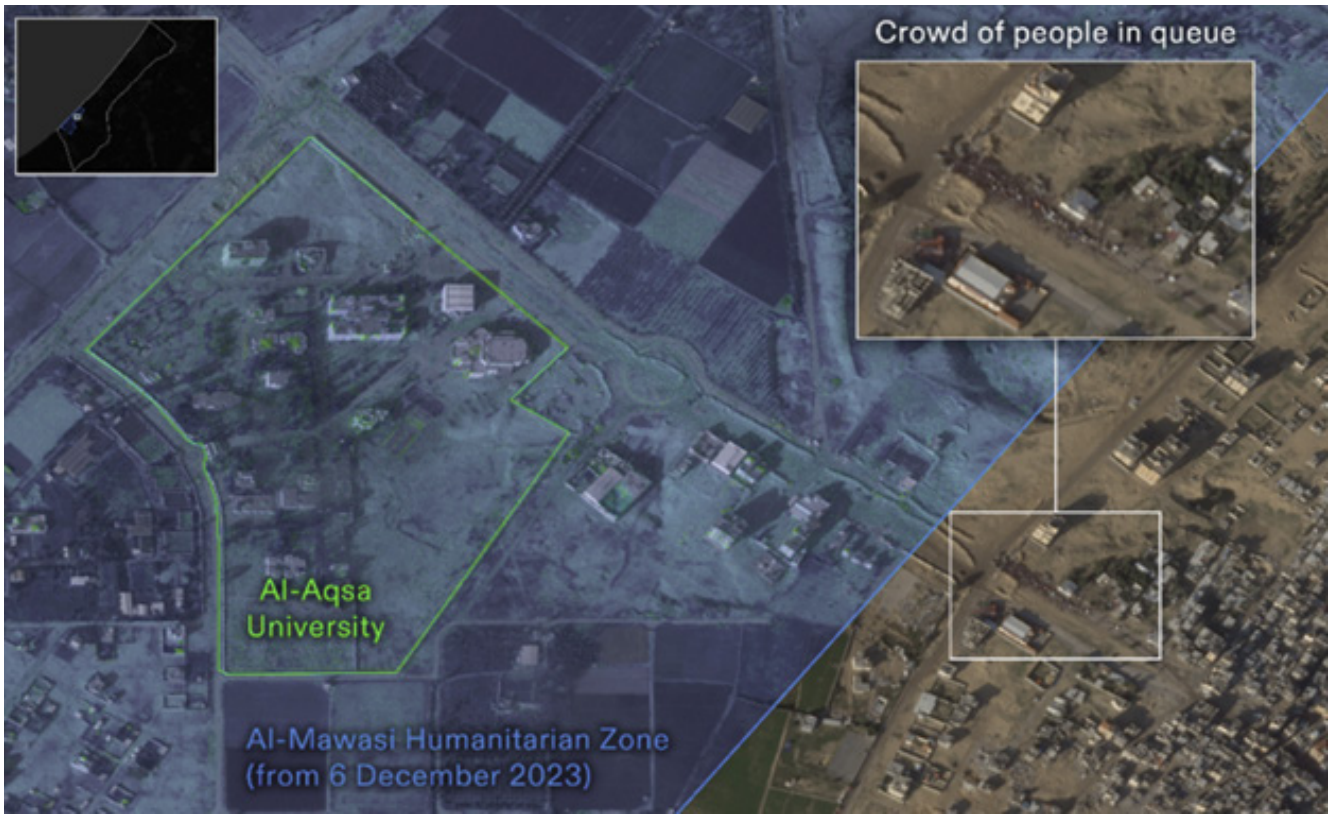

Figure 3.28. Satellite imagery from 29 January 2024 showing a crowd of people coming from the direction of Khan Younis in a queue to enter al-Mawasi 'humanitarian zone'. By this date, the tent camps on the al-Aqsa University campus have been cleared.



Figure 3.29. Frames from a video recorded by an Israeli television crew embedded with the Israeli military showing a long queue of displaced Palestinians coming from the direction of the UNRWA Khan Younis Training Centre (KYTC) and passing through the temporary checkpoint installed by the Israeli military in the 'humanitarian zone' in al-Mawasi. In this video, this system of channeling civilians through checkpoints is referred to as 'drainage'.[26]

[26] B.M. [@ireallyhateyou], 'They Call the Makeshift Checkpoint "Nakaz", Which Roughly Translates to "Drainage Point". They're Draining Khan Younis of Palestinians, and Arbitrarily Kidnap Some along the Way. And They're Doing It All so Shamelessly' <https://x.com/ireallyhateyou/status/1759081366002545062> accessed 26 September 2024.

3 *Displacement from Rafah: 6 May 2024*

59 On 6 May 2024, the Israeli military issued the first evacuation order to Rafah, an area that civilians were repeatedly instructed to evacuate to since 2 December 2023 (see Figure 3.30).

60 Also on 6 May, the Israeli military announced in Arabic the 'expansion' of the 'humanitarian zone'. By that date, the boundaries of al-Mawasi had already been changed at least three times in official statements. [Map IDs: M-31018-68118, M-31030-62864, M-31206-80493, M-31021-68119]

61 Between 11 May and 1 July, the Israeli military instructed additional areas in Rafah, north Gaza, and Khan Younis to evacuate. The main direction of evacuation was towards the 'expanded humanitarian zone' (see Figure 3.31, Figure 3.32, and Figure 3.33).

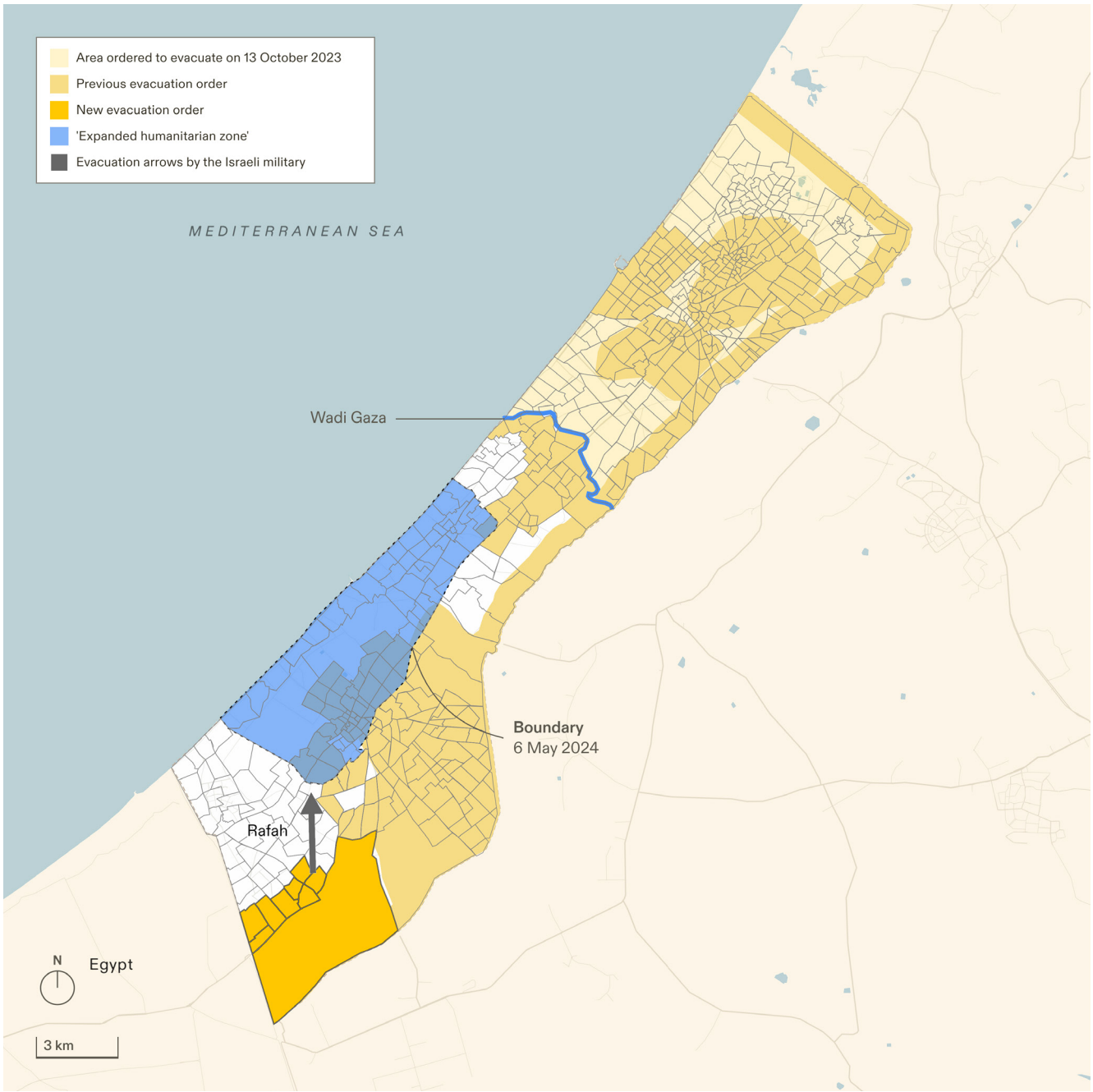

Figure 3.30. First evacuation order in Rafah displacement towards the 'humanitarian zone' in al-Mawasi ordered on 6 May 2024.

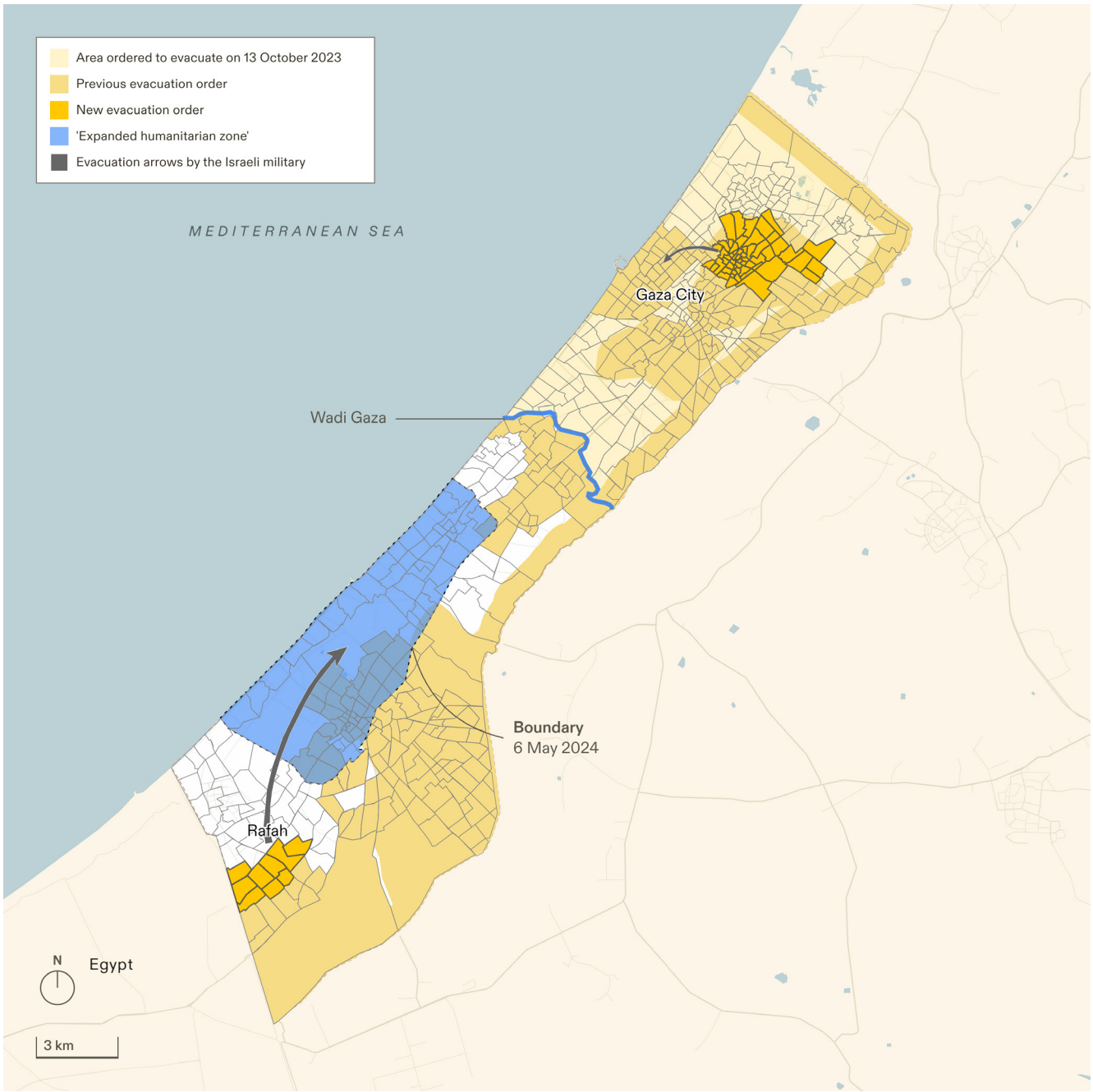

Figure 3.31. Evacuation order of blocks in Rafah on 11 May 2024.

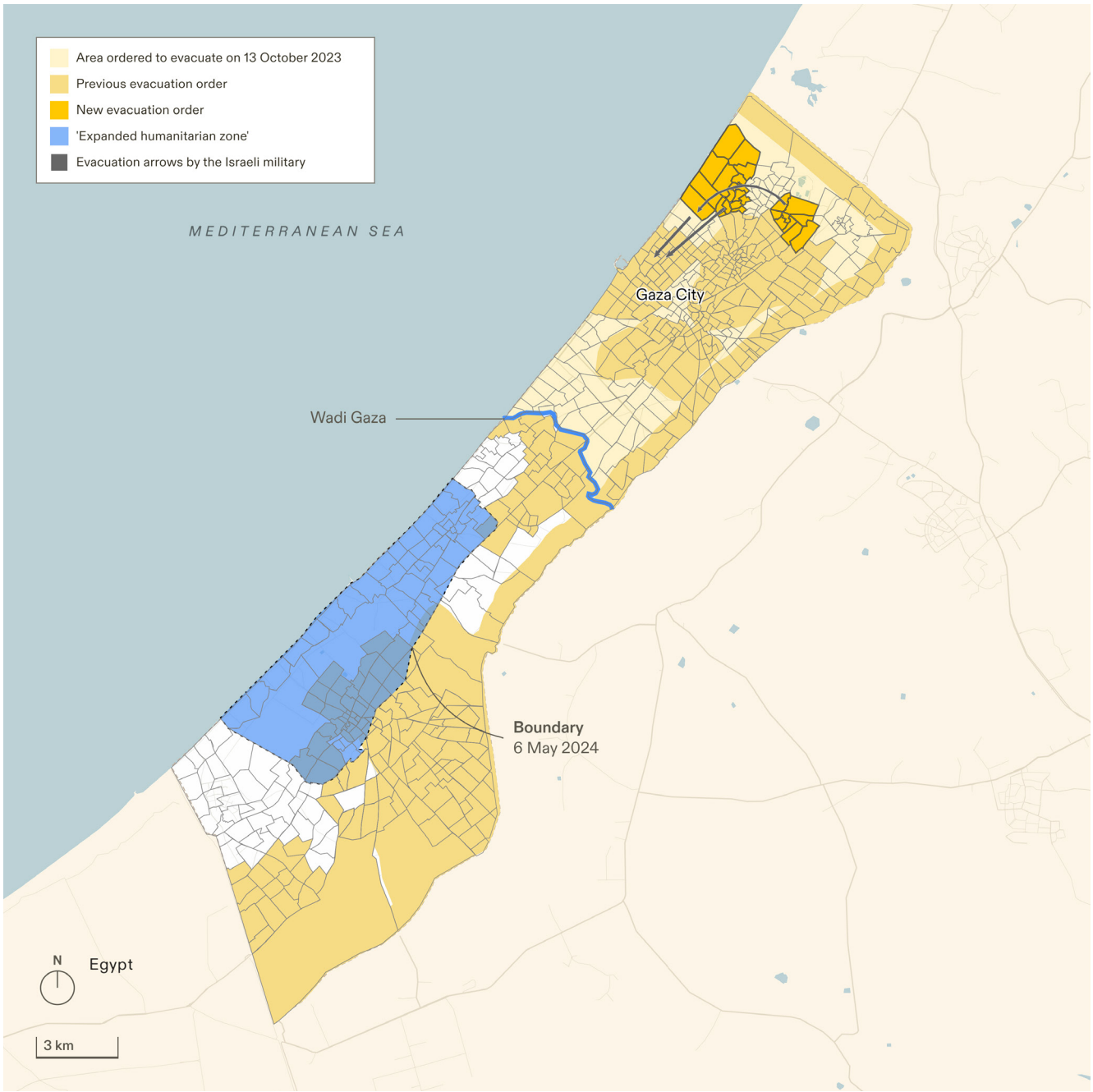

Figure 3.32. The Israeli military issued additional evacuation orders to areas in north Gaza on 14, 15, and 18 May 2024.

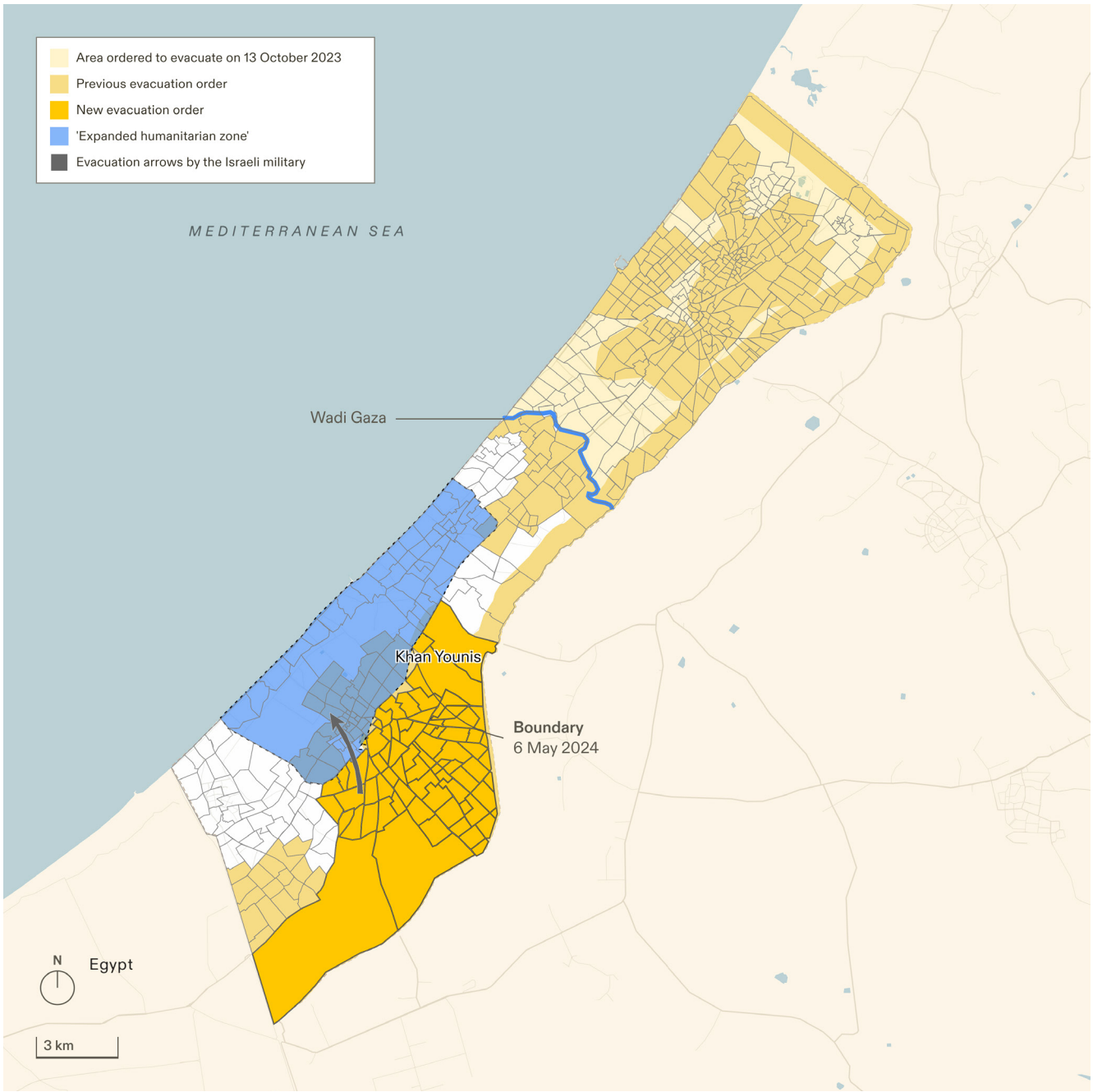

Figure 3.33. Most of Khan Younis and east Rafah received an evacuation order to the 'humanitarian zone' on 1 July 2024, a few weeks before the contraction of the 'humanitarian zone' begins.

4 *Displacement/containment within the expanded 'humanitarian zone': from 22 July*

62 On 22 July 2024, the Israeli military instructed civilians within the 'expanded humanitarian zone' declared on 6 May to evacuate. The following maps describe the shrinking of this zone and the additional evacuation orders instructing civilians there to evacuate.

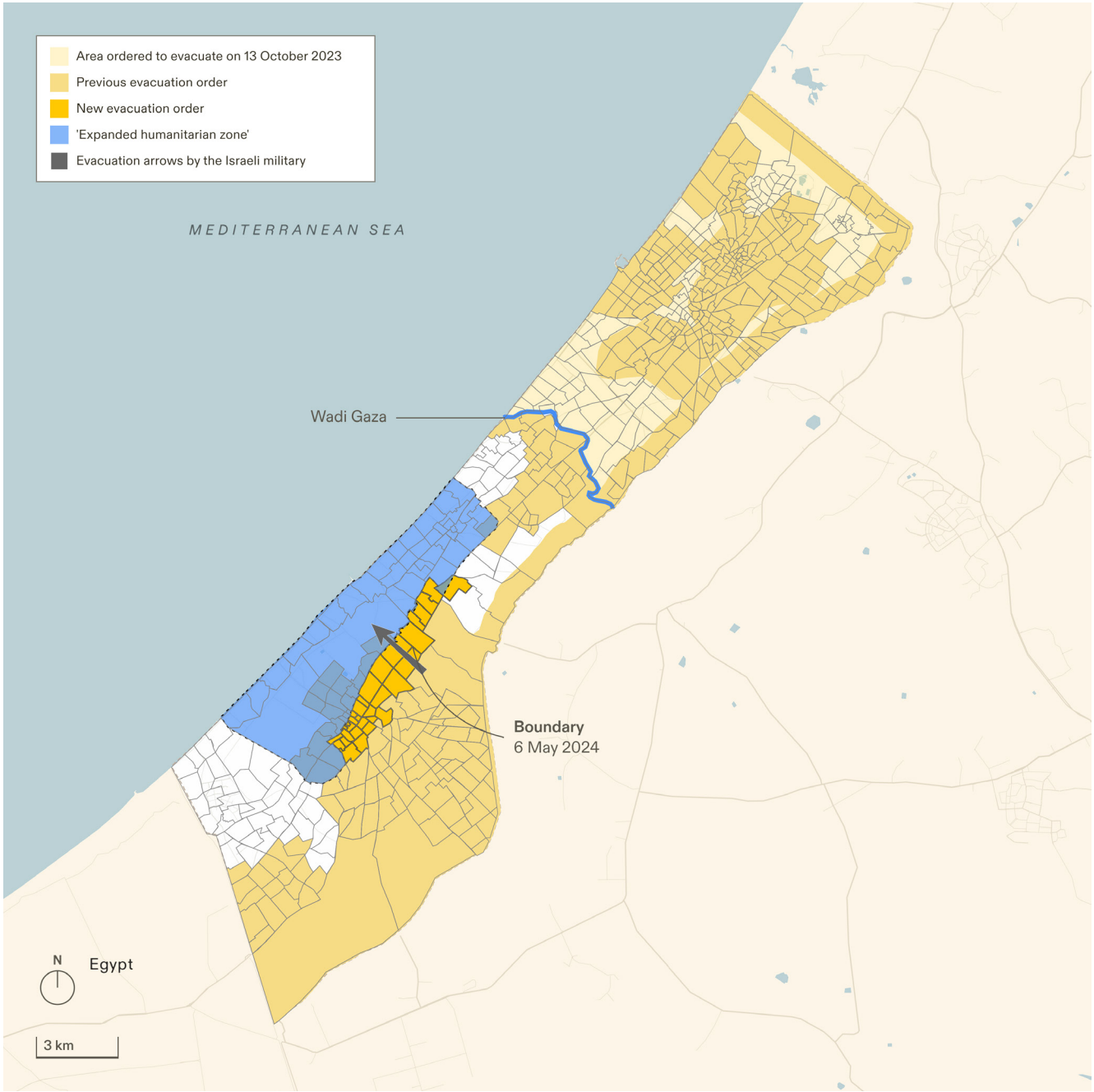

Figure 3.34. The 'expanded humanitarian zone' was reduced in area on 22 July, as a region at the eastern edge of the zone was subject to an evacuation order.

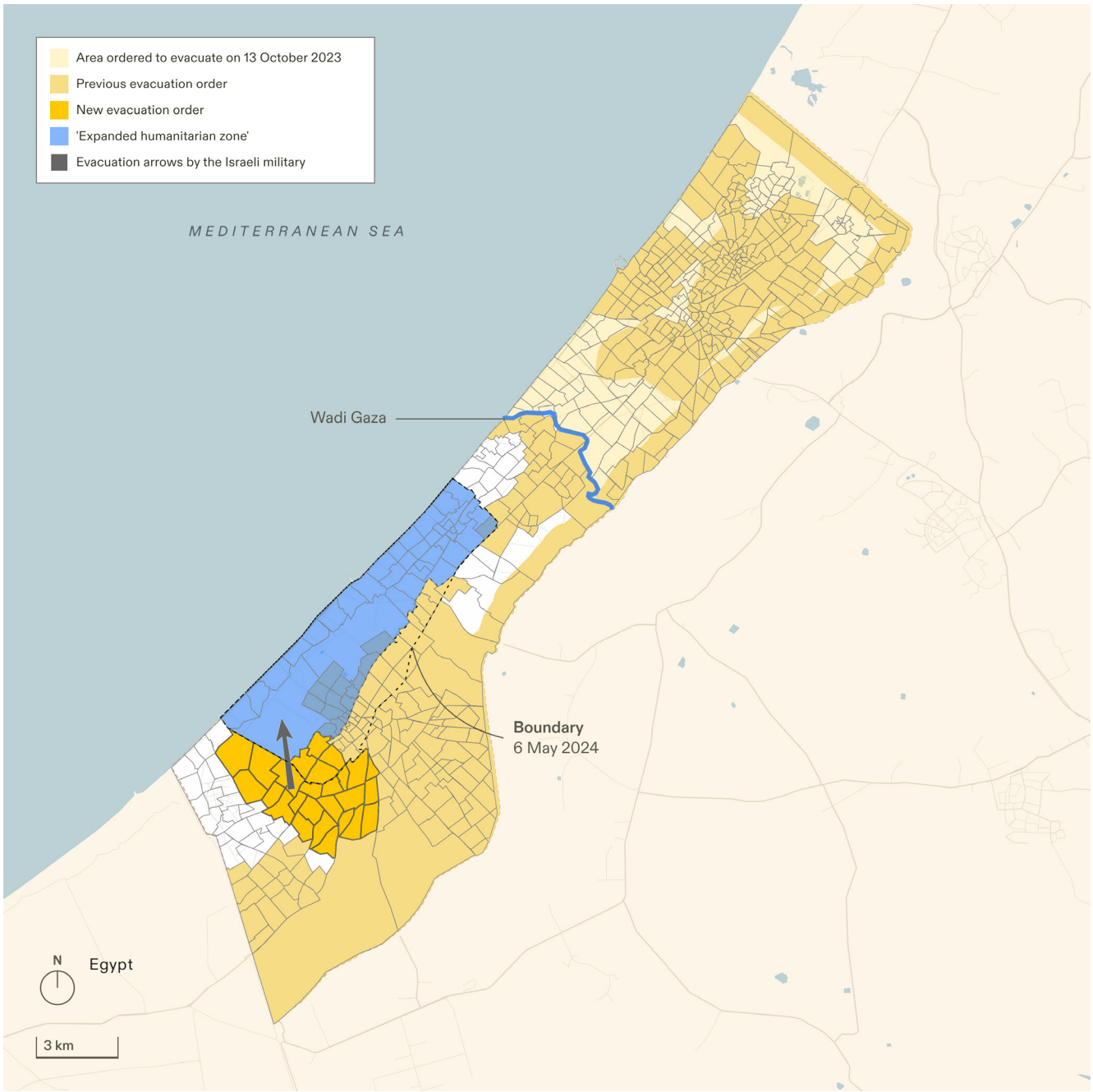

Figure 3.35. On 27 July 2024, the 'humanitarian zone' was further reduced as a new evacuation order directed civilians further into the 'humanitarian zone' on the same day.

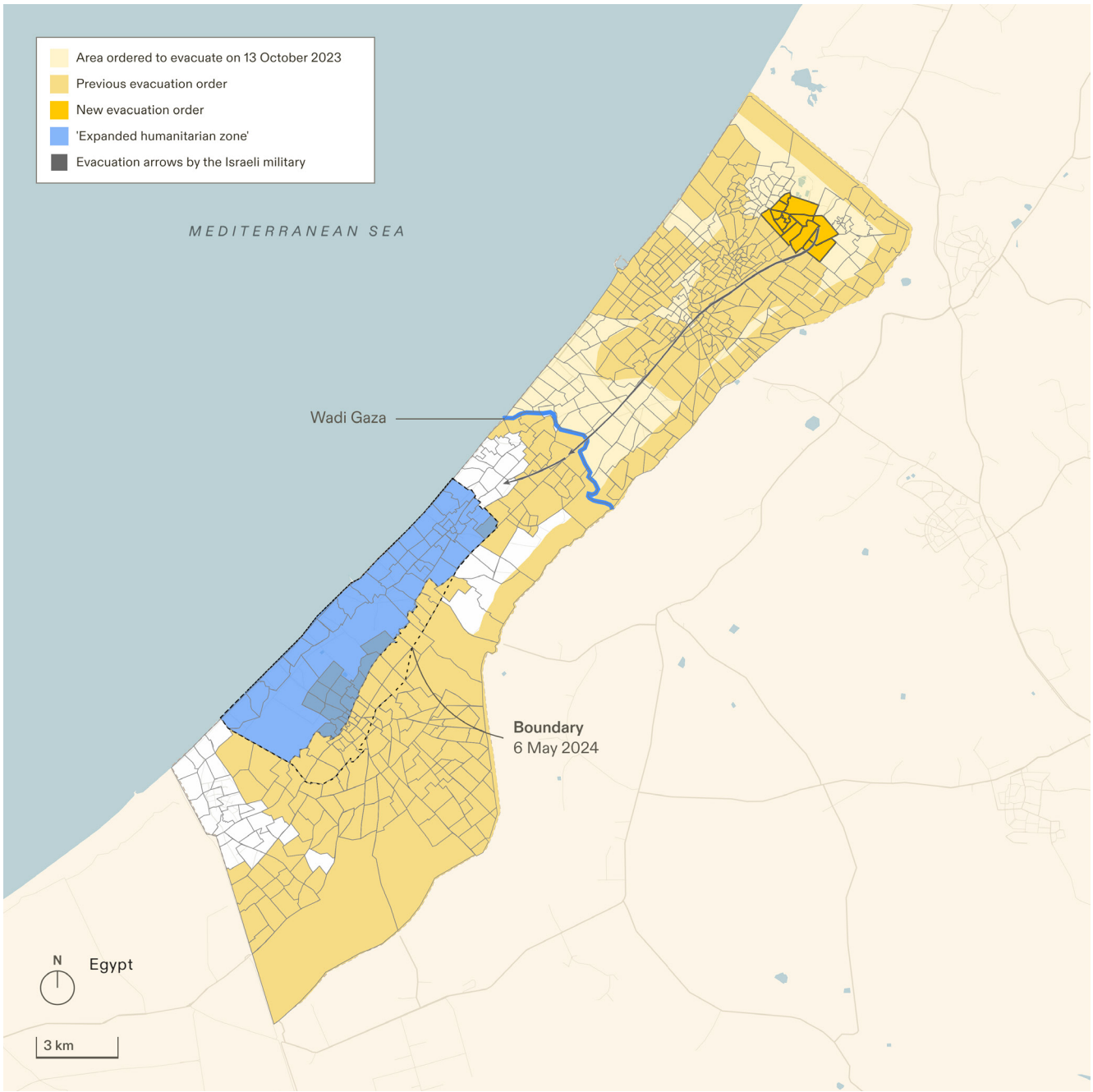

Figure 3.36. An evacuation order directing civilians towards the 'humanitarian zone' from north Gaza on 7 August 2024.

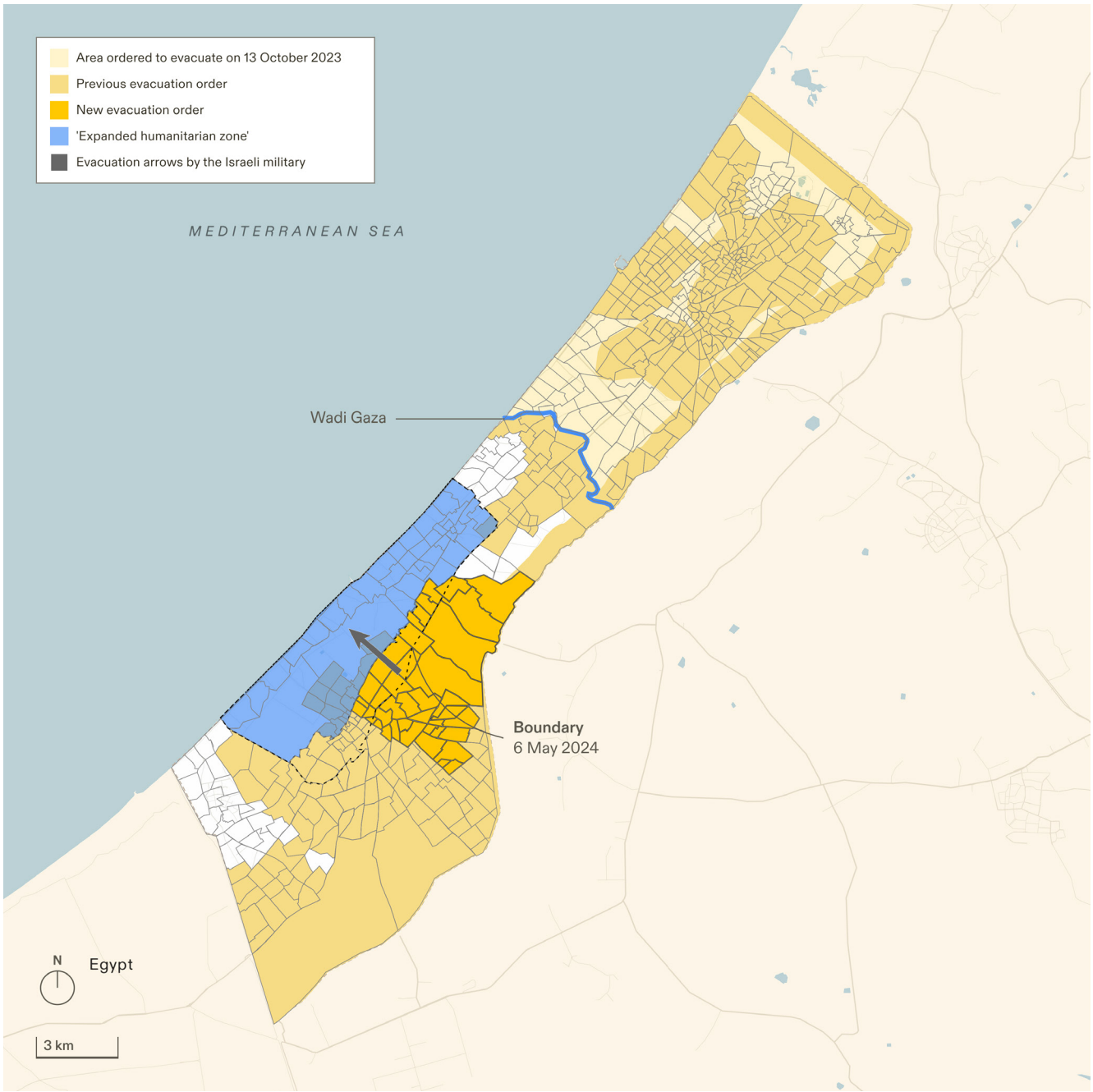

Figure 3.37. An evacuation order directs civilians towards the 'humanitarian zone' on 8 August 2024, into an area that would itself be subject to evacuation orders soon after.

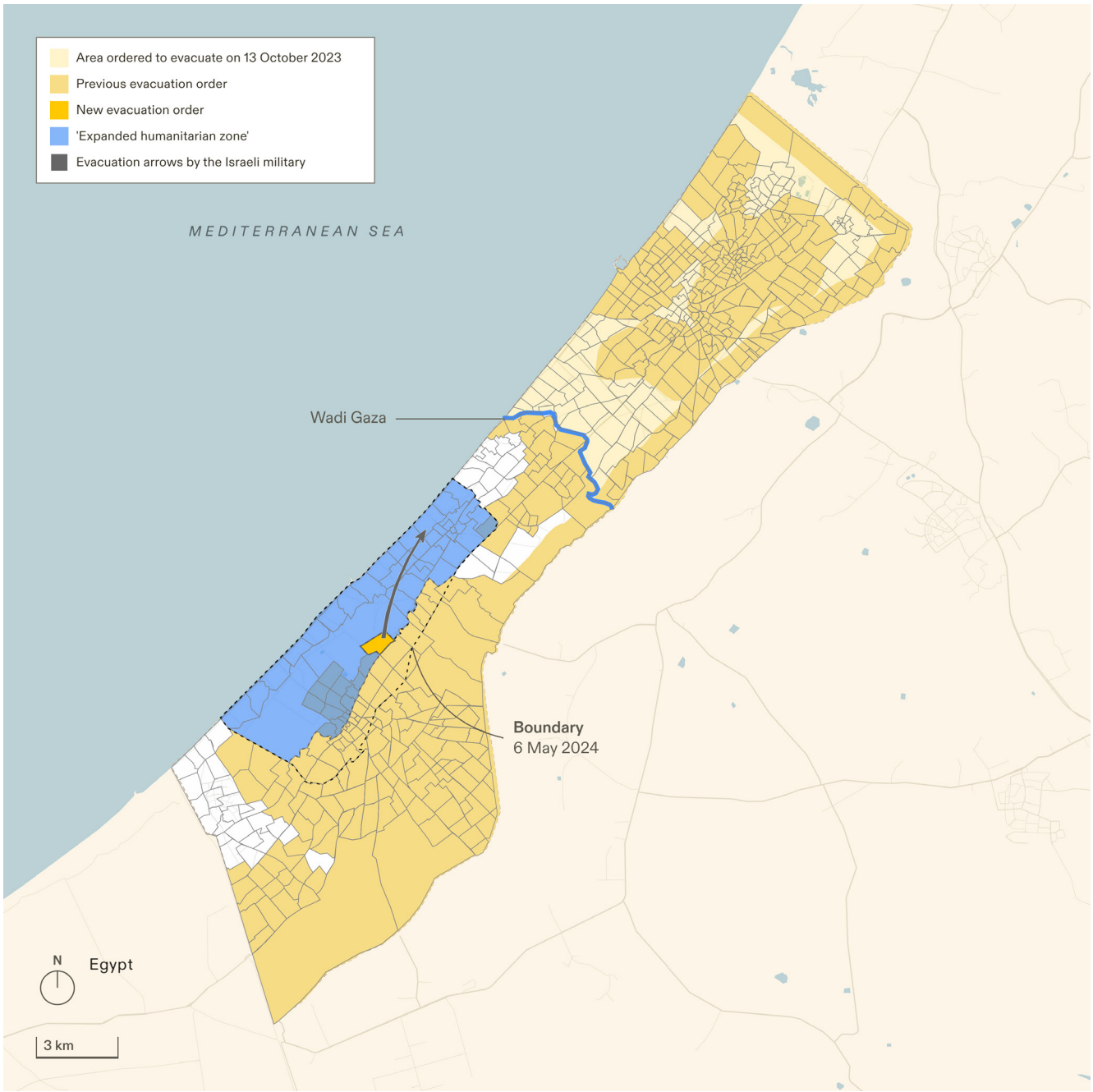

Figure 3.38. On 11 August, another area is excluded from the 'humanitarian zone' as a new evacuation order directs civilians further into the 'humanitarian zone'.

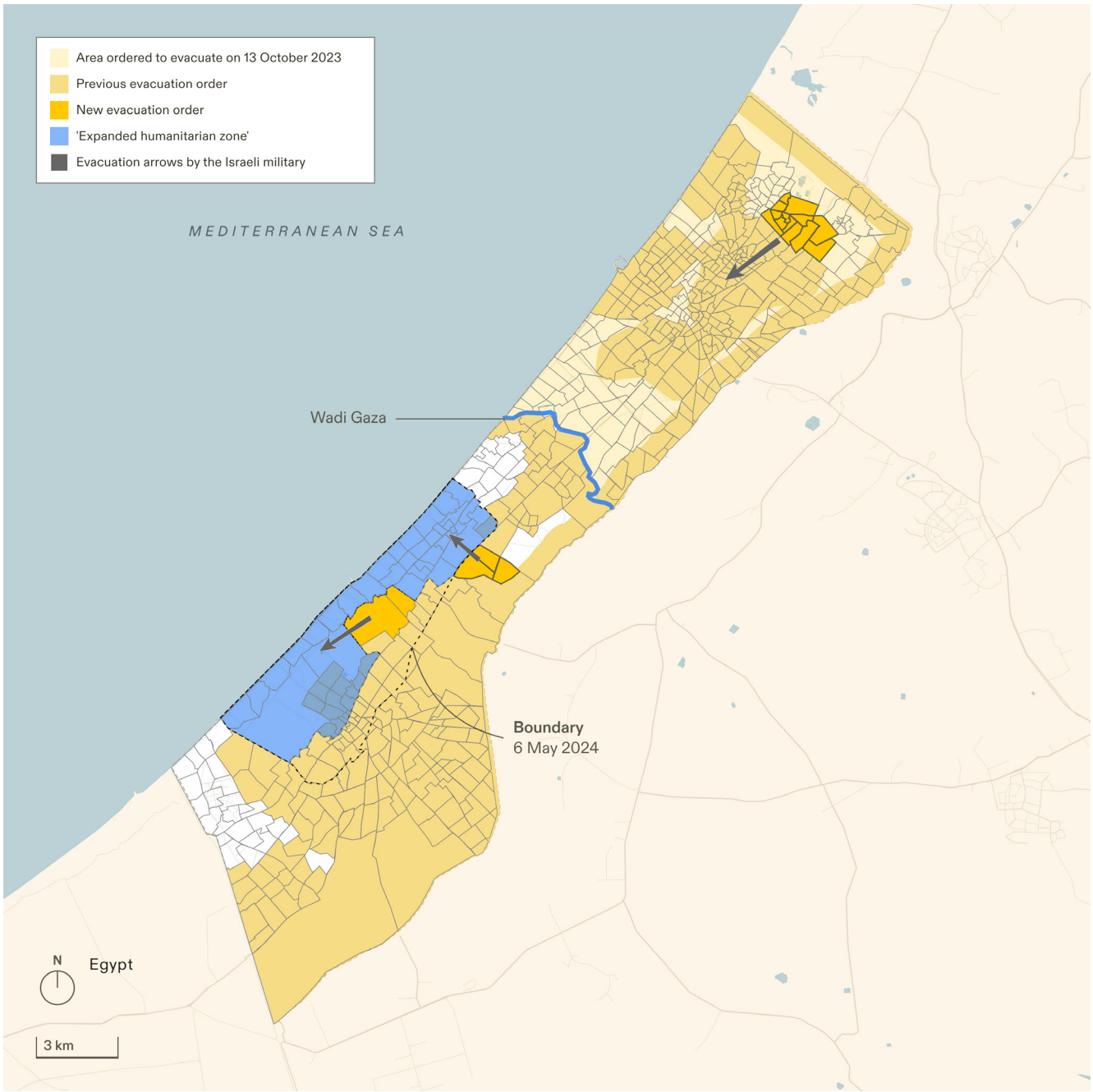

Figure 3.39. Displacement into the 'humanitarian zone' on 16 August, and further exclusion of areas within the 'humanitarian zone' (areas civilians had been directed to just eight days earlier).

H FINDINGS

1 *Quantitative Findings*

1.1 The territory including destination areas and the 'humanitarian zone' shrank over time:

(a) On 13 October 2023, this area included all of Gaza south of Wadi Gaza and covered 228.2 sq km (62.5%) of the total territory of Gaza

(b) On 7 January 2024, it included Rafah, Deir al-Balah, and the al-Mawasi 'humanitarian zone', covering 80.7 sq km (22.1%) of Gaza

(c) On 6 May 2024, it shrank to include only the newly established 'expanded humanitarian zone', covering 60.9 sq km (16.6%) of Gaza

(d) On 16 August 2024, the 'humanitarian zone' contracted. The area covers 37.9 sq km (10.4%) of Gaza

(e) On 30 August 2024, three blocks have been reintegrated to the 'expanded humanitarian zone', expanding its extent to covering 47.4 sq km (13%) of Gaza

(f) The boundaries of the 'humanitarian zone' established from 18 October 2023 changed nine times by 30 August 2024.

1.2 Between 7 October 2023 and 31 August 2024, 84% of Gaza's total area was subject to evacuation orders (see Figure 3.40):

(a) The 13 October evacuation order covered 37% of the total area of Gaza

(b) After the grid-based evacuation orders were introduced on 1 December, most areas in Gaza were ordered to evacuate at least once. Between 1 December 2023 and 31 August 2024, 72% of Gaza's total area was subject to evacuation orders (see Figure 3.41)

(c) By 6 May, only 6.9% (25.3 sq km) of areas in Gaza, excluding the area of the 'humanitarian zone', had not yet received an evacuation order

(d) A total of 66 evacuation orders were issued between 7 October 2023 and 31 August 2024. Most orders refer to multiple blocks at a time.

(e) According to data published by the UN, 346 schools were used as shelters, 70% of them were attacked (see Figure 3.42).[27]

[27] 'oPt Education Cluster - Schools Dashboard - Gaza 2023' [n 1] <https://gis.unicef.org/portal/apps/dashboards/c6e0bfd744164b2f-84276071b1a83e78> accessed 26 September 2024.

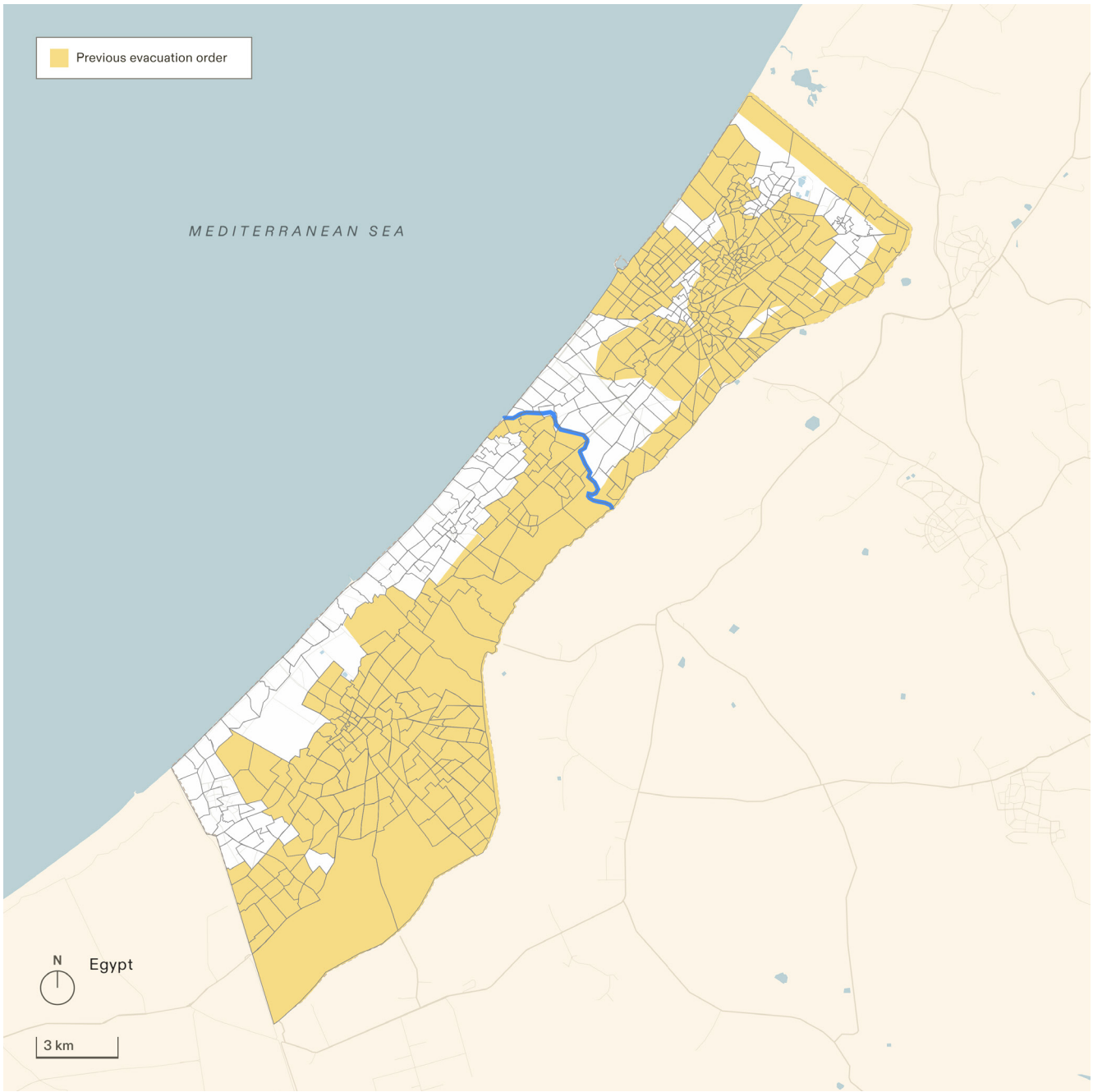

Figure 3.40. Total area of Gaza ordered to evacuate since October 2023, making up 84%of the strip. Some areas were ordered to evacuate more than once.

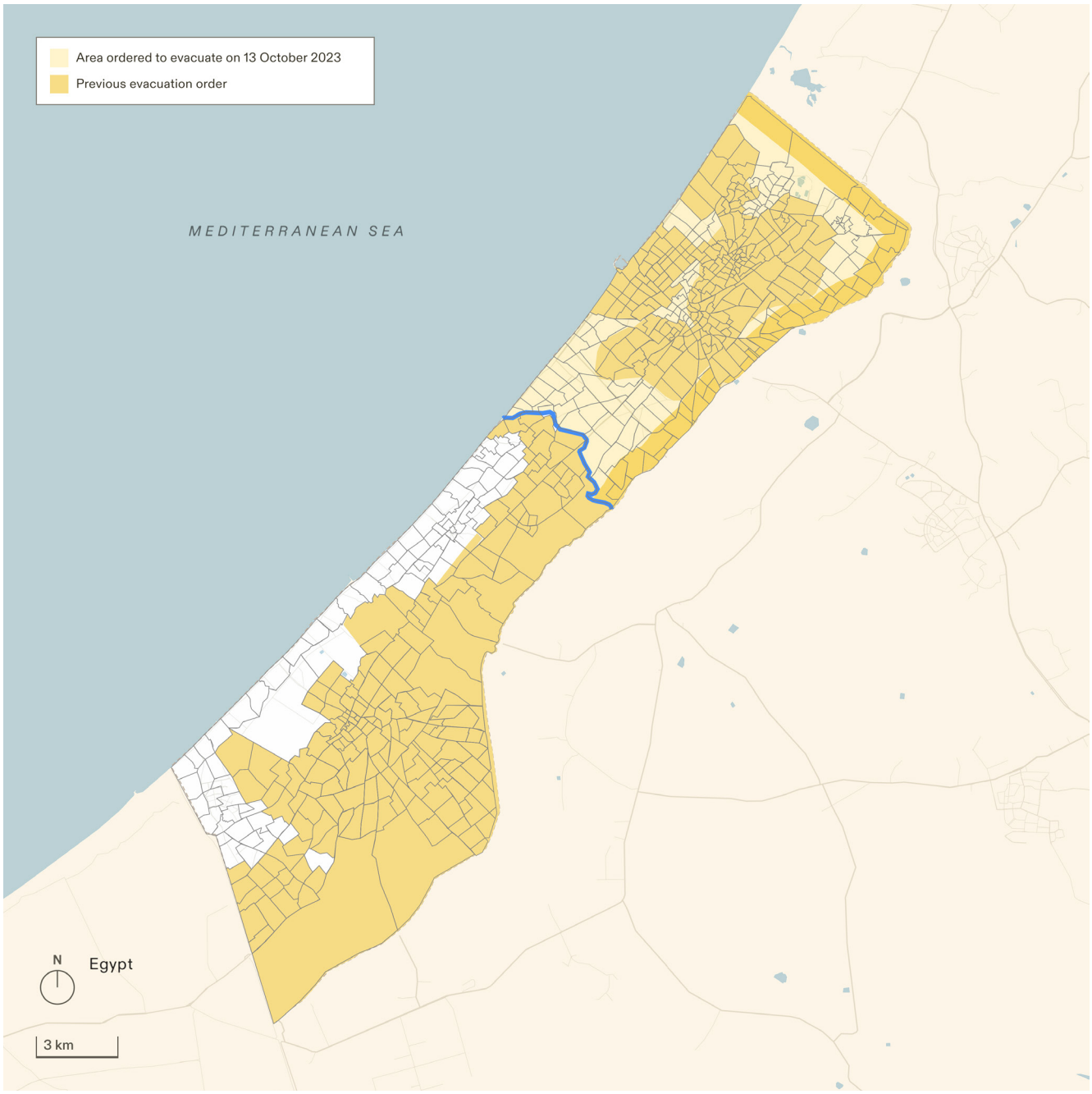

Figure 3.41. Total area subject to all evacuation orders given between 1 December 2023, when the grid system was introduced, and 31 August 2024. 72% of Gaza's total area was subject to evacuation orders during this time and via this system.

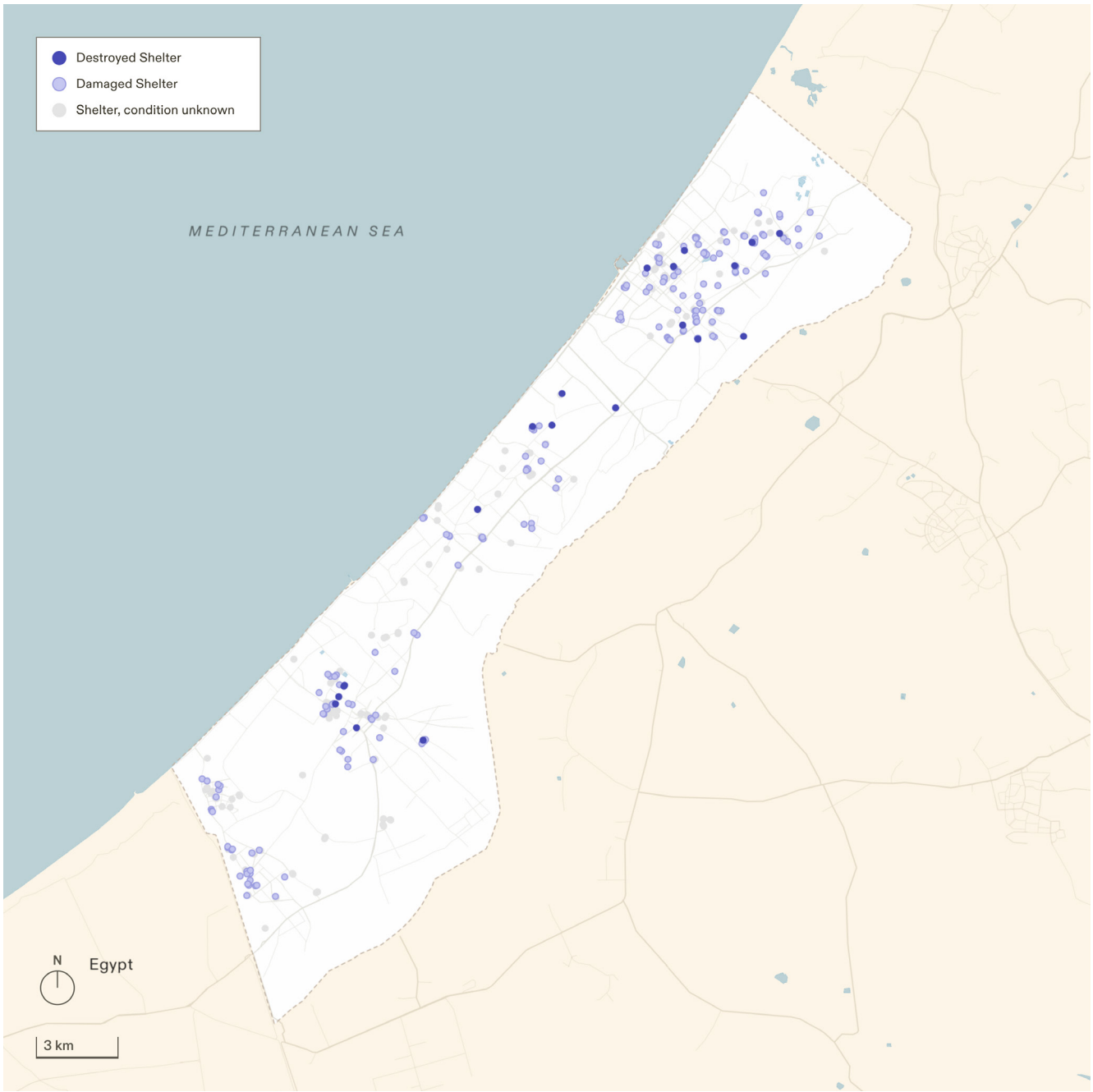

Figure 3.42. Map of buildings used as shelters in Gaza as of 6 July 2024.

2 *Pattern Findings*

2.1 The Israeli military has continuously attacked all areas of Gaza such that no place may reasonably be considered safe.

63 We analysed the location and timing of all incidents of Israeli attacks in our cartographic database in relation to the status of the areas they occurred in.

64 Our data shows that the Israeli military attacked all areas in Gaza, including when they belonged to the following categories:

(a) Destination areas – areas to which civilians were ordered to evacuate, including the 'humanitarian zone'

(b) 'Safe routes' – routes designated by the Israeli military for civilians to 'safely' evacuate through

(c) Undefined areas – areas which have neither been designated as evacuation areas nor destination areas

(d) Evacuation areas – areas from which civilians were ordered to evacuate

65 The following map (see Figure 3.43) demonstrates that attacks by the Israeli military campaign have been pervasive regardless of the designation of an area as a site of shelter, evacuation, or undefined.

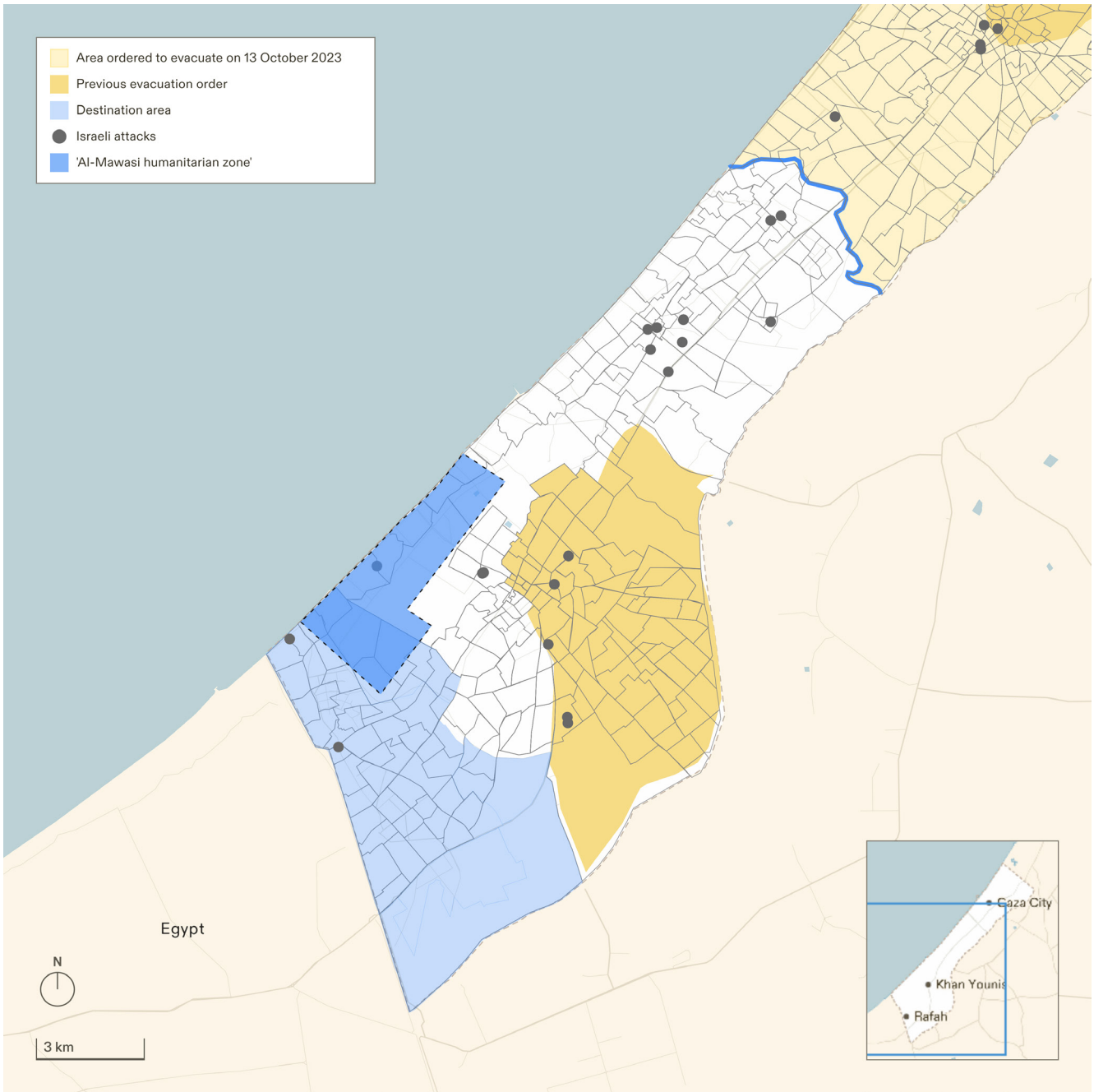

Figure 3.43. Attacks on south Gaza between 2 December (first order to evacuate Khan Younis and to head to the Rafah destination area) and 10 December 2023. This map shows that the Israeli military repeatedly attacked a destination area, an evacuation area, and an undefined area during this period.

(A) Incidents of direct attacks on civilians

66 We have documented and archived instances where the Israeli military has directly targeted civilians, including two cases in Gaza City in November. In the first case, the Israeli soldiers killed Atta Ibrahim al-Muqayad, a deaf and mute 73 year old Palestinian inside his home in Gaza City.[28] In the second case, the Israeli military shot and killed Hala Khreis, a Palestinian woman attempting to evacuate with her grandson, while holding a white flag.[29]

67 Another case is an attack on civilians as they were following Israeli evacuation orders: on 29 January 2024 in Gaza City, a six-year-old Palestinian child, Hind Rajab, and six of her family members, as well as two Palestine Red Crescent Society (PRCS) paramedics, were attacked and killed by the Israeli military while evacuating from an area subject to an evacuation order.

68 We investigated the killing of Hind Rajab, and from our spatial and audio analysis concluded that the Israeli military directly shot at the car Hind and her family were in at close range, where they would have been able to identify civilians and children were present and injured in the vehicle. Furthermore, we established that the direction from which the ambulance that tried to reach them was shot at is consistent with the location of the Israeli military on that day.[30]

[28] Incident ID: 31106-91297
[29] Incident ID: 31112-93909
[30] 'The Killing of Hind Rajab, Forensic Architecture'< https://forensic-architecture.org/investigation/the-killing-of-hind-rajab> accessed 26 September 2024.

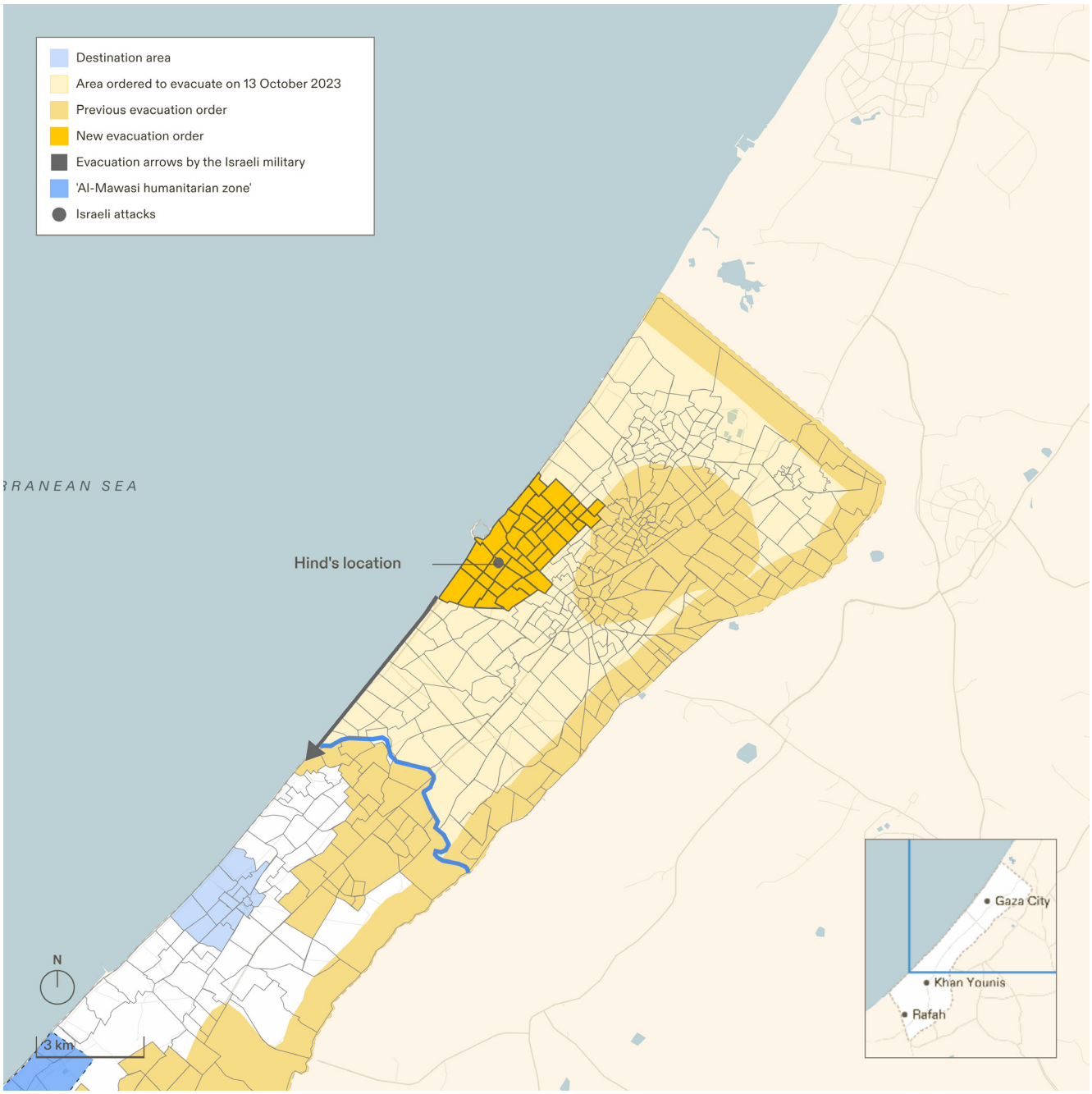

Figure 3.44. Location where Hind Rajab and her family were killed by the Israeli military on 29 January 2024 as they tried to move to another location following the evacuation order. The highlighted blocks were ordered to evacuate that day.

(B) Attacks on destination areas

69 Our research records 1,028 airstrikes in Gaza between 7 and 28 October. Of these, 426 were in areas south of Wadi Gaza, even though the Israeli military had ordered the southward evacuation of all Gazans north of Wadi Gaza (see Figure 3.45). Figure 3.45 demonstrates that the Israeli strikes were widespread and continuous north and south of Wadi Gaza, including after the 13 October evacuation order instructing civilians to move south of Wadi Gaza. This data demonstrates that the Israeli military targeted the area south of Wadi Gaza despite designating it as a destination area.

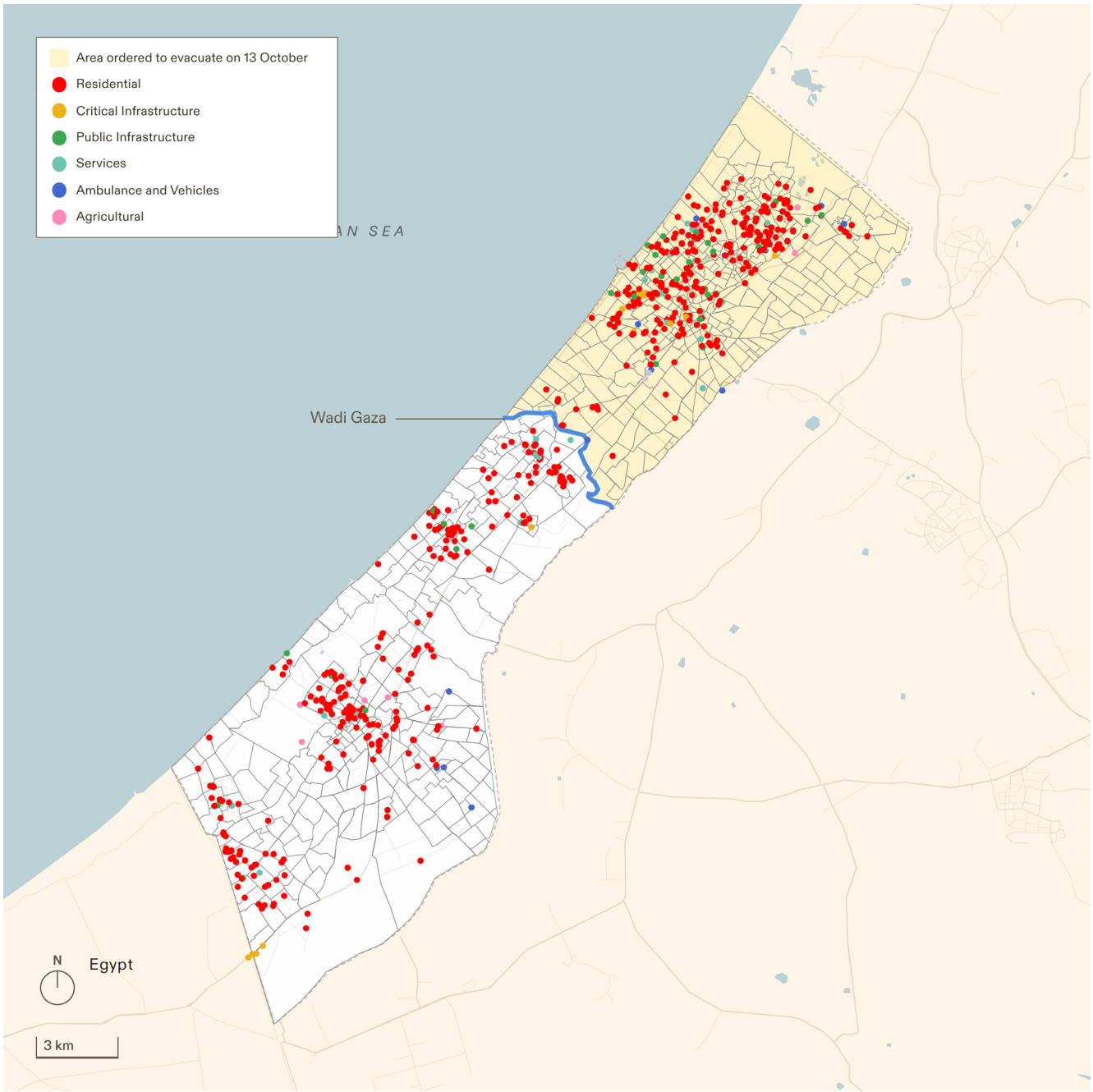

Figure 3.45. Map showing geolocated airstrikes recorded in our database include attacks that occurred before the evacuation order to the south of Gaza on 28 October 2023. 426 out of 1,028 are located in the south of Gaza, towards which civilians had been instructed to move. These include strikes in the north and the south, both before and after the 13 October evacuation order.

70 We have observed evidence of several instances where the Israeli military has struck areas immediately after designating them as destination areas and ordered civilians to evacuate to them (see Figure 3.46).[31]

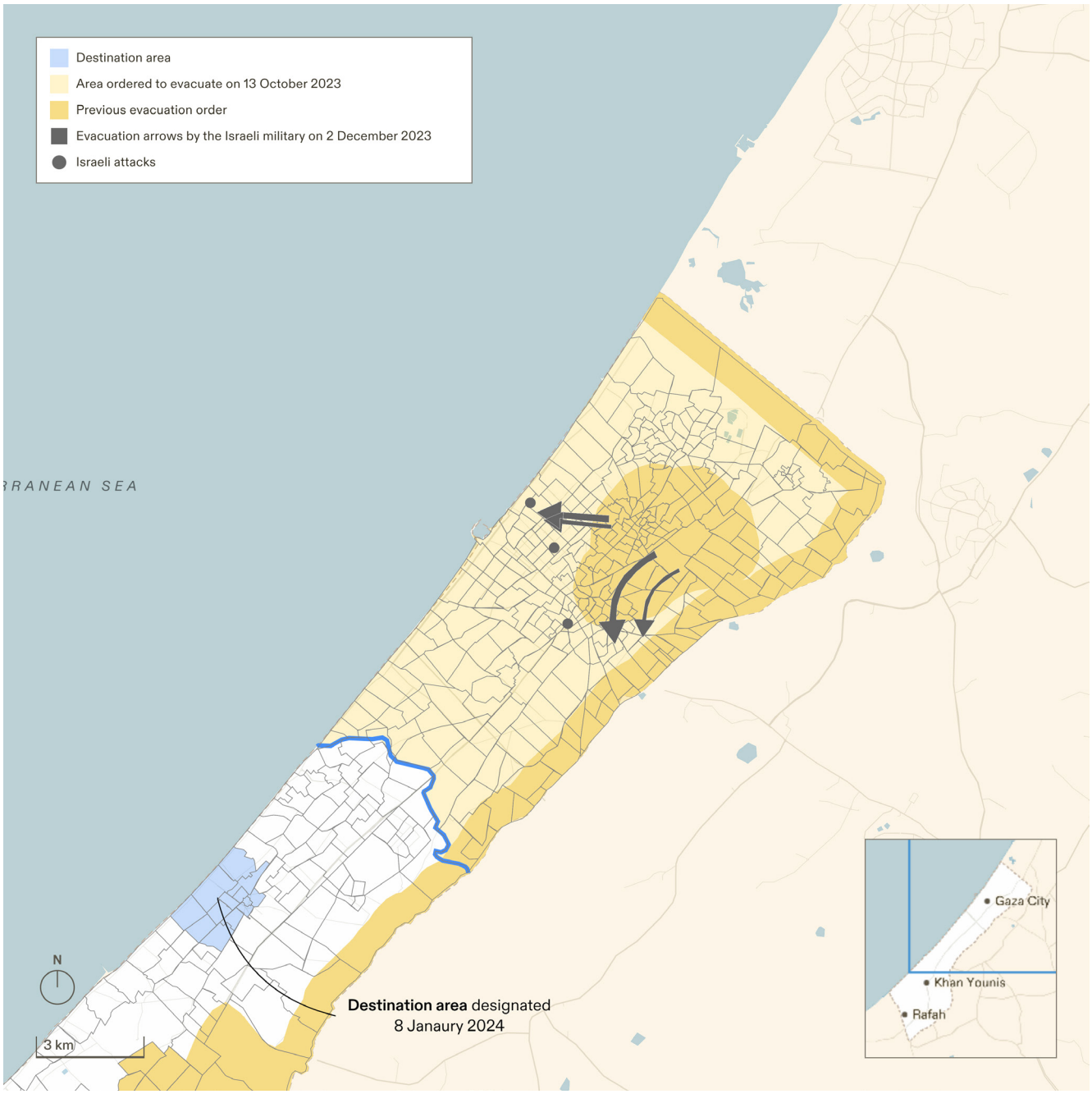

Figure 3.46. Incidents on 4 December following an evacuation order the previous day, 3 December 2023.

[31] Incident IDs: 31204-83772; 31204-06603; 31204-67873

71 We geolocated eleven attacks in Rafah between 2 December 2023 and 6 May 2024, while it was designated as a destination area. Additionally, our research records six attacks in Deir al-Balah between 8 January and 6 May 2024, while it was designated as a destination area.



Figure 3.47. Map of all attacks within municipalities designated as destination areas between 2 December 2023 and 6 May in Rafah, and between 8 January and 6 May in Deir al-Balah. All attacks shown occurred while these areas were designated as destination areas.

72 After establishing the ‘expanded humanitarian zone’ on 6 May 2024 [Map ID: M-40506-68610], our analysis reveals the Israeli military attacked the ‘humanitarian zone’ at least eleven times between 6 May and 30 August.

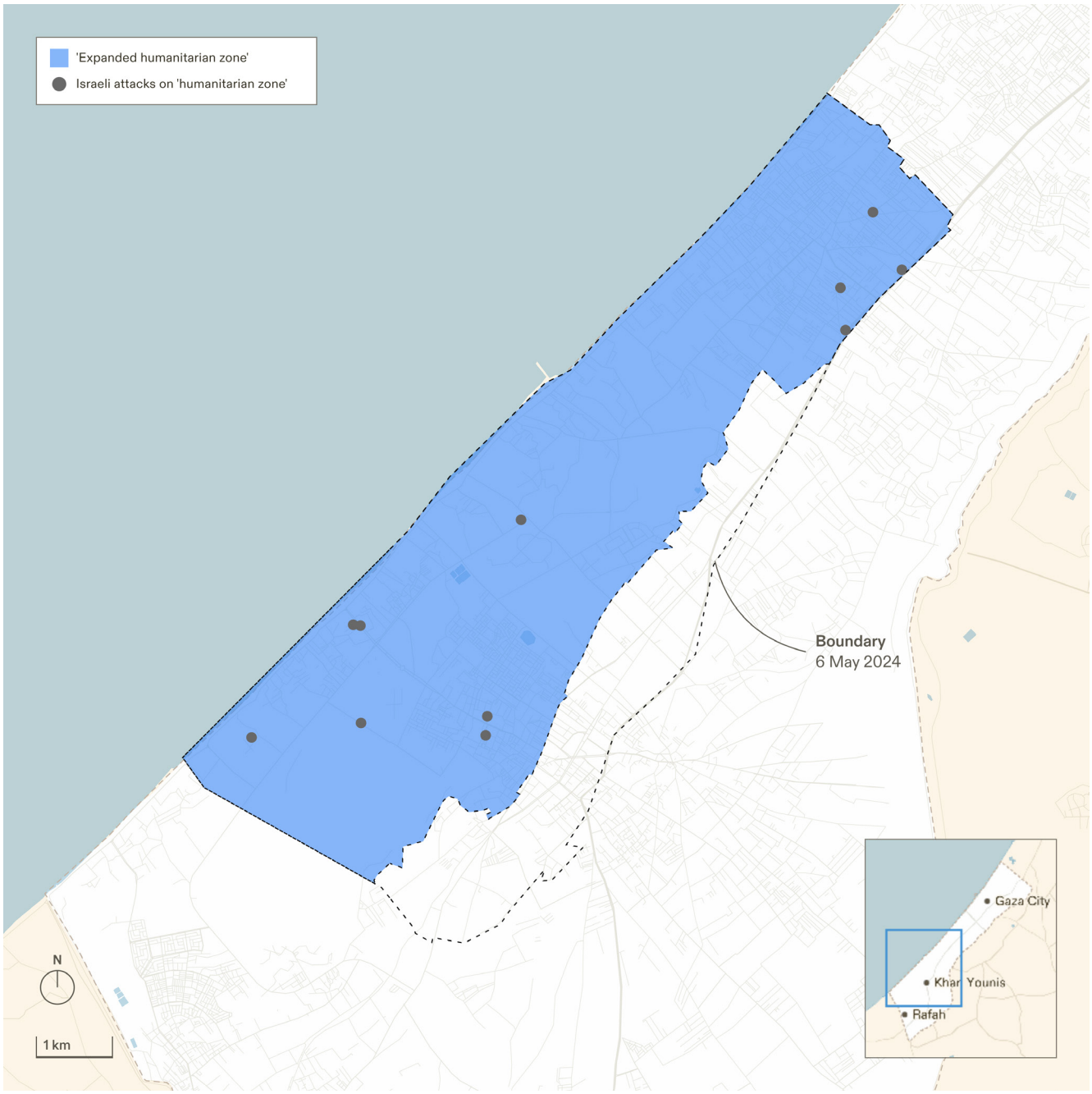

Figure 3.48. Attacks inside the ‘expanded humanitarian zone’ between 6 May and 30 August 2024.

73 An airstrike was caught on video causing a huge explosion inside the al-Mawasi 'humanitarian zone' on 24 May 2024 (see Figure 3.49). [Incident ID: 40524-35109]



Figure 3.49. Video stills of an attack on the al-Mawasi 'humanitarian zone' on 24 May 2024. The munition is circled in red.

74 On 10 September 2024, another airstrike was recorded in the al-Mawasi 'humanitarian zone'. (see Figure 3.49). [Incident ID: 40910-91667]



Figure 3.50. Attack on the al-Mawasi 'humanitarian zone' on 10 September 2024.

75 Another example of such attacks is the deadly strike on 13 July 2024. [Incident ID: 40713-44725] The reported use of multiple 2,000 lb. bombs led to mass casualties.[32]

[32] 'Israel Struck Twice in Its Attack on Al-Mawasi, Videos and Photos Show - The New York Times' <https://www.nytimes.com/2024/07/14/world/middleeast/israel-mawasi-strike-vehicles.html?unlocked_article_code=1.7E0.q123.hHUsfolNrNUS> accessed 26 September 2024.

(C) Attacks on safe routes

76 Salah-al-Din Road and al-Rashid Road are essential to the movement and evacuation of civilians within Gaza moving from north to south. These roads were referred to by Israeli officials as 'humanitarian corridors'.[33] Our analysis suggests there were at least five attacks on civilians using these roads between October and December 2023.

77 One attack on Salah al-Din Road occurred on 13 October 2023, the same day the territory north of Wadi Gaza was ordered to evacuate. The attack targeted a convoy of vehicles carrying fleeing civilians and reportedly killed seventy people.

78 A video taken by a Palestinian fleeing south on a motorbike along al-Rashid Road on 3 November 2023 captures dozens of dead bodies of civilians who had attempted to evacuate to the south.[34] Another video, taken when the temporary ceasefire began on 24 November 2023, shows the remains of civilians at the same location along the 'safe route' designated on al-Rashid Road.[35]

[33] 'المنسق, Facebook' <https://www.facebook.com/photo/?fbid=655329013374463&set=pb.100066921098856.-2207520000> accessed 26 September 2024.
[34] Incident ID: 31103-64844
[35] Incident ID: 31124-80389

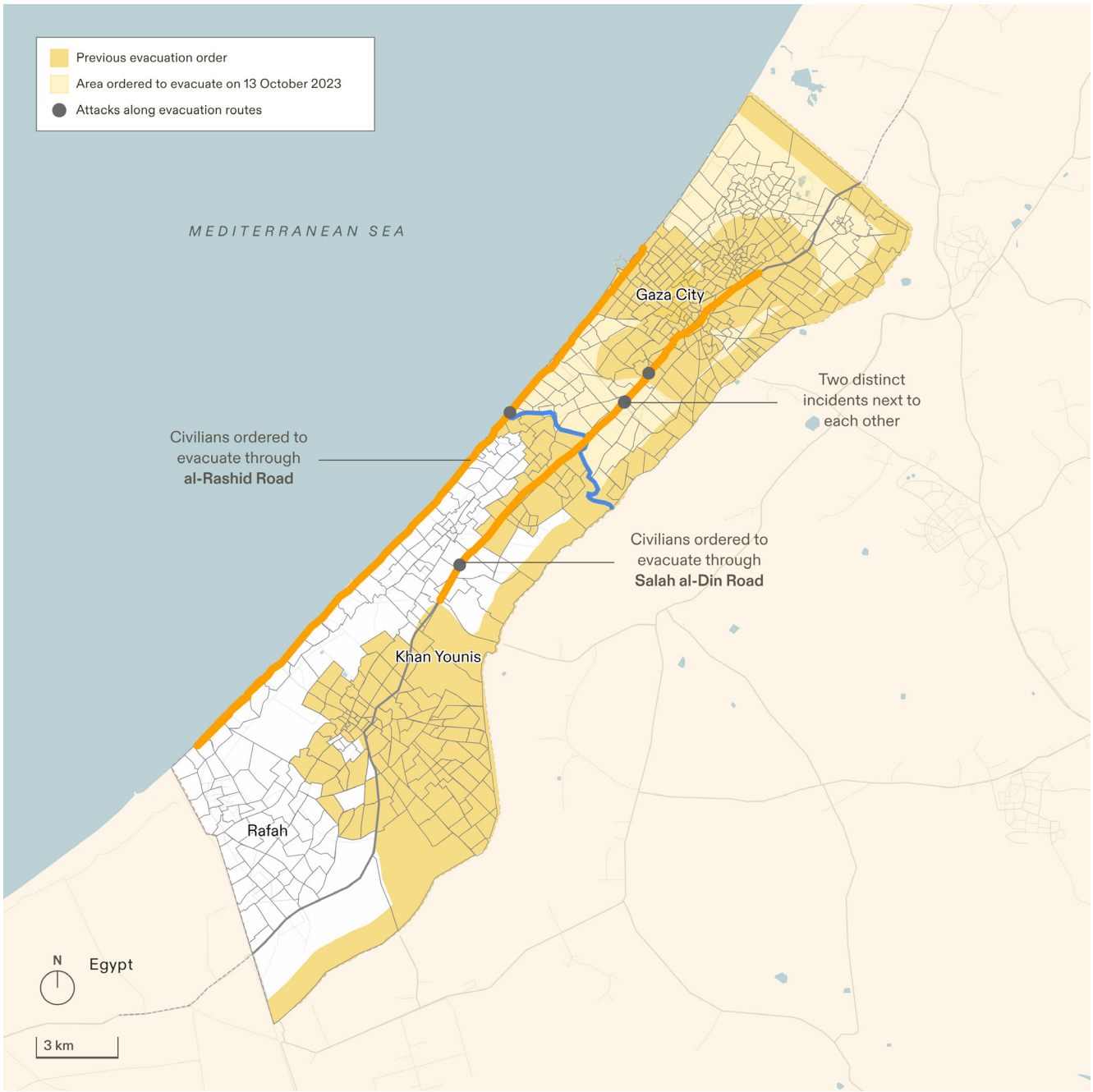

Figure 3.51. Documented Israeli attacks along evacuation routes. Each of the five attacks was on one of the two roads explicitly designated by the Israeli military as an evacuation route. These attacks are only a sample of confirmed attacks on civilians along Israeli-designated evacuation routes.

(D) Attacks on undefined areas, including civilian shelters

79 The Israeli military has continuously attacked areas from which it has not told civilians to evacuate.

80 These attacks have frequently targeted shelters, including al-Nazla school in Jabalia, where five women and five children were reportedly killed on 25 May 2024. They were sheltering in an area outside Israel's designated evacuation zone (see Figure 3.52).

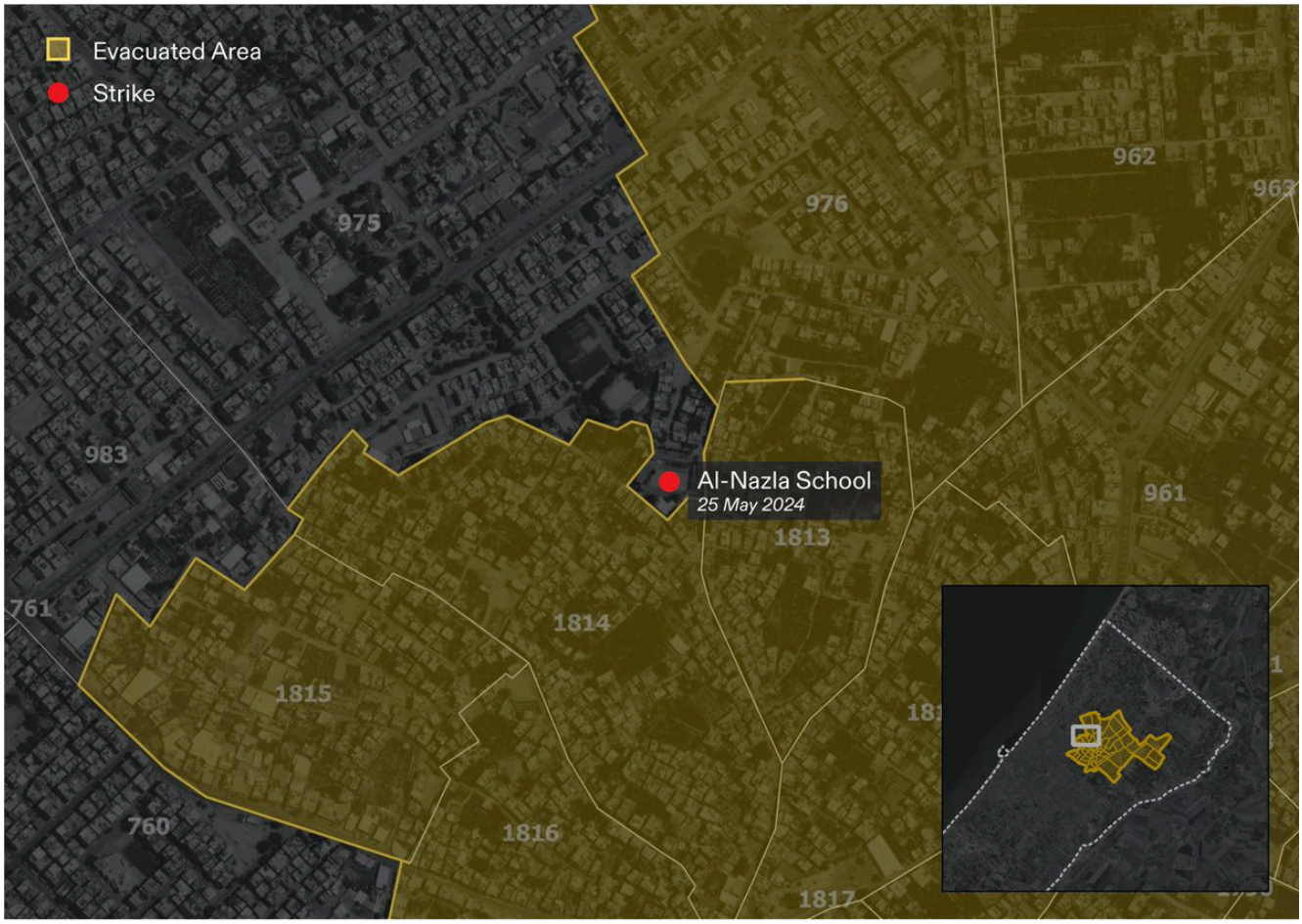

Figure 3.52. Al-Nazla school was struck on 25 May while in an 'undefined area' and providing shelter to many displaced civilians who followed instructions to evacuate the neighbouring area of Jabalia. Five women and five children were reportedly killed in this attack.

2.2 Destination areas have decreased in size, even as the displaced population has increased

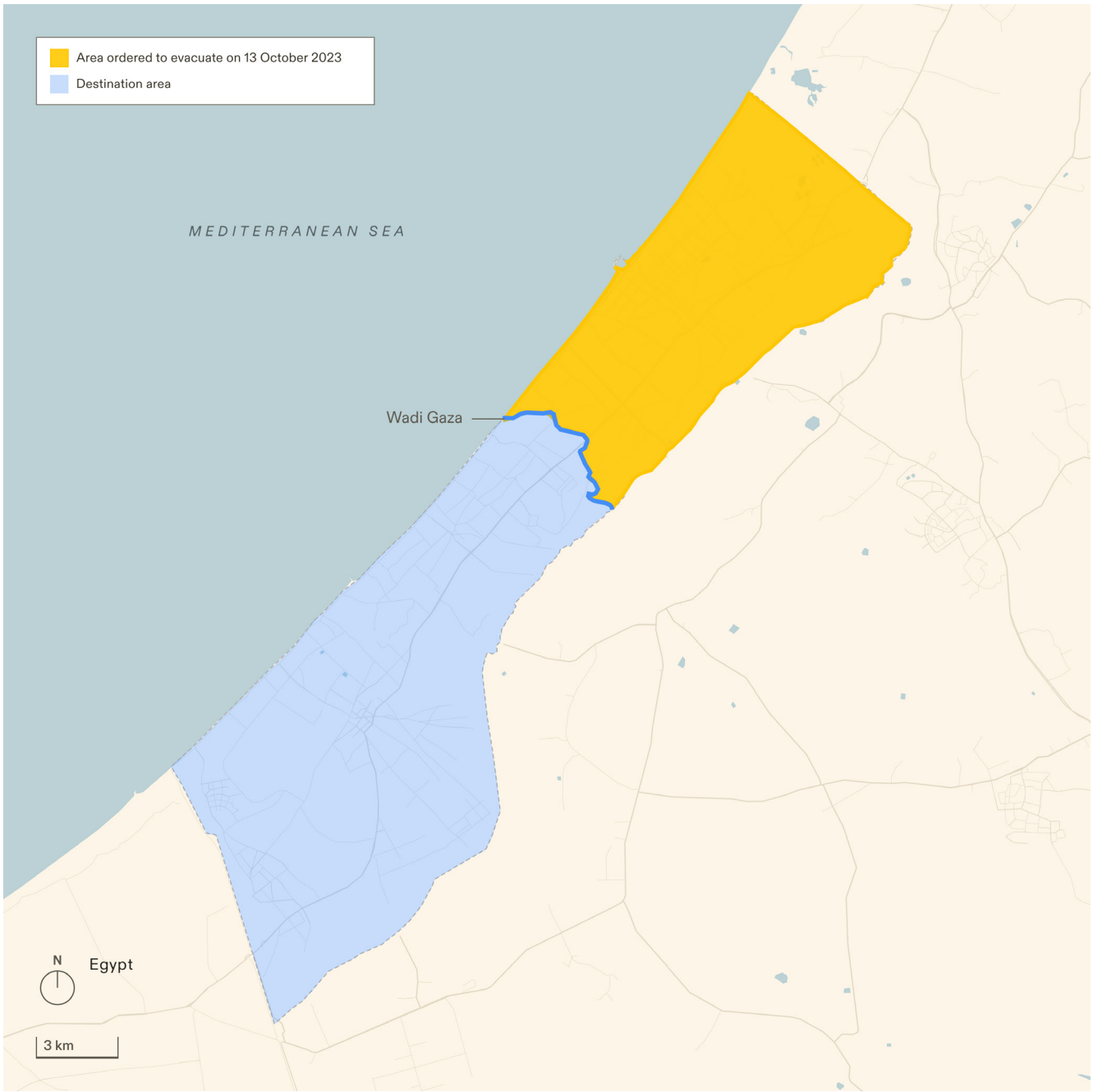

Figure 3.53. Map of area evacuated from north to south on 13 October 2023.

81 The area of Gaza into which civilians were ordered to move by the Israeli military has continuously contracted. Initially, the whole territory south of Wadi Gaza was designated as a destination area. This area is 228.195 sq km in size and constitutes 63% of the area of Gaza.

82 By 6 December, the area civilians were ordered to evacuate to had been reduced to 80.8 sq km, comprising 22% of Gaza. This includes the Rafah municipality, the al-Mawasi 'humanitarian zone', and Deir al-Balah.

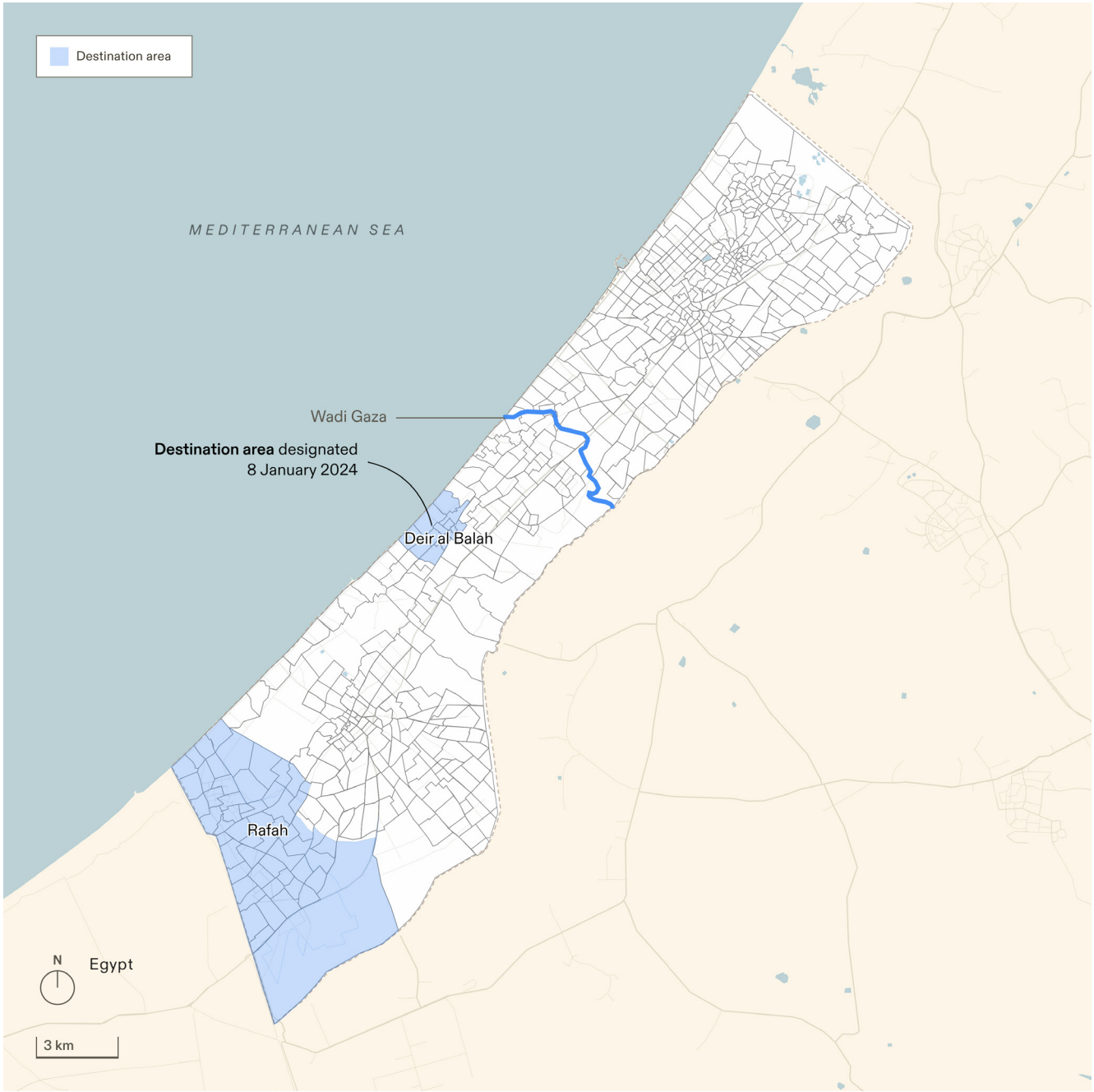

Figure 3.54. In blue, all areas, blocks, and municipalities that make up the destination areas that the Israeli military ordered civilians to go to between 6 December 2023 and May 2024, amounting to 22% of Gaza's total area.

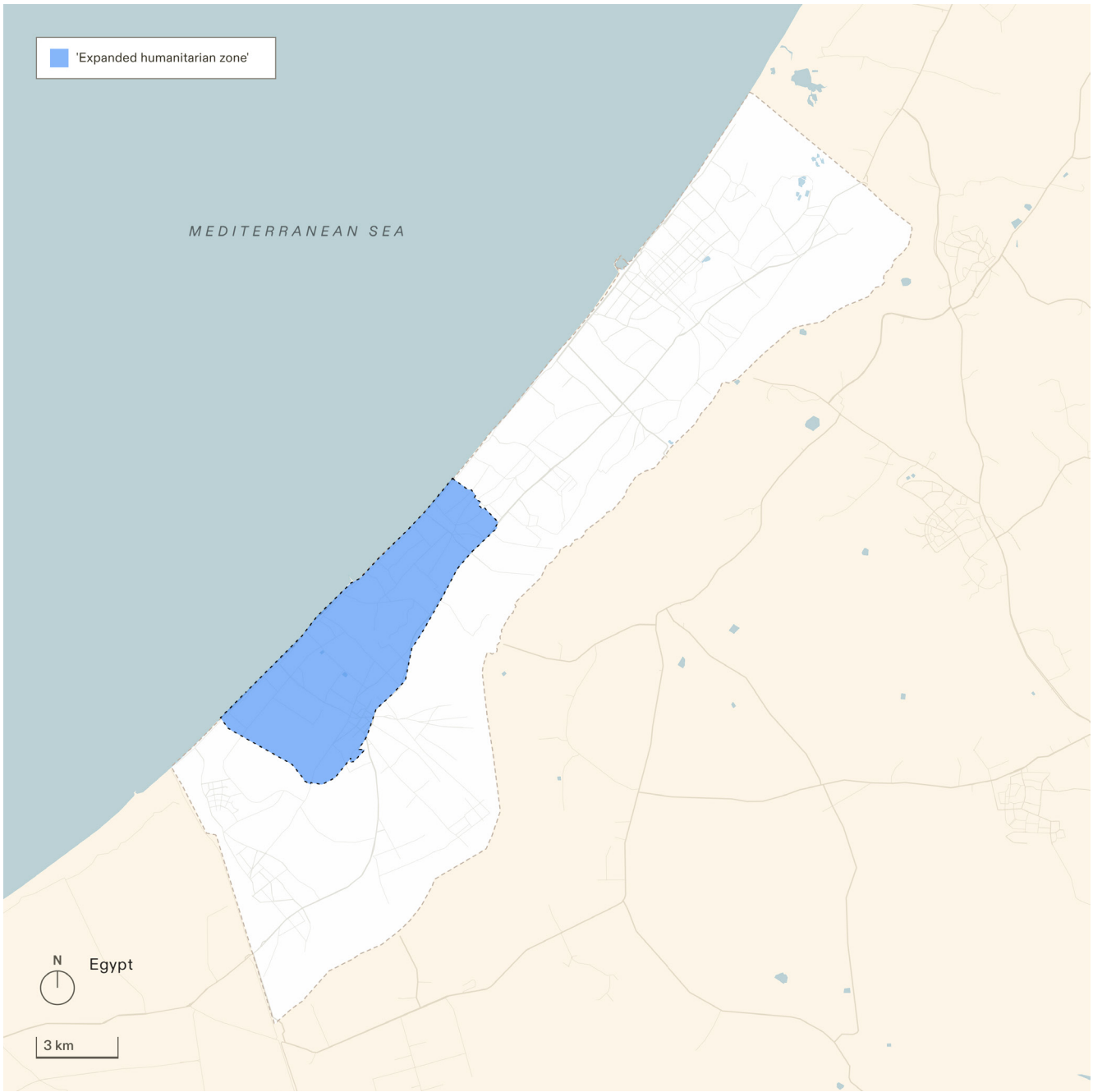

Figure 3.55. The 'expanded humanitarian zone' boundaries published on 6 May 2024.

83 Following the evacuation order of Rafah on 6 May 2024 [Map ID: M-40506-68610], just prior to the Israeli ground invasion of the city, civilians who found shelter in this area were ordered to relocate northwest towards the newly defined 'expanded humanitarian zone'. Altogether, the area available for sheltering was reduced to 60.7 sq km, or less than 17% of Gaza.

84 Between 22 July and 31 August, the 'expanded humanitarian zone', the only available area for displaced civilians since 6 May, was subject to further reductions, which cumulatively reduced the area from 17% to 13% of the total area of Gaza.

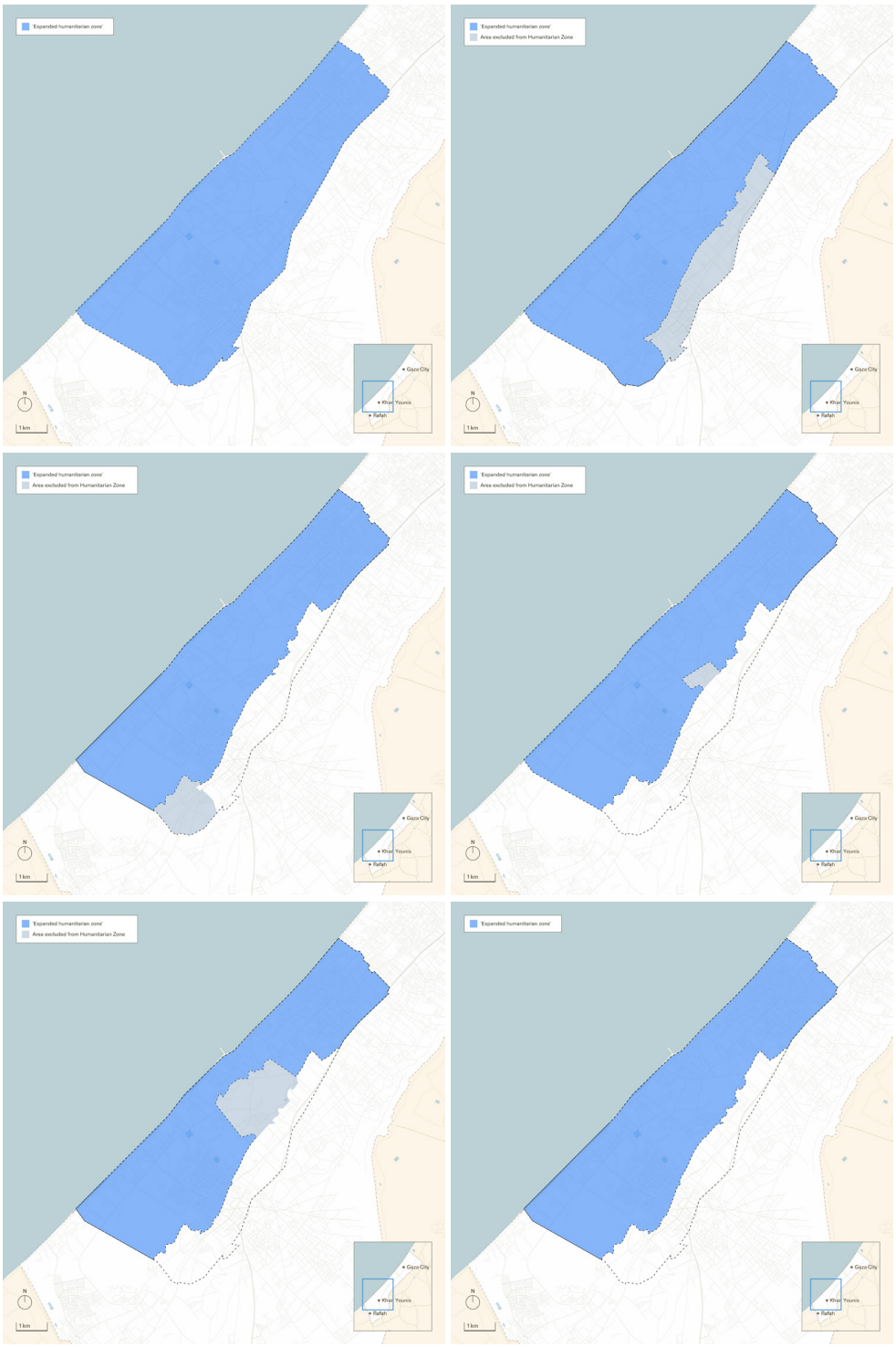

Figure 3.56. Sequence of maps illustrating the contraction and expansion of the 6 May 'humanitarian zone' between 22 July and 30 August 2024.

2.3 The Israeli military's use of evacuation orders has put civilians at risk

85 Israel's publication and dissemination of maps and information related to destination areas, safe routes, and evacuation orders were confusing, inconsistent, and insufficient in several ways.

(A) Issuing inconsistent and incomplete information about the 'humanitarian zone'

86 Our analysis suggests that boundaries issued for the same 'humanitarian zone' have been inconsistent across multiple publications, and have been expanded and contracted without clear communication.[36] (see Figure 3.57 and Figure 3.58 and Appendix)

[36] 'Inhumane Zones, Forensic Architecture'<https://content.forensic-architecture.org/wp-content/uploads/2024/05/Inhumane-Zones-Report-Forensic-Architecture_WEBSITE.pdf> accessed 26 September 2024.

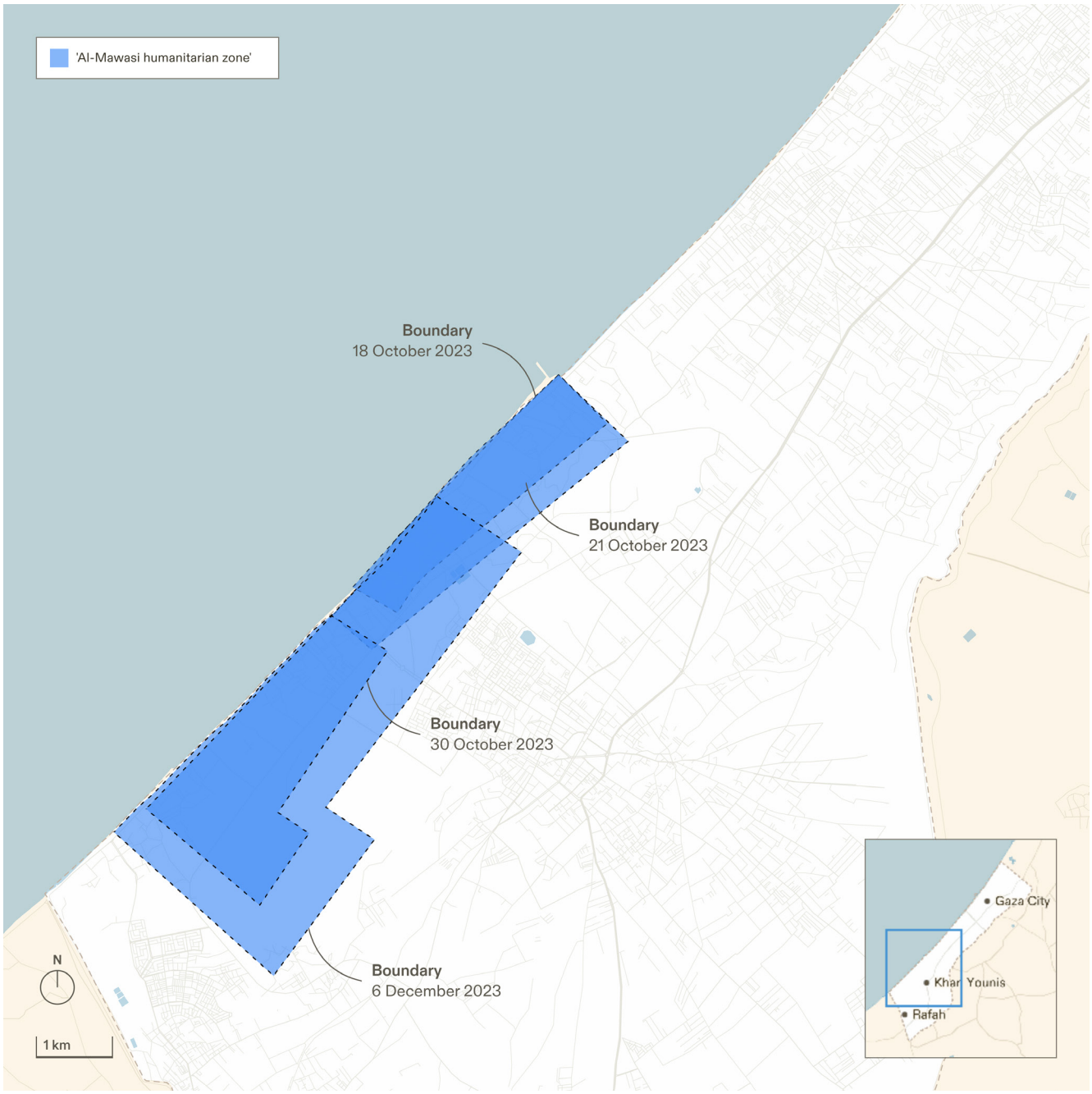

Figure 3.57. Four different boundaries published for the 'humanitarian zone' of al-Mawasi between October and December 2023, before the 'expansion' of the zone in May 2024.

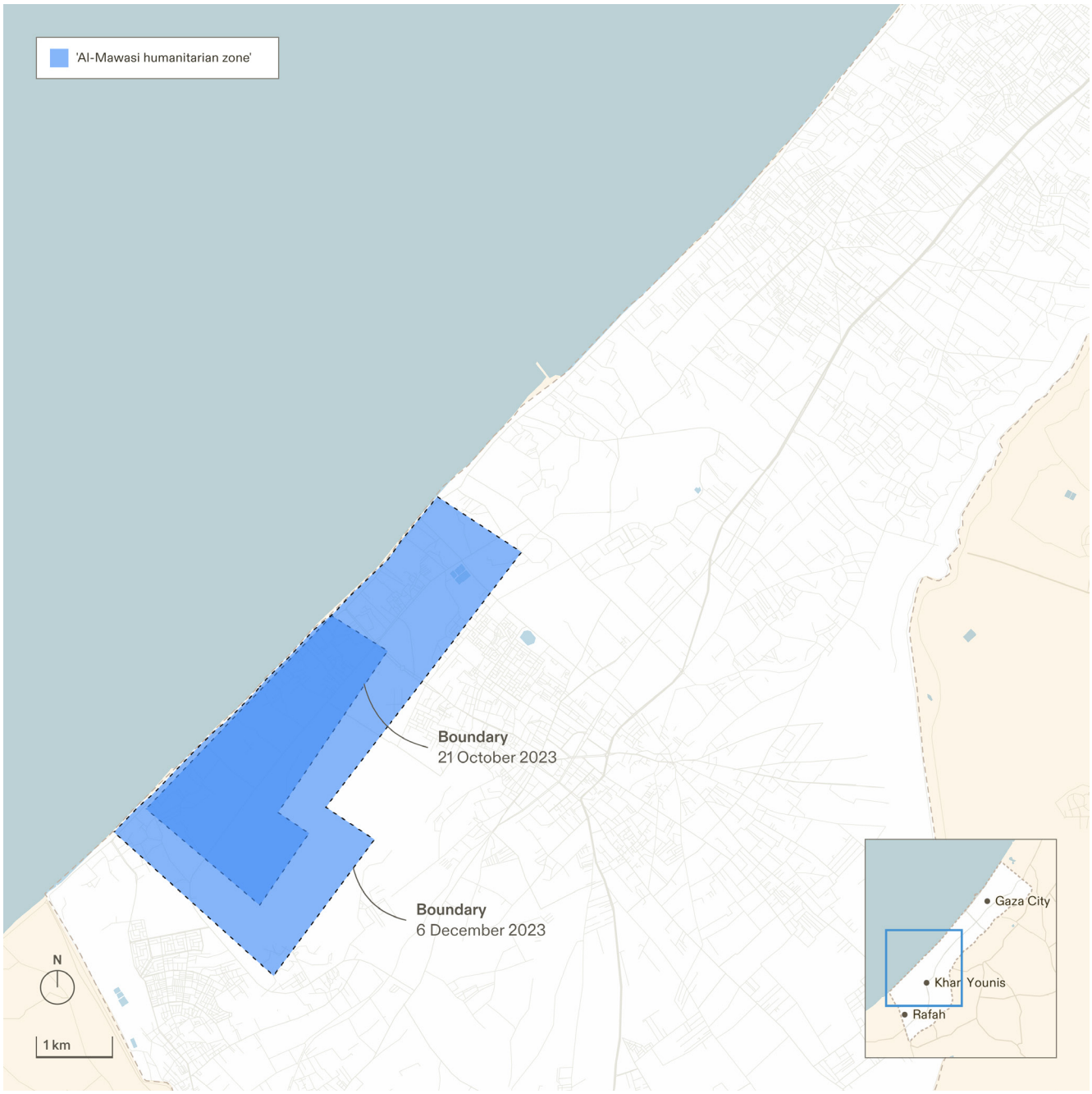

Figure 3.58. Our analysis suggests that the size and boundaries of the 'humanitarian zone' in al-Mawasi have varied substantially. The boundary published on 21 October 2023 marks the border of the zone in the context of an evacuation order instructing civilians to head there. The boundary published on 6 December marked a significantly larger boundary for the same zone (see Appendix for chronology of the al-Mawasi 'humanitarian zone' boundary).

87 When the Israeli military announced the 'expansion' of the al-Mawasi 'humanitarian zone' (on 28 April in English and 6 May in Arabic), the newly published boundaries, while extending the 'humanitarian zone' northwards, also excluded an area of approximately 5.87 sq km at the southern end of the zone, which had been part of the previous boundary. The 28 April announcement did not acknowledge or make any explicit reference to this exclusion, and our research has not identified any subsequent publication which acknowledged it.

88 Civilians within the excluded zone, who did not realise they were no longer within the 'humanitarian zone', stayed in place and were killed in subsequent Israeli airstrikes.

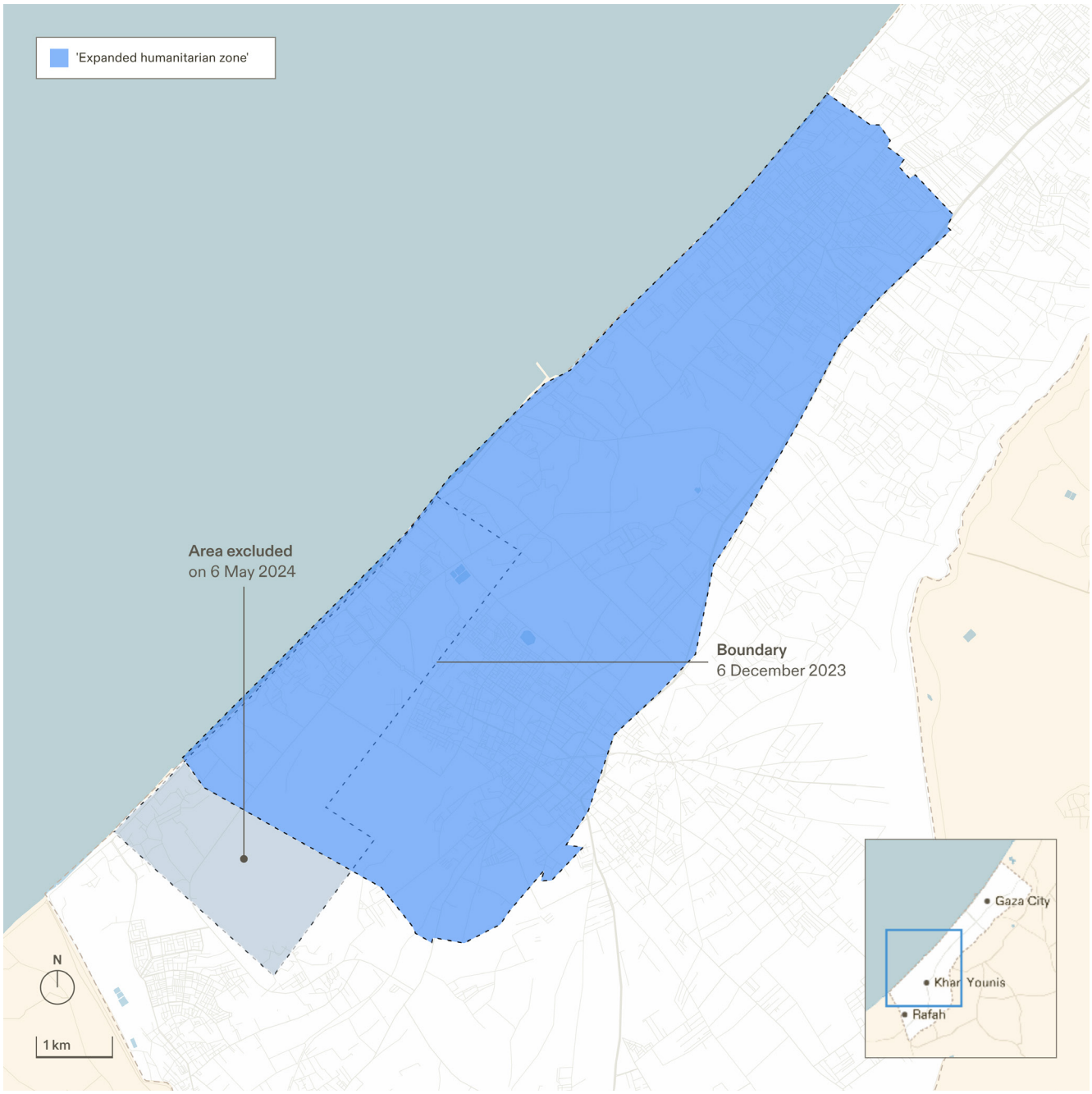

Figure 3.59. Our analysis shows that the 28 April announcement regarding the expansion of the al-Mawasi 'humanitarian zone' excluded 5.87 sq km from the previously recognised area.

89 Rather than clearly marking the newly excluded zone, on 6 May the Israeli military released maps that presented a supposed 'previous' boundary for the 'humanitarian zone' that excluded this same zone, suggesting continuity between these published zones (see Figure 3.60). However, we were unable to identify any maps published prior that included boundaries for the 'humanitarian zone' matching this 'previous' boundary.

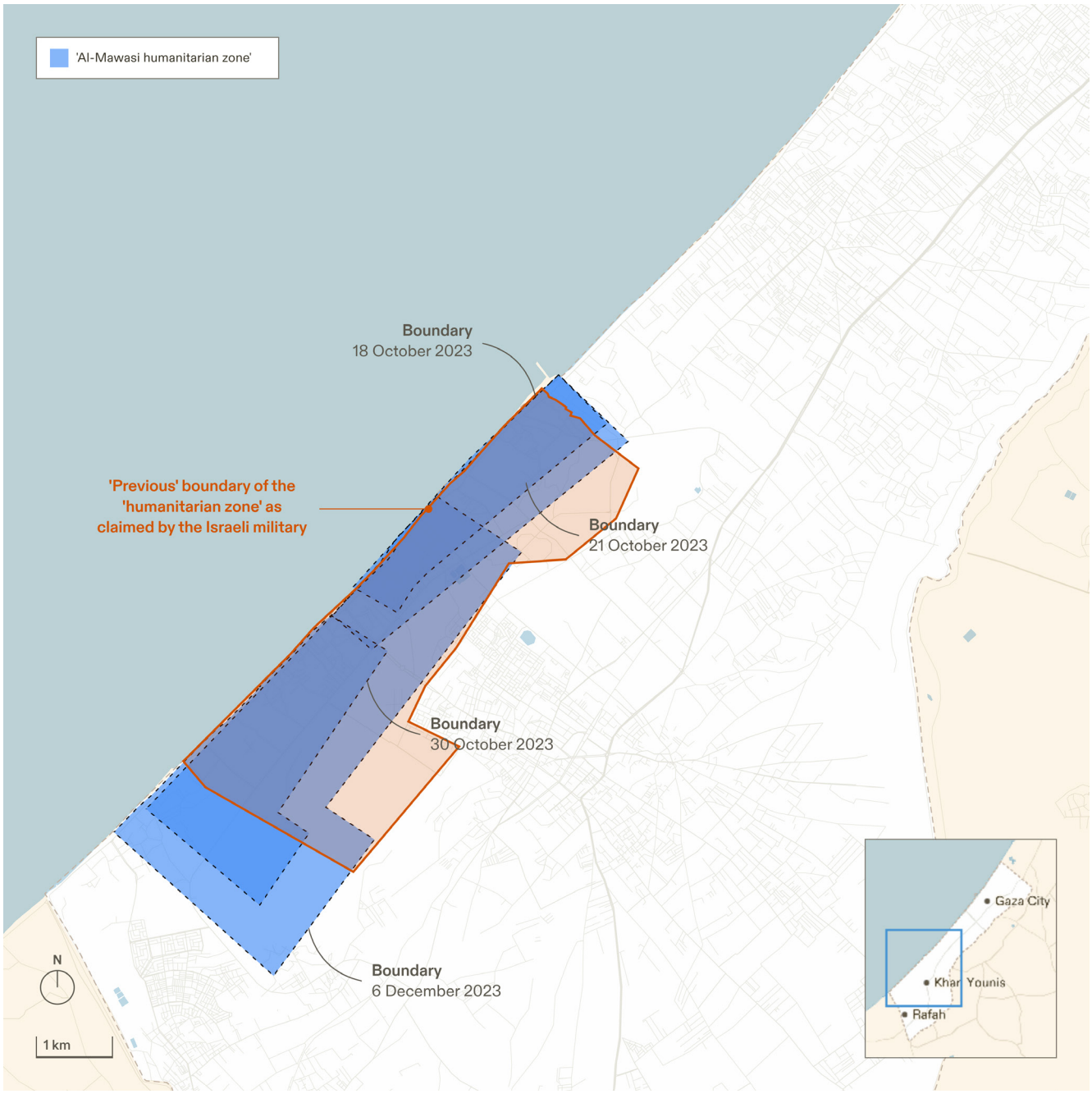

Figure 3.60. In blue: multiple boundaries published for the al-Mawasi 'humanitarian zone'. In dark orange: a boundary of what the Israeli military referred to as the 'previous' boundary of al-Mawasi before it was 'expanded'. This boundary does not match any of the boundaries published before.

90 A 6 May post on Facebook from the account of an Israeli military spokesperson describes an expansion of the al-Mawasi 'humanitarian zone' as follows: 'the safe zone was expanded from Deir al-Balah in the north, to blocks 2360, 2371, 2373 in the south.' That text description was illustrated by a drawing in which the 'humanitarian zone' appeared to include parts of those three blocks, but not all of them.[37]

91 Adding to the confusion, the newly defined boundary, as represented in a video attached to an X post from the same spokesperson on the same day, appears to exclude those three blocks. This created a disparity between the information communicated by the spokesperson's words and the associated drawing and video.

92 That video also shows the boundaries of the zone expanding in a way that makes the actual extent of the zone harder to interpret, suggesting that additional areas of southern Gaza are included in the 'humanitarian zone'.

93 Additionally, the 'numbered blocks' on which the Israeli evacuation grid is based are not widely understood on the ground. For many among Gaza's civilian population, there is no easy way to figure out what 'block' they are in.

94 Our analysis of satellite images indicates an increased density of tents in the excluded area after the new boundary was announced, apparently confirming that displaced civilians did not understand this area to be outside the 'humanitarian zone' which they had previously been directed into (see Figure 3.61).

[37] ' - *Avichay Adraee*, Facebook' <https://www.facebook.com/IDFarabicAvichayAdraee/posts/pfbid0Fxfg88SdQ8GEsnjT2hfLpVVsi6M-JbtAPov5g4GjWvP8iLnnXPhSw7nmHLLRdN448l > accessed 26 September 2024.

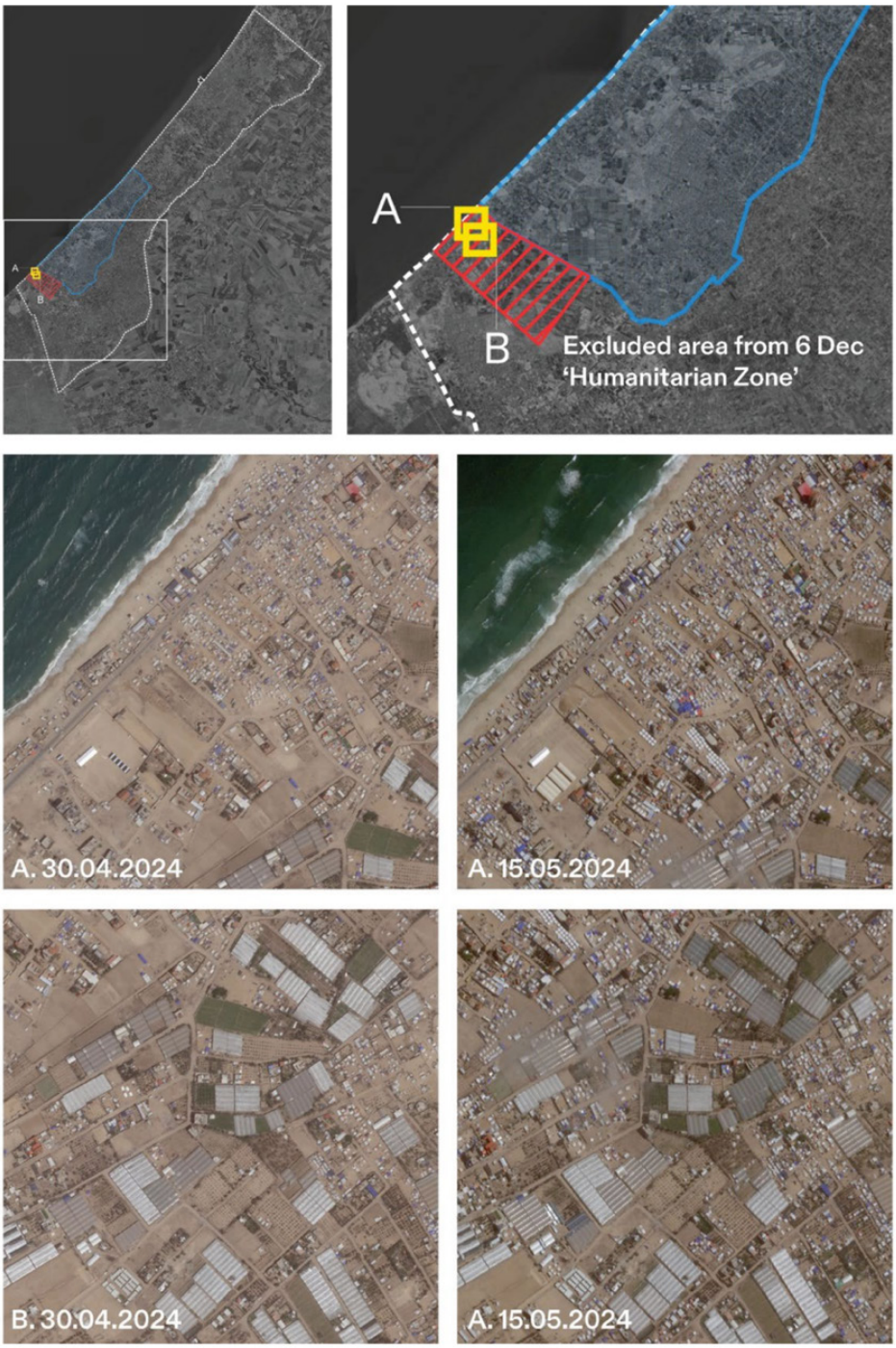

Figure 3.61. Satellite images from 30 April and 15 May 2024 show an increase in tents in an area that was included in the previous borders of the al-Mawasi 'humanitarian zone' but was then excluded without explanation from the supposedly 'expanded' zone in a map published in Arabic by the Israeli military on 6 May.

95 This 'excluded' area was hit by an airstrike on 26 May 2024, reportedly killing 45 Palestinians [Incident ID: 40526-81379]. News reports suggest that the munition deployed in the strike was a guided GBU-39 missile.[38] Reports from international aid organisations and media outlets referred to this strike as an attack on a 'safe zone'.[39]

96 According to our analysis, there were at least two more attacks in the same 'excluded' area between 6 May and 21 July (see figure Figure 3.62) [Incident ID: 40528-20860, 40621-81465].

[38] 'Reports: In Rafah Strike, IDF Used US Bombs Designed to Reduce Casualties | The Times of Israel' <https://www.timesofisrael.com/reports-rafah-strike-used-us-bombs-designed-to-reduce-casualties/> accessed 26 September 2024.

[39] 'Photos: Israel Hits Rafah Camp Killing 45 Palestinians in New "Massacre"' (*Al Jazeera*) <https://www.aljazeera.com/gallery/2024/5/27/photos-israel-bombs-yet-another-gaza-camp-it-had-declared-a-safe-zone> accessed 26 September 2024; 'Rafah Airstrike Shows "complete Disregard for the Lives of Civilians in Gaza" | Doctors Without Borders - USA' <https://www.doctorswithoutborders.org/latest/rafah-airstrike-complete-disregard-lives-civilians-gaza> accessed 26 September 2024.

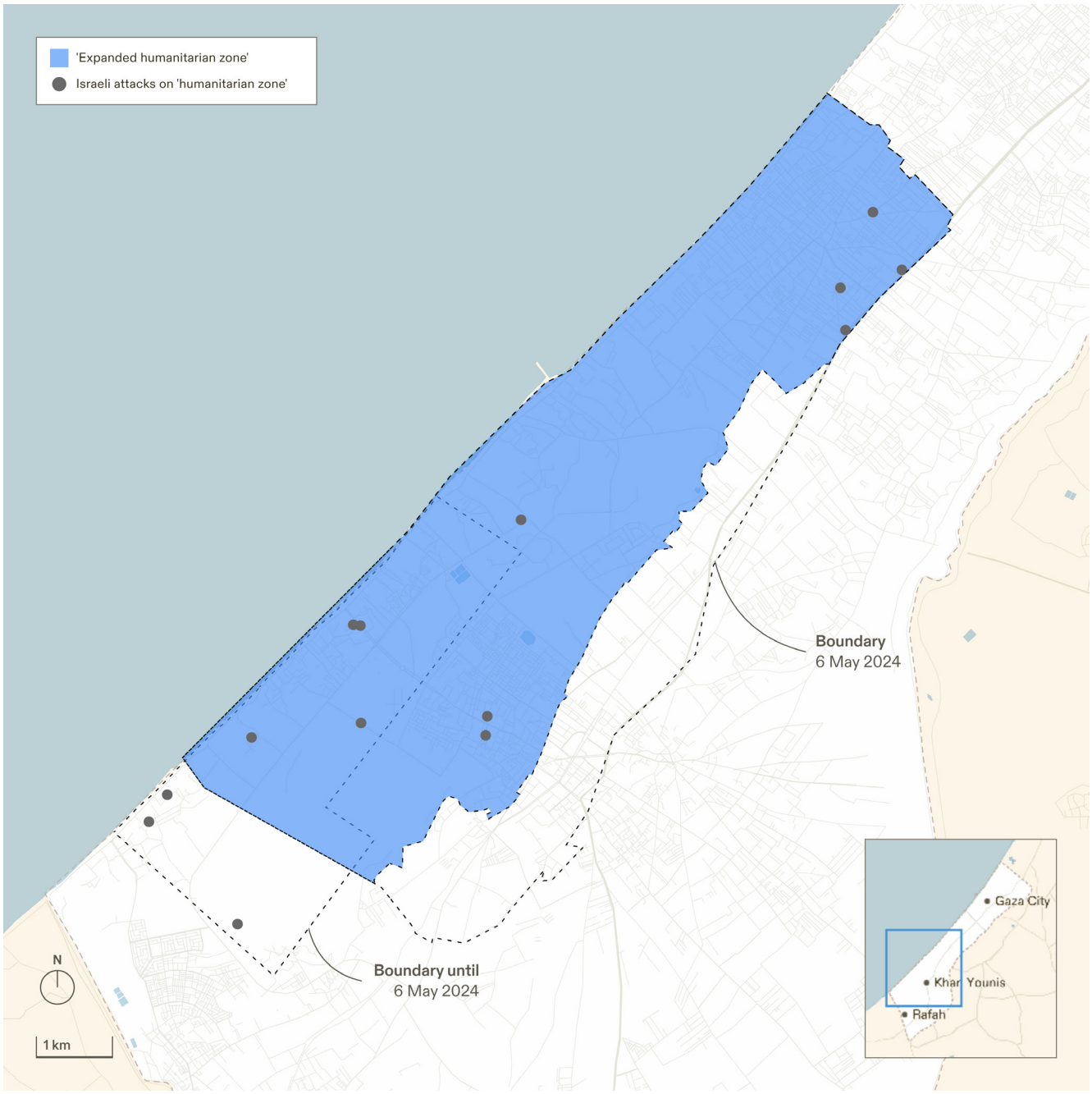

Figure 3.62. Attacks on the area excluded from the 'expanded humanitarian zone' and inside the 'expanded humanitarian zone' on 6 May 2024. Analysis timeframe: 6 May–10 September.

(B) Issuing unclear and inconsistent evacuation orders

97 Our analysis reveals numerous inconsistencies by the Israeli military in labelling, marking, and naming evacuation areas:

(a) In the neighbourhood-based map announced on 2 December 2023, our analysis identified at least three errors in the alignment between the names and locations of neighbourhoods on the provided map. Consequently, residents in these neighbourhoods faced significant uncertainty as to when their neighbourhood was mentioned, as it was unclear whether civilians residing there should evacuate, or if the map incorrectly referred to a different location of the same name.[40]

(b) In at least seventeen instances of evacuation orders, the shaded areas on the map posted by the Israeli military online, indicating the blocks instructed to evacuate, did not align with the block numbers listed in the order (see Appendix for non-grid-based evacuation orders).

(c) In nine different Israeli military evacuation orders, the shaded areas designating areas subject to evacuation orders did not correspond with the blocks in the evacuation grid. Instead, the borders of those areas crossed over the borders of the blocks, resulting in some blocks being partially included and partially excluded. This has produced further uncertainty among civilians in those areas about whether they are being instructed to evacuate. One person responded to a similar map published by the Israeli military on Facebook on 2 December 2023 in a comment asking for clarification regarding the areas designated for evacuation: 'Is Block 53 in Ma'an instructed to evacuate? Please respond.' No response to their question was ever posted.

(d) In some evacuation orders, named locations on the map have been mislabeled. For example, in one order on 2 December 2023, residents were instructed to go to Daraj and Tuffah – both areas that are located within the areas highlighted for evacuation, while the bottom arrow in the map points to Shuja'iyya, which is not labelled.[41]

(e) Evacuation orders referring to the same area may come from multiple sources and images, along with inconsistencies and contradictions. For example, in the announcement published on Facebook on 2 December 2023 ordering areas in Khan Younis to evacuate, three overlapping but significantly different regions are highlighted in separate images and published side by side.[42]

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[40] 'Humanitarian Violence in Gaza, Forensic Architecture' <https://forensic-architecture.org/investigation/humanitarian-violence-in-gaza> accessed 28 September 2024.
[41] Evacuation orders M-31201-63867 and M-31202-82269
[42] Evacuation orders M-31202-46902, M-31202-70685, and M-31202-82756

(C) Instructing civilians to evacuate to areas that were attacked soon after

98 Evacuation orders have also directed civilians towards districts which were subjected to airstrikes or military activity shortly afterwards (see Figure 3.46).

99 On 7 July 2024, multiple blocks in Gaza City were ordered to evacuate west (see Figure 3.63 [Map ID: M-40707-40993]). Less than 24 hours later, families were reportedly besieged by the Israeli military in the same area they were told to evacuate to.[43] Data published by the ISW on 8 July 2024 showed the Israeli military invaded the same area that it had instructed civilians to evacuate to the day before (see Figure 3.64).[44]

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43 'Ahmad.ibraa [@ahmadibraa47], 'محاصرة بعض العائلات في منطقة الصناعة و حارة الريس مع اطلاق نار من الآليات و طائرات الكواد كابتر #غزة' <https://x.com/ahmadibraa47/status/1810226669195575770> accessed 26 September 2024;
'Meqdad Jameel [@Almeqdad], 'الاحتلال طالبَ الناس بالنزوح والخروج من منطقة شرق #غزة، وبعد هروبهم إلى الغرب، قام بدخول المنطقة ومحاصرتهم منذ الفجر. عشرات العائلات محاصرة في منطقة الجامعات والصناعة وحي الرمال الآن.' <https://x.com/Almeqdad/status/1810181045616091551> accessed 26 September 2024;
'الختـ ـيار [@Iky_Ia], 'الناس محاصرة في تل الهوا' <https://x.com/Iky_Ia/status/1810372251516387393> accessed 26 September 2024;
'Anas Al-Sharif [@AnasAlSharif0], 'آخر تطورات العدوان على مدينة غزة: ▪تتمركز آليات الاحتلال التي تقدمت فجر اليوم تجاه المناطق الجنوبية الغربية لمدينة غزة، خلف الجامعات في محيط مقر وزارة الأسرى. ▪ما تزال الطائرات المسيرة "الكواد كابتر" والمروحية تطلق نيرانها في منطقة تل الهوى. ▪عدد من العائلات ما تزال محاصرة' <https://x.com/AnasAlSharif0/status/1810201985477496842> accessed 26 September 2024;
'حسام شبات [@HossamShabat], 'هناك عائلات مُحاصرة محيط منطقة مقر الأمم المتحدة "الصناعة" غرب مدينة غزة' <https://x.com/HossamShabat/status/1810240808769011778> accessed 26 September 2024.

44 'Institute for the Study of War' (*Institute for the Study of War*) <http://dev-isw.bivings.com/> accessed 11 October 2024.

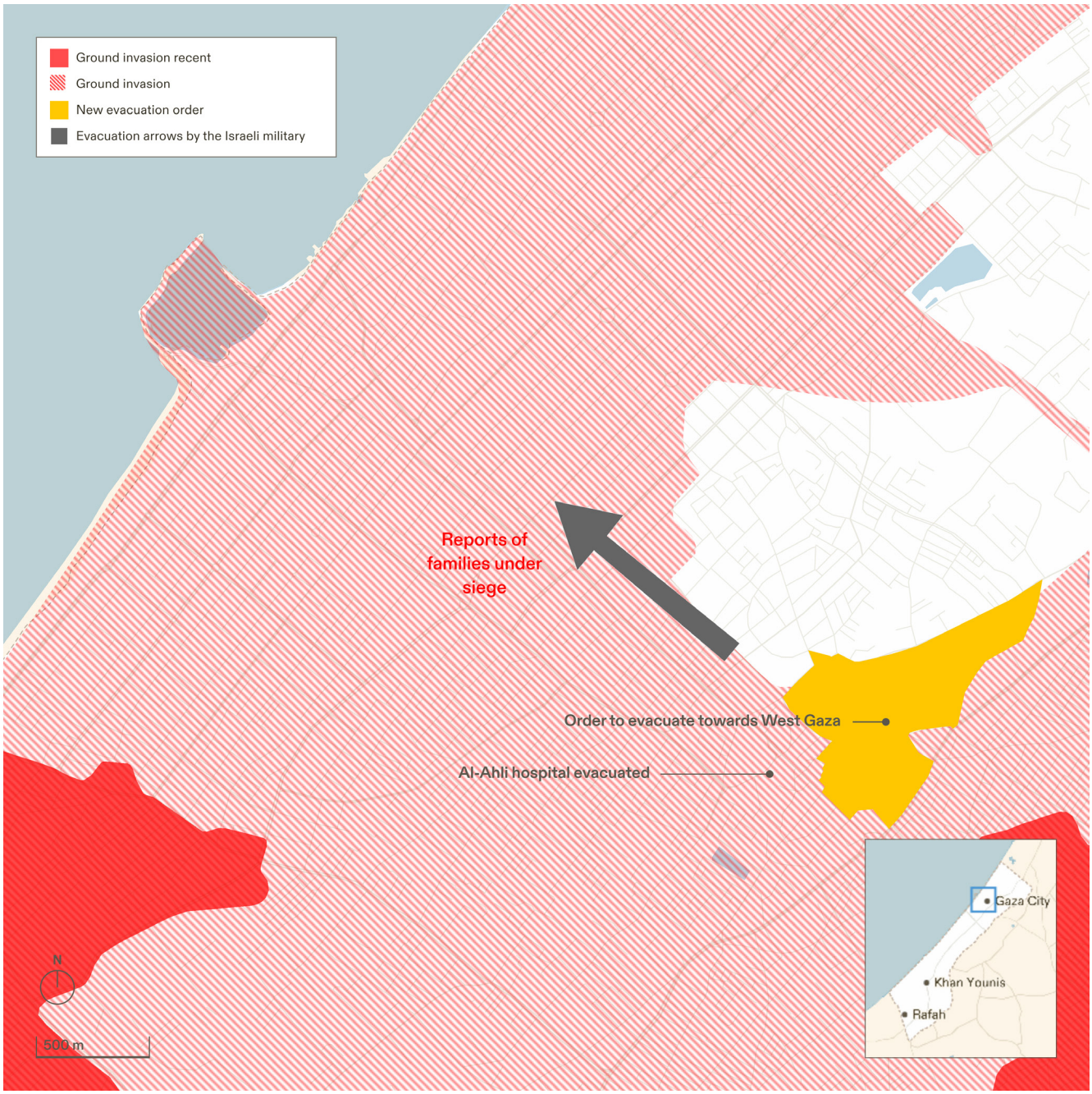

Figure 3.63. On 7 July 2024, the Israeli military ordered the evacuation of the Old City area in Gaza to the west. A few hours later, reports emerged of families being trapped under siege.

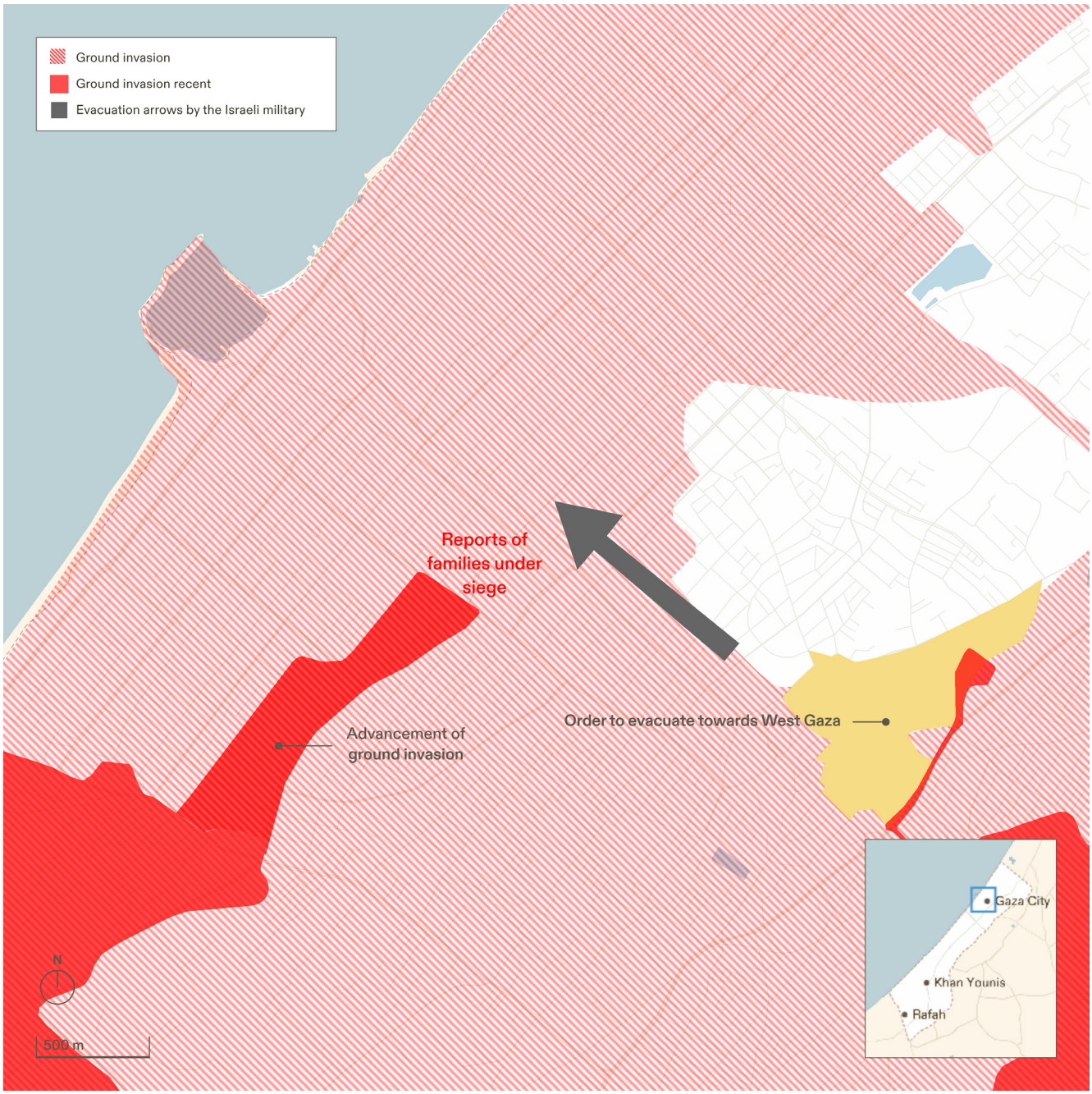

Figure 3.64. Data published by the ISW on 8 July show that the area civilians were previously directed to was invaded by the Israeli military.

100 On 1 July 2024, the Israeli military issued an evacuation order for large parts of eastern Khan Younis and instructed Palestinians to evacuate to the 'expanded humanitarian zone'.[45] We confirmed that the family of Dr Hassan Hamdan, who followed the order and evacuated from Khan Younis to their relative's home in Deir al-Balah in the 'humanitarian zone', was attacked the following day, and at least 12 members of the family were killed.[46] (Incident ID 40702-18619, see Figure 3.65)

101 On the morning of 20 February 2024 at 09:29 local time, the Israeli military published an evacuation order for the neighbourhoods of al-Zeitoun and al-Turkman.[47] The order instructed Palestinians in these neighbourhoods to evacuate to the 'humanitarian zone' in al-Mawasi through Salah al-Din Road. Approximately 11 hours later, online reports emerged about attacks in al-Mawasi overnight and the further advance of Israeli ground forces in the area.[48]

[45] 'افيخاي أدرعي- Avichay Adraee,Facebook' <https://www.facebook.com/photo/?fbid=1034574524700821&-set=pb.100044448488923.-2207520000> accessed 26 September 2024.

[46] Anadolu العربية [@aa_arabic], 'غزة.. شهداء وجرحى بقصف إسرائيلي لمنزل عائلة اسليم بدير البلح# https://t.co/QS0uyvvMWW' <https://x.com/aa_arabic/status/1808273384549106030> accessed 26 September 2024.

[47] افيخاي ادرعي [@AvichayAdraee], 'عاجل نداء عاجل الى كل السكان المتواجدين في احياء الزيتون والتركمان في قطاع غزة: حرصًا على سلامتكم ندعوكم للانتقال فورًا عبر # شارع صلاح الدين إلى المنطقة الإنسانية في المواصي https://t.co/4I9i9LGmKL' <https://x.com/AvichayAdraee/status/1759825957697774049> accessed 26 September 2024.

[48] 'Younis Tirawi | يونس on X: "Further to the Sudden Incursion into Muwasi in Khan Younis. Israeli Military Reportedly Bombed [@MSF]' <https://x.com/ytirawi/status/1760027114516918424> accessed 26 September 2024.; Diaa Mahmoud, ضياء محمود [@DiaaMahmoud], 'Israeli Tanks and Bulldozers Reached AlMawasi Area in the West of Khan Younis, Covered by Warplanes. Tens of Explosions Are Being Heard and Several Buildings Were Hit.' <https://x.com/DiaaMahmoud/status/1760023761225691520> accessed 26 September 2024.

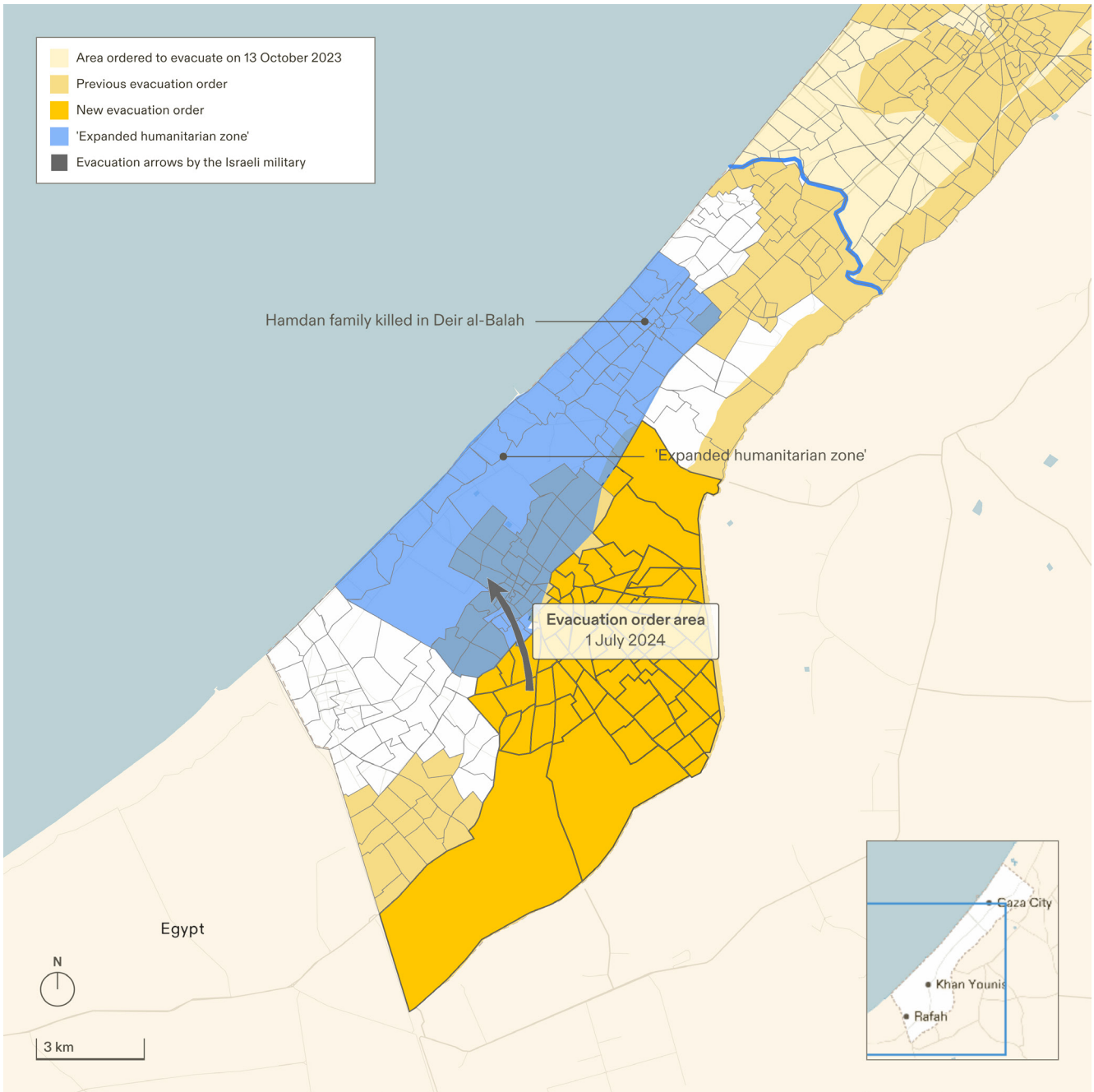

Figure 3.65. On 1 July 2024, the Israeli military issued an evacuation order instructing Palestinians in large parts of eastern Khan Younis to evacuate to the 'expanded humanitarian zone'. We verified that one of the families that followed that order was killed the next day inside the 'humanitarian zone'.

(D) Issuing evacuation orders after having already begun military operations within the area in question

(a) On 22 January 2024, the Israeli military ground invasion proceeded into west Khan Younis city and into the 'humanitarian zone', although these areas had not received any evacuation orders. The evacuation order (for blocks 107, 112, 110, 109, 111, and 108) came one day after the ground invasion, on 23 January.

(b) On 18 March 2024, the Israeli military invaded al-Shifa Hospital and its surroundings without issuing an evacuation order. The order also came the following day (after civilians were placed under siege).

(E) Issuing a sequence of evacuation orders that displaced civilians multiple times

102 In our previous report, we established that evacuation orders facilitate multiple displacements.[49] During the different phases of the evacuation orders, Palestinians in Gaza were instructed to evacuate to areas that later received another evacuation order.

103 On 19 February 2024, UNRWA linked Israeli military attacks, evacuation orders, and mass civilian displacement more directly by stating that 'ongoing hostilities, evacuation orders issued by the military, and the constant need for safer locations have resulted in people being displaced multiple times.'[50] Relatedly, on 20 February, OCHA reported that 'since 7 October 2023, about 67 percent of the Gaza Strip have been placed under evacuation orders' – thereby maintaining the present conditions of mass displacement, as civilians are unable to return to their homes.[51]

104 Already in the first phase of the evacuation orders, outlined above, Palestinian residents in the northern areas of Gaza were instructed to go to the areas south of Wadi Gaza, including the refugee camps in the middle of Gaza (Wusta) and Khan Younis. Those same areas later received evacuation orders from the Israeli military.

105 During the second phase of the evacuation orders, on 8 December 2023, residents of Jabalia, Shujaiyeh, Zaytoun, and the Old City of Gaza were instructed to evacuate towards the southwestern part of Gaza City.[52] Later, on 29 January 2024, the very same areas received an evacuation order instructing already displaced civilians to relocate further towards Deir Al-Balah.[53]

106 In some cases, Palestinians were instructed to evacuate to an area and then ordered to evacuate from it the following day.

107 One example is the two evacuation orders on 7 and 8 July 2024,[54] where the Israeli military first instructed Palestinians in Gaza's Old City to evacuate to west Gaza City, only to then order them to evacuate west Gaza City towards Deir al-Balah on the following day (see Figure 3.66 and Figure 3.67).

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49 'Humanitarian Violence in Gaza, Forensic Architecture' <https://forensic-architecture.org/investigation/humanitarian-violence-in-gaza> accessed 26 September 2024.

50 'Humanitarian Violence in Gaza, Forensic Architecture' <https://forensic-architecture.org/investigation/humanitarian-violence-in-gaza> accessed 26 September 2024.

51 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Hostilities in the Gaza Strip and Israel | Flash Update #122' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 20 February 2024) <http://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-122> accessed 26 September 2024.

52 ' افيخاي أدرعي- Avichay Adraee, Facebook' <https://www.facebook.com/photo.php?fbid=917348023090139&set=pb.100044448488923.-2207520000&type=3> accessed 26 September 2024.

53 Map ID: M-40129-62749

54 Map IDs: M-40707-40993; M-40708-49227

108 The same pattern continued even in the ‘humanitarian zone’, as two consecutive evacuation orders on 15 and 16 August 2024 instructed Palestinians to go to an area in the ‘humanitarian zone’ on 15 August and then instructed them to evacuate from it the following day, 16 August (see Figure 3.68).



Figure 3.66. Israeli evacuation order on 7 July 2024 instructing Palestinians in the Old City of Gaza to head towards west Gaza City.



Figure 3.67. Israeli evacuation order on 8 July instructing Palestinians in the western part of Gaza City to head south towards Deir al-Balah.

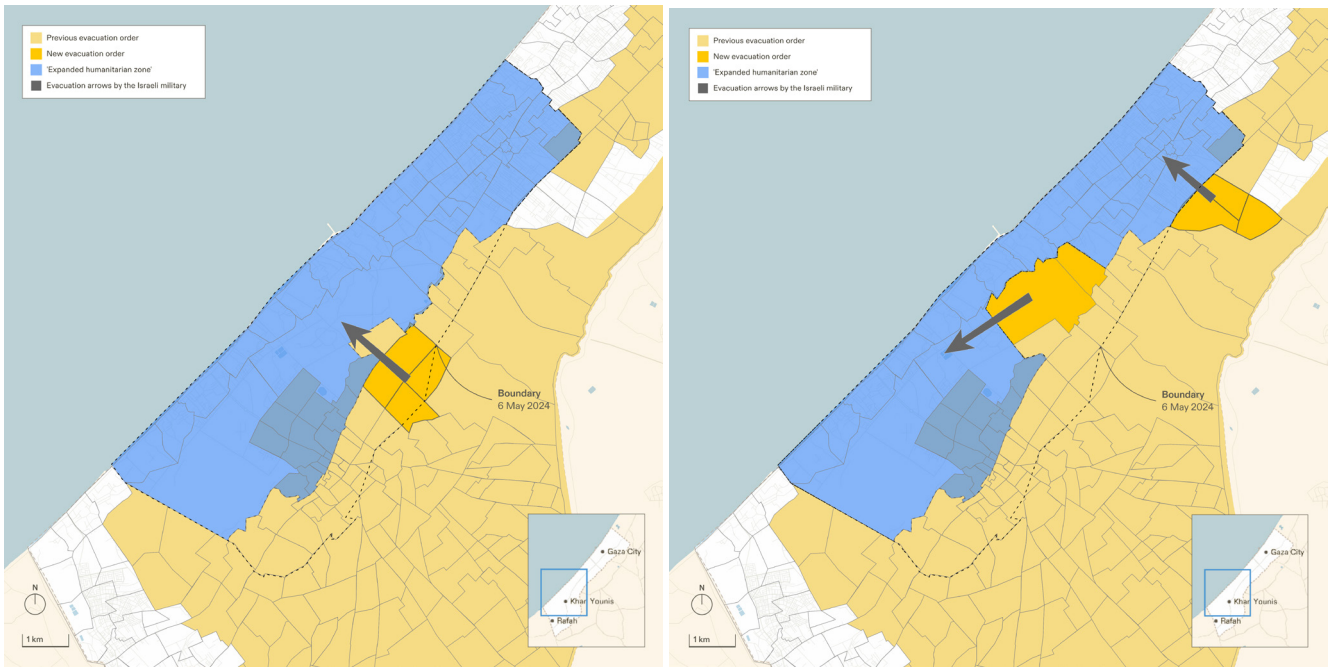

Figure 3.68. Two consecutive evacuation orders on 15 and 16 August, instructing Palestinians to evacuate an area that they were just ordered to evacuate to the day before.

(F) Instructing civilians to displace to areas that had recently received evacuation orders

109 Civilians were directed by evacuation orders to relocate into areas that had themselves received evacuation orders less than 24 hours prior, as illustrated in the example below. On 2 December 2023, neighbourhoods in the vicinity of al-Fukhari were instructed to evacuate towards Rafah (see Figure 3.69).



Figure 3.69. An evacuation order posted on 2 December instructing civilians to move southwest. The Arabic label next to the arrow reads in English as 'to Rafah'.

110 The following day, 3 December, zones in central Khan Younis were instructed to evacuate and relocate northwest, to al-Shaboura, Tel al-Sultan, and al-Fukhari (see Figure 3.69 and Figure 3.70).



Figure 3.70. An evacuation order posted on 3 December 2023, instructing civilians to evacuate westwards to al-Shaboura, Tel al-Sultan, and al-Fukhari.

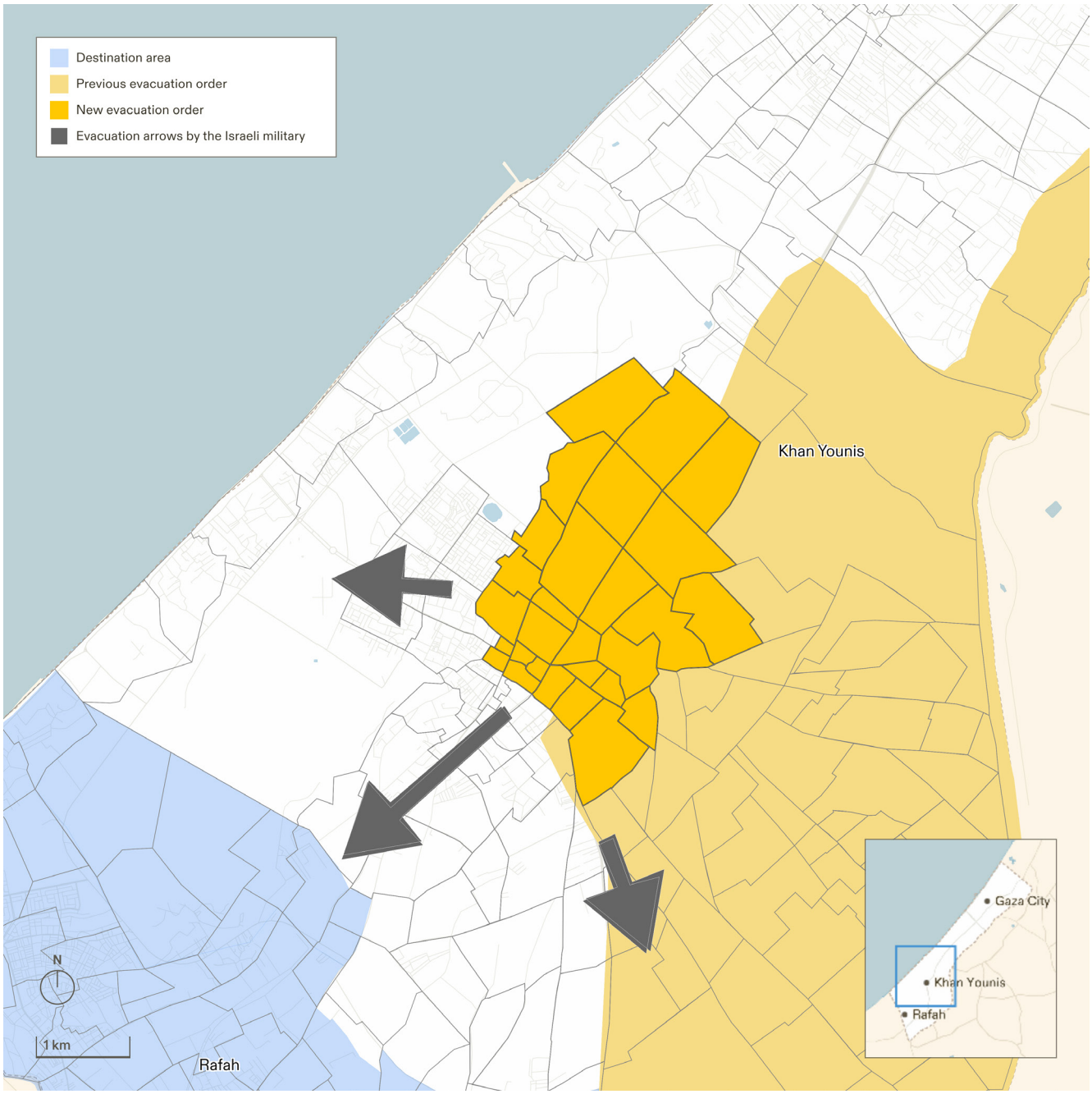

Figure 3.71. A map showing an evacuation order posted on 3 December 2023 (dark yellow, red arrows), compared to an evacuation order posted the previous day (light yellow). One of the arrows explicitly instructs moving to al-Fukhari (labelled red), which had already been instructed to evacuate on 2 December 2023.

(G) Failing to specify the duration or expiry of evacuation orders

111 It was not clear to civilians in these areas how long an evacuation order remained active, or when it may have expired.

112 For example, an area near al-Nuseirat received evacuation orders between 22 December 2023 and 8 January 2024, triggering a significant displacement towards the designated destination areas in Deir al-Balah and Rafah. As a result of subsequent attacks in these destination areas, and the absence of additional evacuation orders for al-Nuseirat, displaced families began to return in February 2024. This was followed by Israeli military airstrikes in the area, resulting in civilian casualties among those who had returned. We verified the killing of two Palestinian women on 10 February 2024, a few days after they had returned to al-Nuseirat from Rafah, and received witness testimony and footage confirming the same.

113 Further, a first-hand account published in the *Los Angeles Times* by an American physician Dr Irfan Galaria, who entered Gaza on 29 January 2024 to work for ten days at the European Gaza Hospital in Khan Younis, reported that civilians, including children, were fatally shot after returning to their homes following the apparent withdrawal of the Israeli military from their neighbourhoods:

114 'I stopped keeping track of how many new orphans I had operated on. After surgery they would be filed somewhere in the hospital, I'm unsure of who will take care of them or how they will survive. On one occasion, a handful of children, all about ages 5 to 8, were carried to the emergency room by their parents. All had single sniper shots to the head. These families were returning to their homes in Khan Younis, about 2.5 miles away from the hospital, after Israeli tanks had withdrawn. But the snipers apparently stayed behind. None of these children survived.'[55]

[55] Irfan Galaria, 'Opinion: I'm an American Doctor Who Went to Gaza. What I Saw Wasn't War — It Was Annihilation' (*Los Angeles Times*, 16 February 2024) <https://www.latimes.com/opinion/story/2024-02-16/rafah-gaza-hospitals-surgery-israel-bombing-ground-offensive-children> accessed 26 September 2024.

(H) Displacing civilians to destination areas that were previously targeted and destroyed

115 Civilians have been repeatedly displaced to areas with insufficient essential services as a result of previous airstrikes or military activity. On 6 May, Palestinians were ordered to move to the al-Mawasi 'humanitarian zone' after many of its buildings had already been destroyed or damaged. UNOSAT data, verified by our own analysis, suggests that the total number of buildings completely destroyed in al-Mawasi was 6,250, with 2,940 being severely damaged, a further 8,526 moderately damaged, and over 4,000 identified as possibly damaged.

116 Each of the six hospitals located within the 'expanded humanitarian zone' have been forced out of service at different times since 7 October 2023; four out of six were out of service at the beginning of May.

117 According to data from Gaza's Coastal Municipality Water Utility (CMWU) dataset and verified by our analysis, by the end of May 2024, 61% of all water infrastructure located within the 'humanitarian zone' was damaged or destroyed (67% of its water wells, 56% of its water tanks, 36% of its desalination plants).

118 The 6 May boundary of the 'humanitarian zone' included 19 sq km of agricultural land. By the end of June, 11 sq km or 56% of this agricultural land was destroyed. Furthermore, 48% of the greenhouses within this 'humanitarian zone' were either damaged or destroyed by the end of June, leaving the area lacking basic amenities.

119 Infrastructure such as the 765.67 km road network in the 'humanitarian zone' has also sustained significant damage, with 86.7 km destroyed, 35.75 km severely damaged, and 233.36 km moderately damaged.

2.4 The Israeli military besieged displaced civilians and funneled them into checkpoints, where they were surveilled

120 The Israeli military has repeatedly besieged Palestinian civilians, only to then funnel them through a single exit. In these bottlenecks the Israeli military establishes checkpoints, where Palestinian civilians are surveilled. We have documented two such combinations between sieges and checkpoints.

121 Figure 3.72 documents a checkpoint established at the intersection of Salah al-Din and the Netzarim corridor which surveilled Palestinians leaving the siege around north Gaza. The only safe routes for civilians evacuating from the north following the 13 October 2023 evacuation order required them to pass through checkpoints at the Netzarim corridor (see Figure 3.79). Reports suggest that biometric data-gathering and surveillance through facial recognition software is in use at these and other locations (see Chapter 2: Spatial Control).[56]



Figure 3.72. Evacuees waiting on Salah al-Din Road to pass through the biometric checkpoint at the Netzarim corridor.

122 When Nasser Hospital in Khan Younis was invaded by the Israeli military on 15 April 2024, displaced civilians taking shelter in the hospital (see Figure 3.73, Figure 3.74, and Figure 3.75) were forced to evacuate through a temporary military checkpoint installed near the north gate of the compound (see Figure 3.76).

[56] Sheera Frenkel, 'Israel Deploys Expansive Facial Recognition Program in Gaza' *The New York Times* (27 March 2024) <https://www.nytimes.com/2024/03/27/technology/israel-facial-recognition-gaza.html> accessed 26 September 2024.

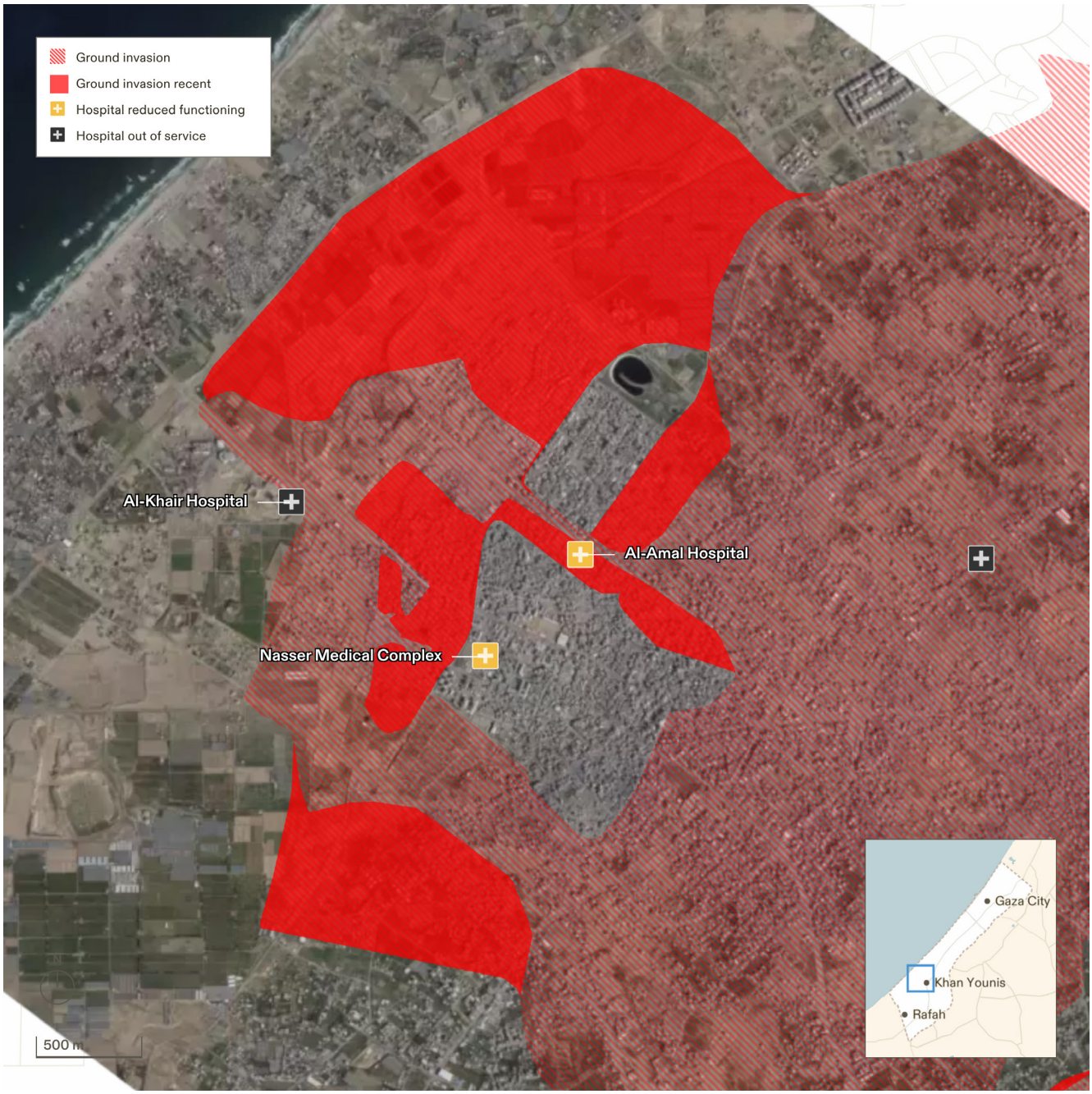

Figure 3.73. The Israeli ground invasion on 1 February, according to ISW data, surrounded Nasser and al-Amal, the two largest hospitals in Khan Younis, where thousands of displaced civilians were taking refuge.

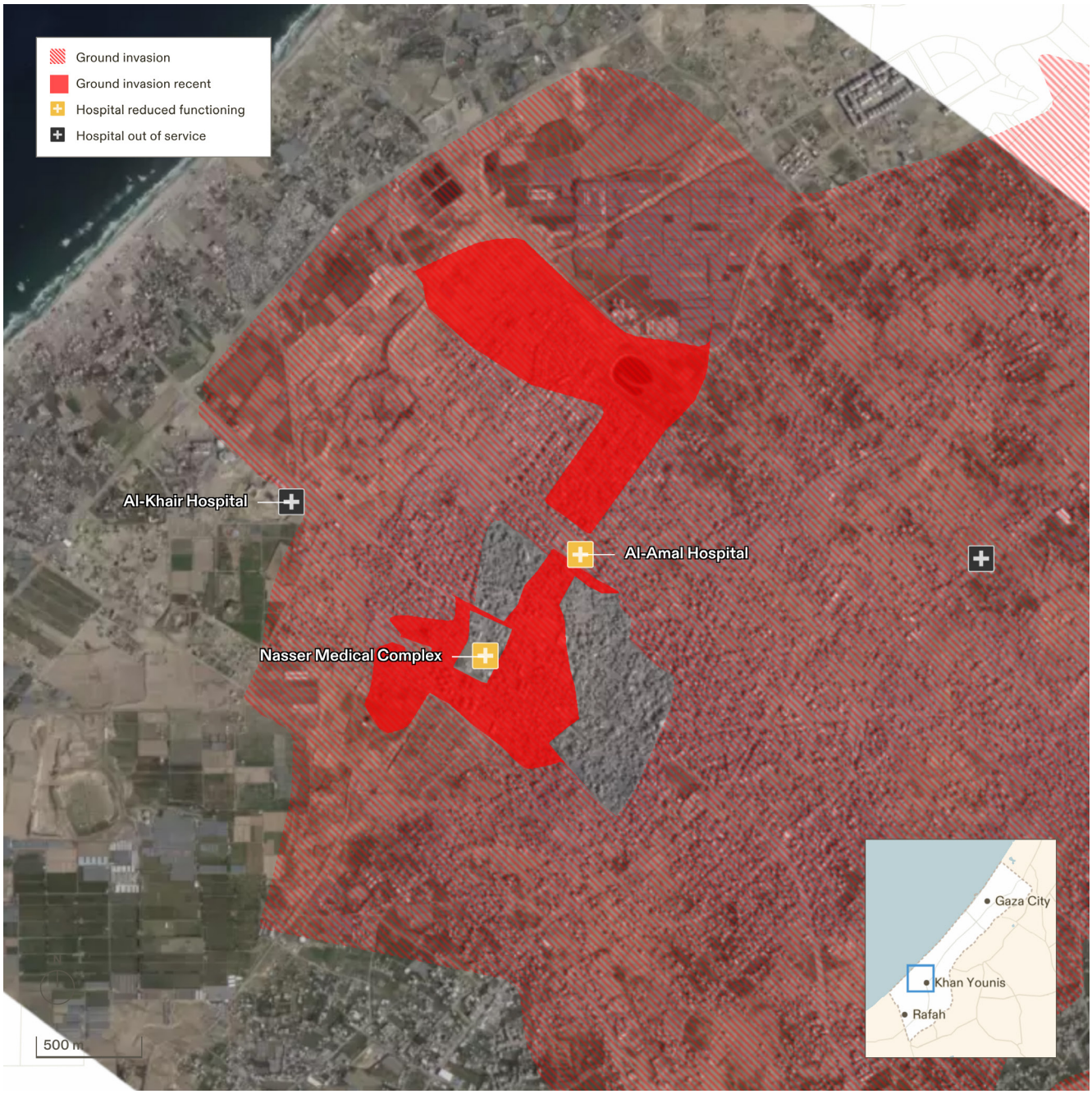

Figure 3.74. The Israeli ground invasion on 14 February, according to ISW data, showing the last stage of the siege on Nasser medical complex before the hospital was invaded by the Israeli military.



Figure 3.75. As the siege of the Nasser Hospital tightened on 14 April 2024, a day before the hospital was invaded, the Israeli military established a makeshift checkpoint east of the northern gate of the compound. Displaced civilians taking shelter inside the hospital were forced to evacuate through this makeshift checkpoint.



Figure 3.76. Satellite imagery from 17 April shows the traces of the Israeli makeshift checkpoint close to the northern gate of Nasser Hospital. The yellow lines represent the earth berms built by the Israeli military to block the roads and constrain the movement of displaced Palestinians along the circulation zone marked in red.

123 The Israeli military also collected biometric data of displaced civilians at a checkpoint established within the al-Mawasi 'humanitarian zone' at the end of January (see Figure 3.28 above and Figure 3.77). Civilians who came under siege while taking shelter in al-Amal Hospital and the shelter established at the UNRWA Khan Younis Training Centre (see Figure 3.27 above) were channeled through the checkpoint within al-Mawasi 'humanitarian zone' (see Figure 3.78).[57] A video published as part of a documentary on an Israeli TV channel captured a crowd of displaced civilians queuing to pass through the checkpoint (see Figure 3.77).[58]



Figure 3.77. A video published by the Israeli military east of Khan Younis on 18 February showing Palestinian civilians walking towards al-Mawasi 'humanitarian zone'.[59]

[57] See Figure 2.28 in Chapter 2: Spatial Control
[58] יחידי סגולה' - יממה דרמטית עם לוחמי גבעתי מהקרב בלב חיאן יונס (Directed by Hallel bitton rosen, 2024) <https://www.youtube.com/watch?v=EWtEQYxJr84> accessed 28 September 2024.
[59] Younis Tirawi, يونس [@ytirawi], 'Khan Younis | Israeli Military's Checkpoint in City of Khan Younis. Rafah Https://T.Co/GPTIjJKuLW' <https://x.com/ytirawi/status/1751226204726997000> accessed 26 September 2024.

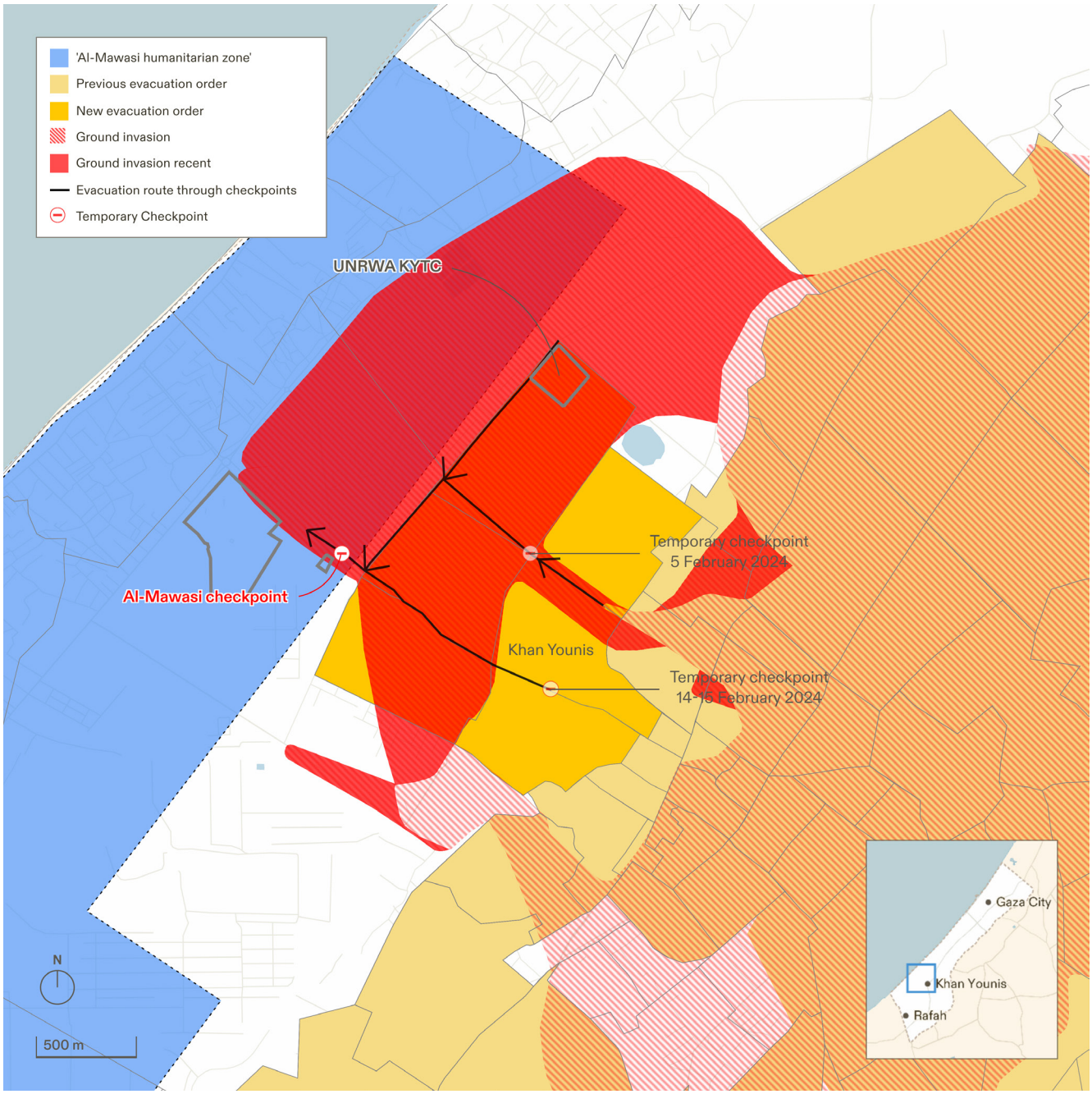

Figure 3.78. The Israeli military invaded the 'humanitarian zone' in al-Mawasi and established a makeshift checkpoint within the zone. Two other temporary checkpoints were established in Khan Younis during February 2024.

2.5 The Israeli military used 'protective measures' to displace Palestinians

124 As noted in Chapter 2: Spatial Control, the military constructed a set of spatial elements, including barriers, routes, checkpoints, and buffer zones across Gaza. The Netzarim corridor was established between north and south Gaza following the path of the 13 October evacuation order. The corridor created a large and impenetrable barrier between the evacuation area in the north and the destination areas in the south. Where the two main north–south roads meet the corridor, the Israeli military placed two large one-way checkpoints, allowing civilians to leave the south and barring their reentry north. The construction of the corridor thus relates to the issuing of evacuation orders to the evacuation areas. The infliction of large-scale destruction in the evacuation areas, and the construction of well-built physical barriers between the evacuation areas and the destination areas suggests to us that displacement is not a haphazard response to battlefield contingency but a designed effort that works in concert with other types of acts performed by the Israeli military.

(A) North to south: out of Gaza

125 Between 13 October and 24 December 2023, displacement followed a clear direction from north to south, following the first evacuation order instructing civilians north of Wadi Gaza to evacuate south, and the beginning of the Israeli ground invasion on 29 October 2023, which was first directed toward Gaza City.

126 The north to south displacement continued after the end of the temporary ceasefire in the beginning of December 2023. Ground invasions and evacuation orders pushed Palestinians from Deir al-Balah and Khan Younis towards two areas: Rafah in the south and al-Mawasi in the southwest.

127 For seven months after the start of hostilities, until 6 May 2024, the border between Gaza and Egypt was not invaded and was potentially open for exit. This pattern of displacement created the conditions that would have made possible a mass exodus of Palestinians into Egypt. This aligns with recent and past Israeli proposals (see Chapter 1: Introduction) seeking the permanent displacement of Palestinians into the Sinai desert.[60] Egypt kept the border closed to most Palestinians, forestalling a mass exit.

128 Rafah, on the border with Egypt, came to have in the first seven months of the Israeli military campaign the largest concentration of displaced Palestinians in Gaza, with a population that reached 1.4 million by 6 May 2024.

[60] 'Intelligence Ministry "concept Paper" Proposes Transferring Gazans to Egypt's Sinai | The Times of Israel' <https://www.timesofisrael.com/intelligence-ministry-concept-paper-proposes-transferring-gazans-to-egypts-sinai/> accessed 26 September 2024.; Patrick Wintour, 'Why Egypt has not fully opened its Gaza border for fleeing Palestinians' The Guardian (2 Nov 2023) https://www.theguardian.com/world/2023/nov/02/why-egypt-has-not-fully-opened-its-gaza-border-for-fleeing-palestinians accessed 24 September 2024.

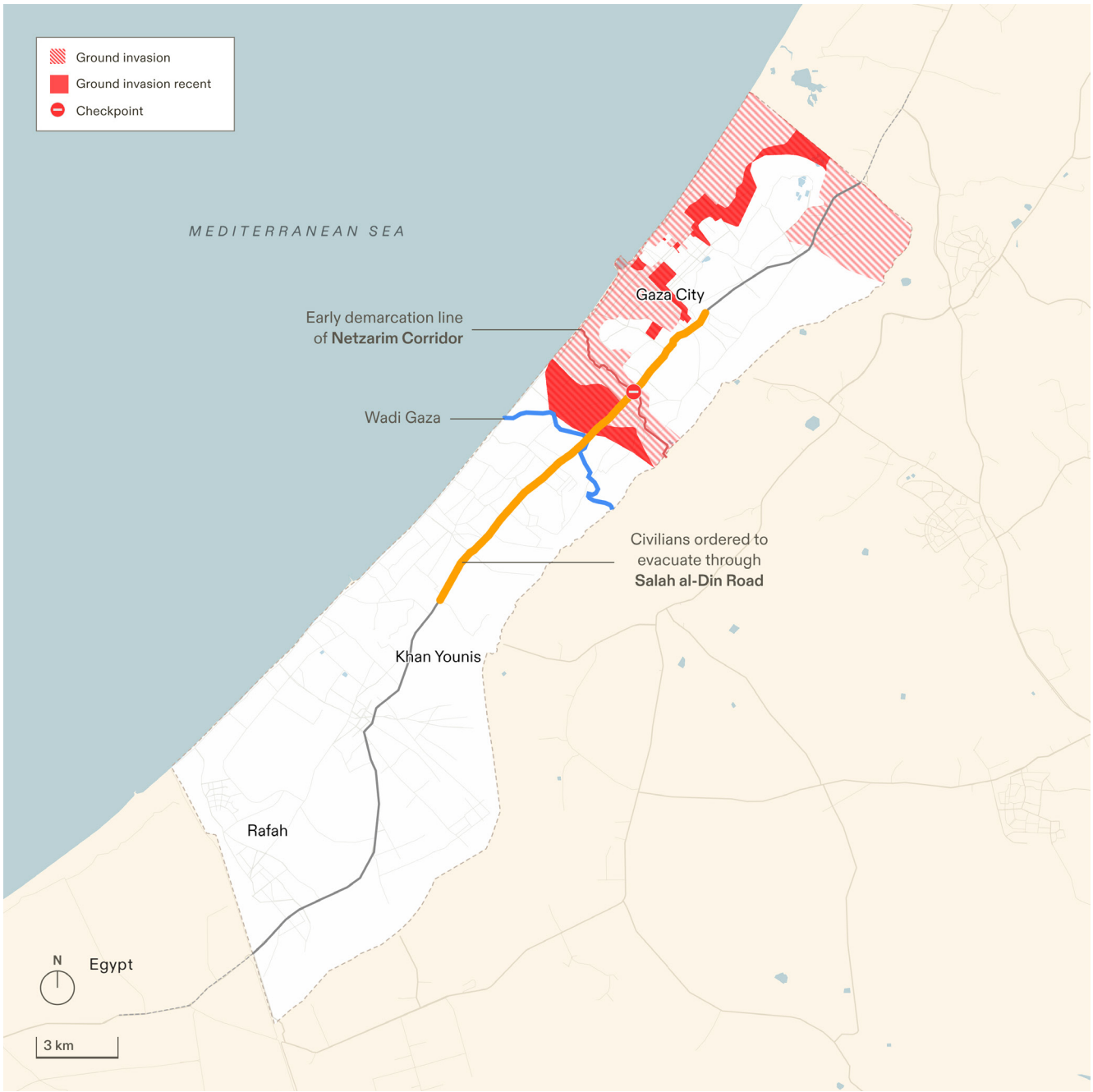

Figure 3.79. Displacement from north to south, before the temporary ceasefire on 24 November. The ground invasion advanced through north Gaza, the Netzarim corridor, and crucially the west of Gaza City, where most of the population and infrastructure were located.

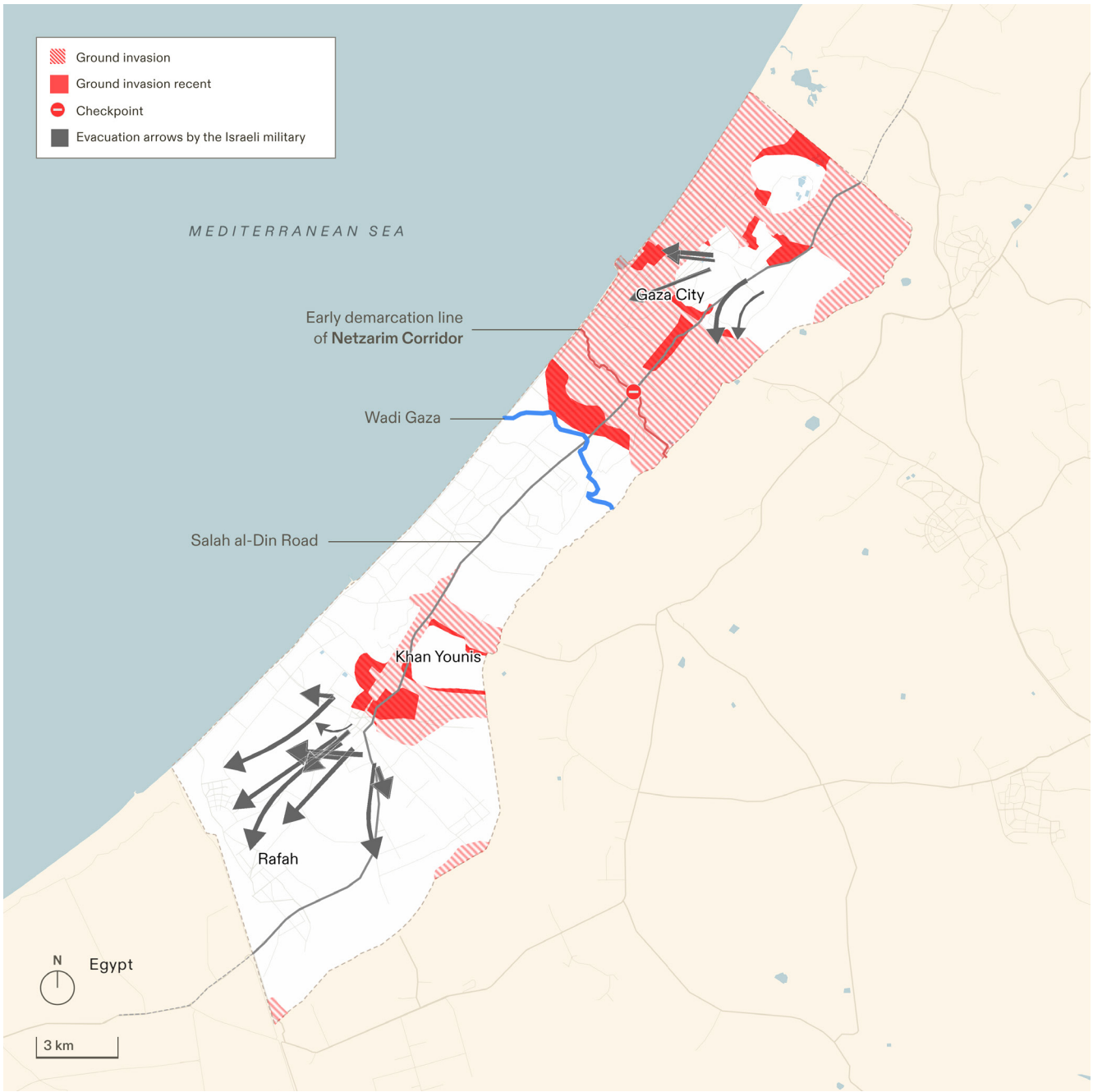

Figure 3.80. By 20 December, the Israeli military ground forces covered most of the remaining area north of Wadi Gaza and also large areas of Khan Younis in the south. Attacking from east to west and from north to south, the Israeli military pushed the population in the direction of the sea in the west and Rafah in the south.

(B) East to west: enforcing 'confinement'

129 On 6 May 2024, after frequent threats to do so, the Israeli military invaded Rafah and seized the Philadelphi corridor.

130 Shortly beforehand, the Israeli military released images with a boundary of what it referred to as an 'expanded humanitarian zone' in al-Mawasi. The UN estimates that more than 1 million Palestinians were forced to evacuate Rafah.[61]

131 From then on, the main direction of displacement was from east to west, with the single most important destination being the al-Mawasi area along the southwestern coast of Gaza (for context on the al-Mawasi area see Chapter 1: 'Introduction').

132 This pattern involves displacement from the agrarian areas along the perimeter in the east of Gaza, which has good agricultural soil, to coastal sand dunes in the west (see Chapter 4: Destruction of Agriculture and Water Resources).

133 The al-Mawasi area was also devoid of sufficient infrastructure for medical care and food. It thereafter became the largest concentration of displaced persons.

134 By 29 May, the Israeli ground invasion had fully seized control of the Philadelphi corridor. On 6 May, Israel took control of the Rafah crossing, a critical entry point for humanitarian aid, and forced most of Gaza's remaining functional hospitals in the Rafah area out of service (see Chapter 5: Destruction of Medical Infrastructure).

135 The al-Mawasi area was already struggling to accommodate an influx of displaced people due to its limited shelter capacity even before the invasion of Rafah. It offered limited access to essential resources such as food, clean water, sanitation, and healthcare (see Chapter 5: Destruction of Medical Infrastructure).

136 The Israeli military funnelled civilians from the north of Gaza, as well as from the eastern part of the south into the al-Mawasi area through successive evacuation orders.

137 Following the invasion of Rafah, and the earlier withdrawal of the Israeli military from Khan Younis, many Palestinians decided to return to eastern parts of Khan Younis.

138 However, the Israeli military launched a second invasion of that area, and our data shows that Palestinian civilians were forced to evacuate westwards into the 'expanded humanitarian zone'. Videos posted on social networks showed many Palestinians displaced from Khan Younis for a second time sleeping in the open, as al-Mawasi was unable to accommodate another wave of new evacuees.

[61] 'Humanitarian Situation Update #176 | Gaza Strip [EN/AR/HE] | OCHA' (7 June 2024) <https://www.unocha.org/publications/report/occupied-palestinian-territory/humanitarian-situation-update-176-gaza-strip> accessed 26 September 2024.

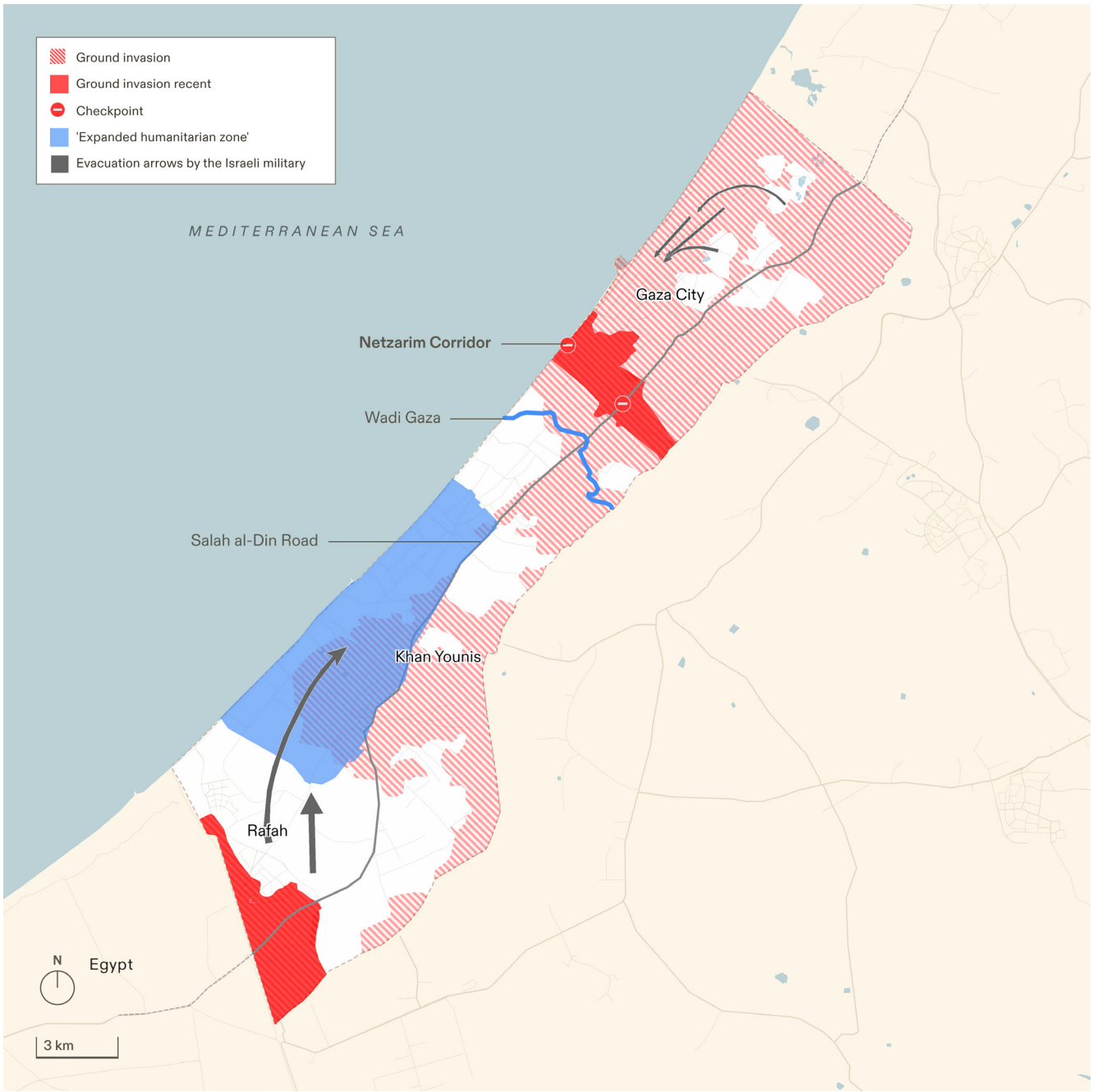

Figure 3.81. In August 2024, the Israeli military invaded the eastern parts of Khan Younis for a second time, pushing Palestinians who had returned to the area east of Salah al-Din Road back to the west. The Israeli invasion expanded west of Salah al-Din Road and into the boundaries of the 'expanded humanitarian zone' in al-Mawasi, which the military had designated on 6 May 2024.

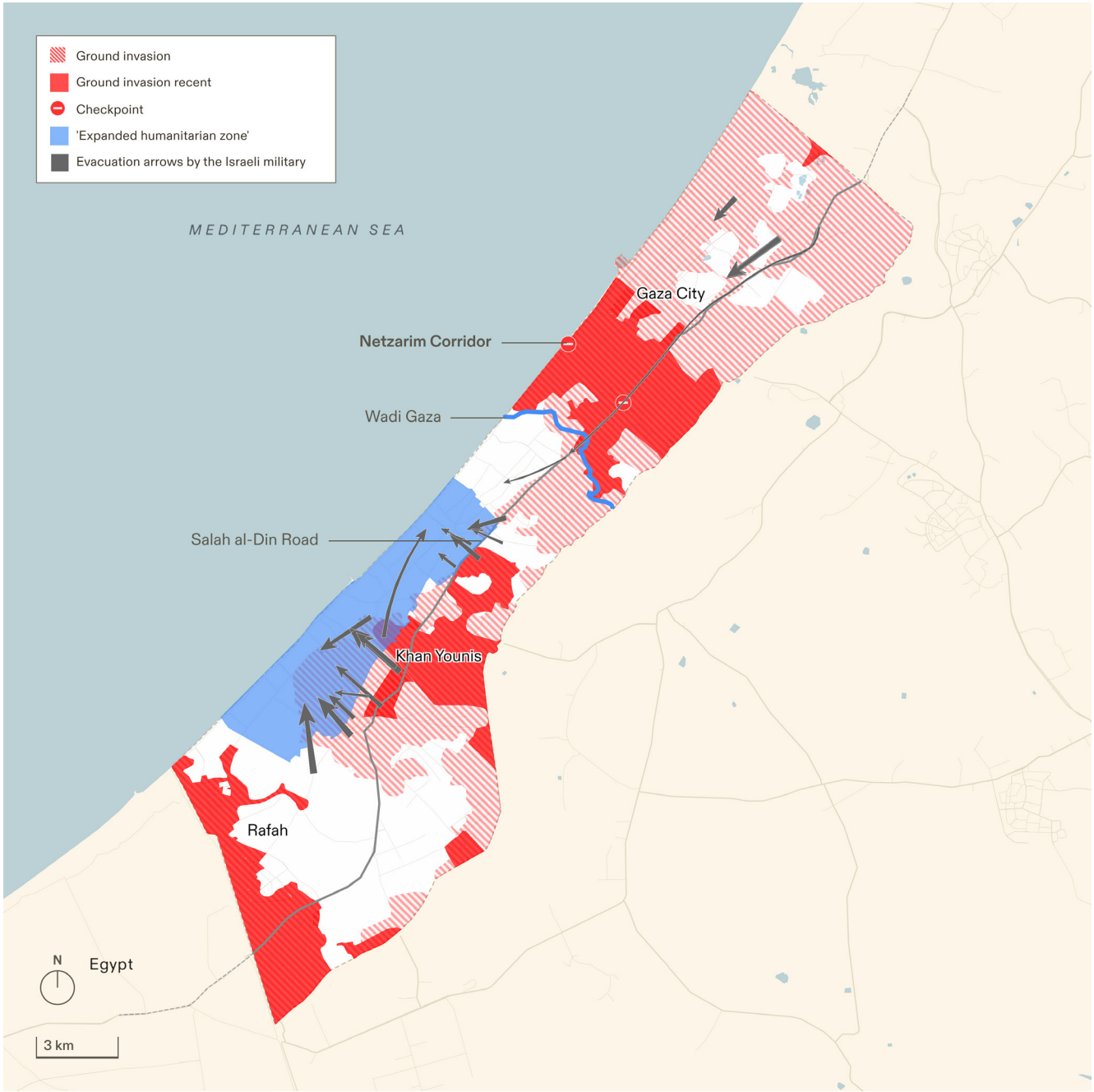

Figure 3.82. The overlap of the Israeli ground invasion expansion into the 6 May boundary of the 'humanitarian zone' of al-Mawasi, which was repeatedly contracted, shows the confinement of the largest number of displaced Palestinians in a small territory that constitutes 13% of the total area of Gaza.

I APPENDIX

1 *Grid-based evacuation orders Maps*

ID	Date	Blocks	Source
M-31007-81123	07/10/2023	[237, 852, 225, 254, 12, 11, 238, 10, 242, 243, 2231, 239, 236, 241, 889, 240, 235, 253, 833, 892, 824, 853, 832]	https://www.timesofisrael.com/idf-instructs-gazans-on-evacuation-routes-while-many-find-shelter-in-unrwa-schools/ https://twitter.com/AuroraIntel/status/1711712692107460960 https://twitter.com/ytirawi/status/1710785810507669812
M-31013-12535	13/10/2023	N/A	https://www.facebook.com/photo/?fbid=655000310074000&set=pb.100066921098856.-2207520000
M-31203-74859	03/12/2023	[48, 46, 39, 43, 47, 44, 50, 106, 36, 41, 42, 220, 53, 51, 45, 49, 218, 103, 55, 105, 52, 99, 219, 54, 221, 104, 38, 40]	https://www.facebook.com/COGAT.ARABIC/posts/%D8%B9%D8%A7%D8%AC%D9%84-%D9%8A%D8%A7-%D8%B3%D9%83%D8%A7%D9%86-%D9%82%D8%B7%D8%A7%D8%B9-%D8%BA%D8%B2%D8%A9-%D9%84%D9%82%D8%AF-%D8%A7%D8%B3%-D8%AA%D8%A3%D9%86%D9%81-%D8%AC%D9%8A%D8%B4-%D8%A7%D9%84%D8%AF%D9%81%D8%A7%D8%B9-%D8%B9%D9%85%D9%84%D9%87-%D8%A7%D9%84%D9%82%D9%88%D9%8A-%D8%B6%D8%AF-%-D8%AD%D9%85%D8%A7%D8%B3-%D9%88%D8%A8%D8%A7%D9%82%D9%8A-%D8%A7%D9%84%D9%85%D9%86%D8%B8%D9%85%D8%A7%D8%AA-%D8%A7%D9%84/681055357468495/
M-31204-74860	04/12/2023	[48, 46, 39, 43, 47, 44, 50, 106, 36, 41, 42, 220, 53, 51, 45, 49, 218, 103, 55, 105, 52, 99, 219, 54, 221, 104, 38, 40]	https://www.facebook.com/photo/?fbid=681563747417656&set=pb.100066921098856.-2207520000
M-31209-99731	09/12/2023	[104, 47, 105, 55, 106, 103]	https://www.facebook.com/photo.php?fbid=684359683804729&set=pb.100066921098856.-2207520000&type=3
M-31213-94253	13/12/2023	[55, 104, 101, 63, 102, 103, 59, 105, 49, 100, 47, 106, 56, 67]	https://www.facebook.com/photo/?fbid=686486576925373&set=pb.100066921098856.-2207520000
M-31222-57881	22/12/2023	[104, 2222, 48, 41, 2221, 218, 42, 103, 50, 661, 44, 49, 55, 53, 54, 220, 2230, 664, 51, 2225, 660, 2316, 2315, 2220, 219, 662, 221, 52, 105, 2224, 666, 2317, 45, 2223]	https://www.facebook.com/photo/?fbid=691502843090413&set=pb.100066921098856.-2207520000
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M-31227-81463	27/12/2023	[666,664,660,661,662,2315,2316,2317,2230,2220,2221,2222,2223,2224,2225,2210]	https://www.facebook.com/photo/?fbid=694384232802274&set=pb.100066921098856.-2207520000

M-31228-57340	28/12/2023	[666,664,660,661,662,2315,2316,2317,2230,2220,2221,2222,2223,2224,2225,2210]	https://www.facebook.com/photo.php?fbid=694987802741917&set=pb.100066921098856.-2207520000&type=3
M-31231-91109	31/12/2023	[666,664,660,661,662,2315,2316,2317,2230,2220,2221,2222,2223,2224,2225,2210]	https://www.facebook.com/photo.php?fbid=696570279250336&set=pb.100066921098856.-2207520000&type=3
M-40102-91057	02/01/2024	[66, 83, 84, 87, 64, 65, 112, 86, 78]	N/A
M-40103-90606	03/01/2024	[64, 2348, 112, 83, 84, 2326, 2347, 662, 2324, 72, 65, 2325, 87, 78, 73, 2322, 86]	N/A
M-40106-50152	06/01/2024	[2245, 2340, 2343, 2232, 2339, 2244, 2240, 2347, 2242]	N/A
M-40108-17929	08/01/2024	[2243, 2241]	N/A
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M-40123-91863	23/01/2024	[107, 112, 110, 109, 111, 108]	https://www.facebook.com/photo.php?fbid=709427671297930&set=pb.100066921098856.-2207520000&type=3
M-40126-88981	26/1/2024	[107, 112, 110, 109, 111, 108]	https://www.facebook.com/photo.php?fbid=711152401125457&set=pb.100066921098856.-2207520000&type=3
M-40127-80250	28/1/2024	[107, 112, 110, 109, 111, 108]	https://www.facebook.com/photo.php?fbid=712241487683215&set=pb.100066921098856.-2207520000&type=3
M-40204-31616	4/2/2024	[107, 112, 110, 109, 111, 108]	https://www.facebook.com/photo.php?fbid=716211817286182&set=pb.100066921098856.-2207520000&type=3
M-40129-62749	29/01/2024	[784, 702, 789, 708, 781, 776, 765, 707, 724, 688, 786, 706, 787, 769, 687, 783, 771, 704, 726, 772, 777, 788, 690, 767, 779, 785, 770, 778, 761, 703, 782, 709, 663, 728, 766, 835, 705, 780, 725, 727, 729, 768]	https://www.facebook.com/photo.php?fbid=712833037624060&set=pb.100066921098856.-2207520000&type=3
M-40130-13411	30/1/2024	[784, 702, 789, 708, 781, 776, 765, 707, 724, 688, 786, 706, 787, 769, 687, 783, 771, 704, 726, 772, 777, 788, 690, 767, 779, 785, 770, 778, 761, 703, 782, 709, 663, 728, 766, 835, 705, 780, 725, 727, 729, 768]	https://www.facebook.com/photo/?fbid=713433694230661&set=pb.100066921098856.-2207520000

M-40131-36420	31/1/2024	[784, 702, 789, 708, 781, 776, 765, 707, 724, 688, 786, 706, 787, 769, 687, 783, 771, 704, 726, 772, 777, 788, 690, 767, 779, 785, 770, 778, 761, 703, 782, 709, 663, 728, 766, 835, 705, 780, 725, 727, 729, 768]	https://www.facebook.com/photo/?fbid=714016194172411&set=pb.100066921098856.-2207520000
M-40204-70116	4/2/2024	[784, 702, 789, 708, 781, 776, 765, 707, 724, 688, 786, 706, 787, 769, 687, 783, 771, 704, 726, 772, 777, 788, 690, 767, 779, 785, 770, 778, 761, 703, 782, 709, 663, 728, 766, 835, 705, 780, 725, 727, 729, 768]	https://www.facebook.com/photo/?fbid=716211883952842&set=pb.100066921098856.-2207520000
M-40318-49188	18/03/2024	[704, 785, 708, 706, 709, 663, 703, 707, 705, 835]	N/A
M-40506-68610	06/05/2024	[15, 13, 28, 16, 11, 270, 10, 12, 14]	https://x.com/AvichayAdraee/status/1787344298943365560/photo/1 https://x.com/AvichayAdraee/status/1787347764298334703/photo/3 https://x.com/AvichayAdraee/status/1787347764298334703/video/1 https://pbs.twimg.com/media/GM3vOsxXwAASKuE?format=jpg&name=large
M-40511-03278	11/05/2024	[1820, 1791, 1807, 952, 1805, 754, 1796, 1790, 963, 1771, 1772, 1797, 26, 1792, 1800, 1815, 1786, 578, 25, 1782, 962, 9, 976, 1806, 1803, 920, 6, 1810, 27, 1816, 1817, 1812, 756, 1766, 8, 1818, 1793, 1785, 1795, 7, 1781, 1783, 1787, 1799, 1804, 1813, 1784, 1808, 1819, 1794, 1798, 17, 1814, 1811, 1789, 1802, 755, 961, 1801, 1809, 31, 953, 1788]	https://x.com/AvichayAdraee/status/1789171670105636971/photo/1 , https://pbs.twimg.com/media/GNRqJAFW0AA9e6Z?format=jpg&name=large
M-40514-65132	14/05/2024	[969, 970, 967, 973, 971, 974, 972, 1739, 984, 1738]	https://x.com/AvichayAdraee/status/1790391505045033042/photo/1 , https://pbs.twimg.com/media/GNi_ICRWEAEkSsX?format=jpg&name=large
M-40515-70674	15/05/2024	[1762, 1764, 1767, 1765, 1763, 1778, 1769, 1768, 1770, 1774]	https://x.com/AvichayAdraee/status/1790711897941049590/photo/1 , https://pbs.twimg.com/media/GNni-ZyXkAAv6Ov?format=jpg&name=large
M-40518-10447	18/05/2024	[973, 1743, 1738, 974, 1739, 1742, 1745, 1740, 979, 1741, 978, 1744]	https://www.facebook.com/photo/?fbid=774979178076112&set=a.285650173675684

M-40627-63367	27/06/2024	[731, 623, 722, 889, 622, 721, 720, 619, 834, 735, 751, 686, 888, 887, 737, 632, 732, 890, 730, 893, 321, 618, 736, 734, 892, 891, 617, 607]	https://www.facebook.com/photo/?fbid=798143952426301&set=a.285650167009018
M-40701-87893	01/07/2024	[116, 212, 221, 74, 224, 69, 240, 254, 81, 72, 215, 235, 239, 233, 231, 2270, 121, 124, 249, 244, 80, 237, 216, 52, 71, 53, 245, 77, 75, 79, 2280, 118, 73, 123, 83, 232, 236, 115, 82, 218, 251, 70, 222, 255, 114, 84, 223, 68, 241, 253, 247, 117, 219, 243, 256, 225, 260, 252, 270, 242, 213, 217, 238, 250, 234, 248, 122, 78, 220, 246, 214, 76]	https://www.facebook.com/photo/?fbid=800675305506499&set=a.285650167009018
M-40707-40993	07/07/2024	[604, 608, 609, 606, 605]	https://www.facebook.com/photo/?fbid=804193691821327&set=a.285650167009018
M-40708-49227	08/07/2024	[706, 724, 835, 784, 783, 703, 687, 702, 690, 693, 705, 688, 725, 704, 777]	https://www.facebook.com/photo/?fbid=804654688441894&set=a.285650167009018
M-40722-68389	22/07/2024	[2353, 48, 51, 37, 60, 50, 62, 58, 61, 2352, 49, 131, 57, 54, 2354, 39, 44, 2355, 101, 38, 56, 104, 102, 103, 45, 55, 42, 105, 67, 219, 41, 59]	https://www.facebook.com/photo/?fbid=812420887665274&set=pcb.812420960998600
M-70727-81202	27/07/2024	[34, 2374, 86, 30, 22, 78, 2372, 77, 65, 81, 35, 32, 2371, 79, 84, 80, 66, 70, 2373, 21, 2375, 33, 87, 83, 85, 73, 82]	https://www.facebook.com/photo/?fbid=815359770704719&set=a.285650167009018
M-40804-52063	04/08/2024	[87, 86, 30, 84, 85, 83, 81, 80, 79, 78, 66, 65, 58, 82, 35, 34, 33, 32, 22, 21, 2374, 2375, 53]	https://www.facebook.com/photo?fbid=820276240213072&set=a.285650167009018
M-40805-24477	05/08/2024	[57, 55, 102, 53, 101, 56, 58, 66, 22, 34, 33, 32, 65, 86, 87, 61, 85, 60, 104, 103, 54, 59, 67, 69, 81, 78, 70, 84, 83, 62]	https://www.facebook.com/photo?fbid=820806560160040&set=a.285650167009018
M-40806-14130	06/08/2024	[1766, 1765, 1763, 1768, 1767, 1778, 1770, 1762, 1774, 1769, 1764, 577, 578]	https://www.facebook.com/photo?fbid=821620923411937&set=a.285650167009018
M-40807-88323	07/08/2024	[1778, 1770, 1762, 1774, 1769, 1768, 1763, 1765, 1766, 578, 577, 1764, 1767]	https://www.facebook.com/photo?fbid=822027560037940&set=a.285650173675684

M-40808-07266	08/08/2024	[38, 42, 215, 243, 253, 223, 45, 41, 218, 50, 231, 254, 224, 244, 2270, 216, 235, 44, 52, 37, 51, 217, 39, 220, 222, 2354, 2355, 2260, 221, 233, 2280, 2353, 48, 234, 232, 2250, 219, 236, 131, 49, 2352]	https://www.facebook.com/photo?fbid=822498463324183&set=a.285650167009018
M-40810-43427	10/08/2024	[55, 54, 53, 104, 103]	https://www.facebook.com/photo?fbid=823976293176400&set=a.285650167009018
M-40811-10534	11/08/2024	[36]	https://www.facebook.com/photo?fbid=824171113156918&set=a.285650167009018
M-40813-92960	13/08/2024	[50, 45, 220, 219]	https://www.facebook.com/photo?fbid=825678223006207&set=a.285650167009018
M-40815-13986	15/08/2024	[42, 38, 39, 41]	https://www.facebook.com/photo?fbid=826694906237872&set=a.285650167009018
M-40816-13320	16/08/2024	[125, 127, 126, 1765, 1769, 1778, 1774, 1762, 1770, 1764, 1767, 1768, 1763, 1766, 578, 577]	https://www.facebook.com/photo?fbid=827291509511545&set=pcb.827291619511534
M-40816-13321	16/08/2024	[1766, 1763, 1762, 1764, 1765, 1778, 1774, 1767, 1769, 1770, 1768, 577, 578]	https://x.com/AvichayAdraee/status/1824477104668295461/photo/1
M-40817-26441	17/08/2024	[2240, 2232, 2340, 2241, 2245, 2343, 2243, 2244, 2242]	https://www.facebook.com/photo?fbid=827927446114618&set=a.285650167009018
M-40822-09414	22/08/2024	[51, 48, 218, 44, 52, 105, 45, 221, 219, 55, 104, 103, 54, 53, 220, 50, 41, 49, 42]	https://www.facebook.com/photo?fbid=831253119115384&set=a.285650173675684

2 *Non-grid-based evacuation orders Maps*

M-31114-94621	14/11/2023	N/A	https://www.facebook.com/photo/?fbid=904810051010603&set=pb.100044448488923.-2207520000
M-31201-63867	02/12/2023	Jabalia	https://www.facebook.com/photo/?fbid=6805897575155055&set=pb.100066921098856.-2207520000
M-31202-82269	02/12/2023	Jabalia	https://www.facebook.com/photo/?fbid=680589764181721&set=pb.100066921098856.-2207520000
M-31208-10116	08/12/2023	Jabalia	https://www.facebook.com/photo.php?fbid=6836812272059 08&set=pb.100066921098856.-2207520000&type=3
M-31208-67580	08/12/2023	N/A	https://x.com/AvichayAdraee/status/1733036333352767914/photo/1 , https://pbs.twimg.com/media/GAz7W1ZWkAAzF5T?format=jpg&name=large
M-31202-46902	02/12/2023	Khan Younis	https://www.facebook.com/photo.php?fbid=680589764181721&set=pb.100066921098856.-2207520000&type=3
M-31202-70685	02/12/2023	Khan Younis	N/A

M-31202-82756	02/12/2023	N/A	https://x.com/AvichayAdraee/status/1730849877263786259/photo/3, https://pbs.twimg.com/media/GAU2yZYW4AAMb9q?format=jpg&name=large
M-40220-43815	20/02/2024	N/A	https://www.facebook.com/photo.php?fbid=725285653045465&set=pb.100066921098856.-2207520000&type=3
M-40701-25205	01/07/2024	N/A	N/A
M-40821-47439	21/08/2024	N/A	https://www.facebook.com/photo/?fbid=830457469194949&set=a.285650173675684
M-40825-81751	25/08/2024	N/A	https://www.facebook.com/photo?fbid=833176748923021&set=a.285650167009018
M-40824-02898	24/08/2024	N/A	https://www.facebook.com/photo/?fbid=832419055665457&set=a.285650167009018
M-40823-80585	23/08/2024	N/A	https://www.facebook.com/photo/?fbid=831935359047160&set=a.285650167009018
M-40816-41798	16/08/2024	N/A	https://www.facebook.com/photo/?fbid=827291509511545&set=pcb.827291619511534
M-40825-47327	25/08/2024	N/A	https://www.facebook.com/photo?fbid=833176748923021&set=a.285650167009018

3 *Buffer zone Map*

M-41021-15028	21/10/2024	N/A	https://www.facebook.com/photo.php?fbid=659312296309468&set=pb.100066921098856.-2207520000&type=3

4 *'Humanitarian zone' Maps*

M-31018-68118	10/18/2023	N/A	https://x.com/cogatonline/status/1714497441091682646
M-31021-68119	10/21/2023	N/A	
M-31030-62864	10/30/2023	N/A	https://www.facebook.com/photo/?fbid=896287658529509&set=pb.100044448488923.-2207520000
M-31202-42536	12/2/2023	N/A	N/A
M-31206-80493	12/7/2023	N/A	https://www.idf.il/en/mini-sites/idf-press-releases-israel-at-war/december-23-pr/hamas-launches-rockets-from-within-humanitarian-zones/
M-40108-40899	1/25/2024	N/A	https://abcnews.go.com/International/israel-warned-gaza-civilians-evacuate-idf-bombs-struck/story?id=106406942
M-40506-11366	5/6/2024	N/A	https://www.facebook.com/photo.php?fbid=858697189625857&id=100064567517750&set=a.248745410621041&locale=id_ID
M-40722-47808	7/22/2024	N/A	https://www.timesofisrael.com/liveblog_entry/idf-calls-on-eastern-part-gaza-humanitarian-zone-to-evacuate/

M-40727-15438	8/1/2024	N/A	https://abcnews.go.com/International/israel-continues-strikes-humanitarian-area-gaza-despite-official/story?id=111601349
M-40811-40811	11/8/2024	N/A	https://x.com/AvichayAdraee/status/1822492670981259665/photo/1
M-40816-40816	8/16/2024	N/A	https://x.com/AvichayAdraee/status/1824341497811980409
M-40830-23436	8/30/2024	N/A	https://x.com/AvichayAdraee/status/1829447461598822613

5 *Incident IDs*

ID	Date	Latitude	Longitude	Source	Verification
31204-83772	2023-12-04	31.49922888	34.46038458	https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-59	CONFIRMED
40526-81379	2024-05-26	31.3193063	34.25145909	https://x.com/manniefabian/status/1795451839158087911	CONFIRMED
40528-20860	2024-05-28	31.33414424	34.23641949	https://x.com/i/status/1795434058736165353	CONFIRMED
40621-81465	2024-06-21	31.33805137	34.23954124	https://x.com/Mogaza/status/1804483752191779000	CONFIRMED
40702-18619	2024-07-02	31.411503	34.353818	https://x.com/ilmughrabi/status/1808118232089334227	CONFIRMED
40713-44725	2024-07-13	31.36269277	34.27110306	https://x.com/ismail_gh2/status/1812410543174545832	CONFIRMED
40910-91667	2024-09-10	31.3463685	34.2538416	https://x.com/AbujomaaGaza/status/1833391430561128644	CONFIRMED
31106-91297	2023-11-06	31.53264426	34.45168502	https://www.youtube.com/watch?v=Haty-QHarDAw	CONFIRMED
31112-93909	2023-11-12	31.52395803	34.45044017	https://www.cnn.com/videos/world/2024/01/25/palestinians-gaza-shooting-investigation-ward-intl-ldn-vpx.cnn	CONFIRMED
31103-64844	2023-11-03	31.48281271	34.39516164	https://x.com/RASHID7_ALSAIDI/status/1720433848389980669	CONFIRMED
31124-80389	2023-11-24	31.48281271	34.39516164	https://x.com/SuAlassa/status/1728002424743284821	CONFIRMED

4. Destruction of Agriculture and Water Resources

1 This chapter examines the Israeli military's destruction of farmlands, greenhouses and agricultural infrastructure, including water infrastructure, across Gaza since October 2023.

A GLOSSARY

2 **Flora**: plant life.

3 **Farm**: a plot or area of land devoted to agricultural cultivation or livestock. In Gaza, farms are also commonly places of residence for agricultural workers.

4 **Greenhouse**: a roofed building or structure made of metal sheets and covered by glass, cloth, or other transparent materials used by agricultural workers for intensive cultivation of plants. In Gaza, greenhouses often grow crops vertically, increasing yield of crops per square metre.

5 **Agricultural infrastructure**: farms, orchards, greenhouses, and their corresponding water facilities, including water tanks and wells. Water wells usually consist of an underground borehole and electric pump, together with a small control room above ground.

6 **Earth berm**: a shaped mound of earth piled above the surrounding ground level, developed as part of military earthworks. Commonly used as a protective screen against gunfire or hand-launched missiles.

7 **Urban water infrastructure**: pipelines, groundwater wells, reservoirs, desalination plants, seawater treatment facilities in urban areas.

8 **Raid route**: 'raid routes' are used by the Israeli military to conduct raids from inside Israel deep into Gaza. Commonly, these routes are linked directly to roads and military bases in Israel.

9 **Corridors**: two major 'corridors' have been constructed by the Israeli military in Gaza since October 2023. The corridors consist of wide strips of exposed land either side of a through road, dotted with buildings and other military infrastructure. The two major corridors operate as dividing lines and checkpoints, as well as facilitating the movement of military equipment and soldiers.

10 **Perimeter**: the eastern and northern boundaries of Gaza, which are fortified by the Israeli military and restrict access in and out of the territory. This study employs the terms 'perimeter', 'fence', and 'frontier' interchangeably to describe this area.

B SUMMARY OF FINDINGS

1 *Quantitative findings*

1.1 Between 7 October 2023 and 30 June 2024:

(a) Approximately 83% of all plant life in Gaza was destroyed.

(b) Approximately 70% of Gaza's agricultural land, 104 sq km (out of 150 sq km) of fields and orchards, were destroyed.

(c) More than 3,700 greenhouse structures in Gaza, 45% of its total, were destroyed.

(d) More than 47% of groundwater wells and 65% of water tanks were destroyed or damaged. The status of 29% of the wells is unknown.

(e) None of the wastewater treatment facilities in Gaza have remained intact or functional.

2 *Pattern findings*

2.1 The Israeli military repeatedly destroyed agriculture and water resources across Gaza.

(a) Month-by-month analysis in this period shows a correlation between the destruction of agricultural lands and infrastructure, and the Israeli military's ground position.

(b) The destruction of agricultural lands and infrastructure was cumulative and repeated.

(c) Agriculture and water resources were destroyed using military equipment and weapons.

2.2 The Israeli military's conduct has likely caused contamination in Gaza's land and water resources.

C BACKGROUND

11 Prior to October 2023, Gaza contained over 150 sq km of agricultural land, accounting for about 41% of its total area. These agricultural fields and orchards, together with over 8,000 greenhouse structures identified through our analysis, served as a local source of food security and income for besieged Palestinians.

12 Areas of Gaza were known to produce a particular agricultural product. In the north, Beit Lahiya was known for its strawberries, mainly for export, while the bulk of Gaza's citrus was produced in Beit Hanoun, including oranges and grapefruits.

13 Known locally as the 'food basket' of Gaza, agricultural lands and infrastructure along the eastern perimeter, on fertile loess soil, were a cornerstone of local food security.

14 The perimeter around Gaza constitutes a sophisticated system of fences, forts and surveillance technologies. Since 2005, when Israel evacuated its settlements and bases from Gaza, the Israeli military has barred Gaza residents from approaching the perimeter fence. The military created a 300m 'buffer zone' on formerly cultivated farmland, enforced by live fire.[1] Across subsequent Israeli military incursions, the buffer zone has been progressively transformed into a 'no-go area', extending across urban areas and farmland.

15 When Palestinian farmers try to plant into the buffer zone, the Israeli military destroys their crops using bulldozers and, since 2014, the unannounced aerial spraying of herbicides. The spraying has destroyed large areas of arable land in Gaza.[2]

16 In addition to the buffer zone, restrictions on farmers close to Gaza's eastern perimeter barred them from cultivating crops of over 1m in height, to facilitate optimal security visibility for the Israeli military.[3] This restriction compelled agricultural workers to transition from fruit trees to lower-growing crops with higher seasonal turnaround. Consequently, the main agricultural products cultivated at the perimeter prior to October 2023 included zucchini, eggplants, basil, cucumbers, tomatoes, onions, potatoes, herbs and dates. Further back from the fence, olive tree orchards were planted where possible.

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1 'The Ever-Expanding Gaza Buffer Zone' (*Gisha*, 30 June 2024) <https://gisha.org/en/the-ever-expanding-gaza-buffer-zone/> accessed 26 September 2024.

2 'Gaza_landcover_2023' <https://amiable-poet-296019.projects.earthengine.app/view/gazalandcover2023> accessed 26 September 2024.

3 Since 2015, Forensic Architecture has worked with Palestinian agricultural workers along the eastern perimeter of Gaza. In our interviews with farmers, they have repeatedly noted that any crops taller than 80cm to 1m are flattened or destroyed. For this reason, most of these farmers have transitioned from more traditional crops like citrus and olive orchards to other lower-growing vegetables and herbs. This practice was also documented in the testimonies of farmers collected in a 2010 report by the Office for the Coordination of Humanitarian Affairs in the occupied Palestinian territory, which stated that: 'Farmers interviewed indicated that trees and crops growing higher than 80cm are systematically levelled. On the basis of this understanding, many farmers have planted wheat and barley in areas previously levelled [....]'.. See also a 2020 response plan by the Food and Agricultural Organization of the United Nations which confirms the same, stating: 'An additional restriction faced by farmers in the ARA is that placed on the height of crops - only crops up to 80 centimetres in height are permitted within the ARA by the Israeli authorities. As a result, farmers are prevented from replanting fruit trees removed during land levelling incursions by Israeli forces and must depend solely upon vegetables and other crops, which yield a lower return in markets, for their income'. https://projects.hpc.tools/project/158823/view;'Special Focus - Humanitarian Impact of Israeli Restrictions on Access to Land and Sea in the Gaza Strip - OCHA/WFP Report' (*Question of Palestine*) <https://www.un.org/unispal/document/auto-insert-196584/> accessed 26 September 2024.

17 According to a report by Oxfam in April 2024, 'people in northern Gaza have been forced to survive on an average of 245 calories a day – less than a can of fava beans – since January, as Israeli forces continue their military onslaught'.[4] This is far below the minimum daily caloric threshold the Israeli government has used for almost two decades in its calculations of what is needed to prevent malnutrition in the population of Gaza. In its 2007 report 'Food Consumption in the Gaza Strip – Red Lines', made public by the Israeli rights group GISHA in 2012,[5] the Israeli government determined, considering factors like age and gender, that an average of 2,279 calories per person per day was required for survival (245 calories per day is 11% of that recommended requirement).

18 Our analysis builds on our previous research with local farmers' associations and agricultural workers to reveal the ongoing destruction of vegetation in Gaza and its effects on the food security and means of life. That research can be seen in the following reports:

(a) Forensic Architecture investigation Herbicidal Warfare in Gaza (2014–19): https://forensic-architecture.org/investigation/herbicidal-warfare-in-gaza

(b) Forensic Architecture investigation Ecocide in Gaza (2024): https://forensic-architecture.org/investigation/ecocide-in-gaza.

(c) Forensic Architecture dedicated Palestine researcher Shourideh C. Molavi's Environmental Warfare in Gaza. London: Pluto Books (2024).

[4] 'People in Northern Gaza Forced to Survive on 245 Calories a Day, Less than a Can of Beans – Oxfam' (*Oxfam International*, 9 May 2024) <https://www.oxfam.org/en/press-releases/people-northern-gaza-forced-survive-245-calories-day-less-can-beans-oxfam> accessed 26 September 2024.

[5] 'Food Consumption in the Gaza Strip - Red Lines' <https://www.gisha.org/UserFiles/File/publications/redlines/redlines-position-paper-eng.pdf> accessed 26 September 2024.

D SCOPE

19 We conducted an analysis of open-source videos, remote-sensing satellite images, witness testimony and United Nations data to examine the levels of destruction of agricultural farmland and infrastructure throughout Gaza from 7 October 2023 to 30 June 2024.

20 Through this, we identified six areas of study:

(a) Destruction of the flora of Gaza.

(b) Total area of fields and orchards that have been destroyed.

(c) The number and proportion of greenhouses destroyed.

(d) The number and proportion of urban water sources destroyed.

(e) Patterns in the destruction of agriculture.

(f) Implications of the correlation between agricultural destruction and the ground invasion.

21 Our analysis relies on the coverage and resolution of available satellite imagery. For example, heavy cloud coverage in satellite images during the months of October 2023 and February 2024 reduced our ability to conduct a Normalised Difference Vegetation Index (NDVI) analysis (see Methodology) for these months.

E MATERIALS USED IN ANALYSIS

22 Our study relied on the following sources:

23 **Copernicus' Archive of Sentinel-2A and Sentinel-2B satellites**: this provides 10m to 60m resolution multispectral data across 13 bands, covering the visible, near-infrared, and short-wave infrared parts of the spectrum. These satellites offer systematic global coverage of land surfaces between 56° S and 84° N, as well as coastal waters and the entire Mediterranean Sea, with revisit times of approximately five days due to the combined operation of both Sentinel-2A and Sentinel-2B.

24 **Planet Lab's archive of PlanetScope satellites**: images at 3.7m resolution in four multispectral bands: RGB and near-infrared.

25 **Planet Lab's archive of Skysat satellites**: approximately 450 images at 50 cm resolution, in five multispectral bands: RGB and near-infrared.

26 **Land classification developed by Remote Sensing and Land Science Lab (SensLand Lab)**: this classification visualises land use in Gaza in 2023 up until 6 October 2023, at a spatial resolution of 10 m, using all available imagery from Sentinel-1 and Sentinel-2. It includes ten land cover/use classes, ranging from high-density developed area to woody/natural vegetation.[6] We have confirmed the validity of this data by cross-referencing with data published by UNOSAT.[7]

27 **UNOSAT – FAO Gaza Strip Cropland Damage Assessment**: covering the periods of November 2023, December 2023, January 2024, April 2024, and June 2024.

28 **Testimonies** of farmers and agricultural workers' associations in Gaza collected by Forensic Architecture.

29 **Ground invasion:** data published by the Institute for the Study of War and Critical Threats (a project by the American Enterprise Institute), which maps day by day the extent of Israel's ground invasion based on third-party reports. The data is available to view at the following URL: https://storymaps.arcgis.com/stories/2e746151991643e39e64780f0674f7dd

30 **Gaza's Coastal Municipality Water Utility (CMWU)** dataset of the locations and names of domestic water wells, water tanks, desalination plants, sewage pump stations, and wastewater treatment plants. The data set also includes the status of domestic wells up to 25 May 2024. The status is determined by observations of CMWU engineers on site (visual inspection) and is categorised in four groups: undamaged, partially destroyed, destroyed, and no information/ closed.

31 **Gaza's sewage outlets:** data published by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) in July 2024 that maps the coordinates of sewage outlets in Gaza. The data is available to view at the following URL: https://www.ochaopt.org/content/gaza-strip-access-and-movement-july-2024.

6 'Gaza_landcover_2023' <https://amiable-poet-296019.projects.earthengine.app/view/gazalandcover2023> accessed 26 September 2024.
7 'UNOSAT' <https://unosat.org/products/3895> accessed 26 September 2024.

F METHODOLOGY

32 **Satellite 'remote sensing' data** of vegetation allows us to study and plot changes in site conditions and botanical transformation over time and monitor multi-year changes in vegetation patterns.

33 **'Mosaic'** refers to a process of blending multiple Sentinel-2 images over a defined time period, computing the median pixel value for each location, and clipping the final image to the desired region. This produces a composite image that is robust, less affected by temporary changes or clouds, and covers the entire area of interest. For each mosaic, we used all available cloud-free Sentinel-2 satellite data in each month.

34 **The NDVI** is a common and widely used remote sensing index. It is calculated as the ratio between Top of Atmosphere (TOA) reflectance of a red band (ρ red) around 0.66 micrometres (μm) and a near-infrared (NIR) band (ρ nir) around 0.86 μm. The NDVI of a densely vegetated area will tend towards positive values, whereas water and built-up areas will be represented by near zero or negative values. Formally, NDVI is given by Braun and Herold (2004) as:

35 $NDVI = (\rho nir - \rho red) / (\rho nir + \rho red)$

36 Healthy vegetation typically has NDVI values between 0.2 and 0.8, using 0 as the minimum will emphasise these vegetated areas with more colour differentiation, while non-vegetated areas will be less detailed.

37 **Cartographic Regression** in this chapter involves comparing NDVI analysis or satellite imagery from the same area to track changes in the territory and determine how the landscape of Gaza before 7 October 2023 corresponds to the present day. It allows us to map what has been destroyed at regular intervals and to deduce the patterns of destruction over a long period of time.

G TIMELINE

1 *7–27 October 2023: aerial bombardment*

38 Starting on 7 October 2023, Israel began one of the largest bombing campaigns in military history. Most airstrikes during this period were directed towards Gaza's built-up urban areas in the north. Our analysis suggests that while agricultural facilities were not a main target, clusters of greenhouses in the agricultural areas of the eastern perimeter were hit. On 13 October, the Israeli military gave an evacuation order to Palestinians in northern Gaza.

2 *27 October 2023: ground invasion begins in the north*

39 The Israeli military's ground invasion first surrounded Gaza City and the camps around it. One of the directions of invasion was along the northern perimeter in the largely agricultural areas of Beit Hanoun and Beit Lahiya. This line of invasion progressed southwards along the coastal al-Rashid Road. The other direction was an east–west wedge south of Gaza City, from the eastern perimeter of Gaza. It moved along Wadi Gaza in an area now referred to as the 'Netzarim corridor'. These areas surrounding Gaza City are the main agricultural areas in northern Gaza. As soon as the ground invasion began, we noticed large-scale destruction of these areas. The marks of agricultural destruction correspond to the areas under ground invasion. Smaller patches of agricultural destruction also became noticeable in and around Rafah, very likely the result of airstrikes.

40 In November 2023, 28.8 sq km of agricultural land was subject to ground invasion, more than 7 sq km of which was destroyed during that period. This means that nearly 25% of the total agricultural area under invasion was destroyed. By comparison: during Russia's invasion of Ukraine, throughout 2023, only 7.5% of the total croplands were damaged in that year.[8] This scale of destruction suggests it was not an incidental impact of the progress of military operations and vehicles but part of an intended outcome.

3 *4 December 2023: ground invasion begins in the south*

41 Our analysis shows further agricultural destruction around the fields along Gaza's eastern perimeter during this period, in East Jabalia, between Deir al-Balah and Wadi Gaza, and in the villages east of Khan Younis. While these areas were subject to ground invasion, destruction of agriculture took place outside of the path of military movement.

4 *January–February 2024: the occupation of Khan Younis*

42 January marked the advance of the military invasion in Khan Younis and Deir al-Balah. The loss of agricultural infrastructure in this month corresponded to the areas invaded.

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[8] Jay Lloyd, 'When Farmland Becomes the Front Line, Satellite Data and Analysis Can Fight Hunger' (*Issues in Science and Technology*, 22 January 2024) <https://issues.org/satellite-data-nasa-harvest-ukraine-becker-reshef-mitkish/> accessed 26 September 2024.

5 *February–March 2024: invasion in the south deepens*

43 We observed the destruction of large swathes of agricultural land: along the southeastern perimeter, between Khan Younis and Rafah, along the northern perimeter, and south of Gaza City. The latter facilitated the construction of the Netzarim corridor, which stretched from the eastern perimeter to the sea, surrounded by a wide buffer zone in which every building or agricultural facility on both sides of the road was destroyed.

44 The end of winter in March 2024 marked a new period of military operations in southern Gaza, specifically in Khan Younis. Much of the agricultural loss in March corresponded to the areas under ground invasion, though large areas of agricultural land near Rafah, which at that time were not subject to ground invasion, were subject to crop loss because farmers had been forced to abandon their land.

6 *5 April 2024: partial withdrawal from south Gaza*

45 In April, large swathes of agricultural land within a 1 km offset of the eastern perimeter of Gaza, between Deir al-Balah and north Gaza, were destroyed. This area corresponds with the area that is maintained by the Israeli military as an 'expanded' buffer zone.[9] A thick buffer zone was also visible in the wider areas on both sides of the road along the Netzarim corridor.

7 *6 May 2024–30 June 2024: ground invasion of Rafah*

46 Our analysis shows the continuation of land clearing in East Jabalia and alongside one of the raid routes developed in January 2024.

[9] 'The Ever-Expanding Gaza Buffer Zone' (*Gisha*, 30 June 2024) <https://gisha.org/en/the-ever-expanding-gaza-buffer-zone/> accessed 26 September 2024; Dov Lieber Peled David S Cloud and Anat, 'Israel Builds Buffer Zone Along Gaza Border, Risking New Rift With U.S.' (*WSJ*, 25 January 2024) <https://www.wsj.com/world/middle-east/israel-border-gaza-buffer-zone-4131020d> accessed 26 September 2024.

H QUANTITATIVE FINDINGS

7.1 Destruction of Flora

47 We used remote sensing to measure the vegetation loss in Gaza since 7 October 2023, using NDVI. The 'vegetation index' is an indicator of the health and robustness of plant life in a region over time, measured by analysing satellite imagery. We analysed data for the month of June over a period of four years to maintain similar environmental conditions (e.g. temperature and rainfall).

48 This process suggests that 83% of plant life registered in earlier years has been destroyed. For example, in Khan Younis, approximately 50 sq km out of 59 sq km of area with healthy plant life in the region has been lost. In Rafah, 21 sq km has been lost out of a total of 24 sq km.

49 The destruction of flora will impact on Gaza's terrestrial biodiversity and food systems. As such, it will undermine ecosystem health and resilience.[10]

[10] Michelle Marvier, Peter Kareiva and Michael G Neubert, 'Habitat Destruction, Fragmentation, and Disturbance Promote Invasion by Habitat Generalists in a Multispecies Metapopulation' (2004) 24 Risk Analysis 869.



Figure 4.1. A map of the division of governorates in Gaza. We developed our analysis of loss and destruction in different areas of Gaza based on this division.

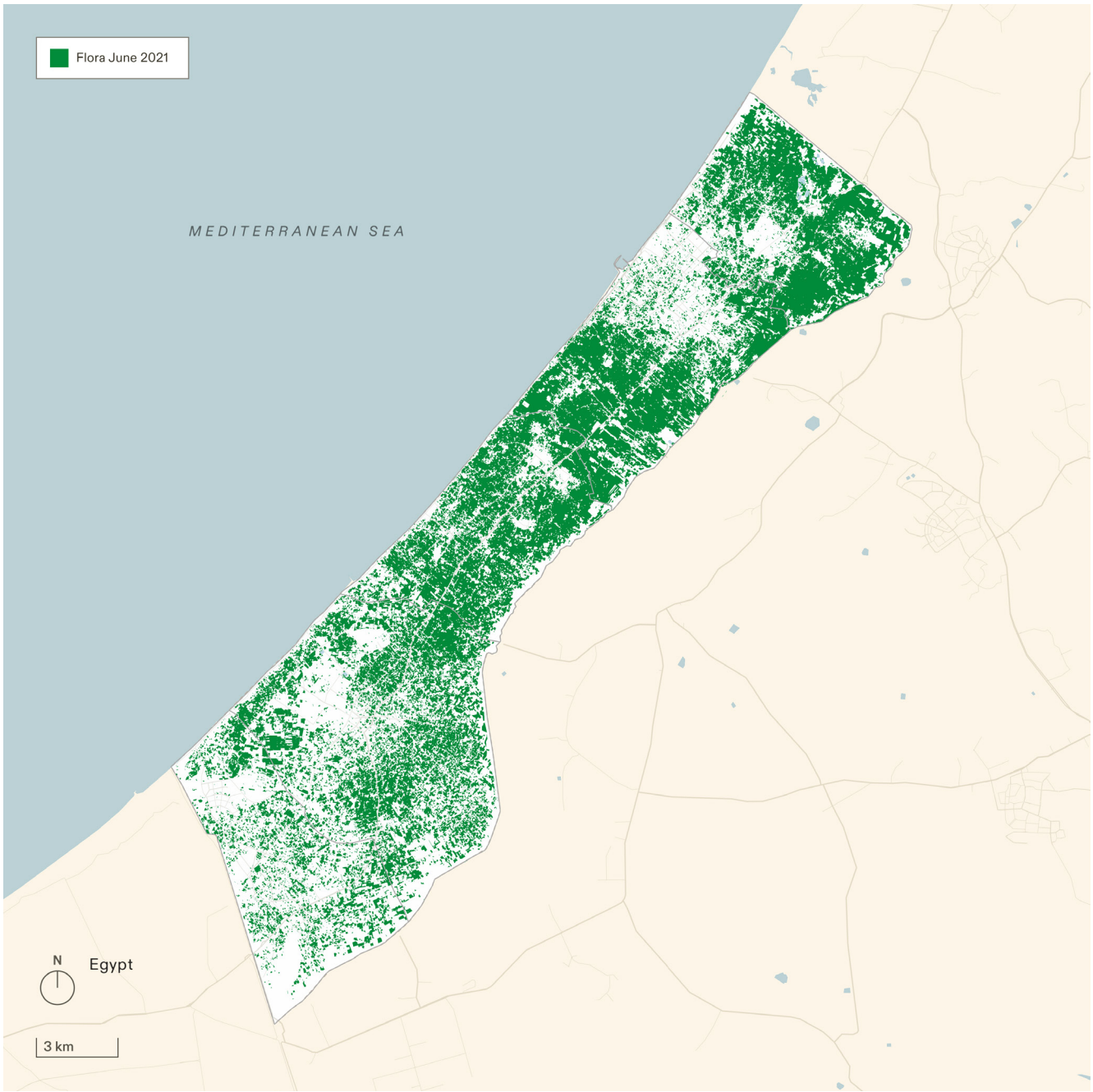

Figure 4.2. NDVI analysis of the flora of Gaza in June 2021 (based on satellite data from 4 and 29 June 2021).

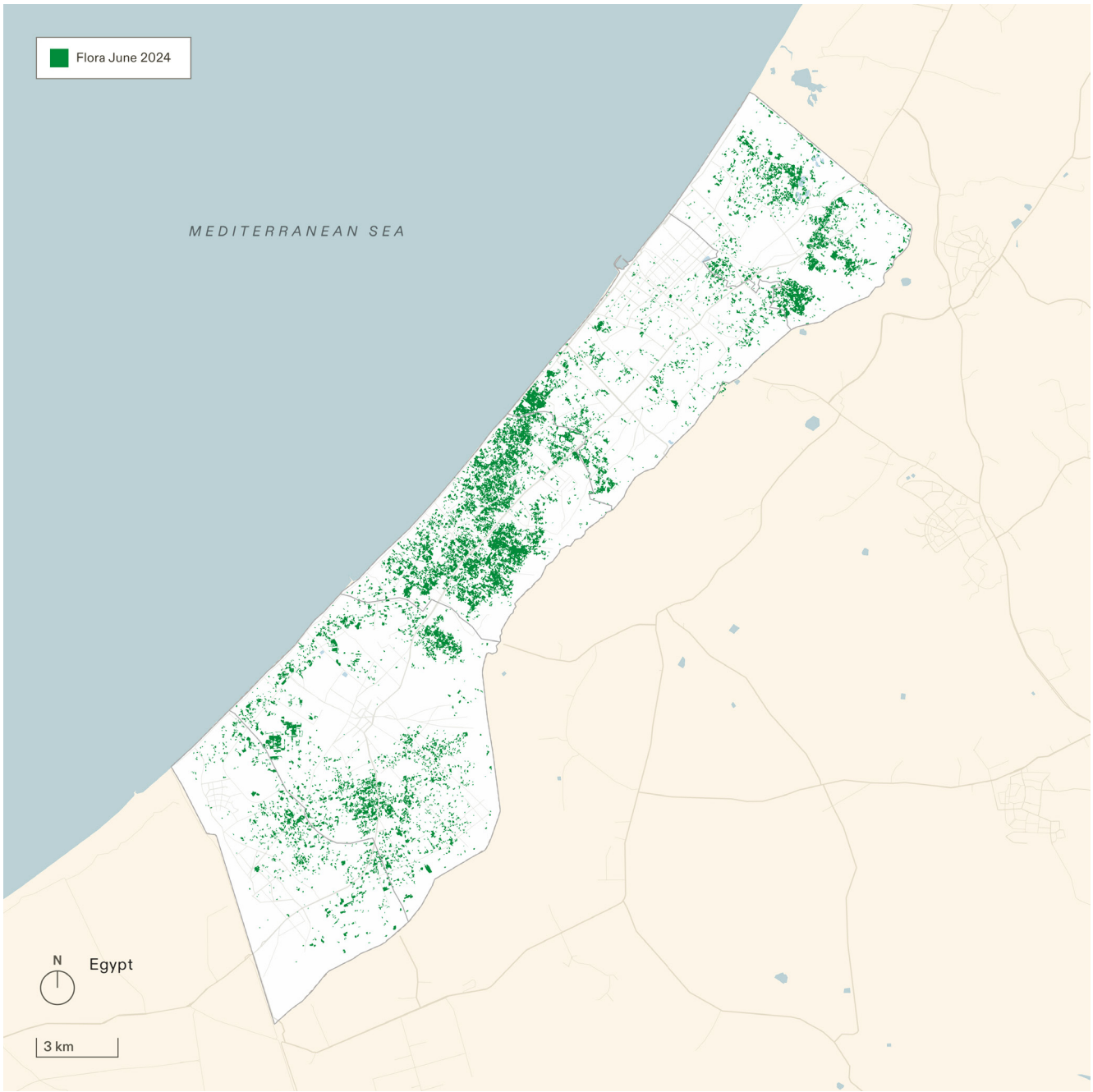

Figure 4.3. NDVI analysis of the flora of Gaza in June 2024 (based on satellite data from 3 and 28 June 2024).

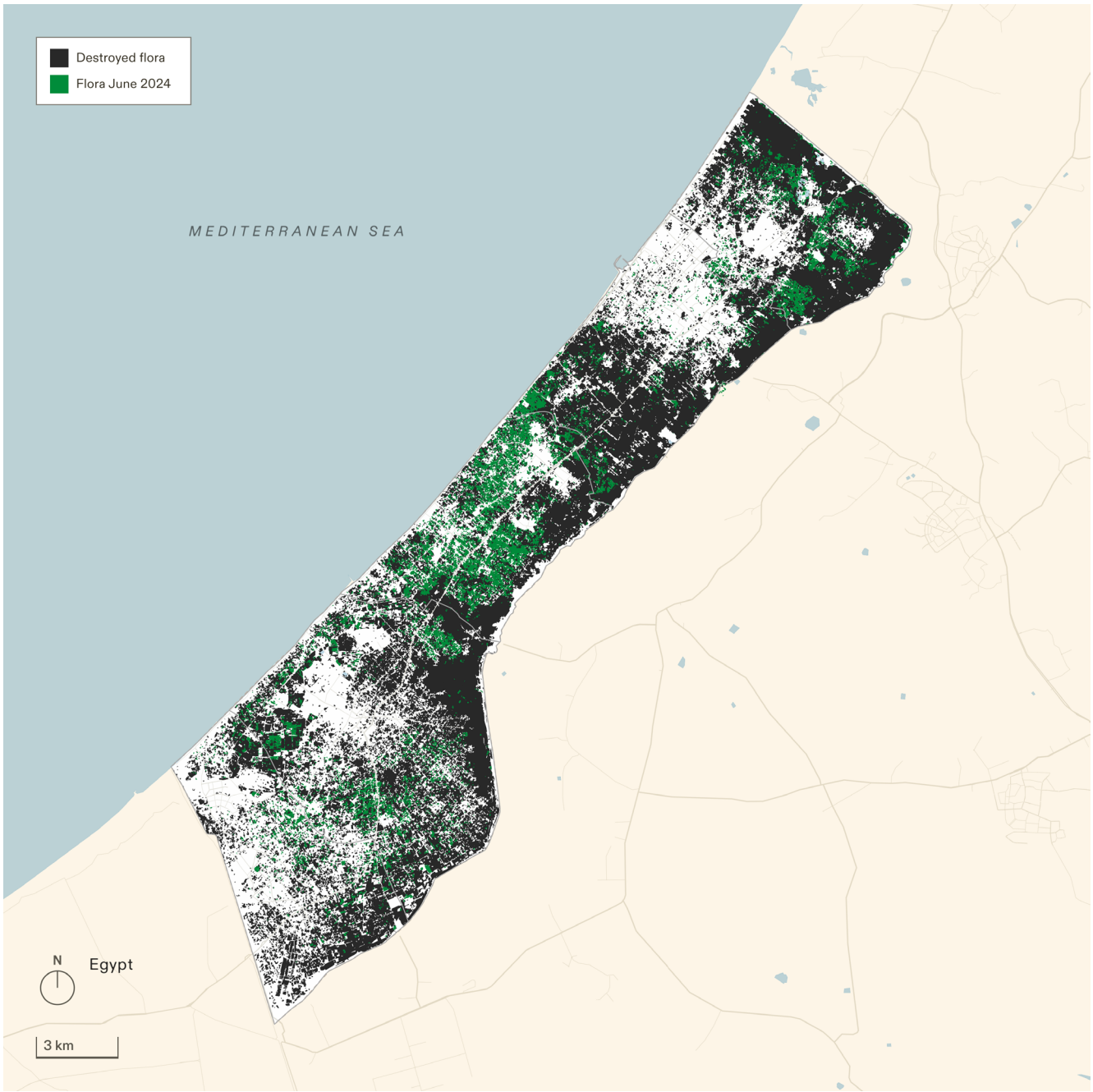

Figure 4.4. NDVI analysis showing in black the damage to the flora of Gaza between June 2021 and June 2024.

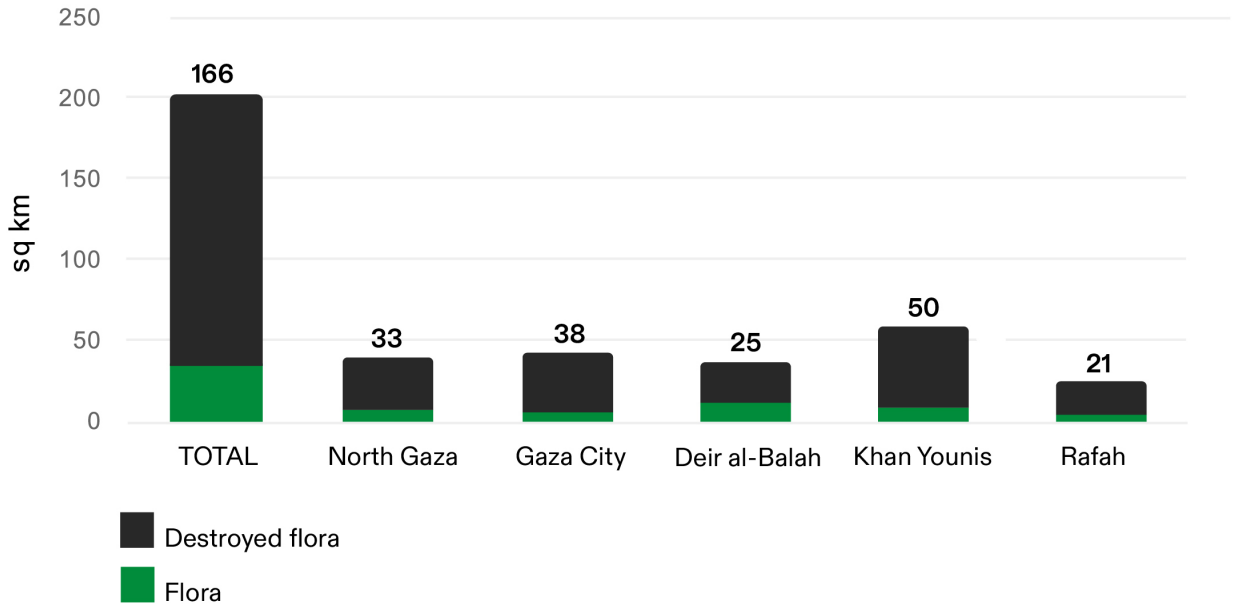

Figure 4.5. Breakdown of the destruction of flora in different parts of Gaza. Each bar shows the entire flora of each part of Gaza and black shows destruction.

7.2 Destruction of farms and orchards

50 We used land classification analysis developed by SensLand Lab to distinguish agricultural land from the native flora of Gaza prior to October 2023. Before 7 October 2023, agriculture was responsible for 41% of Gaza's total area.

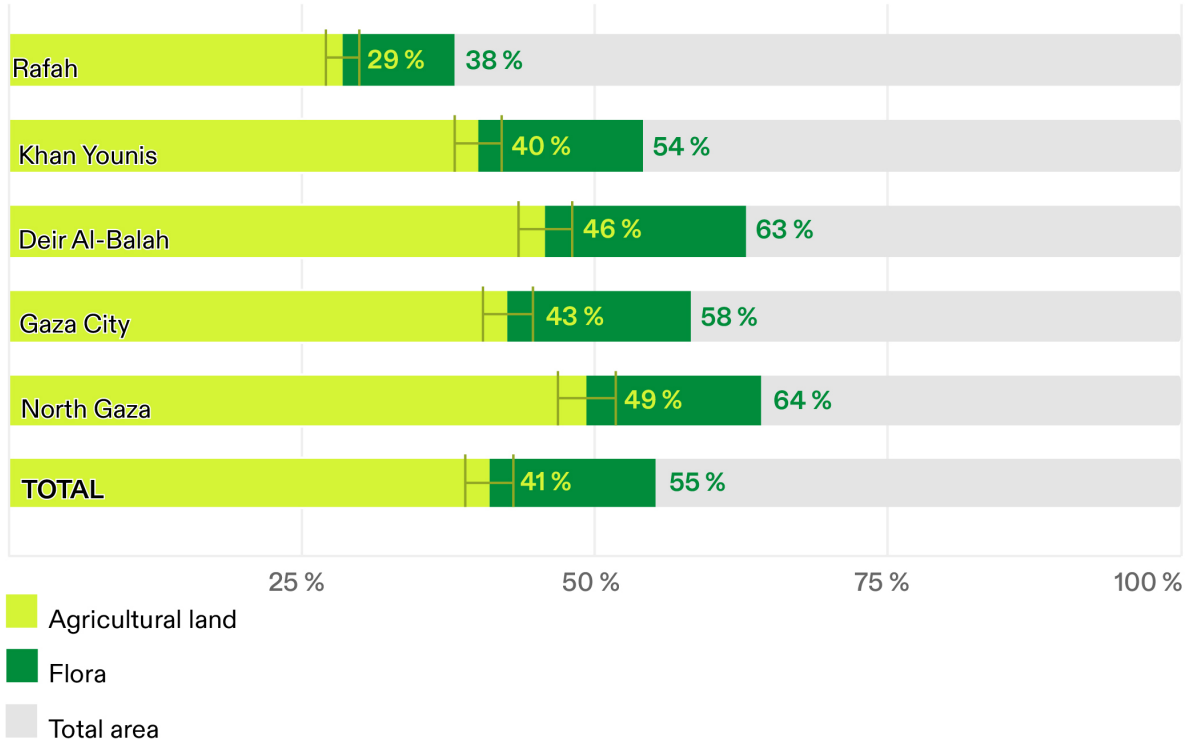

Figure 4.6. Breakdown of the percentage of vegetation assigned to production of agriculture in each part of Gaza.

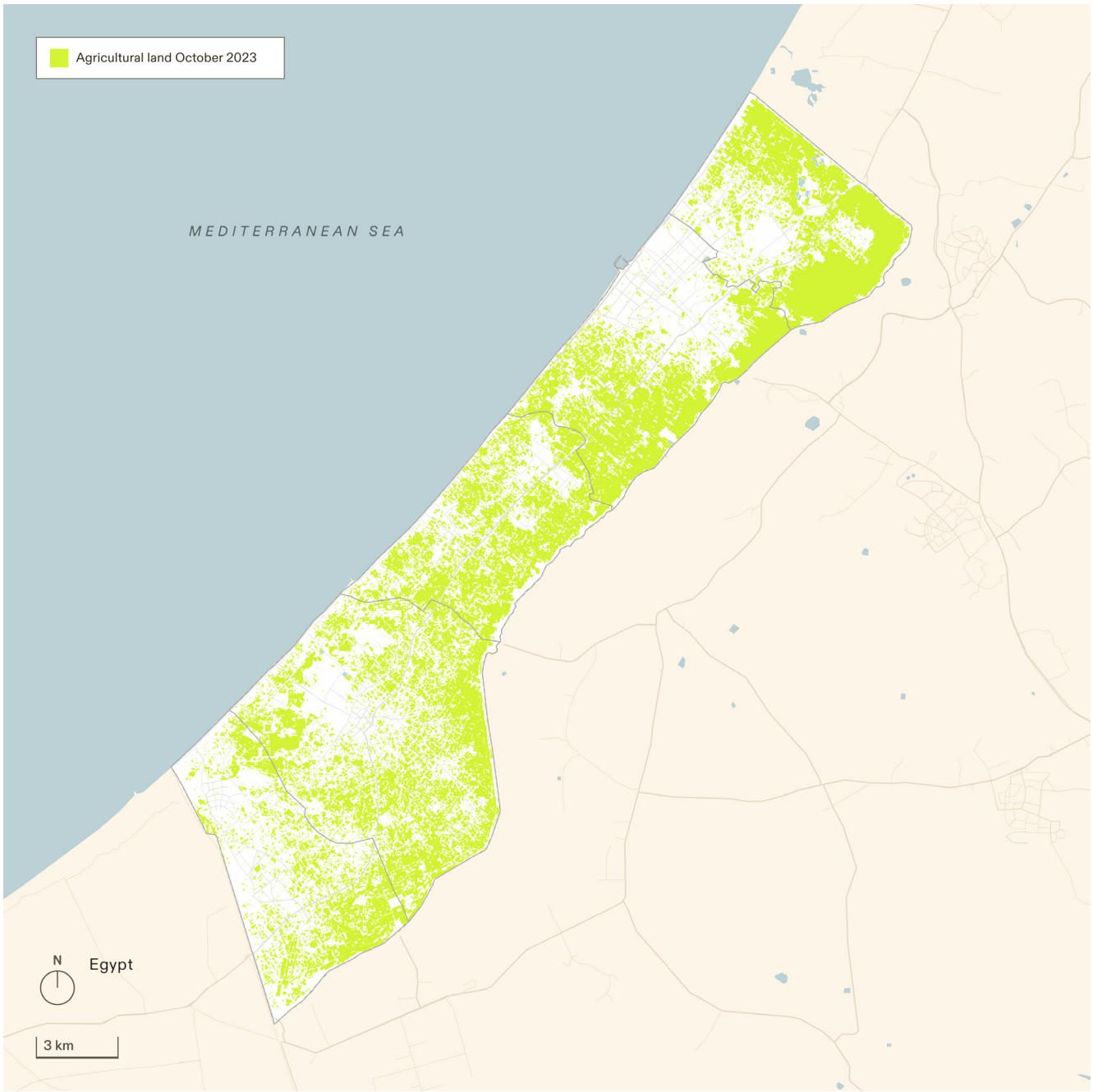

Figure 4.7. Distribution of agricultural land before 7 October 2023.

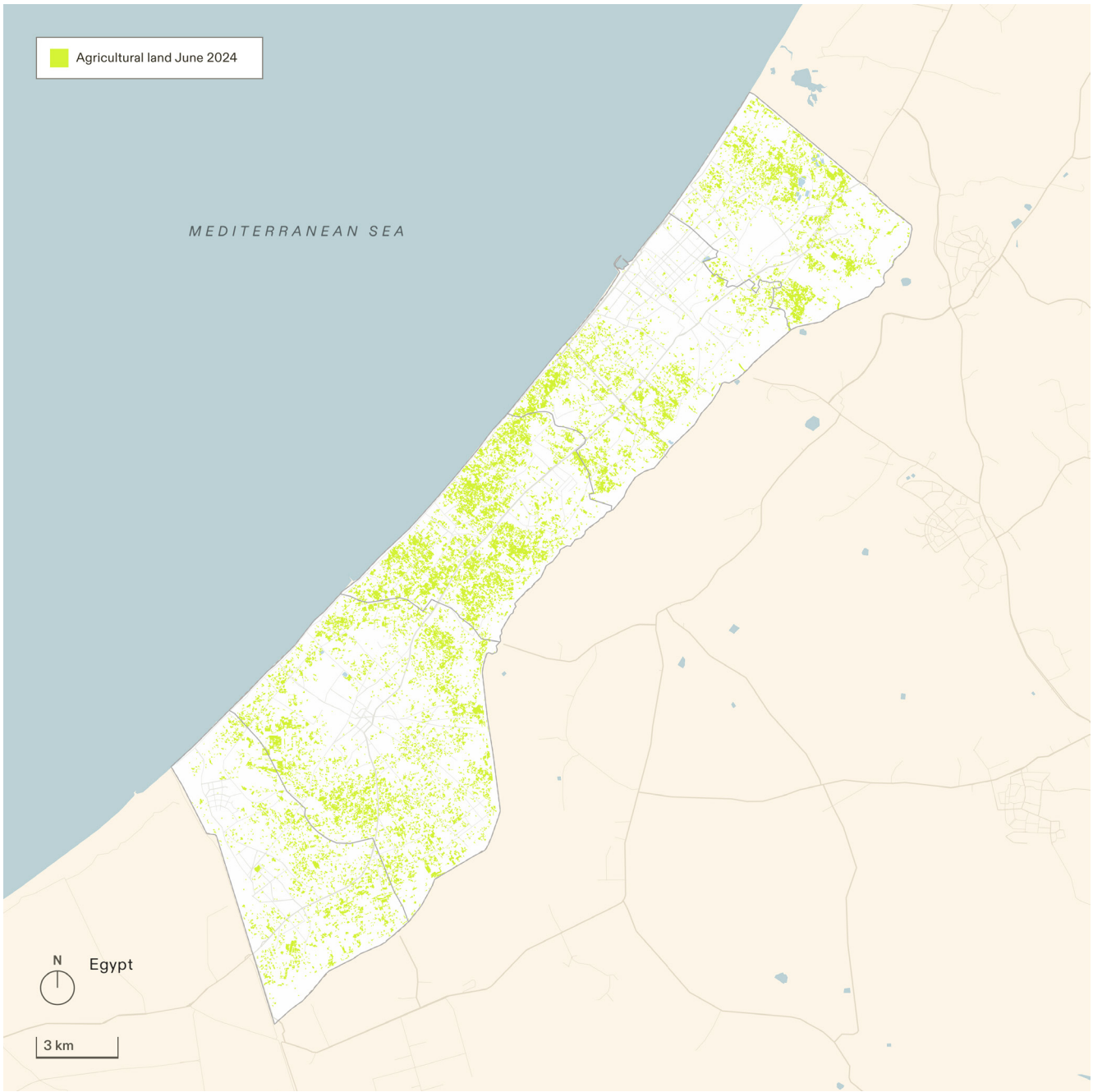

Figure 4.8. Distribution of agricultural land with healthy crops at the end of June 2024.

51 Comparison of healthy agricultural land before 7 October 2023 (Figure 4.7) and the remaining agricultural land at the end of June 2024 (Figure 4.8) shows that in this time, 104 sq km out of 150 sq km of the agricultural land in Gaza, nearly 70% of its total, had been lost. Our analysis shows that the loss is due to destruction by Israeli military activity and crop loss resulting from land being abandoned by displaced farmers.

7.3 Destruction of greenhouses

52 Greenhouses are a vital part of Gaza's domestic food infrastructure. Working from satellite imagery from June 2023, we mapped every visible greenhouse structure throughout Gaza. We mapped a total of 8,339 structures. Some were in northern Gaza, but most were south of Wadi Gaza in Deir al-Balah, Khan Younis, and Rafah. In our classification, the architectural signatures of a greenhouse include:

(a) a rectangular perimeter

(b) a continuous roof with plastic sheeting

(c) a parallel grid structure



Figure 4.9. Examples of greenhouses as seen in satellite imagery.

53 For a sample of the coordinates, we cross-referenced the identified greenhouse in satellite imagery with imagery from ground level.



Figure 4.10. Greenhouses in Beit Lahiya.

54 We used before-and-after analysis of satellite imagery, month by month, to monitor the status of greenhouses between October 2023 and June 2024. We categorised the status of the greenhouses as follows:

(A) **Intact**

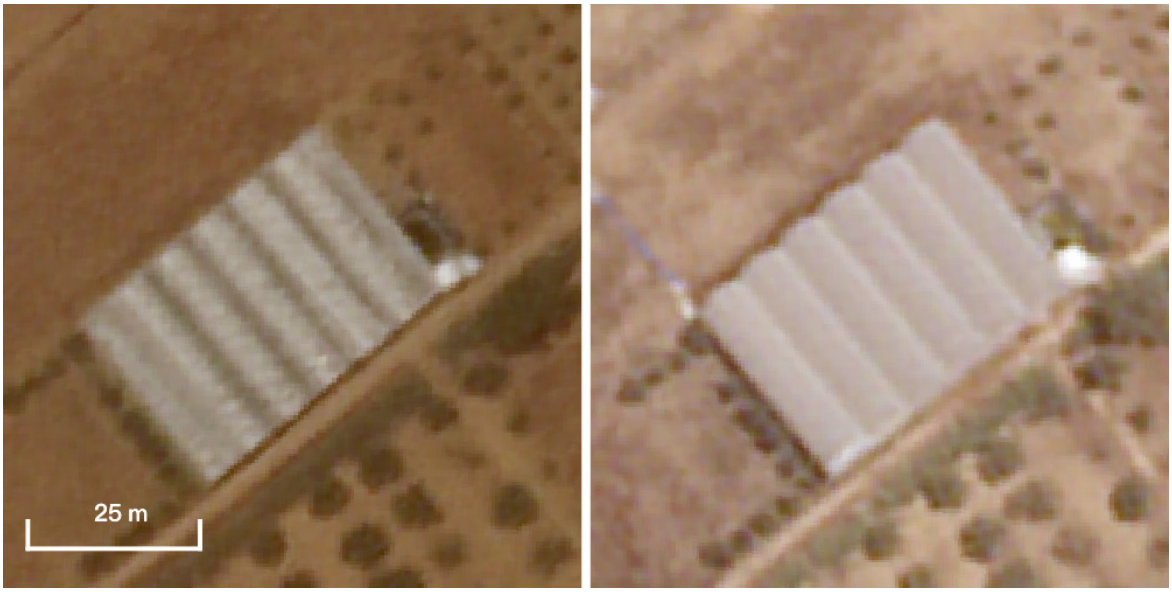

Figure 4.11. Comparison of satellite images from May 2023 and June 2024 indicates a greenhouse that has not suffered any damage during this time. Location (CRS): 87655.74, 78838.95.

(B) **Damaged**



Figure 4.12. Comparison of satellite images from May 2023 and June 2024 indicates a greenhouse that shows signs of damage during this time. Location (CRS): 87979.12, 79271.85.

(C) Destroyed

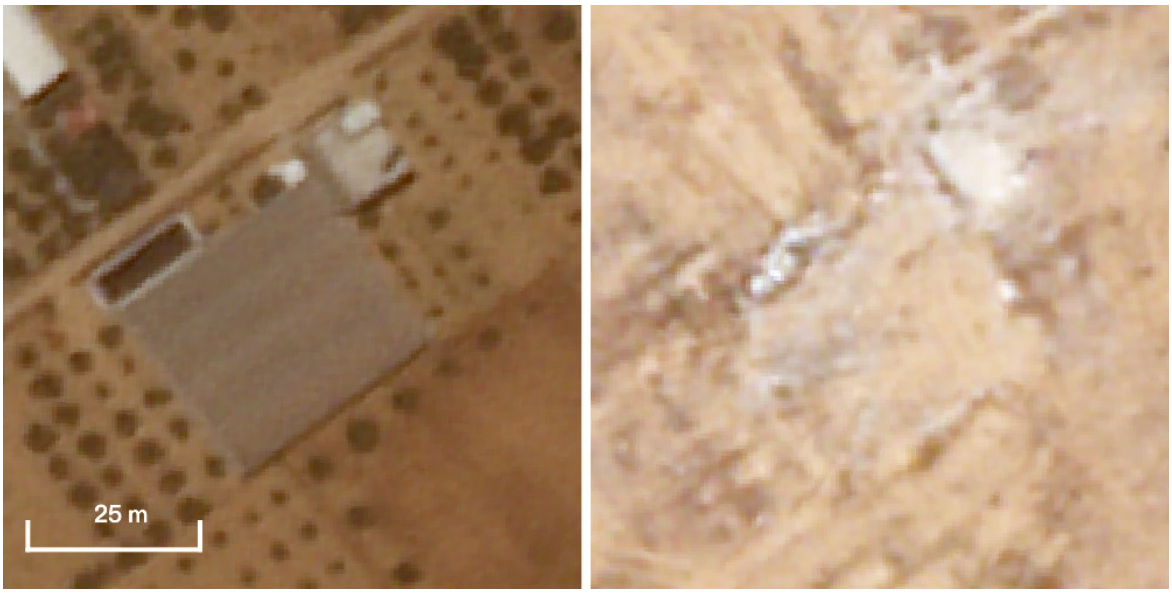

Figure 4.13. Comparison of satellite images from May 2023 and June 2024 indicates a greenhouse that has been destroyed. The area surrounding the greenhouse has also been cleared of vegetation. The ground displays indications of ploughing by bulldozers. Location (CRS): 88742.23, 78482.4.

55 Our analysis suggests that between October 2023 and June 2024, more than 2,000 greenhouses were damaged (light purple) and 1,750 were destroyed (purple) (Figure 4.13). In other words, over 45% of the greenhouses were damaged or destroyed by the Israeli military and approximately only half remain intact (grey).

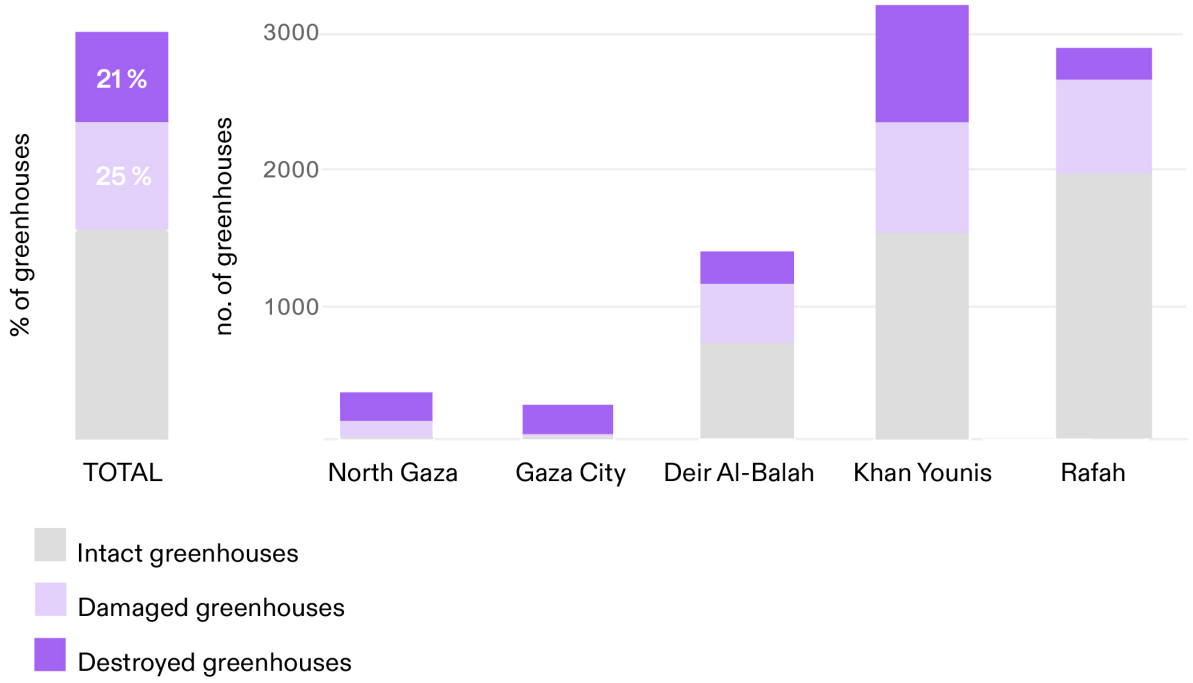

Figure 4.14. Percentages of damaged and destroyed greenhouses across Gaza.

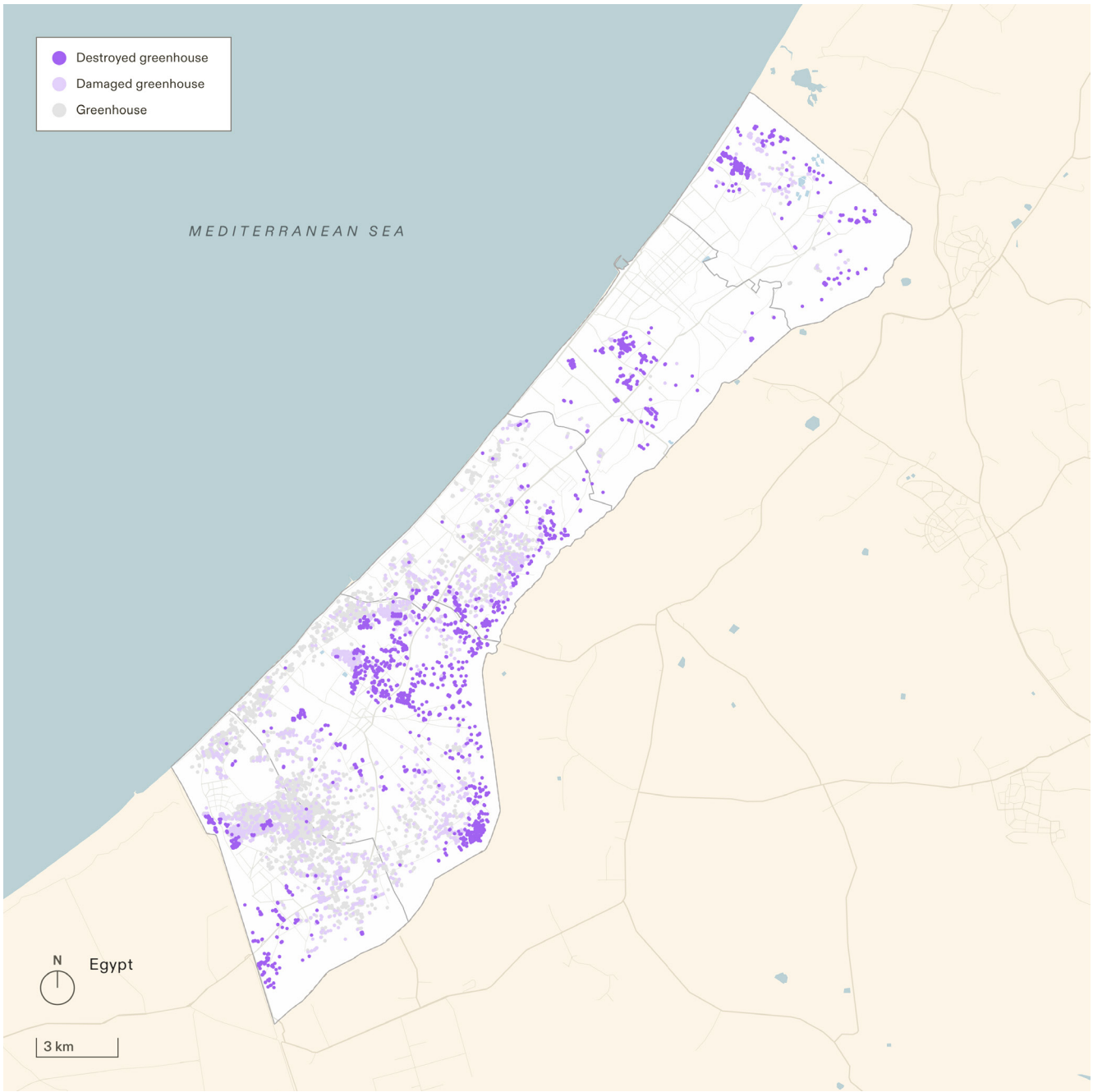

Figure 4.15. Distribution and status of greenhouses across Gaza in June 2024.

7.4 Destruction of water sources

56 Pipelines, desalinations plants, groundwater reservoirs, and reservoirs are key sources of domestic water within Gaza.[11]

57 **Pipelines:**

58 About 12% of Gaza's total available water prior to 9 October 2023 was provided by Mekorot, Israel's national water company. Al Montar, Bani Suhaila, and Bani Saeed pipelines, which supply water to Gaza City, Khan Younis, and Deir al-Balah, were reportedly cut off on 9 October 2023. The latter two were reactivated on 31 October 2023, but interruptions followed.[12] From 9 October 2023 to 26 May 2024, water supply averaged 12,168m^3 /day – less than a quarter (22%) of their capacity.

59 **Desalination plants and wastewater treatment facilities:**

60 Together, desalination plants and wastewater treatment facilities provided 6% of the total water available to the population of Gaza.[13] Gaza's Coastal Municipality Water Utility recorded 29 desalination plants and eight wastewater treatment facilities before October 2023.

61 We analysed the extent of the damage brought to those plants between 7 October 2023 and the end of June 2024. By the end of this period, no wastewater treatment facilities in Gaza remained operational. Eight desalination plants were either damaged or destroyed. The status of 16 facilities could not be confirmed with satellite imagery.

62 Reportedly, since October 2023, NGOs have waited months to receive 'pre-clearance' to enter Gaza with replacement parts for damaged water treatment infrastructure.[14]

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11 'Occupied Palestinian Territory: Water, Sanitation and Hygiene' (*ReliefWeb Response*) <https://response.reliefweb.int/palestine/water-sanitation-and-hygiene> accessed 26 September 2024.

12 Lama Abdul Samad, Martin Butcher and Bushra Khalidi, 'Water War Crimes: How Israel Has Weaponised Water in Its Military Campaign in Gaza' (Oxfam International 2024) <https://www.oxfam.org.nz/wp-content/uploads/2024/07/Final-version_-Gaza-water-Policy-Paper_17July.pdf> accessed 14 October 2024.

13 Lama Abdul Samad, Martin Butcher and Bushra Khalidi, 'Water War Crimes: How Israel Has Weaponised Water in Its Military Campaign in Gaza' (Oxfam International 2024) <https://www.oxfam.org.nz/wp-content/uploads/2024/07/Final-version_-Gaza-water-Policy-Paper_17July.pdf> accessed 14 October 2024.

14 Lama Abdul Samad, Martin Butcher and Bushra Khalidi, 'Water War Crimes: How Israel Has Weaponised Water in Its Military Campaign in Gaza' (Oxfam International 2024) <https://www.oxfam.org.nz/wp-content/uploads/2024/07/Final-version_-Gaza-water-Policy-Paper_17July.pdf> accessed 14 October 2024.

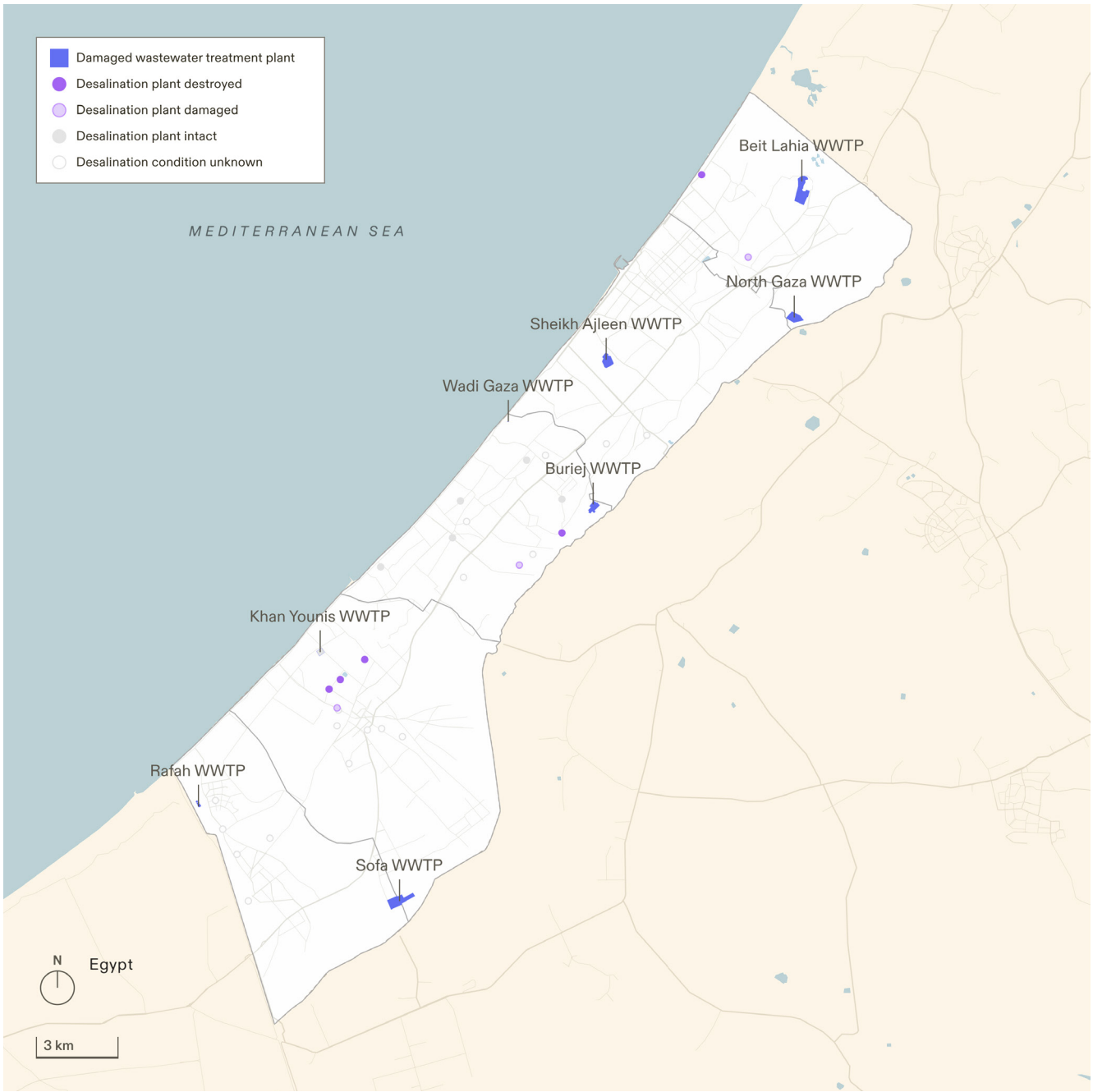

Figure 4.16. Status of desalination plants and wastewater treatment plants (WWTP) across Gaza in June 2024.

63 **Water wells and reservoirs:**

64 Groundwater accounted for 81% of the total water available to the population in Gaza before 7 October 2023. It is accessed through wells and reservoirs.[15] The database of Gaza's Coastal Municipality Water Utility (CMWU) lists 369 groundwater wells and 52 tanks and reservoirs.

65 Water wells are usually composed of an underground borehole, an electric pump, and a small control room above ground. This infrastructure has been severely damaged, affecting vital water resources, and remains inadequate due to fuel shortages. The status of the groundwater wells is best examined by engineers and technicians on the ground. If ground access is not possible, analysis of the status of the wells will remain inconclusive. The database of the CMWU shows that since 7 October 2023, more than 47% of urban water wells are either destroyed or damaged. The status of 29% of the wells is unknown due to the difficulty of accessing them. We used this dataset to analyse the extent of the damage.

66 While wells are challenging to detect via satellite imagery, we assessed the status of water tanks through visual evidence using high-resolution Planet Sat images. Their distinct structure is more easily visible from satellite images, and the CMWU dataset includes their coordinates, aiding identification. Many of the damaged tanks lack solar panels or show clear damage, indicating that these key pieces of infrastructure are no longer operational. Our analysis shows that over 65% of the water tanks and reservoirs have been either destroyed or damaged.

67 The levels of devastation brought by this destruction varies across different parts of Gaza, with severe health impacts on all sectors of the Palestinian population in Gaza. For example, over 60% of the wells in Khan Younis and Deir al-Balah are either destroyed or damaged. The scale of destruction is similar in north Gaza, at 55%.

[15] Lama Abdul Samad, Martin Butcher and Bushra Khalidi, 'Water War Crimes: How Israel Has Weaponised Water in Its Military Campaign in Gaza' (Oxfam International 2024) <https://www.oxfam.org.nz/wp-content/uploads/2024/07/Final-version_-Gaza-water-Policy-Paper_17July.pdf> accessed 14 October 2024.

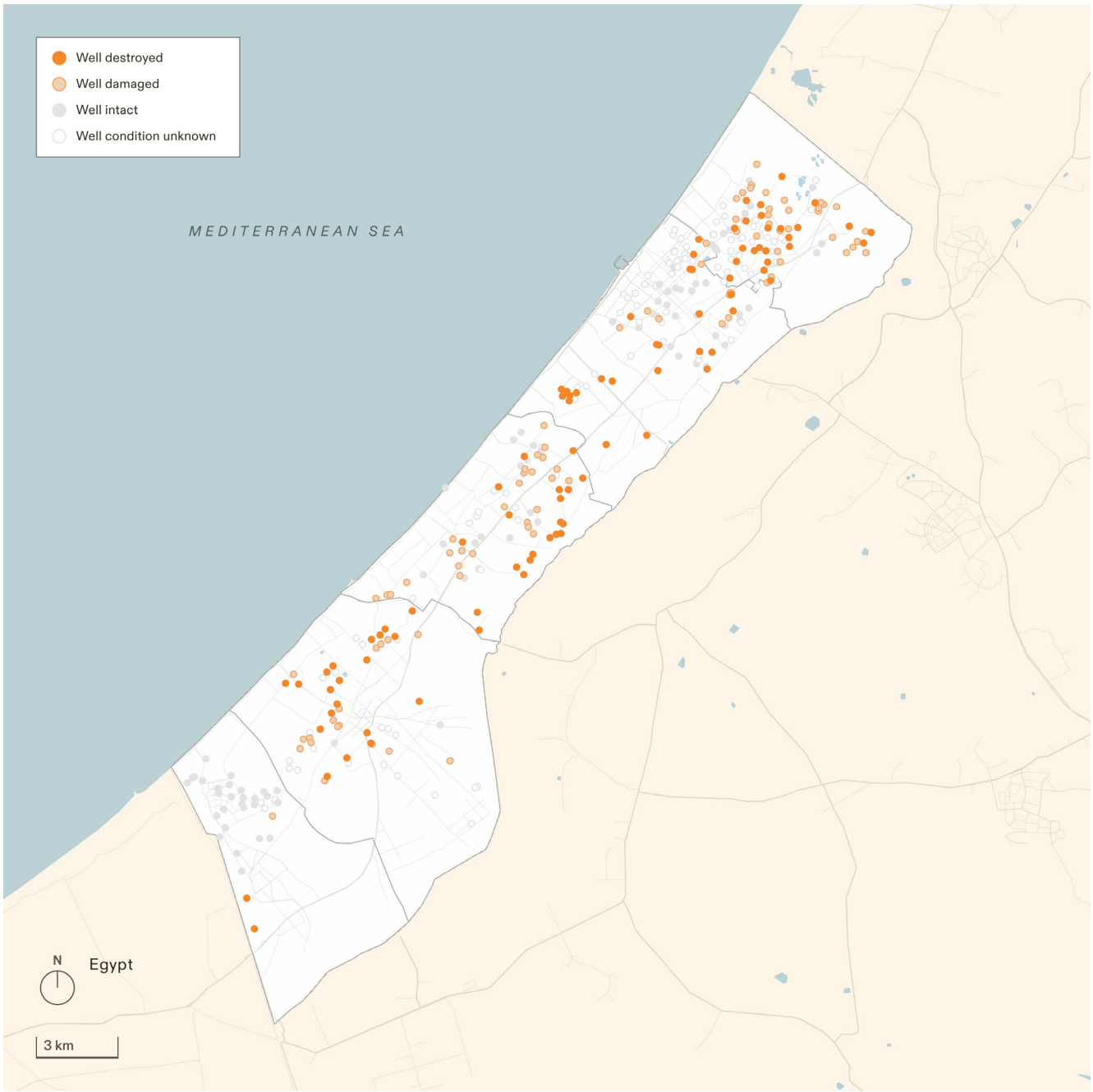

Figure 4.17. Status of water wells in Gaza in May 2024, based on Gaza's Coastal Municipality Water Utility (CMWU).

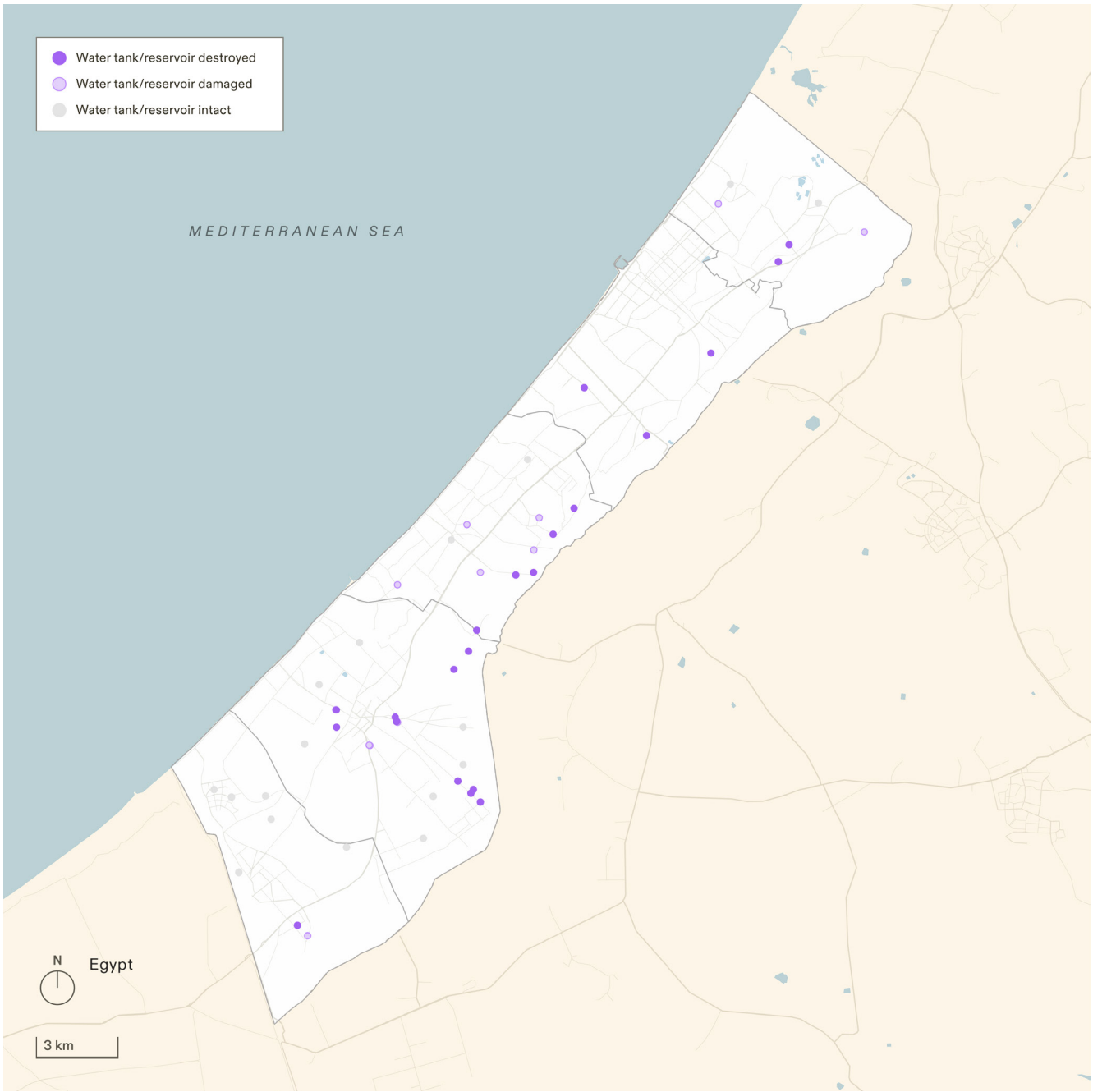

Figure 4.18. Status of water tanks and reservoirs in June 2024.

(A) **Intact**



Figure 4.19. Comparison of satellite images from May 2023 and June 2024 indicates a water reservoir (circular shape) that has not suffered any damage. Location (CRS): 77255.46, 82462.29.

(B) **Damaged**



Figure 4.20. Comparison of satellite images from May 2023 and June 2024 indicates a water reservoir (circular shape) that shows signs of damage. Location (CRS): 102544.70, 108838.20.

(C) **Destroyed**



Figure 4.21. Comparison of satellite images from May 2023 and June 2024 indicates a water reservoir (rectangular shape) has been destroyed. The area surrounding the greenhouse has also been cleared of vegetation. Location (CRS): 78528.04, 81963.78.

I PATTERN FINDINGS

1 *The Israeli military repeatedly destroyed agricultural lands and infrastructure across Gaza.*

1.1 Month-by-month analysis shows a correlation between the destruction of agricultural infrastructure and the Israeli military's ground position.

68 We studied the destruction of farms and greenhouses and in relation to the outlines of the Israeli ground invasion through month-by-month comparisons, covering the period of October 2023 to June 2024. In doing so, we examined the spatial and temporal relationship between the destruction of the agricultural infrastructure and the invasion of the Israeli military. This examination led us to detect the nature of the direct relationship between the two.

69 **October 2023**

70 In October, we recorded damage and destruction to over 600 greenhouse structures throughout Gaza. Overall, 8% of Gaza's greenhouses were affected by the end of October.

71 Due to heavy cloud coverage, we have not been able to measure the level of damage to agricultural lands between 7 and 31 October 2023.

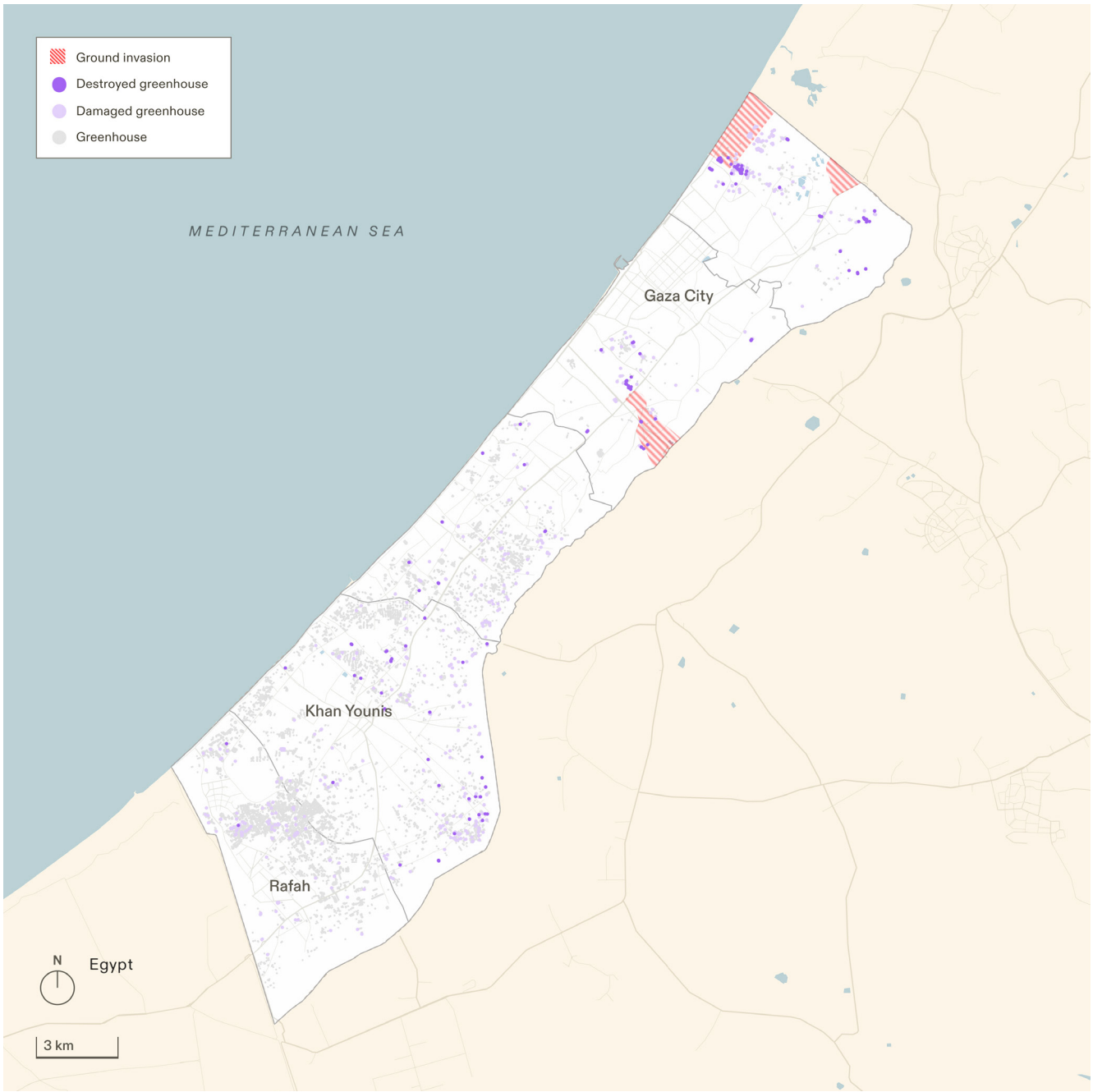

Figure 4.22. Analysis of damage and destruction of greenhouses between 7 and 31 October 2023.

October to November 2023

73 Our analysis shows destruction of large swathes of land along the southern edge of Gaza City, from the eastern perimeter to the sea, and destruction across the northern perimeter.

74 November 2023 characterises the early stage of the full-scale military invasion of Gaza by the Israeli military. The marks of agricultural destruction along the perimeter correspond to the areas under ground invasion. Smaller patches of change in the health of plant life in Rafah may indicate the impact of aerial bombardments.

75 The areas overtaken by the Israeli ground invasion in November 2023 included 29 sq km of agricultural land. Our analysis shows that from these over 7 sq km have been destroyed. This amounts to nearly 25% of the total agricultural area subject to ground invasion.

76 Our analysis shows that 161 greenhouses were fully destroyed during November. Over 340 greenhouses were within the area under the control of the Israeli military; 54% of these were fully destroyed. Overall, 15% of Gaza's greenhouses were affected by the end of November.

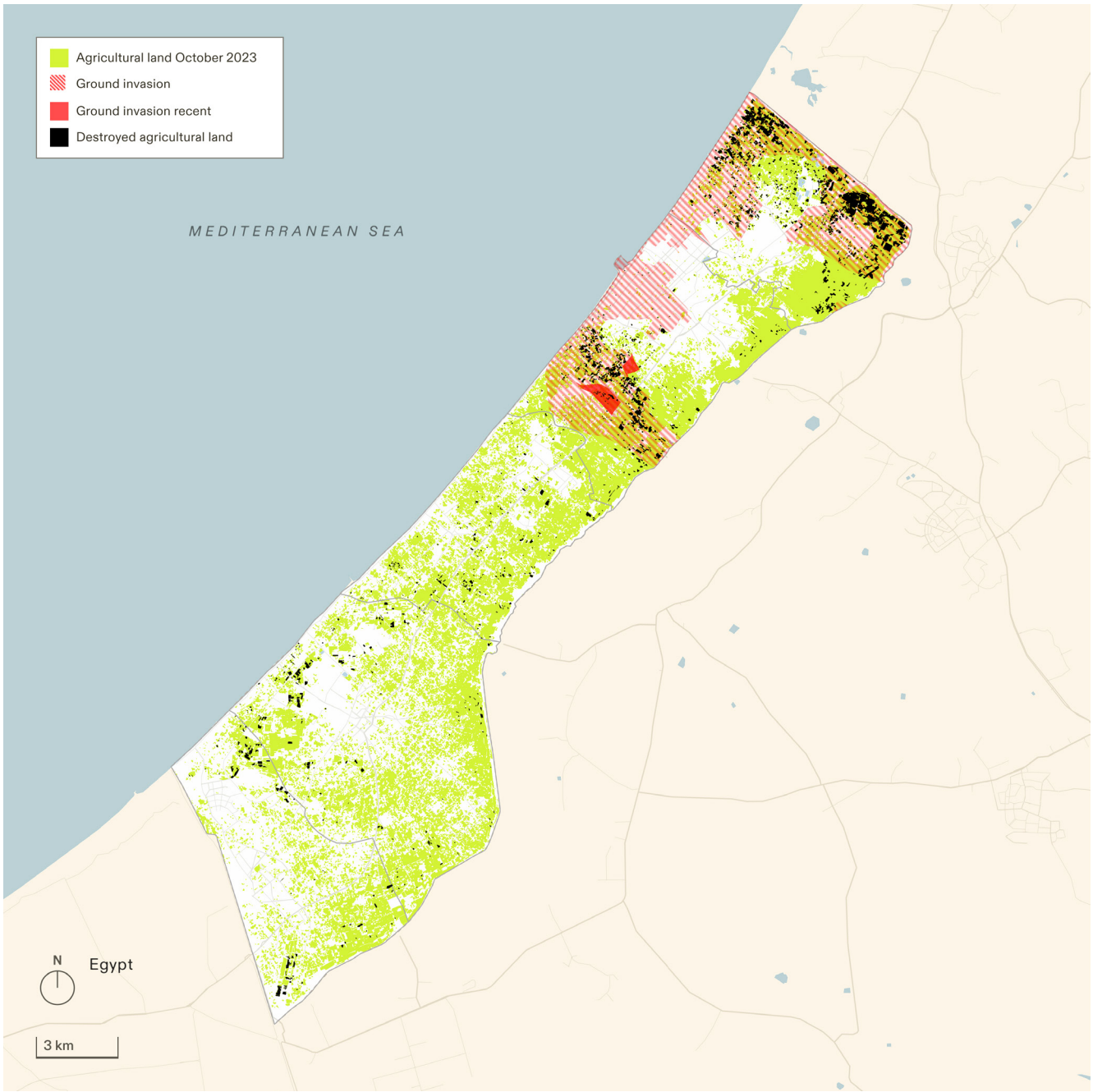

Figure 4.23. Analysis of loss of agricultural infrastructure in relation to ground invasion between October and November 2023. The 'mosaic' that forms the basis of analysis includes satellite imagery from 12, 17, 22 October; 1, 16, 21, 26 November.

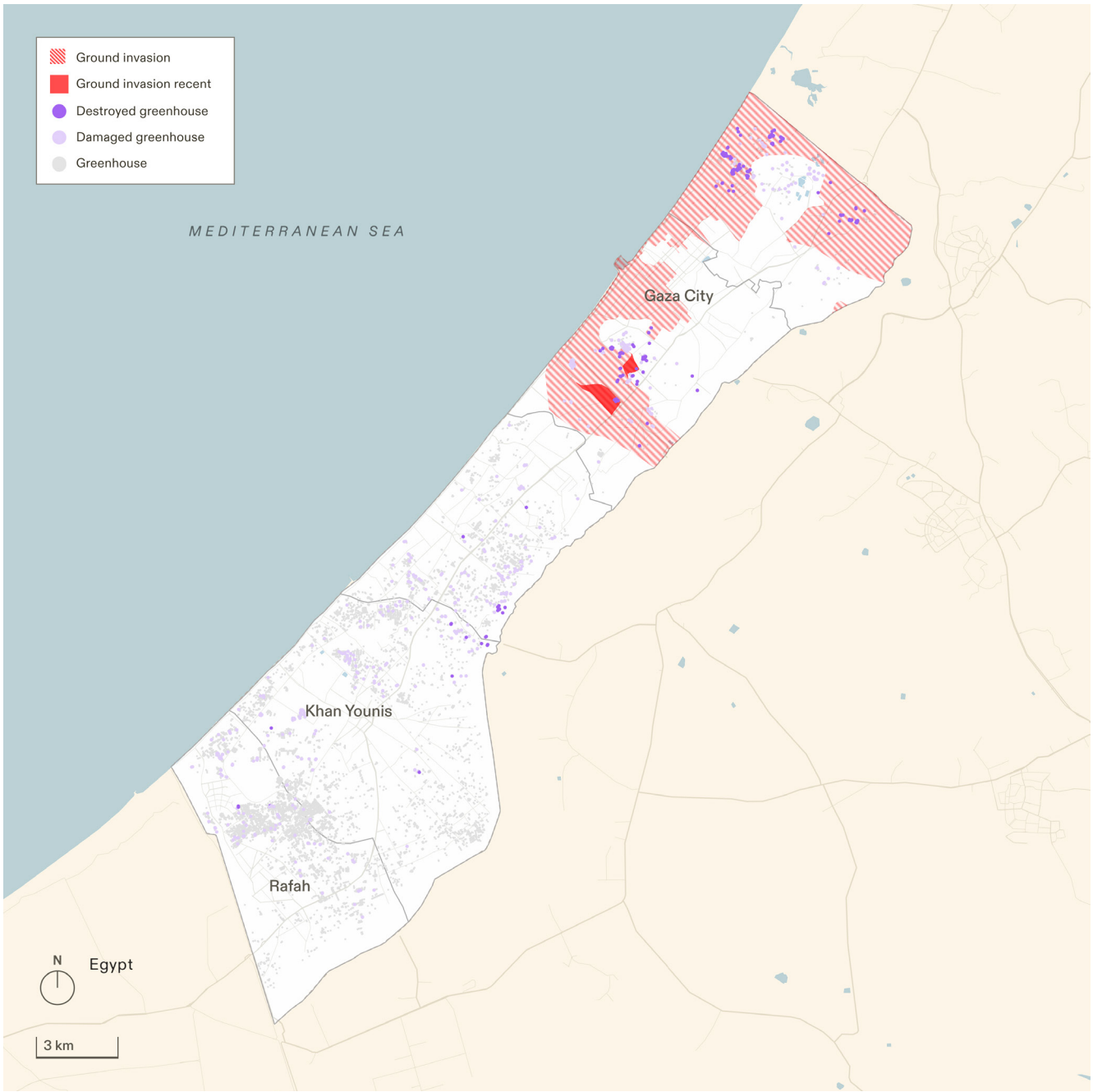

Figure 4.24. Analysis of damage and destruction of greenhouses in relation to ground invasion between October and November 2023.

77 **November to December 2023**

78 Our analysis shows destruction of swathes of agricultural land south of Gaza City, and along Gaza's eastern perimeter in East Jabalia and Khan Younis.

79 December 2023 marks the advance of the Israeli military invasion around Gaza City as well as Khan Younis. The loss of agriculture in this month corresponds spatially to the areas under ground invasion during this month.

80 The areas overtaken by the Israeli military invasion in December 2023 included over 51.5 sq km of agricultural land. From these, over 18.2 sq km have been destroyed. This amounts to 35% of the total agricultural area under invasion.

81 Our analysis shows that 638 greenhouses were fully destroyed during December, including 500 in Khan Younis. Across Gaza, a total of 1,142 greenhouses were damaged by this time, and 930 destroyed, respectively. Overall, 25% of Gaza's greenhouses were affected by the end of November 2023.

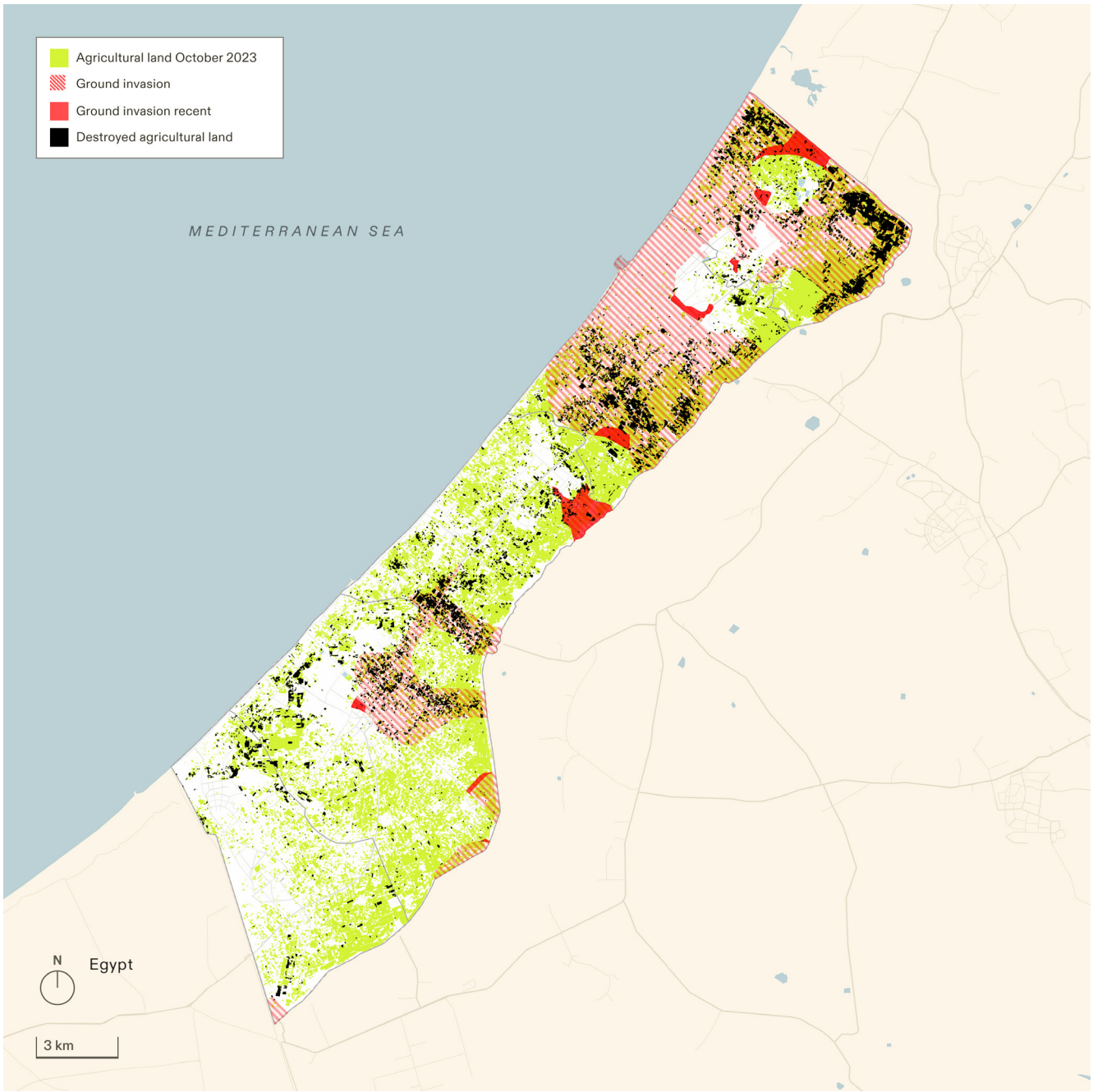

Figure 4.25. Analysis of loss of agricultural infrastructure in relation to ground invasion between November and December 2023. The mosaic that forms the basis of analysis includes satellite imagery from 1, 16, 21, 26 November and 1, 6, 11, 16, 26 December.

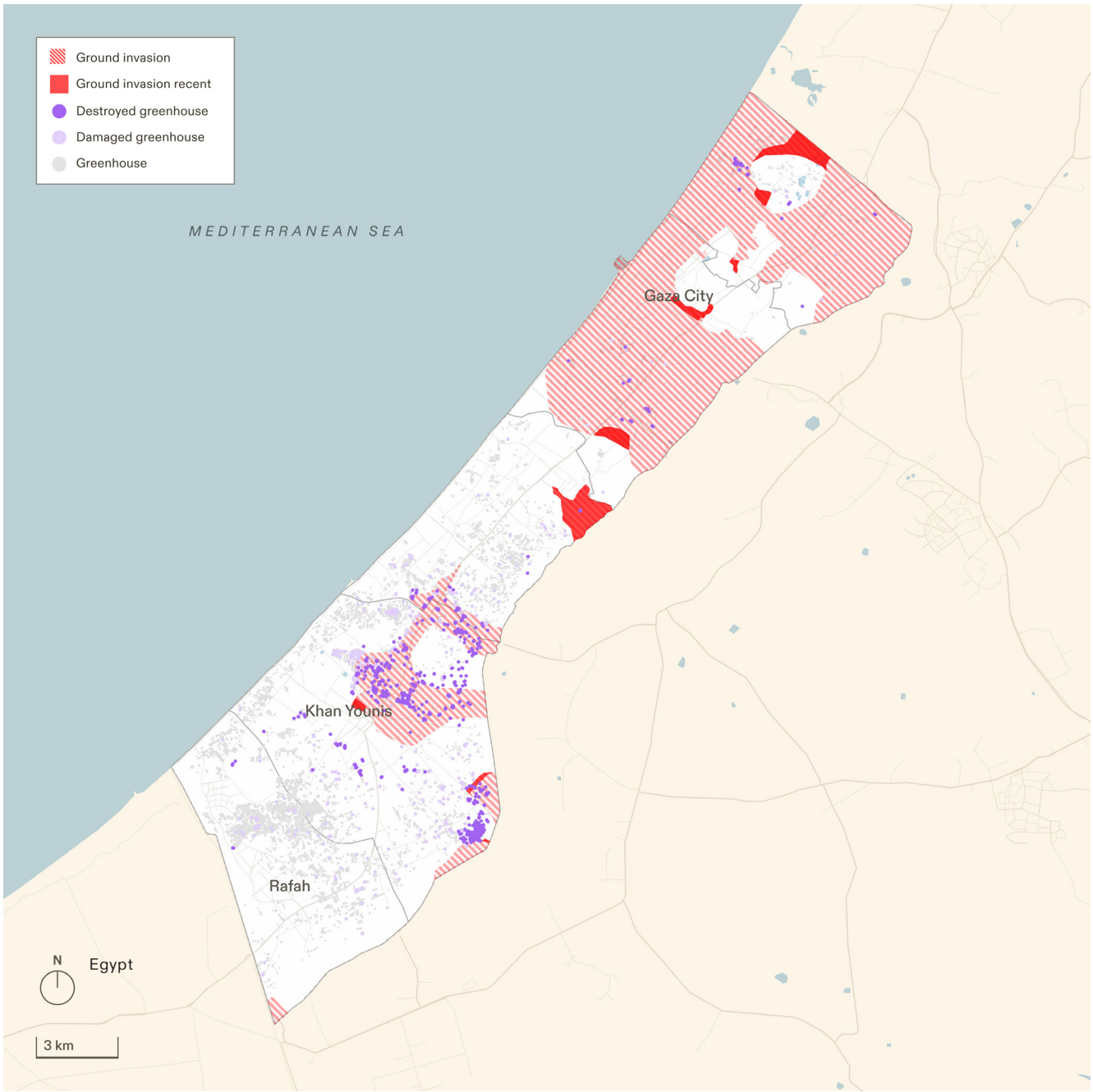

Figure 4.26. Analysis of damage and destruction to greenhouses in relation to ground invasion between November and December 2023.

82 **December 2023 to January 2024**

83 Our analysis shows further destruction of agricultural land in east Jabalia, Deir al-Balah and Khan Younis.

84 January marks the advance of the military invasion in Khan Younis and Deir al-Balah. The loss of agriculture during this month corresponds to the areas invaded.

85 The areas overtaken by the Israeli military invasion in January 2024 included over 79 sq km of agricultural land. From these, over 35.7 sq km were destroyed. This amounts to 45.2% of the total agricultural area under invasion.

86 Our analysis shows that 116 structures were fully destroyed during January, most of which were situated in the south of Wadi Gaza. Overall, 28% of Gaza's greenhouses were affected by the end of January 2024.



Figure 4.27. Analysis of loss of agricultural infrastructure in relation to ground invasion between December 2023 and January 2024. The mosaic that forms the basis of analysis includes satellite imagery from 1, 6, 11, 16, 26 December and 5, 10, 15, 20, 25 January.

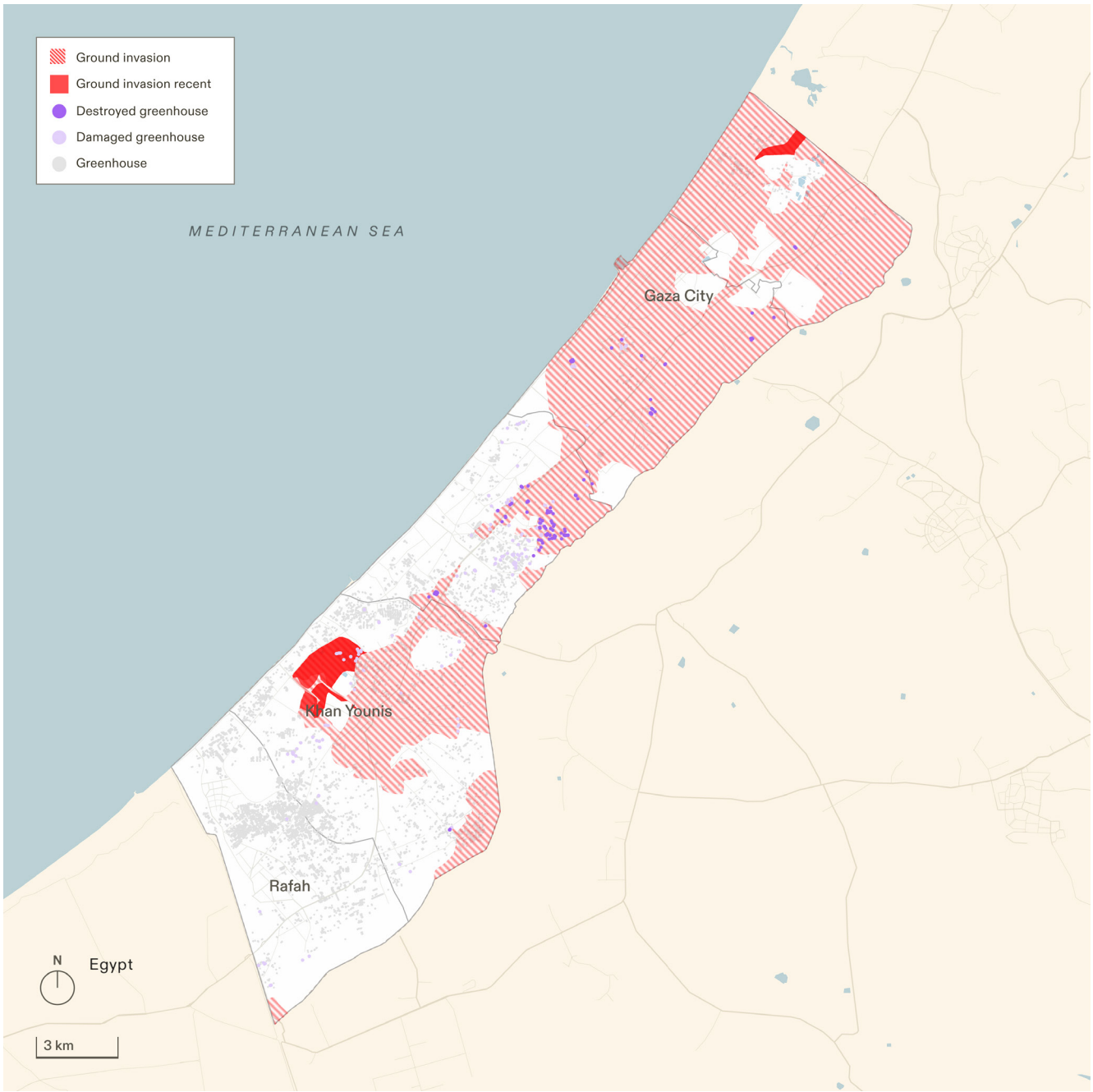

Figure 4.28. Analysis of damage and destruction to greenhouses in relation to ground invasion between December 2023 and January 2024.

87 **January to February 2024:**

88 Due to heavy cloud coverage, we were not able to conduct analysis of the destruction of agricultural land in February.

89 Our analysis shows that 52 greenhouse structures were fully destroyed during February, most of which were situated in Khan Younis. Overall, 29% of Gaza's greenhouses were affected by the end of February 2024.

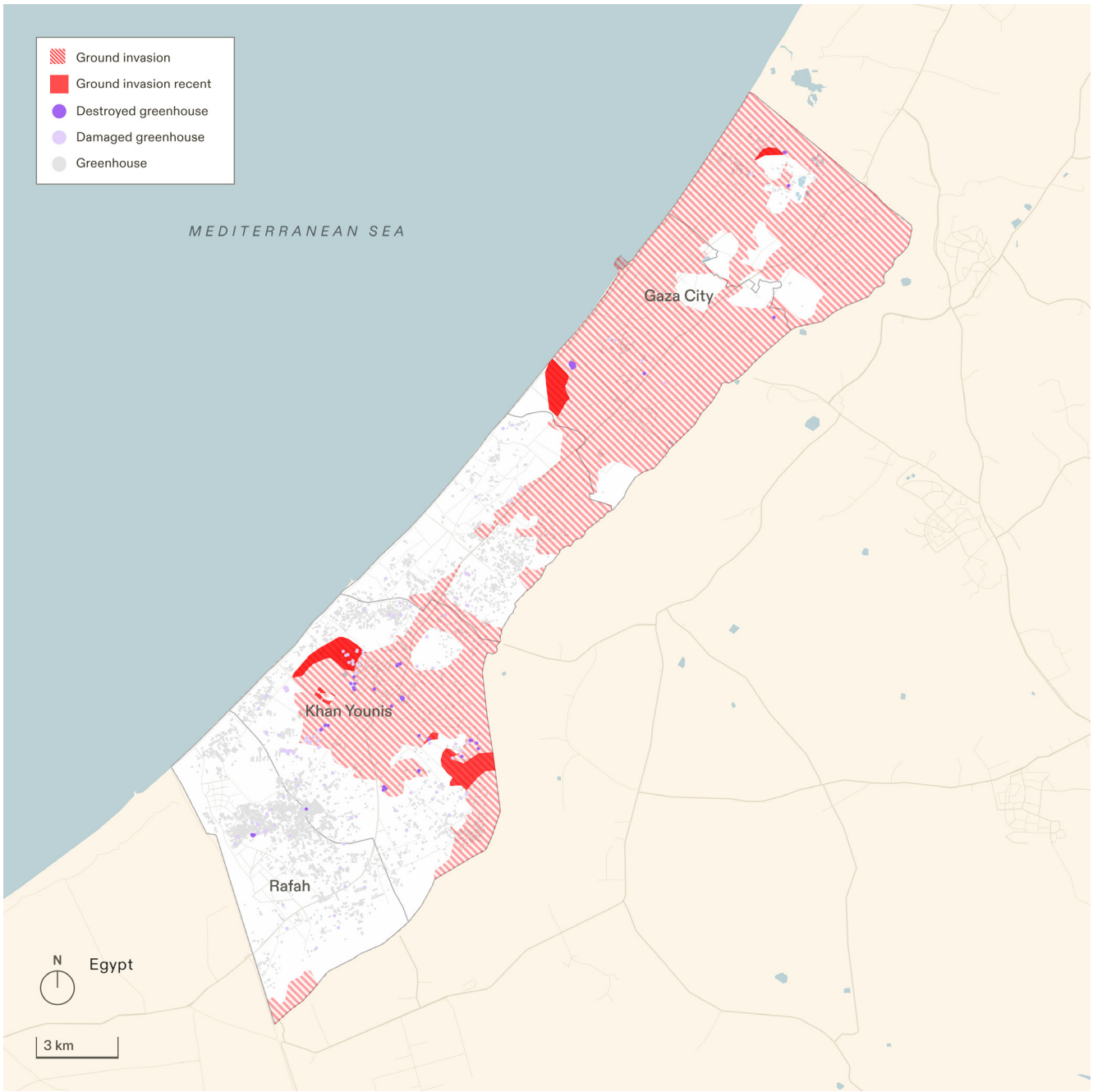

Figure 4.29. Analysis of damage and destruction to greenhouses in relation to ground invasion between January and February 2024.

February to March 2024

91 Our analysis shows the destruction of agricultural land along the southeastern perimeter, near Rafah, along the northern perimeter, and south of Gaza City, including along the Netzarim corridor.

92 Much of the agricultural loss in this month corresponds to the areas under ground invasion. Areas of agricultural land near Rafah that were not subject to ground invasion at the time nevertheless suffered from crop loss, as local farmers were displaced.

93 The areas overtaken by the Israeli ground invasion in March 2024 included about 80.4 sq km of agricultural land. Of this, 44 sq km was destroyed. This amounts to 54.4%, more than half of the total agricultural area under invasion.

94 Our analysis shows that 122 greenhouse structures were fully destroyed during March, most of which were situated in north Gaza along the perimeter and in Khan Younis. Overall, 33% of Gaza's greenhouses were affected by the end of March 2024.



Figure 4.30. Analysis of loss of agricultural infrastructure in relation to ground invasion between February and March 2024. The mosaic that forms the basis of analysis includes satellite imagery from 5, 10, 15, 20, 25 January and 5, 10, 20 March. (Imagery from February was cloudy.)

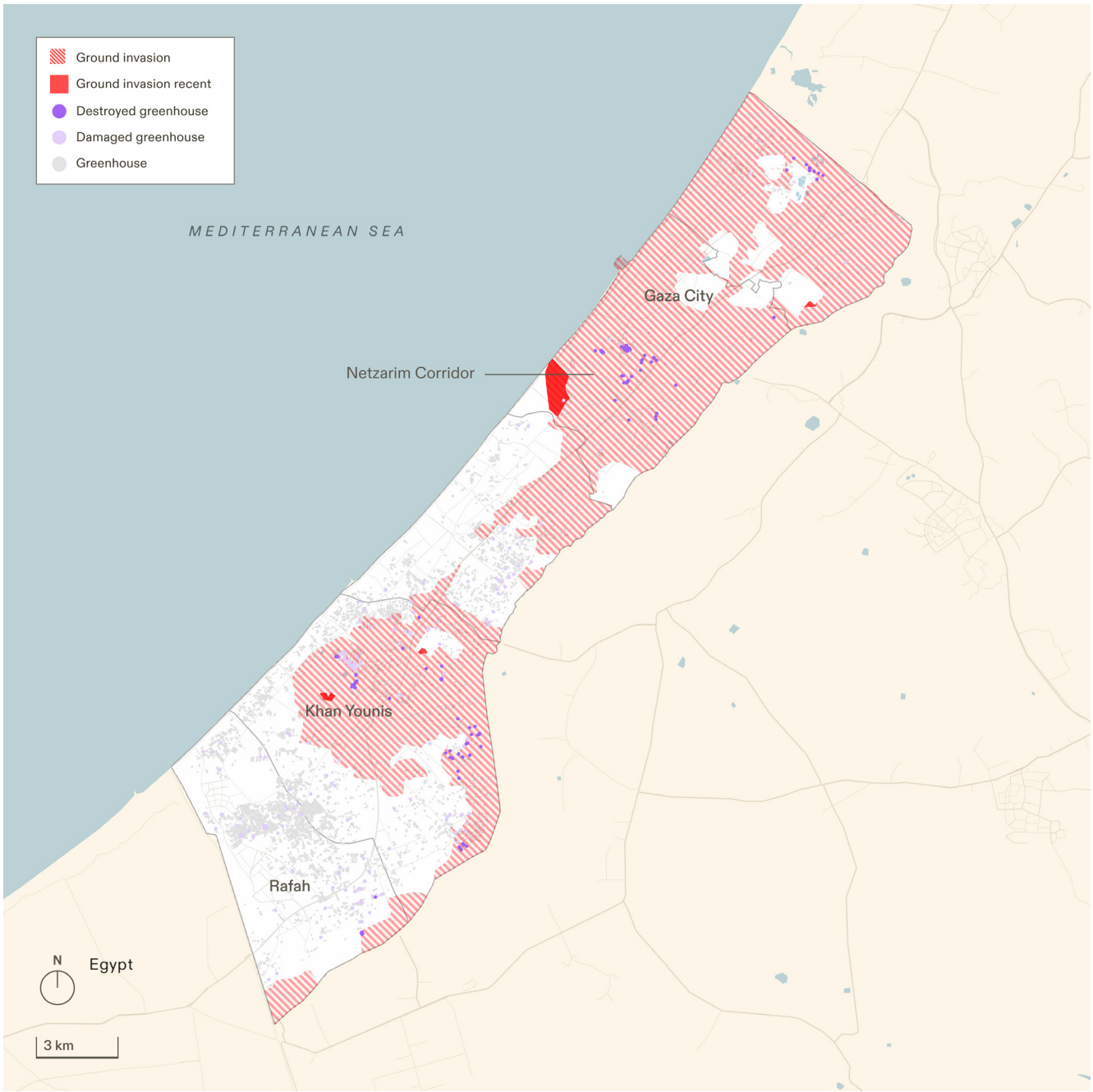

Figure 4.31. Analysis of damage and destruction to greenhouses in relation to ground invasion between February and March 2024.

March to April 2024

96 Our analysis shows the destruction of agricultural land within 1 km of the eastern perimeter between Deir al-Balah and north Gaza. This area closely corresponds with the area maintained by the Israeli military as a buffer zone.

97 Further destruction of agricultural land was also recorded along the Netzarim corridor.

98 Areas overtaken by the Israeli ground invasion in April 2024 included over 86 sq km of agricultural land. Of these areas, over 65 sq km were destroyed. This amounts to 76% of the total agricultural area subject to ground invasion.

99 Our analysis shows that 196 greenhouse structures were fully destroyed during April, most of which were situated in Khan Younis, correlating with map of area overtaken by ground invasion. Overall, 35% of Gaza's greenhouses were affected by the end of April 2024.

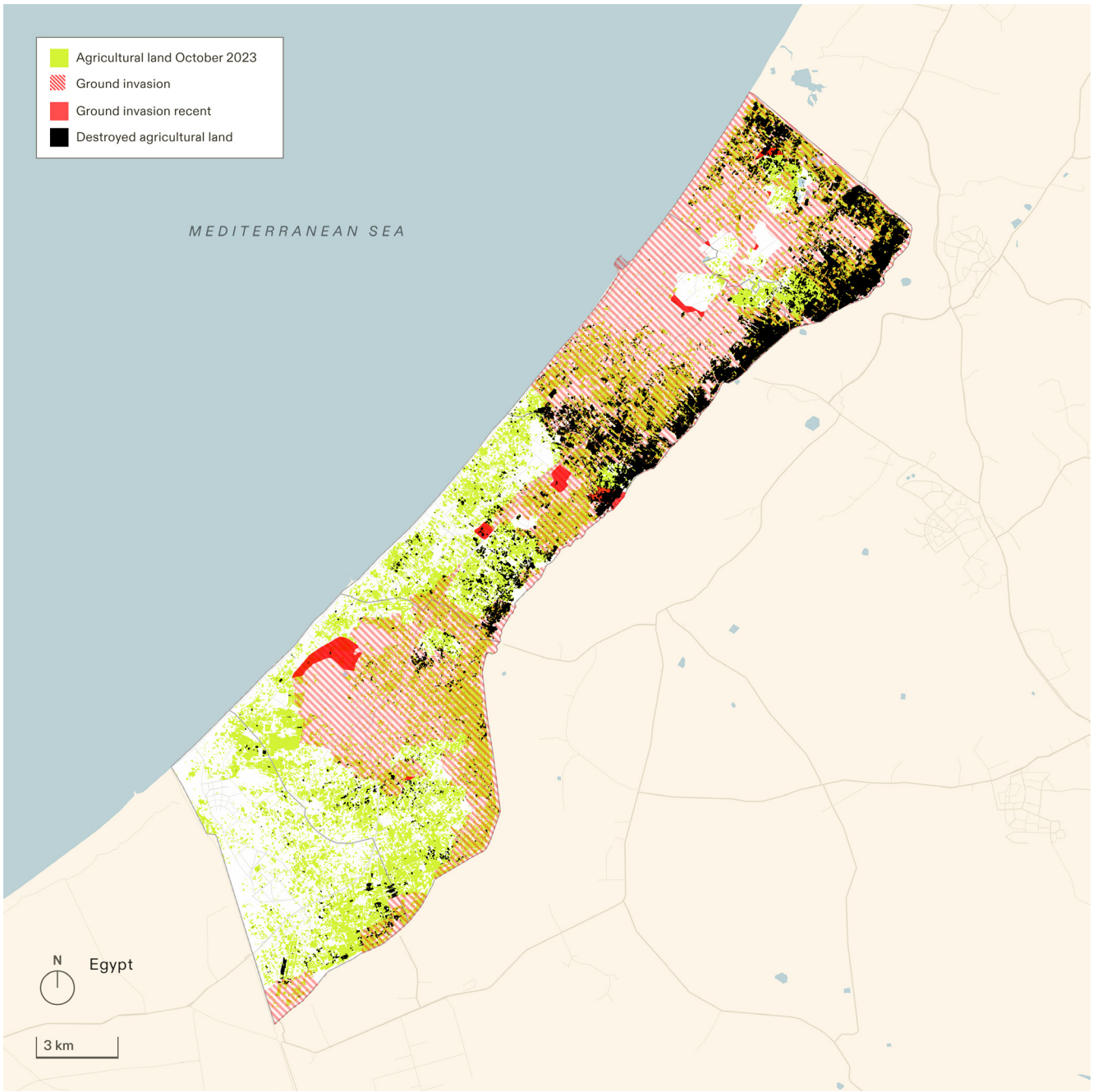

Figure 4.32. Analysis of loss of agricultural infrastructure in relation to ground invasion between March and April 2024. The mosaic that forms the bases of analysis includes satellite imagery from 5, 10, 20 March and 4, 14, 19, 24, 29 April.

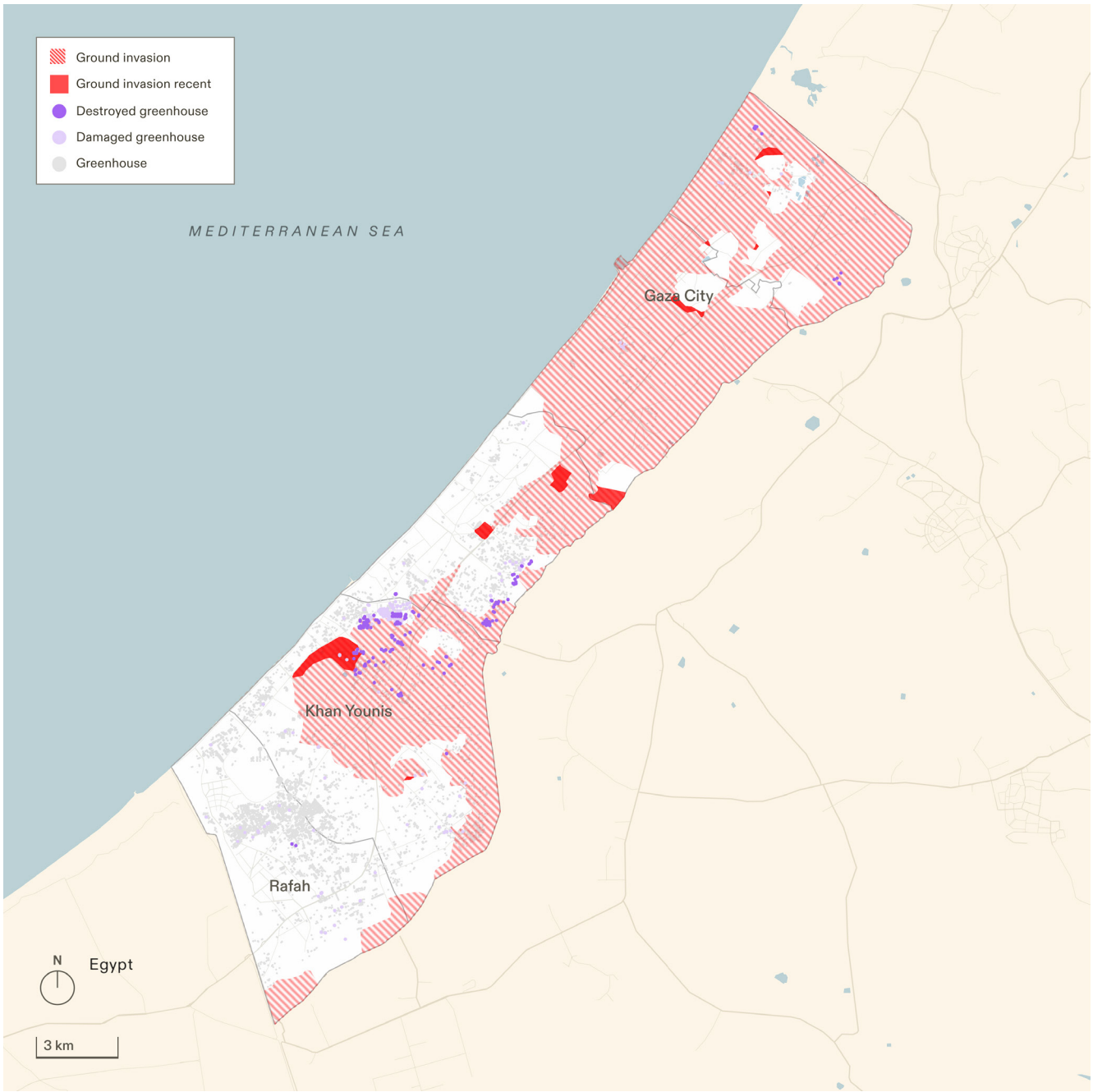

Figure 4.33. Analysis of damage and destruction to greenhouses in relation to ground invasion between March and April 2024.

April to May 2024

100

101 Our analysis shows a new type of land clearing in east Jabalia, and along a raid route developed in January by the Israeli military. For further analysis of this clearing, please refer to Section 2.3.a.

102 The areas overtaken by the Israeli ground invasion in May 2024 included about 18.3 sq km of agricultural land. From these, about 14 sq km were destroyed. This amounts to approximately 77% of the total agricultural area under invasion.

103 Our analysis shows that 127 greenhouse structures were fully destroyed during May, most of which were situated in Rafah, correlating with map of area overtaken by ground invasion. At this stage, almost all of the greenhouses in Gaza City have been destroyed or damaged, 90% in north Gaza, 50% in Khan Younis, and 40% in Deir al-Balah. Overall, 39% of Gaza's greenhouses were affected by the end of May 2024.

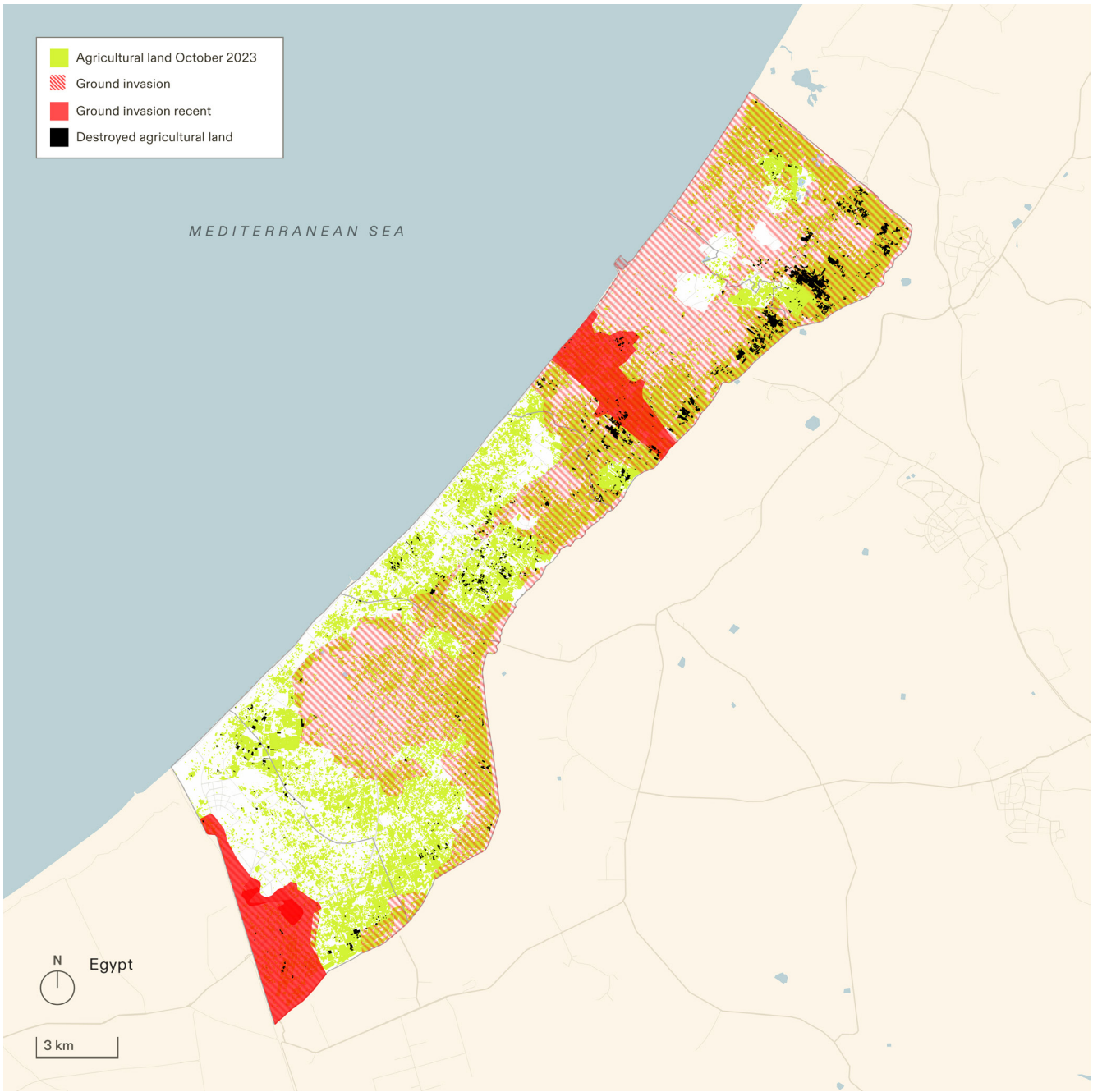

Figure 4.34. Analysis of loss of agricultural infrastructure in relation to ground invasion between April and May 2024. The mosaic that forms the bases of analysis includes satellite imagery from 4, 14, 19, 24, 29 April and 4, 9, 14, 24, 29 May.

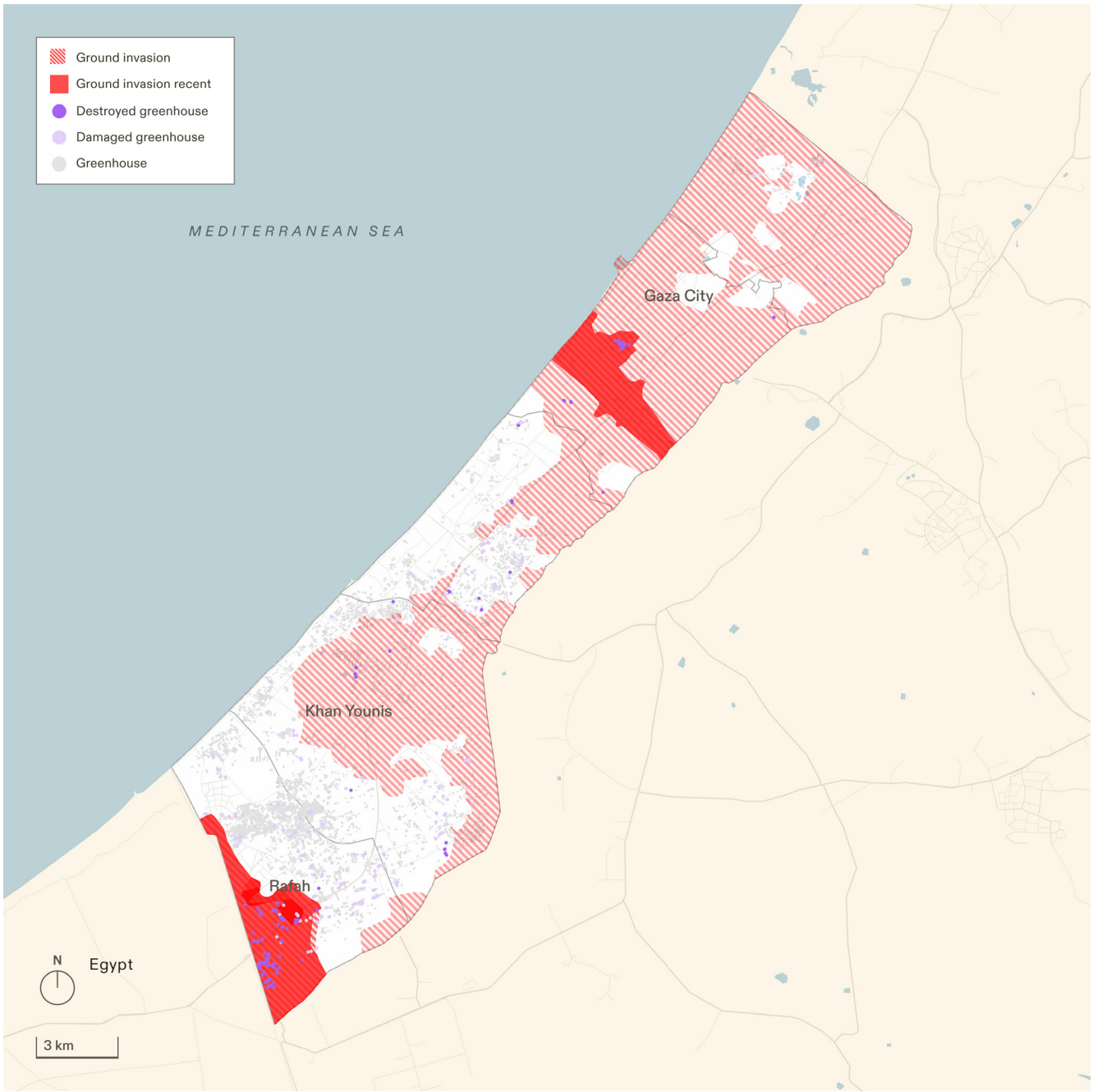

Figure 4.35. Analysis of damage and destruction brought to greenhouses in relation to ground invasion between April and May 2024.

May to June 2024

104

105 Our analysis shows the continuation of Israeli military land clearing in east Jabalia from east to west and alongside a raid route developed in January by the Israeli military. For further analysis of this development, please refer to Section 2.3.a.

106 The areas overtaken by the Israeli military invasion in June 2024 included about 17.2 sq km of agricultural land. From these, about 12.59 sq km were destroyed. This amounts to approximately 73% of the total agricultural area under invasion.

107 Our analysis shows that 218 greenhouse structures were fully destroyed during June, most of which were situated in Rafah, correlating with map of area overtaken by ground invasion. At this stage, the ratio of destroyed and damaged greenhouses in Rafah has almost doubled from the month before, reaching 30%. Overall, 46% of Gaza's greenhouses were affected by the end of June 2024.

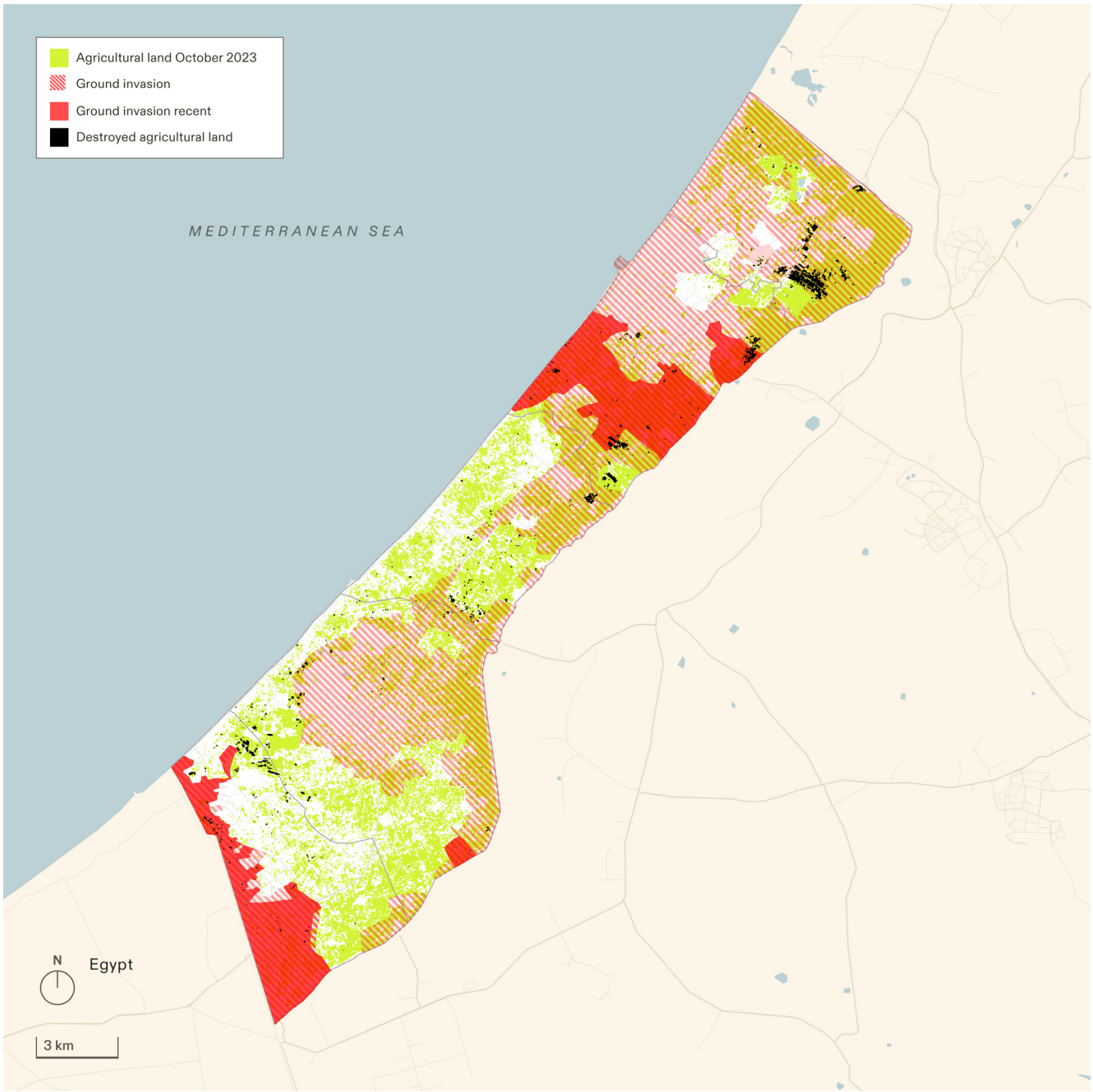

Figure 4.36. Analysis of loss of agricultural infrastructure in relation to ground invasion between May and June 2024. The mosaic that forms the bases of analysis includes satellite imagery from 4, 9, 14, 24, 29 May and 3, 8, 11, 13, 18, 23 June.

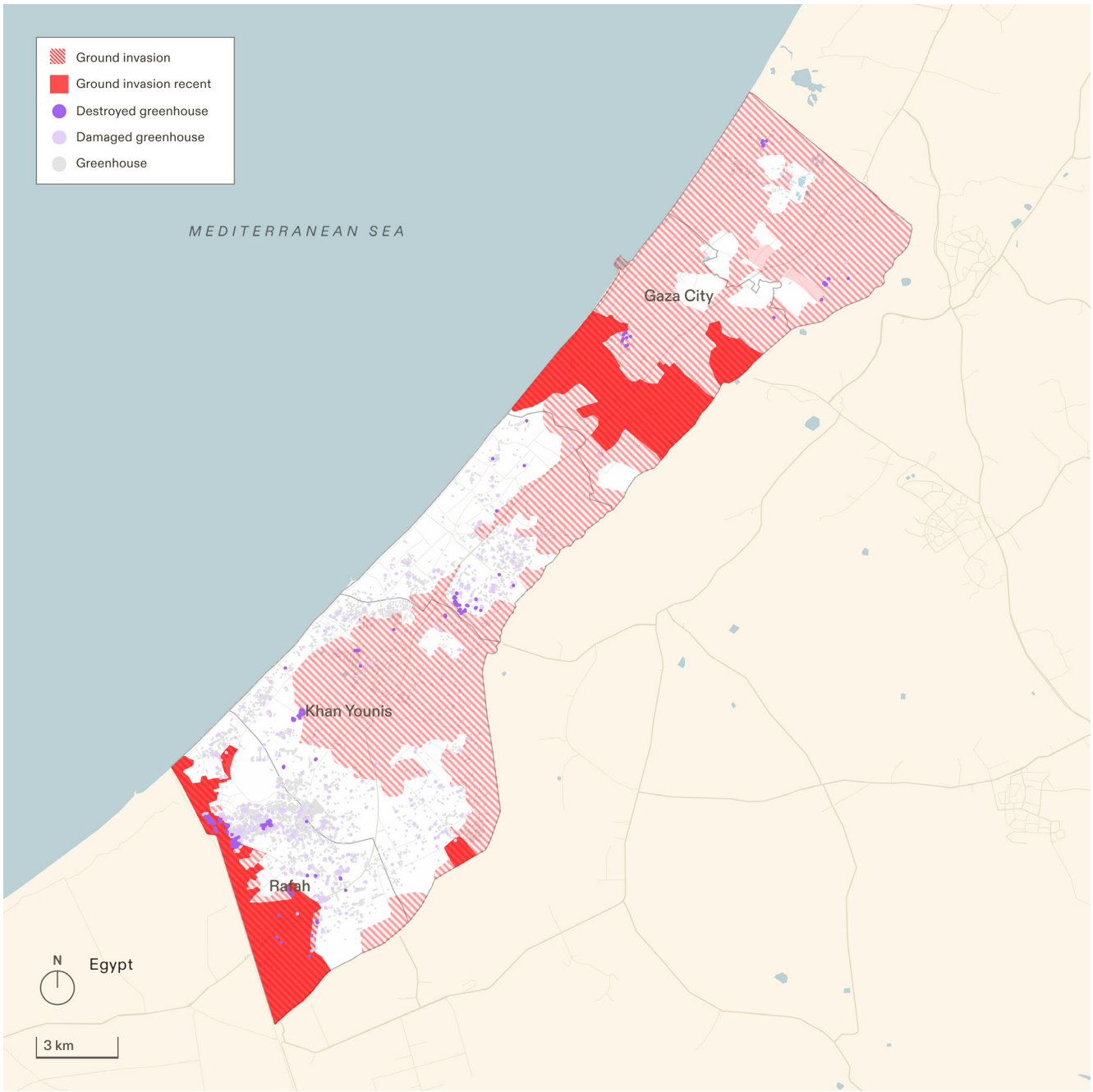

Figure 4.37. Analysis of damage and destruction to greenhouses in relation to ground invasion between May and June 2024.

1.2 The destruction of agricultural lands and infrastructure was cumulative and repeated.

108 Between October 2023 and June 2024, a total of over 104 sq km of agricultural land was destroyed (Figure 4.39). That is about 70% of the agricultural land.

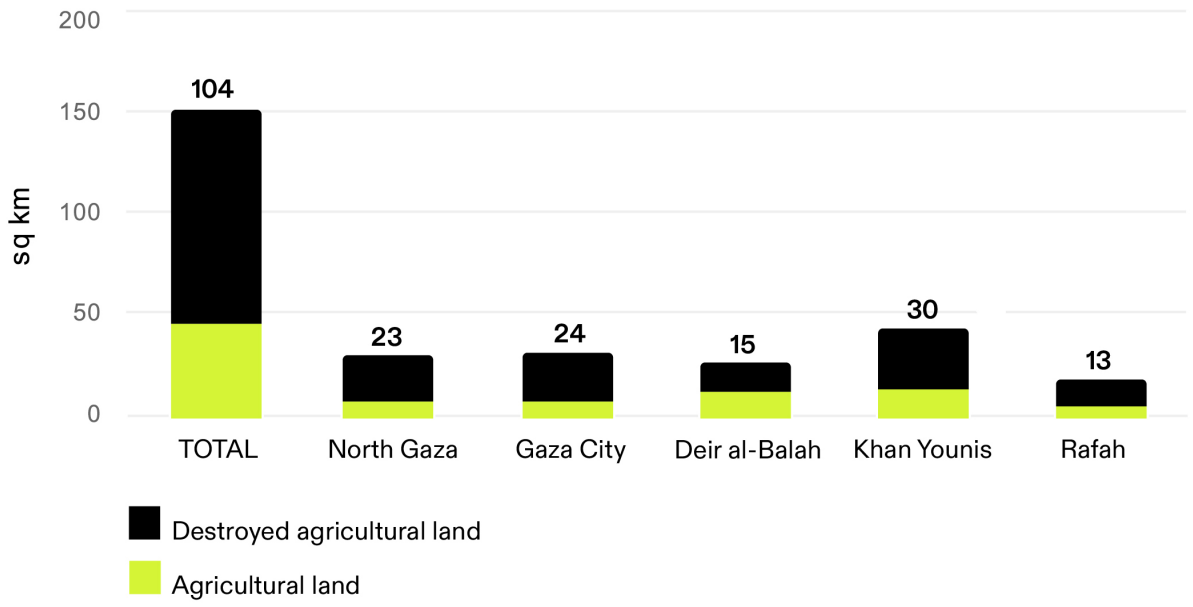

Figure 4.38. Analysis of the cumulative destruction of agricultural land between October 2023 and June 2024.

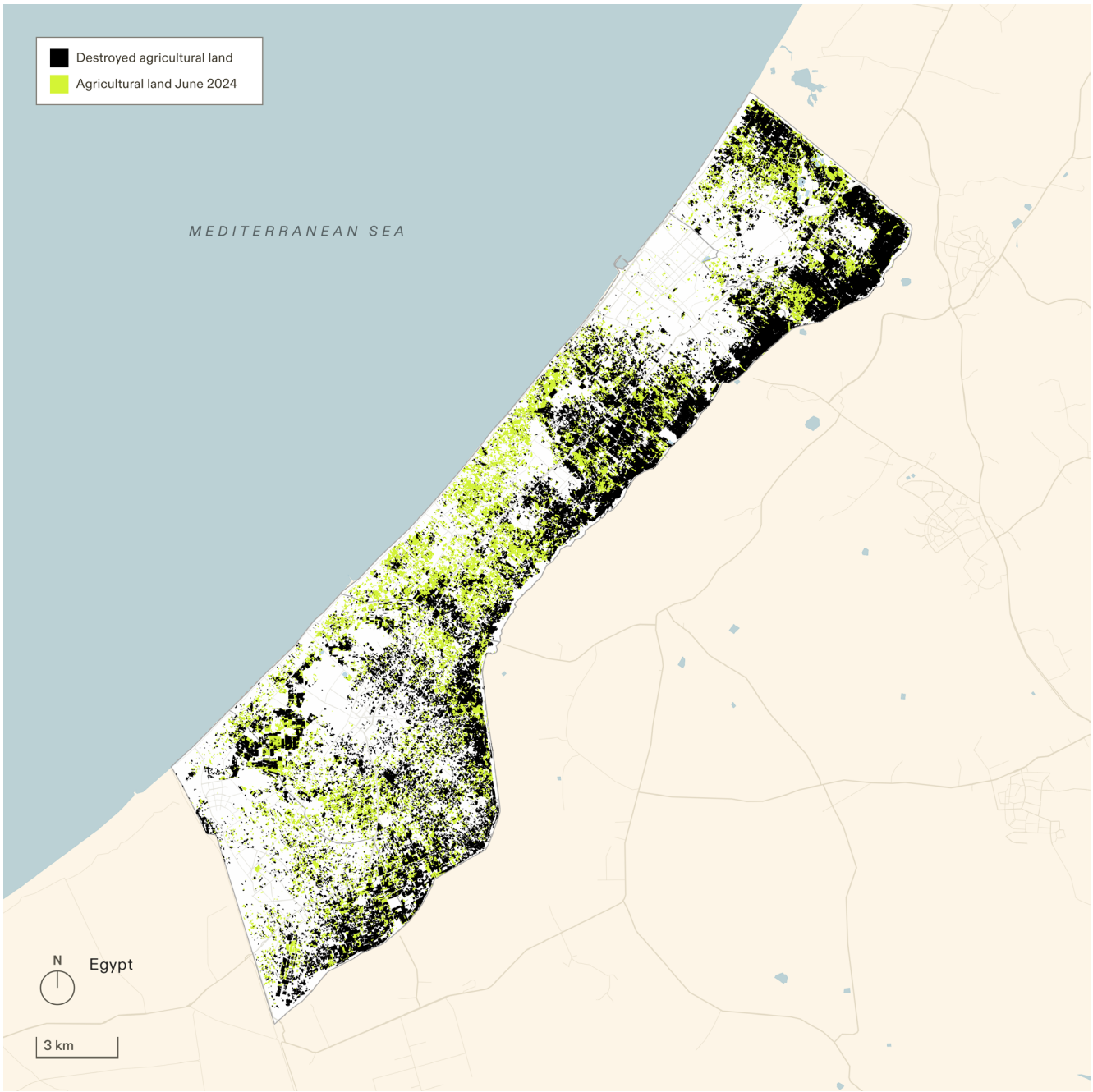

Figure 4.39. Cumulative destruction of agricultural land between October 2023 and June 2024.

109 Agriculture was one of the most productive sectors in Gaza prior to October 2023.[16] The loss of agricultural farmlands, their infrastructure and surrounding areas, translates into the entire loss of livelihoods for Palestinian farmers – rendering them unable to support themselves and their families.

110 Agricultural destruction increases dependency on foreign aid and on the steady import of goods – both of which have been severely restricted since October 2023. The reduction of local food production capacity combined with the restriction of imports into Gaza has resulted in a widely reported ongoing famine and cases of malnutrition.[17]

[16] 'FOOD SYSTEMS PROFILE - PALESTINE Catalysing the sustainable and inclusive transformation of food systems' <https://openknowledge.fao.org/server/api/core/bitstreams/1cf6af5c-e6a0-415f-b1dc-c54abbe300ba/content> accessed on 26 September 2024.

[17] 'UN Experts Declare Famine Has Spread throughout Gaza Strip' (*OHCHR*) <https://www.ohchr.org/en/press-releases/2024/07/un-experts-declare-famine-has-spread-throughout-gaza-strip> accessed 26 September 2024.

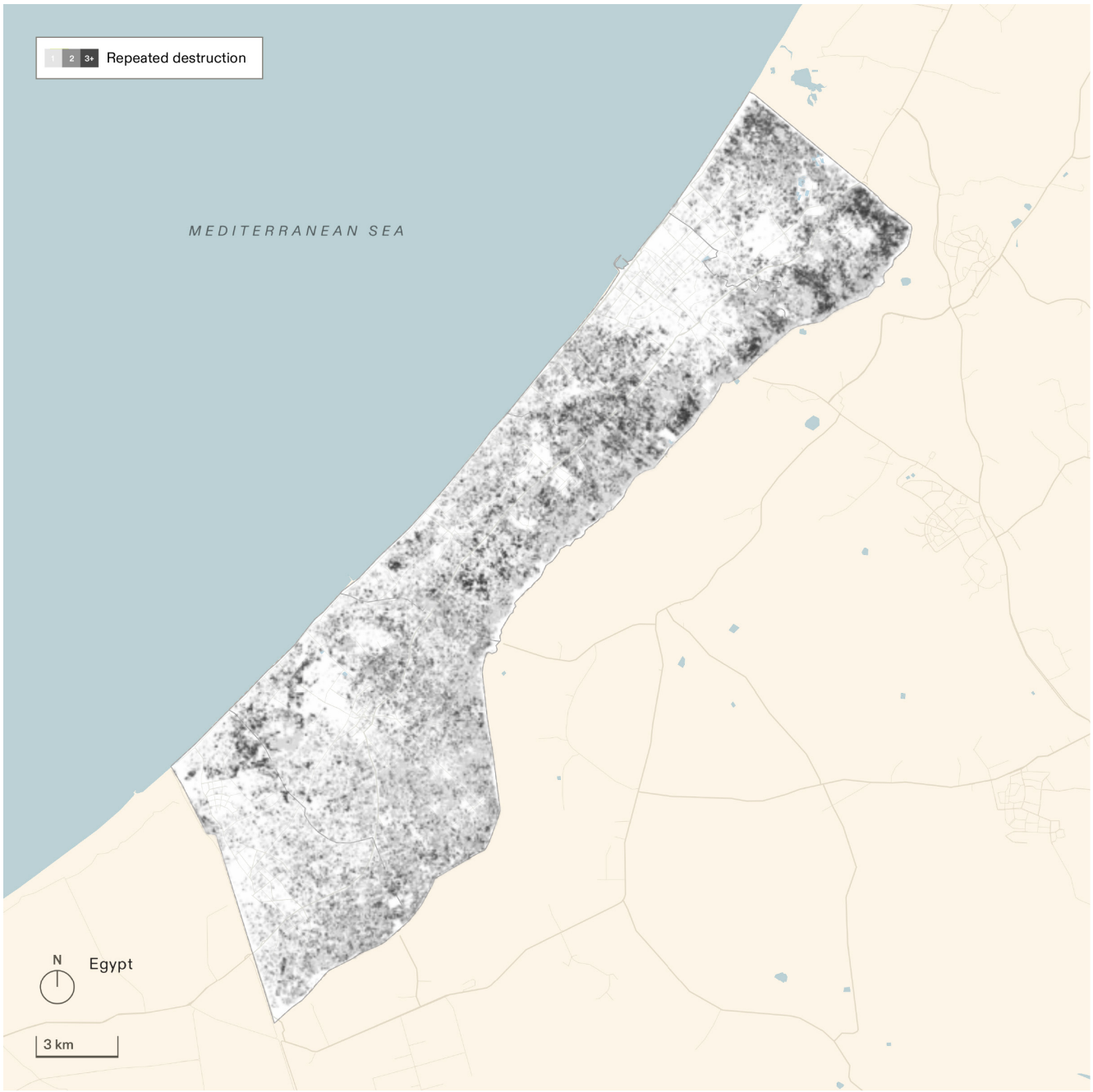

Figure 4.40. Repeated incidents of destruction of agricultural land between October 2023 and June 2024.

111 Our month-by-month NDVI analysis suggests that certain areas in Gaza have been subjected to repeated land clearing and destruction by the Israeli military. Large areas of agricultural land, adding up to approximately 47 sq km, have undergone destruction more than three times in the period between October 2023 and June 2024. These repeat destructions are more severe along the northern and eastern perimeter of Gaza, including in east Jabalia, Deir al-Balah, and Khan Younis.

112 Repeated destruction by the Israeli military suggests that it is not incidental to operational contingency. As analysis in Chapter 2: Spatial Control shows, it closely overlaps with the buffer zones and the margins of the raid routes and corridors giving the military a degree of control.

1.3 Agricultural lands and infrastructure were destroyed using military equipment and weapons

113 We have documented the use of bulldozers as well as airstrikes as the means for destruction of agricultural infrastructure. Our findings are corroborated by witness statements from Gazan farmers.

(A) Bulldozers and routes: an orchard in east Jabalia

114 Until October 2023, the Abu Suffiyeh family cultivated one of the last olive, pomegranate, and citrus orchards near the eastern perimeter of Gaza, in east Jabalia.

115 About 500m from the Israeli-imposed buffer zone, agricultural land cultivated by farmers in this area was often threatened with bulldozing by the Israeli military, which declared that any vegetation higher than 1m in the vicinity of their military no-go area was a security threat and must be flattened.[18]



Figure 4.41. Drone image showing the Abu Suffiyeh farm in relation to the perimeter, 2018.

[18] 'Special Focus - Humanitarian Impact of Israeli Restrictions on Access to Land and Sea in the Gaza Strip - OCHA/WFP Report' (*Question of Palestine*) <https://www.un.org/unispal/document/auto-insert-196584/> accessed 26 September 2024.

116 The tightening of the Israeli blockade of Gaza in 2007 prevented access to clean water and vital farming materials. The Abu Suffiyeh family equipped their orchard with a water tank and set up a few small buildings for storage. Through careful and assiduous tending their orchard grew tall by 7 October 2023 (Figure 4.42).

117 Satellite imagery from 30 November 2023 shows that this orchard was destroyed by the Israeli ground invasion. The surface area displays clear signs of ploughing by D9 bulldozers and earth berms. The water tank feeding the farm was also destroyed.



Figure 4.42. Comparison of satellite images from 18 November 2023 (above) and 30 November 2023 (below) shows the destruction of the Abu Suffiyeh family's orchard. The surface area displays clear signs of ploughing by D9 bulldozers (marked in orange) and earth berms (marked in yellow).



Figure 4.43. Comparison of satellite images from 18 November 2023 (above) and 30 November 2023 (below) shows the destruction of the Abu Suffiyeh family's orchard.

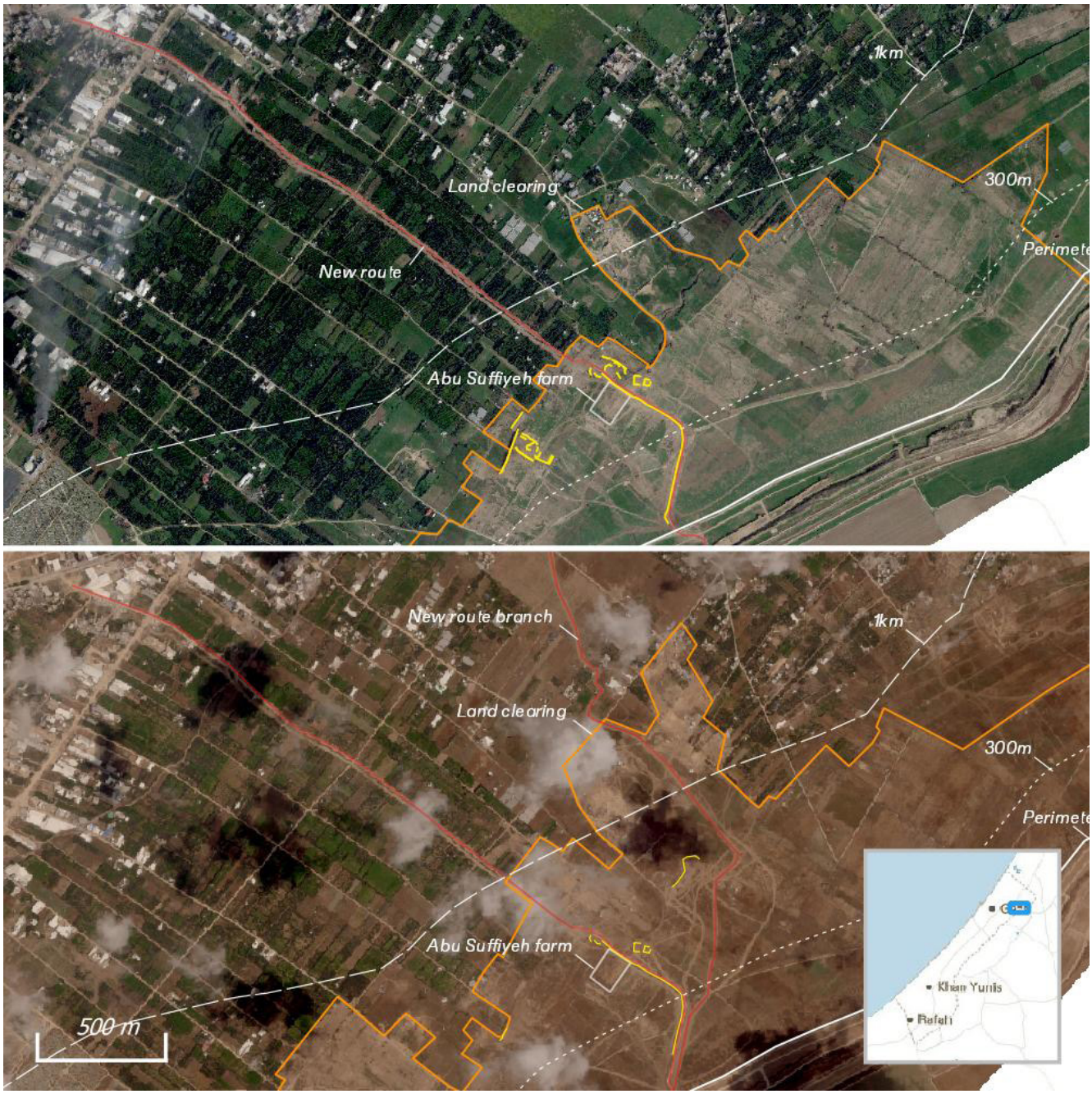

Figure 4.44. Satellite images from 20 January 2024 (above) and 5 May 2024 (below) show clearing and bulldozing of the land, and the construction of a route (in red) and earth berms (in yellow) by the Israeli military. This marks the beginning of the construction of raid route 4 (see Chapter 2: Spatial control, Figure 2.34 and Figure 2.49).

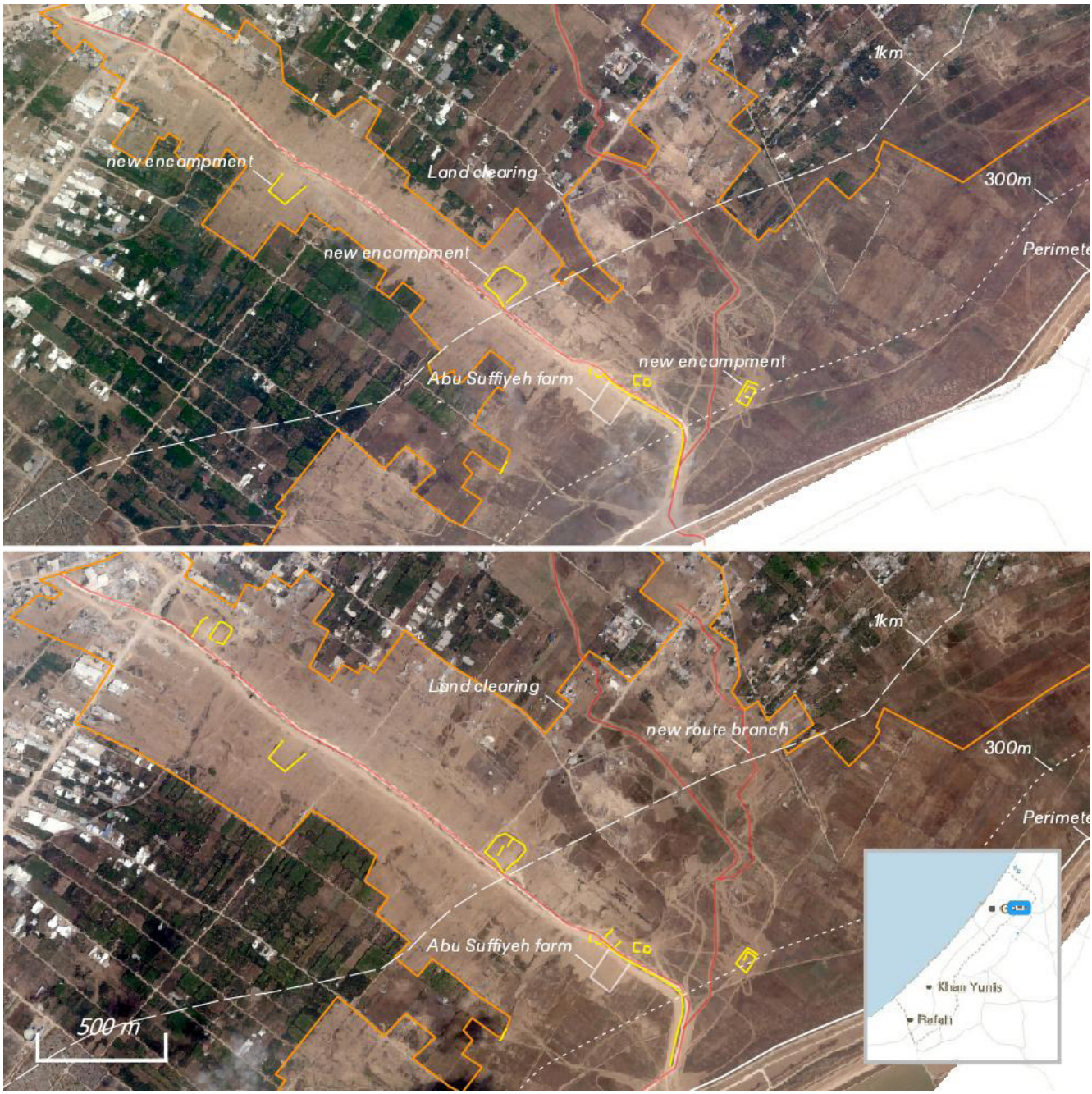

Figure 4.45. Satellite images from 18 May 2024 (above) and 10 June 2024 (below) show clearing and bulldozing of the land, set up of new encampment areas, and the extension of the buffer zone on both sides of the route.





Figure 4.46. Satellite images from 22 July 2024 show the military infrastructure remaining on site to facilitate future use.

118 Satellite images from the months that followed the ground invasion reveal the means and the scale of the Israeli military's repeated destruction of the farm in east Jabalia (Figure 4.43, Figure 4.44, Figure 4.45, Figure 4.46).

(a) The surface area displays clear signs of ploughing by D9 bulldozers to such an extent that the farm's shape and boundaries are no longer discernible. Orchards are uprooted.

(b) Infrastructure necessary for cultivation, such as the water tank, are destroyed.

(c) High earth berms are piled on the site of the farm for the fortification of Israeli military infrastructure, such as raid routes frequented by the military and encampments (see Chapter 2: Spatial control, Figure 2.34 and Figure 2.49).

(d) A wide margin of clearing is developed around the raid route.

119 These interventions by the Israeli military prevent the Abu Suffiyeh family from returning to their land.

120 The movement of vehicles over agricultural soil is harmful to agriculture in the long run for several reasons:

(a) The intentional turning of the soil in the expanded Israeli-imposed buffer zone leads to the destruction of irrigation systems and canals. The topography of the surface is transformed by the piling of agricultural soil into tall earth berms.

(b) In areas where the earth is subjected to the movement of heavy military vehicles, soil becomes compressed and its ability to absorb water and nutrients is limited. Furthermore, fuel and machine oil leaks out of military vehicles, contaminating the soil.

121 **Statement provided to Forensic Architecture by a farmer from the Abu Suffiyeh family:** 'I'm telling you, there is no land at all now. The area is now back to pre-2000 state … I mean, it is now the same as it was before: desert. It's again a desert. There is no single tree there. No traces of prior life. If I was to go there, I wouldn't be able to recognise it. I mean, I cannot tell where the demarcations of my land exactly are … There is almost nothing to recognise there. No traces of the land we knew. They totally erased it. It used to be a lively area, but now there is no life at all there.'

(B) Airstrikes and bulldozers: greenhouses in Beit Hanoun

122 We documented the destruction of greenhouses in the historically agricultural area of Beit Hanoun in northeastern Gaza in two stages:

(a) Image from 30 October 2023 shows signatures of damaged due to aerial bombardment. We identified over a hundred craters, with diameters of up to 1 m. Several buildings in the neighbourhood have also been subjected to bombardment.

(b) Image from 48 hours later, 1 November 2023, shows the transformation of the site into a military encampment area. The greenhouse structures are dismantled, the earth is ploughed by bulldozers, earth berms are set up.

(c) The earth berms are maintained on site after the military moves to the area. This allows the military to access this encampment site for future use.

123 The destruction of greenhouse structures and buildings releases the chemicals, metals, and fire contaminants used in their construction into the soil and groundwater. Building waste is resistant to decay and does not disintegrate. It has the capacity to linger and negatively affect the physical, chemical, and biological composition of the soil for decades.



Figure 4.47. Comparison of satellite image from September 2022 (above) and 30 October 2023 (below) shows the impact of aerial bombardment on a cluster of greenhouses in Beit Lahiya shortly after the start of the ground invasion. Over a hundred bomb craters are visible in this image.

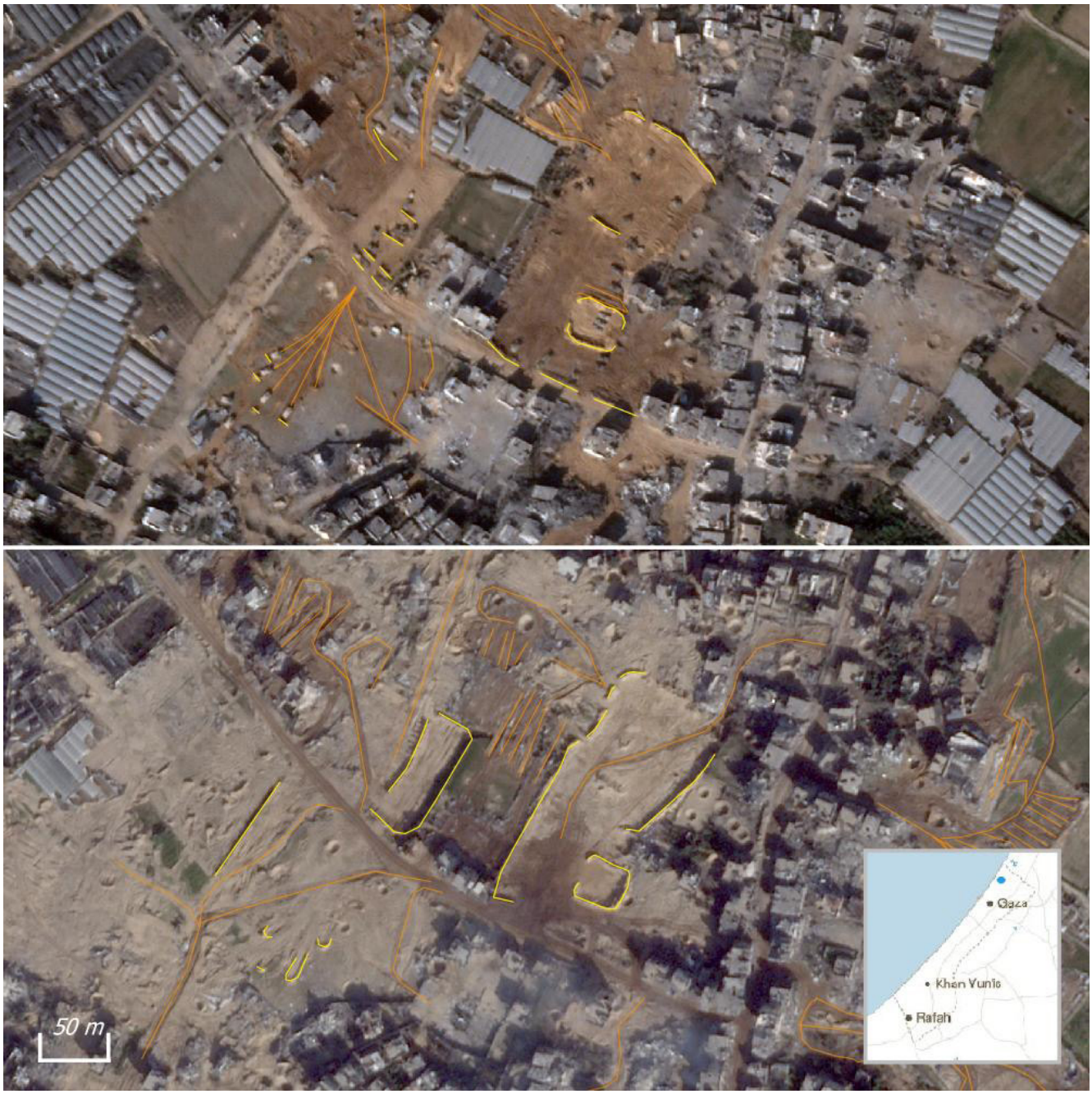

Figure 4.48. Satellite image from 1 November 2023 (above), five days after the beginning of the ground invasion, shows dozens of Israeli military vehicles, tractors, and tanks ploughing the land (marked in orange), building earth berms (marked in yellow) and turning a cluster of greenhouses into a military encampment area. Satellite image from a month after (below) shows the military infrastructure remaining on site to facilitate future use

(C) Livelihood

124 Farmers' livelihoods have been destroyed through various forms, including aerial bombardment, bulldozing, and ploughing, as well as the construction of military infrastructure, such as raid routes, encampment areas, and corridors.

125 **In a statement provided to Forensic Architecture, Mohammad al-Bakri, chairman of the Union of Agricultural Workers Committees in Gaza**, said the pattern of widespread Israeli attacks on greenhouses is part of the military's plan to displace Palestinian residents and render the land inaccessible. 'The occupation has destroyed our people, the stones, and the trees in the Gaza Strip. It has destroyed the land in order to displace the local Palestinian people, the people of this land, out of it', al-Bakri said.

126 **In a testimony shared with Forensic Architecture by Al Mezan, T., a farmer from Khan Younis (Abasan al-Kabira) states**:[19] 'I am 84 years old, and I have been working in agriculture since 1980. I am married and support my family, my children and their children. I have 20 dunums of land in the city of Abasan al-Kabira, east of Khan Younis, on the lands of Wadi Saber. I grow vegetables, olives and some trees on my land, which is my main profession through which I support my family. However, with the start of the aggression, I was unable to cultivate my crops because we were displaced from one place to another. I began to be displaced after the Israeli occupation entered Khan Younis. [....] One year ago, before the present aggression, we were harvesting olive trees, but even then, we could not complete the harvest because of the occupation and our inability to reach our lands due to its proximity to the [eastern] "border" area [with Israel]. Now we cannot reach our lands despite our return to [the area] because it has been subjected to shelling and targeting, alongside its neighbouring lands. Our land was subjected to direct strikes and random shelling, which destroyed all the vegetables and olive trees that were planted, as well as the destruction of the water lines leading to it and the destruction of the infrastructure. Agriculture is my primary profession, and we now depend directly on aid and assistance. I have not been able to harvest any crops since the aggression and the occupation's entry into Khan Younis. We are now unable to provide for ourselves due to the high cost of living, our need for medical treatment, for me and my wife, and our need for healthy food due to our old age.'

127 **In a testimony shared with Forensic Architecture by Al Mezan, A., a farmer from Rafah states:**[20] 'My agricultural lands, which are 9 dunams in addition to 5 greenhouses, is located in the [Mawarij] area of Rafah, an area currently controlled by the Israeli military. At the beginning of the war and until February [2024], I could only reach my land with great difficulty and fear, but we managed to plant cucumbers, eggplants and peppers on it, and I used to take care of irrigating the crops daily and providing agricultural supplies, as their prices rose greatly, pesticides and seeds. Even obtaining water was expensive because we needed diesel to operate the water motor at times. The land and its crops were our only source of livelihood. But with the continuously intensified situation, it became difficult to reach our crops, and with the invasion of the city of Rafah in May 2024, reaching our lands became impossible. The latest we know about our land from some published photos is the destruction of 34 solar panels, the complete destruction of 5 greenhouses, and the bulldozing of most of the crops. My losses can be estimated at around twenty thousand dollars, in addition to the damage to the soil that may spoil the crops from the effects of explosive materials, and the effect of the soil being pulverised by the occupation's machinery.'

[19] The farmer's name was anonymised for their safety by Al-Mezan Centre for Rights.
[20] The farmer's name was anonymised for their safety by Al-Mezan Centre for Rights.

(D) The buffer zone, within and outside

128 We have documented the clearing and destruction of greenhouses and agricultural farms and orchards within and outside the extended buffer zone imposed by the Israeli military along Gaza's perimeter. The level of devastation brought by this destruction varies across Gaza. We provide below a sample of the acts of destruction and damage to greenhouses recorded in our analysis.

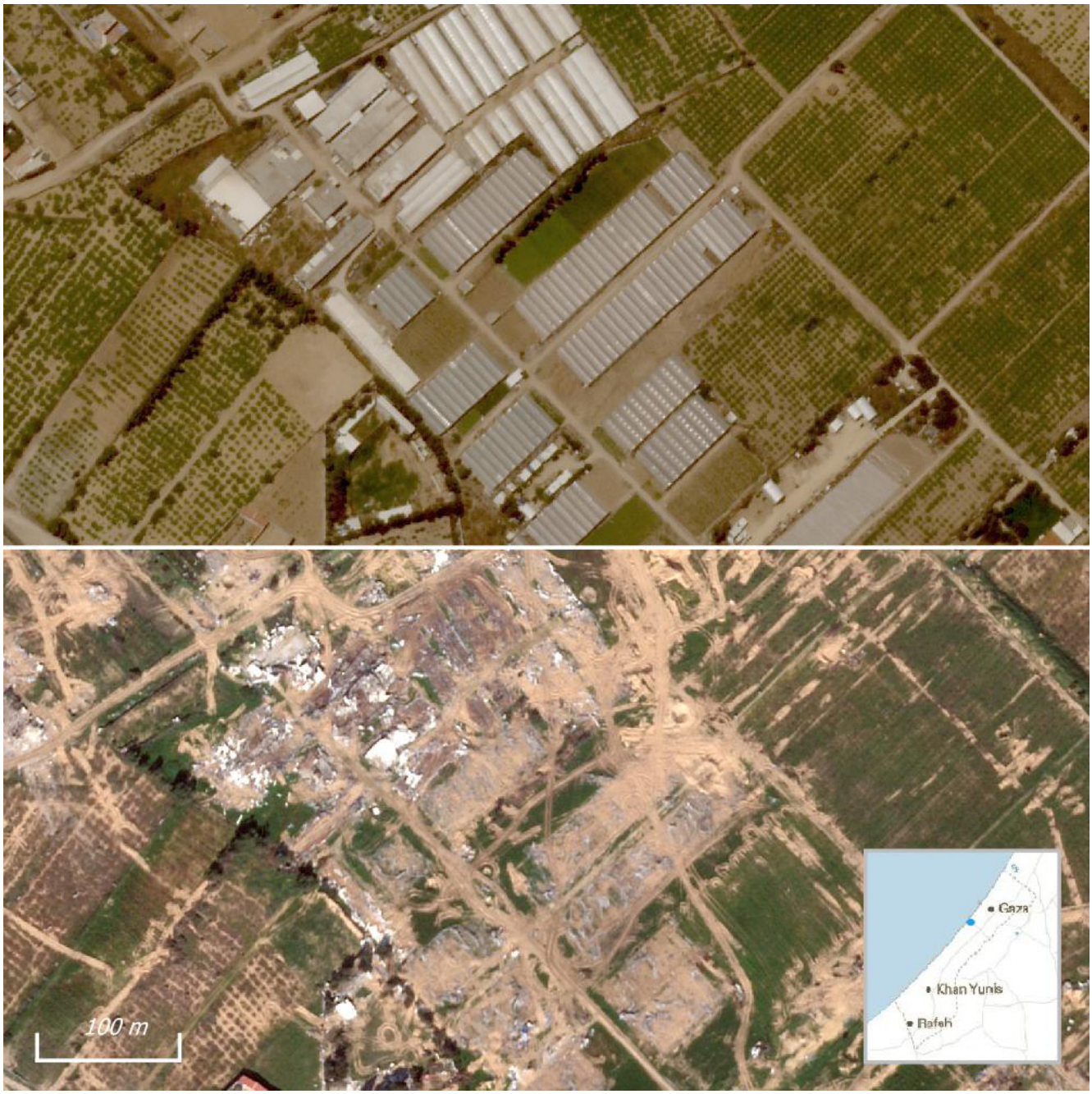

Figure 4.49. Before-and-after analysis using satellite images from June 2023 and February 2024. Location (CRS): 31.48593730, 34.40850676.



Figure 4.50. Before-and-after analysis using satellite images from June 2023 and February 2024. Location (CRS): 31.46687080, 34.44394917.



Figure 4.51. Before-and-after analysis using satellite images from June 2023 and February 2024. Location (CRS): 31.35532378, 34.3144505.



Figure 4.52. Before-and-after analysis using satellite images from June 2023 and February 2024. Location (CRS): 31.34490668, 34.28065847.



Figure 4.53. Before-and-after analysis using satellite images from June 2023 and February 2024. Location (CRS): 31.29605371, 34.36179877.



Figure 4.54. Before-and-after analysis using satellite images from October 2023 and February 2024. Location (CRS): 31.41652454, 34.40093457.



Figure 4.55. Before-and-after analysis using satellite images from October 2023 and February 2024. Location (CRS): 31.47806856, 34.43462200.



Figure 4.56 Before-and-after analysis using satellite images from October 2023 and February 2024. Location (CRS): 31.57217397, 34.49544675.



Figure 4.57 Before-and-after analysis using satellite images from October 2023 and February 2024. Location (CRS): 31.34784673, 34.35159094.

(E) Laid explosives: water tanks

129 Laid explosives

130 Our analysis shows that the Israeli military deploys manually laid explosives to destroy water storage reservoirs. [ID: 40726-06357]

131 Using satellite imagery, we have been able to confirm that the reservoir was damaged between 26 and 27 July 2024.



Figure 4.58. Still from video taken by an Israeli soldier showing the destruction of Rafah's water reservoir in Tel al-Sultan neighbourhood.



Figure 4.59. Comparison of satellite imagery from June (above) and August (below) 2024 shows the destruction of Rafah's water reservoir.

(F) Airstrikes and bulldozers: desalination plants

132 Our analysis shows that desalination plants and wastewater treatment facilities have been damaged and destroyed as a result of airstrikes and bulldozing.

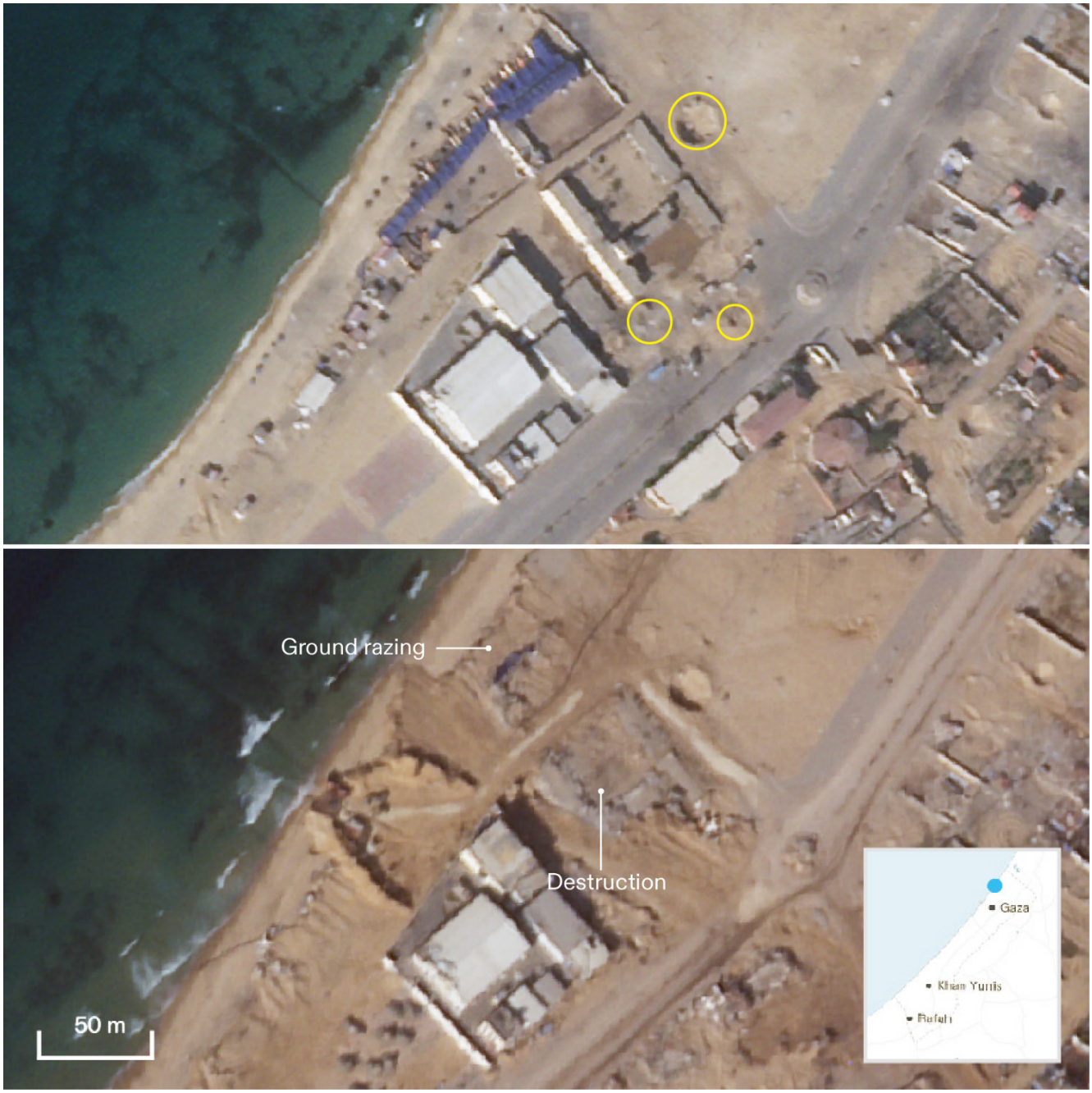

Figure 4.60. Satellite image analysis of a desalination plant in north Gaza shows destruction between 31 October and 24 November 2024. Yellow circles show craters resulted by aerial bombardment. In October, three craters are visible in close vicinity of the facility. By November, the ground is dug, earth berms are established, and the facility is demolished.



Figure 4.61. Satellite imagery shows the results of airstrikes on the Rafah wastewater treatment plant: a significant number of its solar panels were destroyed by 17 November 2023. Satellite imagery from 7 May 2024 shows signatures of a ground invasion. The ground is razed, the surviving panels are destroyed, and new roads are built surrounding the facility.



Figure 4.62. Satellite imagery shows the Rafah wastewater treatment plant (SOFA WWTP) affected by bombardment and ground invasion, with a significant number of its solar panels destroyed and its surrounding ground razed on 20 January 2024. Satellite imagery from 20 March 2024 shows signatures of a repeat destruction. More ground is razed, the surviving panels are shattered, and new routes are built through the facility and some of the buildings are destroyed.

2 *The Israeli military's conduct has likely caused contamination in Gaza's land and water resources.*

2.1 Waste

133 Our analysis shows that the management of sewage and waste has failed since October 2023, forcing the population of Gaza to live among conditions detrimental to health.

134 Untreated sewage and wastewater contain bacteria, fungi, viruses, and other pathogens that can cause diseases.[21]

[21] 'Water War Crimes' <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/621609/bp-water-war-crimes-180724-en.pdf;jsessionid=5E725E0FFB1AE0409D7338FB75AFAA86? > Accessed on 26 September 2024.

The case of Sheikh Radwan lagoon

135 The main rainwater reservoir in Sheikh Radwan, north of Gaza City, has been transformed into a health risk to residents due to power outages and the lack of fuel needed to control flow and drainage.

136 We corroborated ground-level images shared on social networks with satellite imagery to map the extent of the overflow of untreated water into residential neighbourhoods on 31 April 2024. The sustained presence of contaminated water in the neighbourhood is likely to bring long-term health effects.



Figure 4.63. Images document the accumulation of waste around the Sheikh Radwan lagoon in May 2024.



Figure 4.64. Satellite image from 31 May 2024 shows the accumulation of waste around the lagoon.

138 ## Wastewater leakage in Khan Younis

139 For around six months from January 2024, wastewater covered the streets of a neighbourhood in Khan Younis previously destroyed by airstrikes. Our analysis shows wastewater remained in the area during the months of January and February 2024, again in May, and in June.



Figure 4.65. Stills from video taken from the Rafah Garage in Khan Younis showing wastewater and sewage flooding the neighbourhood in Khan Younis.[22] Location (CRS): 31.341739, 34.302071.

[22] القسطل الإخباري [@AlQastalps], 'مياه الصرف الصحي تغمر شوارع مدينة خانيونس إثر تدمير الاحتلال للبنية التحتية' <https://x.com/AlQastalps/status/1807350570824446015> accessed 26 September 2024.

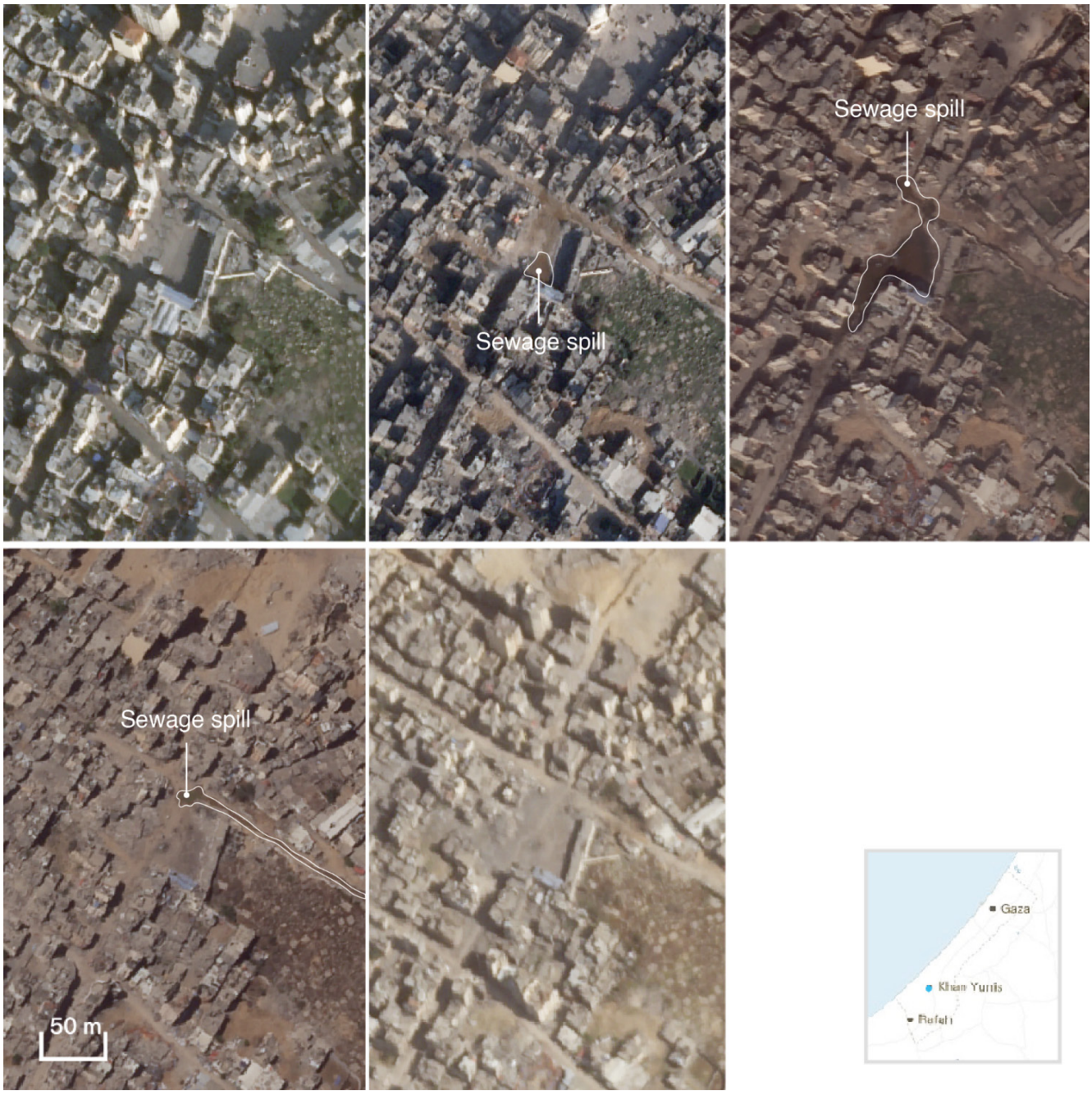

Figure 4.66. A time-lapse of satellite imagery of Khan Younis through the months of December 2023, January, February, May and June 2024 (in order from top left to bottom right), shows the continued presence of wastewater and sewage.

2.2 Salt

140 On 13 December 2023, the Israeli military reportedly began flooding tunnels under Gaza with seawater.[23]

141 Satellite imagery from 8 October to 10 December 2023 reveals the development of Israeli water-pump infrastructure in and around al-Shati, Gaza City. Early signs of the construction of these pumps are visible in satellite imagery dated 14 November 2023 (Figure 4.68). Additionally, pipes and an earth mound at least 4.5m in height are visible in a video published by the Israeli military on 6 December 2023 (Figure 4.67).

142 Pumping seawater into tunnels embedded in Gaza's sandy and porous soil may result in saltwater seeping into underground water sources, making underground wells unusable. Contaminating the aquifers with salt may have long-term consequences for the environment.

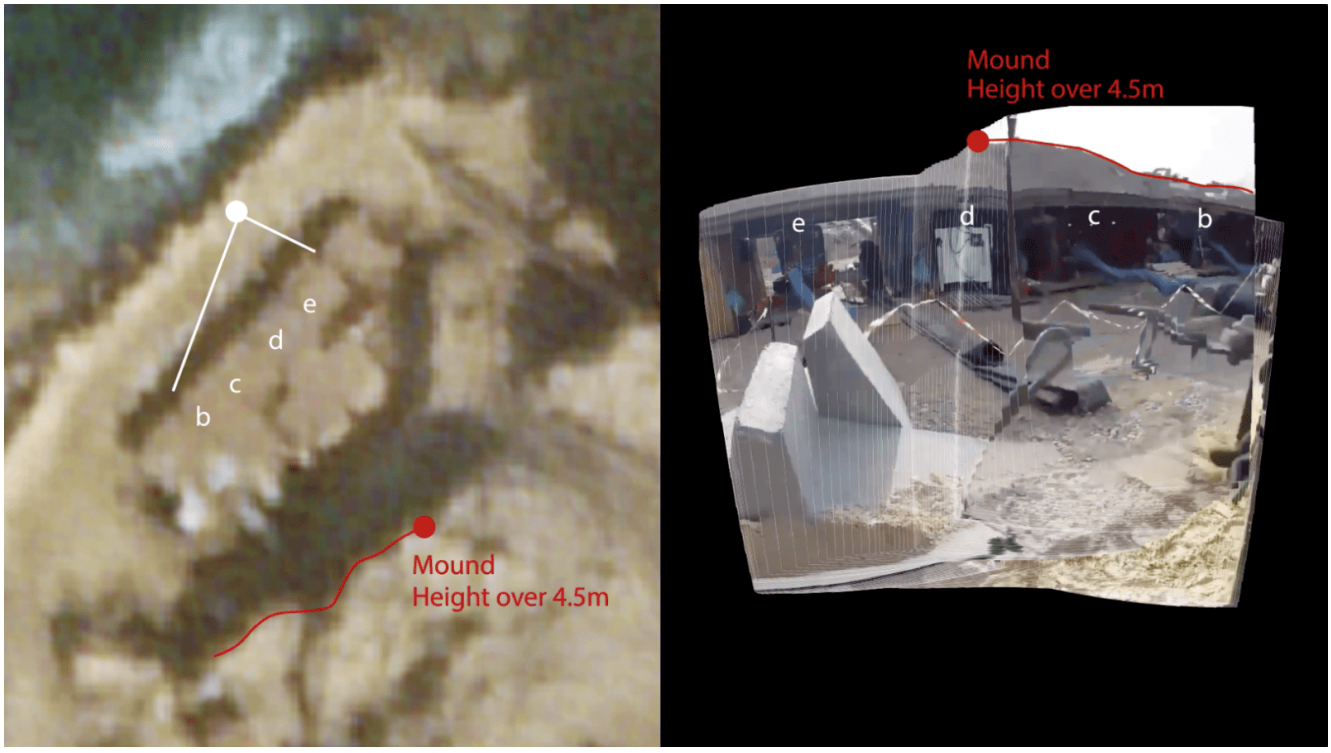

Figure 4.67. Satellite image of earth mound from 10 December 2023; geolocated video of pipe system and earth mound posted by the Israeli military on 6 December 2023.

[23] 'Israel Military Begins Pumping Seawater into Hamas Tunnels, Report Says' (*The Independent*, 13 December 2023) <https://www.independent.co.uk/news/world/middle-east/israel-hamas-tunnels-seawater-gaza-b2463093.html> accessed 26 September 2024."plainCitation":"'Israel Military Begins Pumping Seawater into Hamas Tunnels, Report Says' (The Independent, 13 December 2023

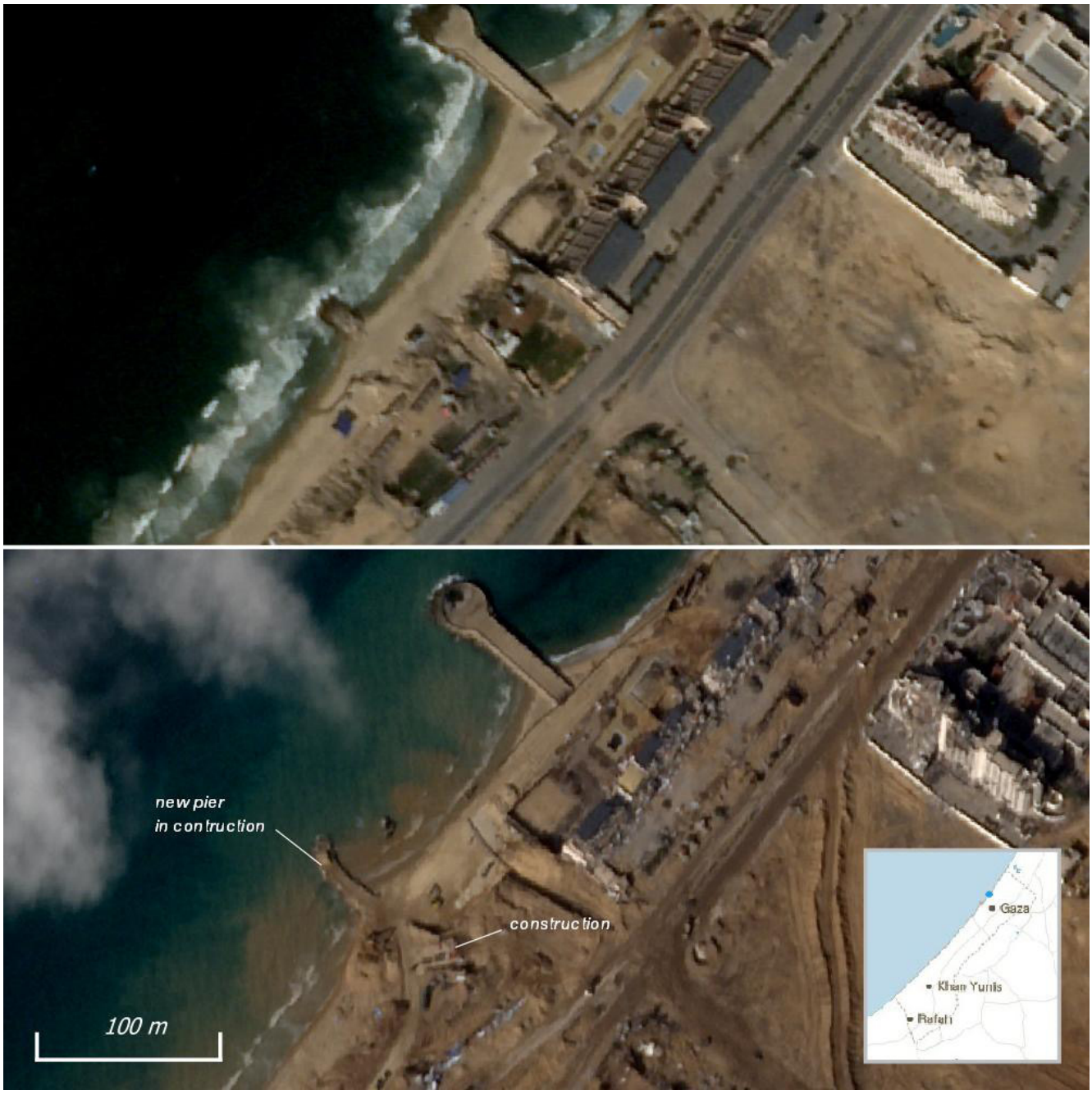

Figure 4.68. Comparison of satellite image from 15 October and 14 November 2023 shows the development of a new pier in Gaza near al-Shati, likely for the pumping of seawater.

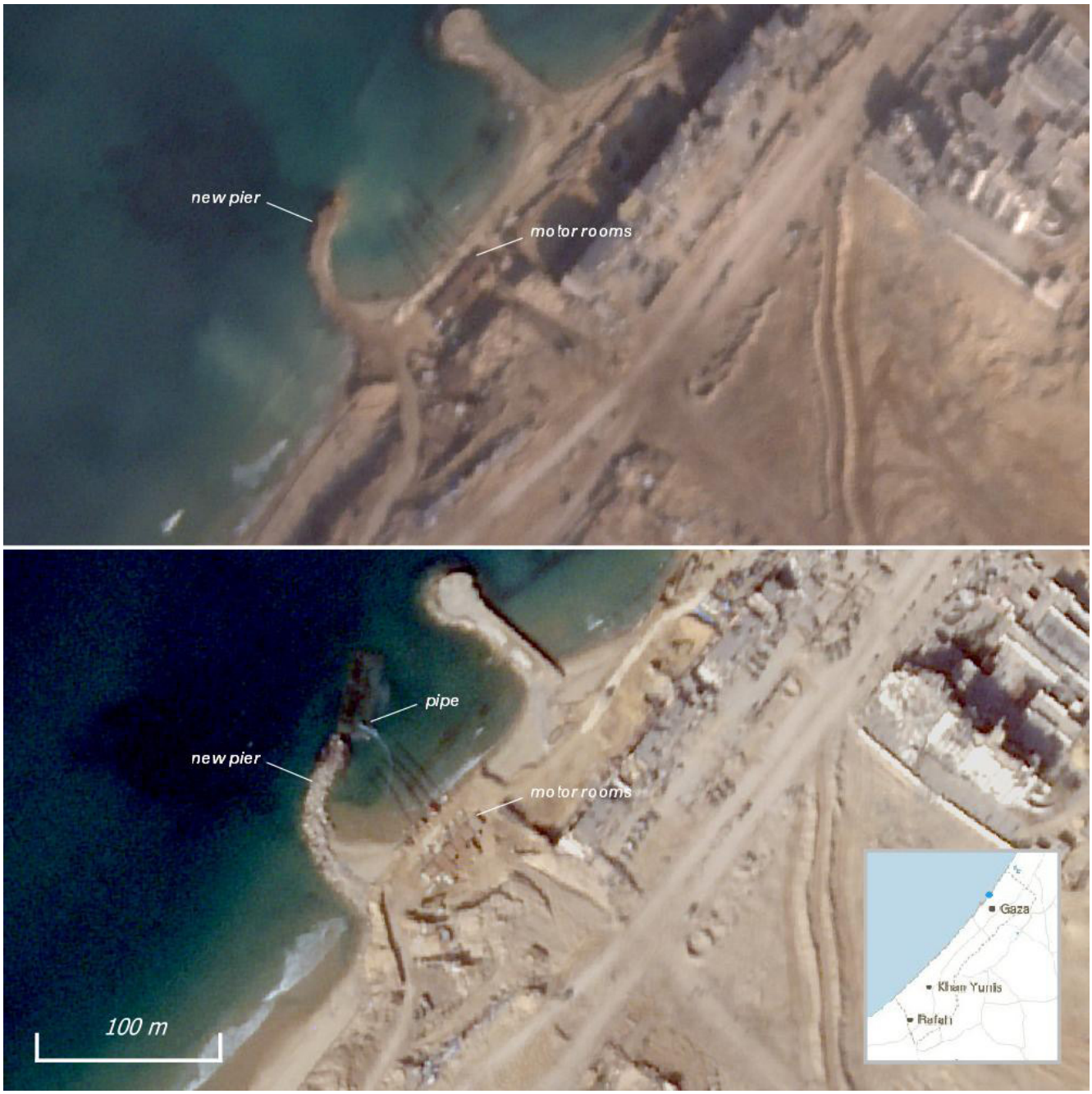

Figure 4.69. Comparison of satellite image from 17 and 24 November 2023 shows the further development of a new pier in Gaza near al-Shati, likely for the pumping of seawater.

143 Incident ID

ID	Date	Location Name	Latitude	Longitude	Source	Verification
40726-06357	2024-07-26	Tal al-Sultan, Rafah	31.3115283	34.2471473	https://x.com/ytirawi/status/1816965332952555683	Confirmed

5. Destruction of Medical Infrastructure

1 This chapter examines the Israeli military's conduct during its campaign in Gaza with respect to medical infrastructure.

A GLOSSARY

2 **Medical infrastructure**: elements that make up a healthcare system, including physical facilities, equipment, infrastructure, and staff.

3 **Large hospital**: a term FA uses to describe medical complexes and hospitals that have substantial facilities, campus, and capacity to provide services of healthcare and shelter to civilians.

4 **Small hospital**: a term FA uses to describe hospitals and specialised hospitals that have more limited facilities, campus, and capacity to provide services of healthcare and shelter to civilians.

5 **Hospital**: a healthcare facility of varying size that offers a range of general medical services for both short-term and long-term care. The 36 hospitals accounted for in this report have been sourced from the World Health Organisation.[1]

6 **Specialised hospital**: a healthcare facility, often small in size and capacity, that offers medical services for specific medical conditions.

7 **Medical complex**: a large healthcare facility consisting of a hospital, as well as several departments, and specialised facilities on a campus and across several buildings.

8 **Clinic**: a health facility, smaller than a hospital, that offers medical services. Clinics could be independent or may be part of a hospital.

9 **Field hospital**: a temporary medical facility usually established by international or local organisations to provide urgent care.

10 **Medical point**: an area where healthcare services can be accessed, established to provide emergency and basic services.

11 **Healthcare worker**: a person who works in a hospital or health centre; this includes professionals working in a specific field of medicine (doctor, nurse, physician etc.), emergency services, and medical administration.

12 **Medical administration**: organised bodies and governance that deal with operations, maintenance, and provision of healthcare services, such as ambulances operated by the Palestine Red Crescent Society.

13 **Hospital reduced functioning**: a state in which a hospital's functioning has been impacted, causing it to operate below its usual level. As a result, it cannot provide its typical services in the normal manner.

14 **Out of service**: a state in which a hospital is unable to provide any medical services.

[1] World Health Organisation, 'Conflict-Related Direct Casualties as Reported by the Palestinian Ministry of Health (since the 7 October 2023)' (2024) <https://app.powerbi.com/view?r=eyJrIjoiODAxNTYzMDYtMjQ3YS00OTMzLTkxMWQtOTU1NWEwMzE5NTMwIiwidCI6ImY2MTBjMGI3LWJkMjQtNGIzOS04MTBiLTNkYzI4MGFmYjU5MCIsImMiOjh9> accessed 26 September 2024.

1 *Definition of phases of targeting of hospitals*

15 **Evacuation order**: a notice from the Israeli military to leave the hospital; these are commonly issued publicly, via official social media channels of the Israeli military or government bodies. Our research suggests that orders are also issued to hospitals by direct communication with healthcare workers at those hospitals.

16 **Evacuation warning**: a notice to leave the hospital from the Israeli military through the form of a threat or caution, with a message that they will target the hospital with bombing if it is not evacuated. These are issued directly to the hospital through direct communication with healthcare workers.

17 **Forced evacuation**: an instance when the hospital declares to evacuate due to the near proximity of the Israeli military, and the danger this imposes on the medical facility, healthcare workers, patients, and displaced people.

18 **Attacking surroundings**: an Israeli military attack on areas in the vicinity of the hospital.

19 **Direct attack**: an Israeli military attack towards the location of a hospital and has a direct impact on the hospital. This may include the people within the hospital's grounds and its immediate surroundings, as well as buildings, courtyard, solar panels, or generators.

20 **Siege**: a state in which the Israeli military is present in the immediate surrounding of a hospital, controlling access in and out of it, while internally displaced people, injured civilians, and/or healthcare workers remain in the hospital.

21 **Invasion**: a state in which the Israeli military raids and enters the hospital building or the hospital complex.

B SUMMARY OF FINDINGS

1 *Quantitative findings*

22 As a result of the Israeli military campaign in Gaza, between 7 October 2023 and 1 August 2024:[2]

(a) 35 of 36 hospitals in Gaza have gone out of service at one or more points during this time.[3]

(b) 31 of 36 hospitals have been targeted by Israeli military attacks.

(c) 11 of 36 hospitals have undergone a siege.

(d) 10 of 36 hospitals have been invaded by Israeli personnel.

(e) 5 hospitals have been besieged twice.

(f) 4 hospitals have been invaded twice.

(g) 1 hospital (Patient's Friends Society Hospital) has been attacked and forced out of service twice, having rebuilt and reestablished operations.

(h) 27 hospitals are within areas that received evacuation orders.[4]

(i) 4 field hospitals have been forced out of service and to evacuate.

[2] Many hospitals and field hospitals have been attacked multiple times and in different forms, and as such are accounted for in multiple categories of the quantitative findings.
[3] Whilst hospitals have been forced out of service, some hospitals have reestablished partial functioning after closure.
[4] This includes the 23 hospitals in northern Gaza that received evacuation orders on the 13 October 2023, as well as 19 evacuation orders and warnings directly to hospitals, that we have documented. 'Israel & OPT: Rescind Evacuation Order against Gaza Hospitals' (Amnesty International) <https://www.amnesty.org/en/documents/mde15/7347/2023/en/> accessed 26 September 2024.

2 *Pattern findings*

2.1 The Israeli military repeatedly targeted medical infrastructure across Gaza.

(A) The Israeli military's targeting of hospitals follows a consistent and discernible pattern of five typically consecutive phases:

(a) Evacuation orders and warnings (27 hospitals)

(b) Attacking the surroundings of hospitals (29 hospitals)

(c) Direct attacks on hospitals (31 hospitals)

(d) Putting hospitals under siege (11 hospitals)

(e) Invading hospitals (10 hospitals)

(B) The Israeli military's attacking of hospitals correlates with the advancement and presence of Israeli ground forces:

(a) The first hospitals in Gaza forced out of service by Israeli attacks were in areas into which the ground invasion first advanced

(b) The position of the Israeli ground forces correlates with where hospitals were subsequently forced out of service

(c) When large hospitals were attacked by Israeli ground forces, small hospitals in the surrounding area were often also attacked and forced out of service

(C) Sites of medical infrastructure where healthcare services were (a) reestablished and (b) introduced were subsequently targeted by the Israeli military:

(a) Hospitals where healthcare services reemerged endured subsequent attacks by the Israeli military

(b) Field hospitals introduced to support Gaza's healthcare system were closed due to Israeli military conduct

2.2 The timing of the Israeli military's attacks on hospitals correlates with the presence of displaced civilians at those hospitals

2.3 The Israeli military targeted medical personnel and facilities in a manner which causes damage to Gaza's medical system

(A) Healthcare workers have been direct targets of the Israeli military, as opposed to being indirect casualties of attacks on hospitals.

(B) The Israeli military destroyed and occupied hospitals even after they had been forced out of service and evacuated.

(C) The Israeli military's targeting of hospitals caused damage to Gaza's maternity services.

C BACKGROUND

23 Widespread attacks on medical infrastructure and healthcare workers have been observed in every Israeli military campaign in Gaza since Hamas took power in 2007: in 2008–09, the Israeli military damaged or destroyed 58 hospitals and clinics and 29 ambulances, killing 16 medical workers and injuring 25; in 2012, 16 hospitals and clinics and six ambulances were damaged or destroyed; in 2014, 73 hospitals and clinics and 45 ambulances were damaged or destroyed, and 23 medical workers killed and 76 injured.[5]

24 The blockade in place since 2007 limited access to essential medicines, medical supplies and equipment, while military activity resulted in injuries which Gaza's healthcare system had limited capacity to deal with.[6] Restrictions on fuel and electricity imports caused disruptions and led many hospitals and clinics to rely on generators and solar panels.[7]

25 As of 2023, Gaza had 36 hospitals with a total of around 3,400 beds, and 128 primary health clinics.[8] The healthcare system included both public and NGO-run facilities.

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5 Nicola Perugini and Neve Gordon, 'Medical Lawfare: The Nakba and Israel's Attacks on Palestinian Healthcare' (2024) 53 Journal of Palestine Studies 68 <https://doi.org/10.1080/0377919X.2024.2330366> accessed 26 September 2024.

6 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Humanitarian Needs Overview 2023' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 25 January 2023) <http://www.ochaopt.org/content/humanitarian-needs-overview-2023> accessed 26 September 2024.

7 'Gaza's Fuel Crisis Explained' <https://www.islamic-relief.org.uk/gazas-fuel-crisis-explained/> accessed 26 September 2024; 'Gaza's Solar Power in Wartime' <https://www.csis.org/analysis/gazas-solar-power-wartime> accessed 26 September 2024; 'Gaza without Electricity as Israel Targets Energy Alternatives' <https://www.middleeastmonitor.com/20240925-gaza-without-electricity-as-israel-targets-energy-alternatives/> accessed 26 September 2024.

8 Hussam Mahmoud and Samer Abuzerr, 'State of the Health-Care System in Gaza during the Israel–Hamas War' (2023) 402 The Lancet 2294 <https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(23)02634-X/fulltext> accessed 26 September 2024; 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Humanitarian Needs Overview 2023' (United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory, 25 January 2023) <http://www.ochaopt.org/content/humanitarian-needs-overview-2023> accessed 26 September 2024."plainCitation":"'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Humanitarian Needs Overview 2023' (United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory, 25 January 2023

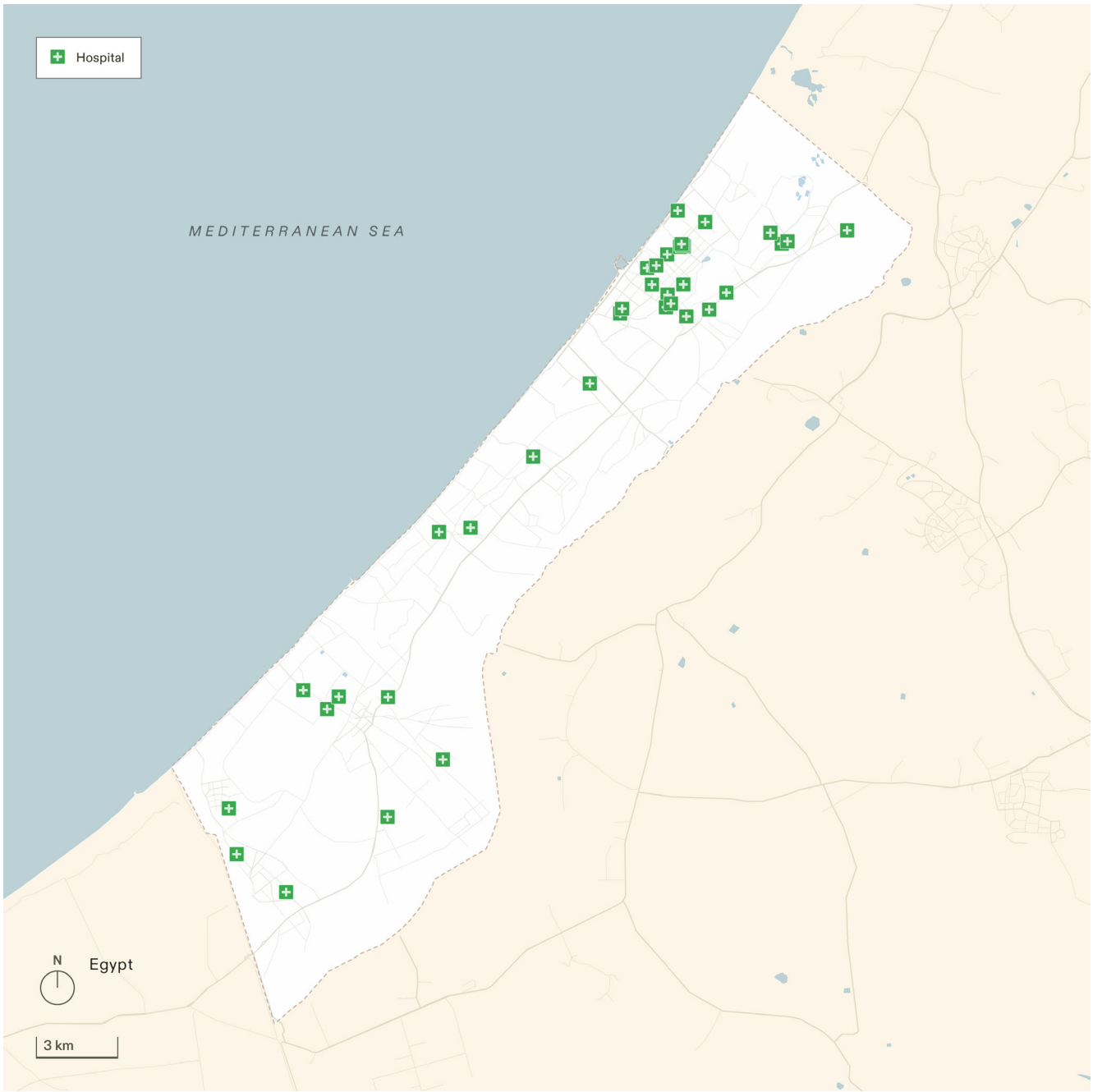

Figure 5.1 Locations of the 36 hospitals in Gaza.

D SCOPE

26 We conducted a spatial and temporal analysis of the Israeli military's conduct with respect to medical infrastructure, which covers the following:

(a) The form and character of the Israeli military's attack on medical infrastructure

(b) The conduct of the Israeli military in and around medical infrastructure

(c) The relation between the Israeli military's ground invasion and disruption of medical infrastructure

(d) The relation between attacks on medical infrastructure and the displacement of Palestinian civilians

27 Our analysis considers medical infrastructure in the following categories:

(a) Attacks on hospitals

(b) Attacks on field hospitals

(c) Attacks on other medical infrastructure, including medical administration, ambulance convoys, and obstruction of medical services

(d) Attacks on healthcare workers, including deaths and detention

1 *List of hospitals in Gaza*

No.	Hospital	Type of hospital	Governorate
1	Al-Ahli Arab Hospital	General Hospital	Gaza
2	Al-Amal Hospital	General Hospital	Khan Younis
3	Al-Aqsa Martyrs Hospital	General Hospital	Deir al-Balah
4	Al-Awda Hospital - Jabalia	Speciality Hospital	North Gaza
5	Al-Awda Hospital - Nuseirat	General Hospital	Deir al-Balah
6	Algerian Hospital	General Hospital	Khan Younis
7	Al-Helal al-Emarati Hospital	Speciality Hospital	Rafah
8	Al-Helou International Hospital	Speciality Hospital	Gaza
9	Al-Hayat Specialized Hospital	Speciality Hospital	Gaza
10	Al-Karama Specialized Hospital	Speciality Hospital	North Gaza
11	Al-Khair Hospital	Speciality Hospital	Khan Younis
12	Al-Quds Hospital	General Hospital	Gaza
13	Al-Nasr Paediatric Hospital	Speciality Hospital	Gaza
14	Al-Rantisi Specialized Hospital	Speciality Hospital	Gaza
15	Al-Shifa Medical Complex	Central Medical Complex	Gaza
16	Assahaba Medical Complex	Maternity Hospital	Gaza
17	Beit Hanoun Hospital	General Hospital	North Gaza
18	Dar Essalam Hospital	Speciality Hospital	Khan Younis
19	Gaza European Hospital	Central Medical Complex	Khan Younis
20	Gaza Psychiatric Hospital	Speciality Hospital	Gaza
21	Haifa Charity Hospital	General Hospital	Gaza
22	Indonesian Hospital	General Hospital	North Gaza
23	International Ophthalmic Hospital	Speciality Hospital	Gaza
24	Kamal Adwan Hospital	Central Medical Complex	North Gaza
25	Kuwait Specialized Hospital	Speciality Hospital	Rafah
26	Muhammad al-Durrah Children's Hospital	Speciality Hospital	Gaza
27	Muhammad Youssef al-Najjar Hospital	General Hospital	Rafah
28	Nasser Medical Complex	Central Medical Complex	Khan Younis
29	Ophthalmic Hospital	Speciality Hospital	Gaza
30	Patient's Friends Society Hospital	Speciality Hospital	Gaza
31	Public Aid - Cardiovascular Hospital	Speciality Hospital	Gaza
32	Sheikh Hamad Hospital for Rehabilitation and Prosthetics Hospital	Speciality Hospital	North Gaza
33	St. John Eye Hospital	Speciality Hospital	Gaza
34	Turkish-Palestinian Friendship Hospital	Speciality Hospital	Deir al-Balah
35	Wafaa Medical Rehabilitation and Specialized Surgery Hospital	Speciality Hospital	Gaza
36	Yaffa Hospital	Speciality Hospital	Deir al-Balah

Figure 5.2: List of hospitals in Gaza.[9]

[9] World Health Organisation, 'Conflict-Related Direct Casualties as Reported by the Palestinian Ministry of Health (since the 7 October 2023)' (2024) <https://app.powerbi.com/view?r=eyJrIjoiODAxNTYzMDYtMjQ3YS00OTMzLTkxMWQtOTU1NWEwMzE5NTMwIiwidCI6ImY2MTBjMGI3LWJkMjQtNGIzOS04MTBiLTNkYzI4MGFmYjU5MCIsImMiOjh9> accessed 26 September 2024.

E MATERIAL USED IN ANALYSIS

28 Each of the categories of medical infrastructure described above (see section: Scope) corresponds to data from the sources listed below:

1 *Attacks on hospitals*

29 Our dataset of attacks on hospitals and field hospitals is derived from the following sources:

(a) United Nations Office for the Coordination of Humanitarian Affairs (OCHA)

(b) Palestine Red Crescent Society (PRCS)

(c) Médecins Sans Frontières/Doctors Without Borders (MSF)

(d) The Institute of Palestine Studies (IPS)

(e) Gaza Ministry of Health (GMH)

(f) GeoConfirmed: a community-based open-source incident mapping platform, available at the following URL: www.geoconfirmed.org

1.1 Media outlets including:

(a) Quds News Network

(b) Middle East Eye

(c) Anadolu Agency

(d) Al Jazeera

(e) Al Araby

(f) Shehab News Agency

2 *Attacks on medical infrastructure other than hospitals*

30 For data on attacks on medical infrastructure beyond hospitals, we've incorporated reporting from the Safeguarding Health in Conflict Coalition (SHCC), which reports on attacks on clinics, ambulances, and obstruction to emergency medical services.[10] The data is sourced from humanitarian agencies, news media outlets, and medical organisations in Gaza, such as the PRCS. The SHCC dataset of healthcare attacks includes incidents at field hospitals.

[10] 'Attacks on Health Care in Countries in Conflict (SHCC) Data - Humanitarian Data Exchange' <https://data.humdata.org/dataset/shc-chealthcare-dataset> accessed 26 September 2024.

3 *Attacks on field hospitals*

31 Using the same open-source methods for collecting incidents for hospitals, as well as the SHCC dataset mentioned above, we have collected data on field hospitals.

4 *Attacks on healthcare workers*

32 We collected data on attacks on healthcare workers from the website Healthcare Workers Watch.[11] We cross-referenced this information with data from the Institute for Palestine Studies (IPS) and the SHCC.

Source	Materials on	URL
Institute of Palestine Studies	Hospitals Healthcare workers	https://gazahcsector.palestine-studies.org/en
Healthcare Workers Watch	Healthcare workers	https://healthcareworkerswatch.org/
Geoconfirmed	Hospitals	https://geoconfirmed.org/
Safeguarding Health in Conflict Coalition (SHCC)	Healthcare workers Medical infrastructure outside hospitals	https://data.humdata.org/dataset/shcchealthcare-dataset
News/social media via Telegram	Hospitals Healthcare workers Field hospitals Medical infrastructure outside hospitals	N/A

[11] 'Healthcare Workers Watch' <https://healthcareworkerswatch.org/> accessed 26 September 2024.

F METHODOLOGY

33 This chapter examines four categories of incident pertaining to medical infrastructure: 1. attacks on hospitals, 2. attacks on field hospitals, 3. attacks on medical infrastructure outside of hospitals, and 4. attacks on healthcare workers.

34 Incidents identified through open-source research and drawn from third-party sources are collated within the GCD. By categorising and mapping verified incidents, the GCD enables a region-level analysis of the destruction of medical infrastructure in Gaza.

1 *Classification*

35 Following the process of data-gathering, verification, interpretation, and analysis outlined above (see Chapter 1: Introduction), data on incidents pertaining to attacks on medical infrastructure, having been geolocated and chronolocated, are assigned properties according to the following categories:

1.1 Attacks on hospitals and field hospitals

(A) **State of hospital**

(a) Hospital in service

(b) Hospital reduced functioning

(c) Hospital out of service

(B) **Phases of targeting**

(a) Evacuation orders and warnings

(b) Attacking the surroundings of hospitals

(c) Direct attacks on hospitals

(d) Putting hospitals under siege

(e) Invading hospitals

(C) Incidents within phases of targeting

36 **Evacuation orders and warnings**

(a) Evacuation orders to the region in which a hospital is located

(b) Evacuation orders, threats, and forced evacuation directly to a hospital

37 **Attacking the surroundings of hospitals**

(a) Attacking the vicinity of a hospital

38 **Direct attacks on hospitals**

(a) Attacks on the immediate surroundings of the hospital (hospital gate and perimeter of complex/ buildings)

(b) Attacks on the hospital's buildings or grounds

(c) Attacks on fundamental infrastructure (including energy and water supply)

39 **Putting hospitals under siege**

(a) Disrupting the functioning of a hospital (medical services such as treatment and operations can no longer be maintained)

(b) Obstruction of access to aid

(c) Burial of deceased patients to occur in makeshift cemeteries in hospital grounds

(d) Civilian harm and fatalities

40 **Invading hospitals**

(a) Denying access to medical care

(b) Destruction of medical facilities

(c) Desecration of graves

(d) Arrests of healthcare workers

1.2 **Attacks on medical infrastructure outside of hospitals**

(a) Attacks on ambulances

(b) Attacks on medical administration

1.3 **Attacks on healthcare workers**

(a) Healthcare workers who have been killed

(b) Healthcare workers who have been detained

(c) Healthcare workers who are missing

G AVAILABILITY OF EVIDENCE

41 The availability of visual evidence on which much of our analysis rests varies throughout the various phases of attacks on hospitals (those phases listed above: 1) Evacuation orders and warnings 2) Attacking the surroundings of hospitals 3) Direct attacks on hospitals 4) Putting hospitals under siege 5) Invading hospitals).

42 This is because the Israeli military attacks locations surrounding a hospital, allowing civilians inside to document these incidents in video and photographs.

43 Commonly, the aftermath of airstrikes on hospitals are well documented, because, in the absence of military activity on the ground, civilians are largely able to move around and use their phones freely. When a hospital is first subject to ground invasion, visual evidence is still possible. People seeking shelter in the hospital commonly document direct attacks as far as they are able.

44 However, once evacuations of a hospital begins, fewer people are present to record visual evidence. Moreover, the presence of military personnel and ongoing military activity can discourage civilians from documenting events.

45 For similar reasons, visual evidence during the invasion phase becomes sparse. This is likely due to several factors: the detaining of civilians near military operations, the confiscation of recording devices, and people's fear of using devices in close proximity to the Israeli military.

46 Therefore, we rely on other forms of reporting and testimony to understand these moments of destruction. Although it is often not possible to verify reports as they happen, when the Israeli military withdraws from a hospital, we can cross-reference reported acts with visual evidence from the aftermath of an invasion.

H TIMELINE

1 *First three weeks (bombing campaign) – from 7 October 2023*

47 The bombing campaign by the Israeli military led to four hospitals being forced out of service due to the bombing of their surroundings and direct attacks, forcing them to close.

(a) 9 October 2023, Beit Hanoun Hospital [Incident ID: 31009-74237]

(b) 9 October 2023, International Eye Hospital [Incident ID: 31009-64406]

(c) 13 October 2023, Muhammad al-Durrah Children's Hospital [Incident ID: 31013-47741]

(d) 17 October 2023, al-Karama Specialized Hospital [Incident ID: 31017-39971]

48 The 13 October 2023 order to evacuate the north of Gaza applied to the 23 hospitals in the region. The general evacuation order was made more explicit as hospitals reportedly received phone calls from the Israeli military instructing them to evacuate in compliance with the order.[12] The WHO declared this a 'death sentence' for the sick and the many injured people being treated in those hospitals for wounds sustained during Israel's military campaign.[13]

49 An electricity blackout in Gaza, beginning on 11 October 2023 and lasting several days, forced hospitals to rely on backup generators to power their equipment. The situation worsened on 23 October, when none of the aid trucks entering Gaza brought fuel for generators, leaving many hospitals functioning at reduced capacity during a time of high demand for services.[14]

50 The UN reported on 29 October that thousands of patients and healthcare workers, and approximately 117,000 internally displaced persons, were sheltering in hospitals in Gaza City and northern Gaza.[15]

51 By 28 October, nine hospitals had been directly targeted by the Israeli military.

(a) 8 October 2023, Ophthalmic Hospital [Incident ID: 31008-87626]

(b) 9 October 2023, Beit Hanoun Hospital [Incident ID: 31009-74237]

(c) 9 October 2023, International Ophthalmic Hospital [Incident ID: 31009-64406]

(d) 13 October 2023, Muhammad al-Durrah Children's Hospital [Incident ID: 31013-47741]

(e) 15 October 2023, Sheikh Hamad Hospital [Incident ID: 31015-35056]

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12 'Israel & OPT: Rescind Evacuation Order against Gaza Hospitals' [n 4].

13 'Evacuation Orders by Israel to Hospitals in Northern Gaza Are a Death Sentence for the Sick and Injured' <https://www.who.int/news/item/14-10-2023-evacuation-orders-by-israel-to-hospitals-in-northern-gaza-are-a-death-sentence-for-the-sick-and-injured> accessed 26 September 2024.

14 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Hostilities in the Gaza Strip and Israel | Flash Update #17' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 23 October 2023) <http://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-17> accessed 26 September 2024.

15 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Hostilities in the Gaza Strip and Israel | Flash Update #23' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 29 October 2023) <http://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-23> accessed 14 October 2024.

(f) 17 October 2023, Gaza European Hospital [Incident ID: 31017-81032]

(g) 17 October 2023, al-Karama Specialized Hospital [Incident ID: 31017-39971]

(h) 28 October 2023, Indonesian Hospital [Incident ID: 31028-91205]

2 *Ground invasion of north of Gaza – from 27 October*

52 The ground invasion proceeded in two directions simultaneously. First, the Israeli military entered from the north, advancing south towards Gaza City. Second, entering from the east and moving west roughly along Wadi Gaza to the Mediterranean Sea (the area that would later become the Netzarim corridor, see Chapter 2: Spatial Control) redirecting north to Gaza City. This had severe impacts on the 23 hospitals in the north of Gaza, with none of the hospitals being able to function at full capacity.

53 From the north, the Israeli military entered at two locations, Beit Hanoun and Beit Lahiya, in the northwest and northeast of Gaza. This saw the reduction and closure of hospitals in these areas.

54 The second prong of the ground invasion moved east to west and then turned north, then the two directions came together to envelop Gaza City, impacting a region that has the highest density and number of hospitals in Gaza (17 out of 36 are within this area).

55 Seven hospitals were besieged during this period:

(a) Al-Quds Hospital [Incident ID: 31105-52971]

(b) Al-Nasr Paediatric Hospital [ID: 31107-15508]

(c) Al-Rantisi Specialized Hospital [ID: 31110-95365]

(d) Al-Shifa Medical Complex [ID: 31111-00049]

(e) Al-Helou International Hospital [Incident ID: 31114-59129]

(f) Al-Ahli Arab Hospital [Incident ID: 31116-93455]

(g) Indonesian Hospital [ID: 31120-23667]

56 Three hospitals were subsequently invaded during this period:

(a) Al-Shifa Medical Complex [Incident ID: 31115-59237]

(b) Indonesian Hospital [Incident ID: 31124-77291]

(c) Al-Rantisi Specialized Hospital [Incident ID: 31113-72105]

57 By 23 November, only two of the 23 hospitals in the north of Gaza were functioning, all at a reduced capacity. The other 21 hospitals had been forced out of service due to Israeli military action or a lack of resources to maintain their facilities.

3 *Ceasefire – 24-30 November*

58 A temporary ceasefire between Israel and Hamas in Gaza was in effect between 24 and 30 November 2023.

59 On the first day of the ceasefire, following a five-day siege, the Israeli military invaded the Indonesian Hospital at 03:00 [Incident ID: 31124-77291], withdrawing by morning. Also on 24 November, the Israeli military withdrew from al-Shifa Medical Complex following an invasion that began 15 November. [Incident ID: 31124-12897]

60 On 14 November, the GMH reported that 1,500 healthcare workers and approximately 7,000 displaced people were inside the Shifa complex.[16] On 10 November, prior to the Israeli siege, up to 60,000 internally displaced people had been sheltering there.[17] When the Israeli military withdrew from al-Shifa on 24 November, about 250 healthcare workers and patients remained in the (non-operational) complex.[18]

4 *Ground invasion of south of Gaza – from 4 December 2023*

61 Following the temporary ceasefire, hospitals in the north of Gaza continued to be attacked by the Israeli military. In December 2023, Kamal Adwan Hospital and al-Awda Hospital in Jabalia were both besieged, invaded, and forced out of service.[19]

62 As the ground invasion entered southern Gaza, it approached Khan Younis from two directions, surrounding the city from the south and east. Two hospitals in the region, Nasser Medical Complex and al-Amal Hospital, endured multiple sieges and invasions between January and April 2024. Al-Khair Hospital was also invaded in January 2024.

63 In March 2024, al-Shifa Medical Complex was invaded for the second time. [Incident ID: 40318-08413]

5 *Ground invasion of Rafah – from 6 May 2024*

64 Following the Israeli military withdrawal from Khan Younis, the ground invasion entered Rafah from Karem Abu Salem/Kerem Shalom crossing. Prior to this incursion, hospitals in Rafah (Muhammad Youssef al-Najjar Hospital, Kuwait Specialized Hospital, and al-Helal al-Emarati Hospital) were still functioning. However, as the Israeli military advanced east to west all these hospitals were forced out of service, displacing civilians in Rafah to the 'expanded humanitarian zone' in al-Mawasi, which lacked medical infrastructure, leading to the establishment of several field hospitals.

65 Following the formation of field hospitals in the 'humanitarian zone', several were impacted by intensified military activity in the vicinity and forced these temporary facilities out of service and to evacuate.

6 *Continuation of patterns – from 1 July 2024*

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16 'Gaza's Al-Shifa Hospital under Siege, Attacks Put People's Lives at Risk: Health Ministry' <https://www.aa.com.tr/en/middle-east/gaza-s-al-shifa-hospital-under-siege-attacks-put-peoples-lives-at-risk-health-ministry/3053854> accessed 14 October 2024.

17 Vivian Yee, 'Israel Says Al Shifa Hospital Conceals Hamas Underground Command Centers' *The New York Times* (28 October 2023) <https://www.nytimes.com/2023/10/28/world/middleeast/gaza-al-shifa-hospital-israel.html> accessed 14 October 2024.

18 'Hostilities in the Gaza Strip and Israel | Flash Update #49 [EN/AR/HE] | OCHA' (24 November 2023) <https://www.unocha.org/publications/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-49> accessed 14 October 2024.

19 Incident ID: 31205-66186, 31212-69474, 31205-78350, 31216-20087.

66 Since July, hospitals have continued to be targeted by the Israeli military. On 1 July 2024, the Gaza European Hospital was forced out of service due to evacuation orders for al-Fukhari, the area of Khan Younis where it is located. Patients were subsequently transferred to Nasser Medical Complex. [Incident ID: 40701-88777]

67 Following the evacuation of Kuwait Specialized Hospital during the Israeli advance into Rafah in May, the Israeli military destroyed the hospital.[20] The Patient's Friends Association Hospital was also destroyed, for a second time, having just been restored and reopened for medical services after sustaining heavy damage in February 2024. [Incident ID: 40712-00290]

[20] Incident ID: 40528-94766, 40803-25011.

I QUANTITATIVE FINDINGS

(a) 35 of 36 hospitals in Gaza have been forced out of service at one or more points in time between 7 October 2023 and 1 August 2024.

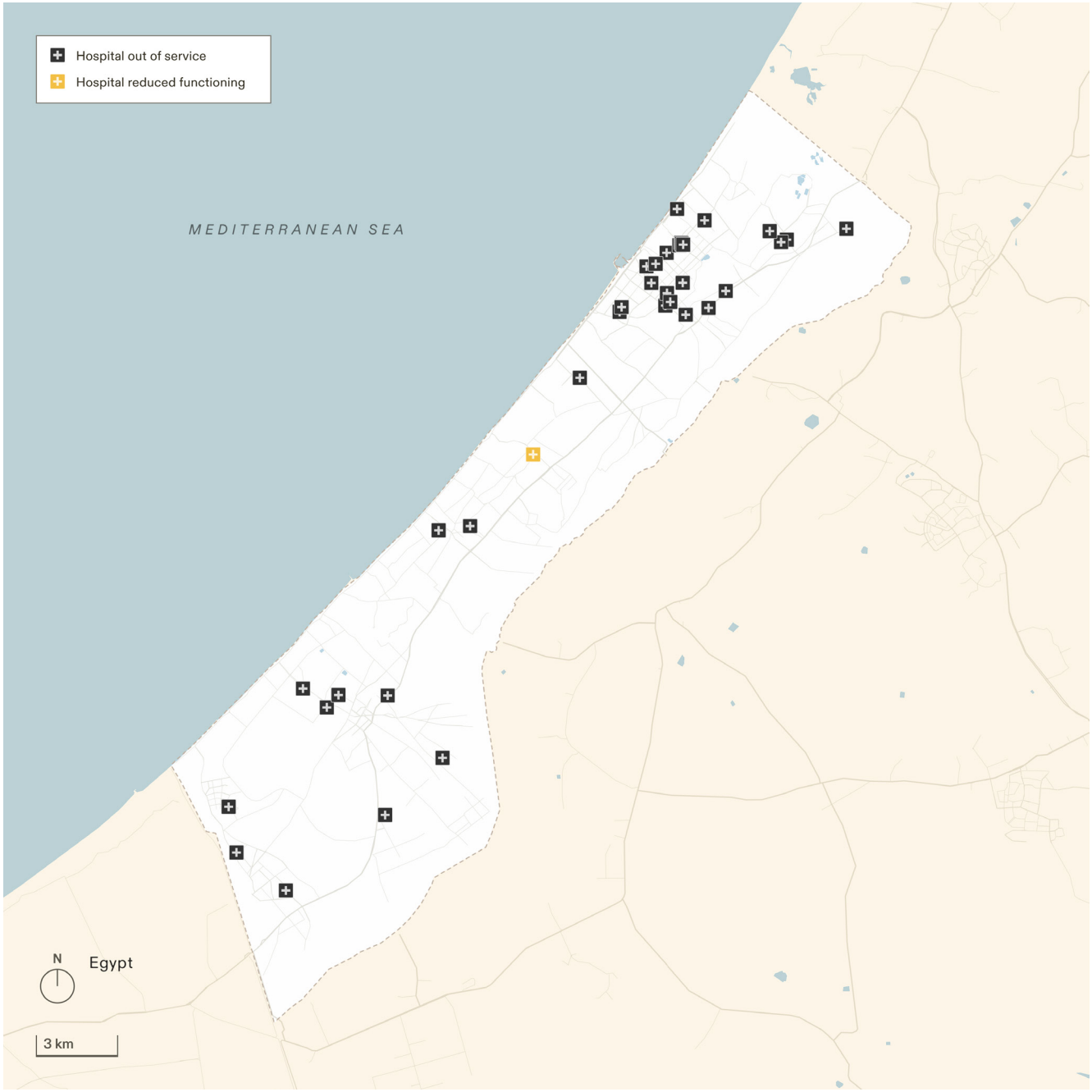


Figure 5.3. Hospitals in Gaza that were forced out of service between 7 October 2023 and 1 August 2024.

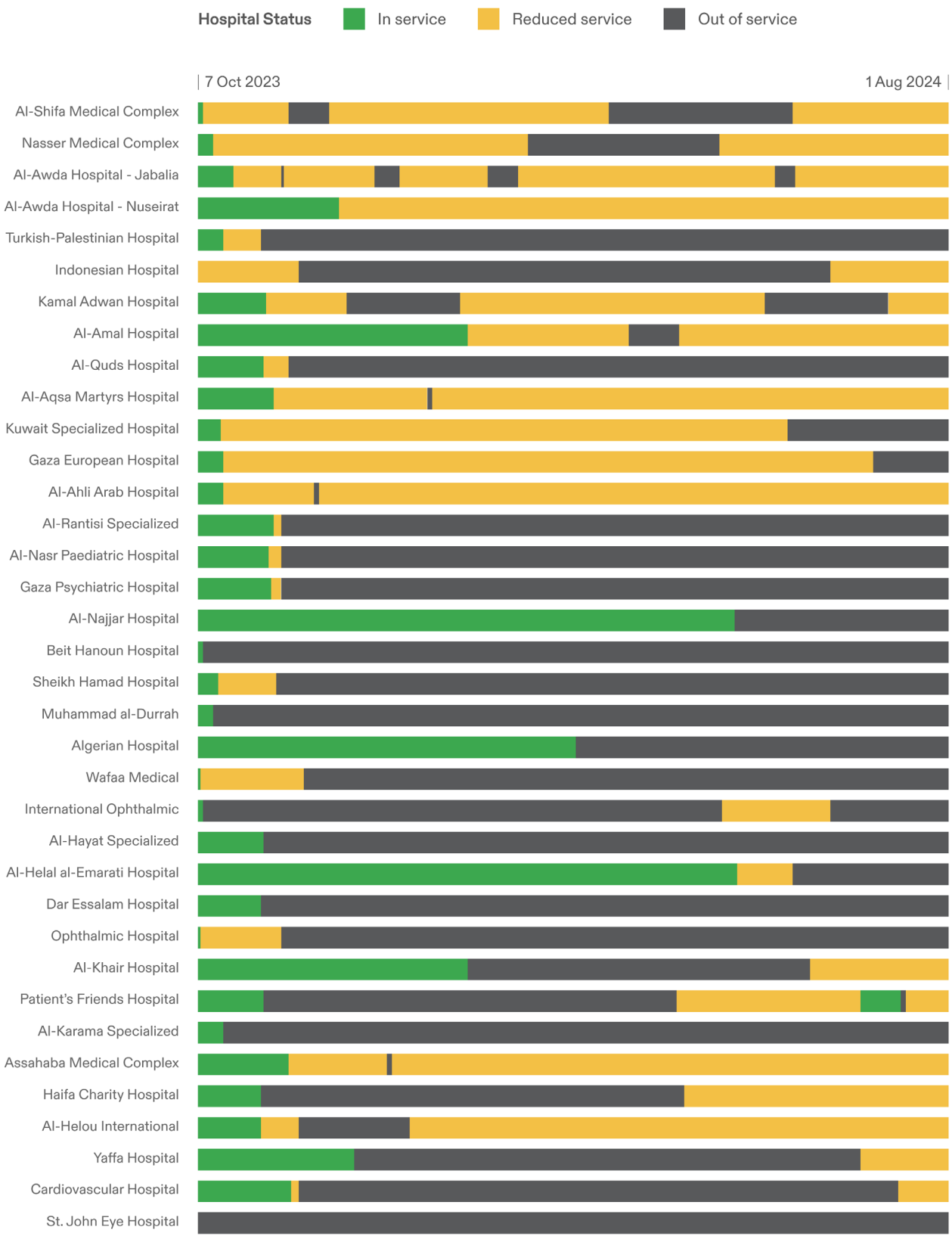


Figure 5.4. The functional status of hospitals in Gaza between 7 October 2023 and 1 August 2024.

(b) 31 of 36 hospitals have been targeted by Israeli military attacks

(c) 11 of 36 hospitals have undergone a siege

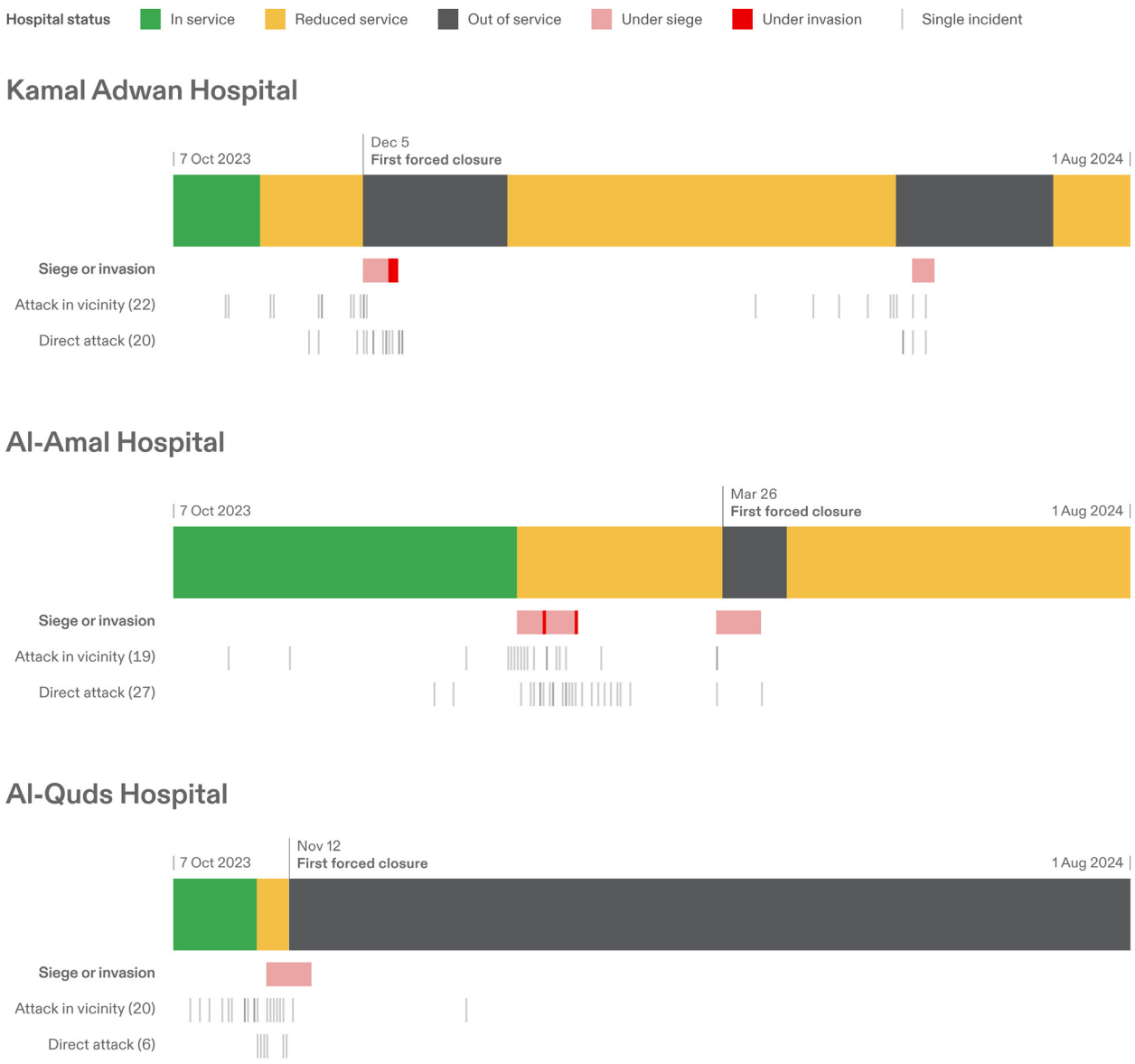
(d) 10 of 36 hospitals have been invaded by Israeli personnel



Figure 5.5 The status of functioning and targeting by the Israeli military for 1) al-Shifa Medical Complex, 2) Nasser Medical Complex, 3) Al-Awda Hospital – Jabalia.



Figure 5.6 The status of functioning and targeting by the Israeli military for 1) al-Awda Hospital – Nuseirat, 2) Turkish-Palestinian Friendship Hospital, 3) Indonesian Hospital.



68

Figure 5.7 The status of functioning and targeting by the Israeli military for 1) Kamal Adwan Hospital, 2) al-Amal Hospital, 3) Al-Quds Hospital.

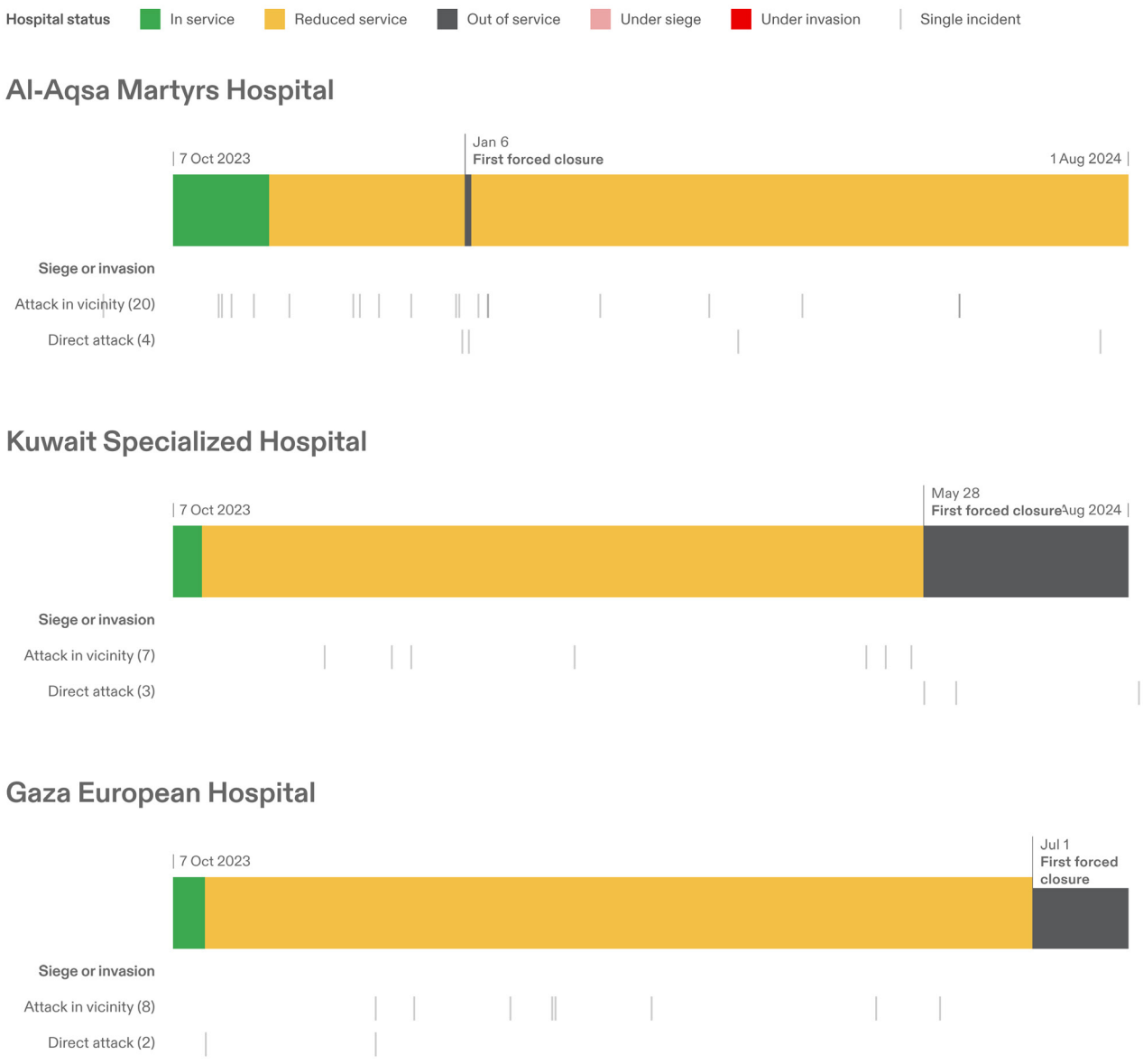


Figure 5.8 The status of functioning and targeting by the Israeli military for 1) al-Aqsa Martyrs Hospital, 2) Kuwait Specialized Hospital, 3) Gaza European Hospital.



Figure 5.9 The status of functioning and targeting by the Israeli military for 1) al-Ahli Arab Hospital 2) al-Rantisi Specialized Hospital, 3) al-Nasr Paediatric Hospital.

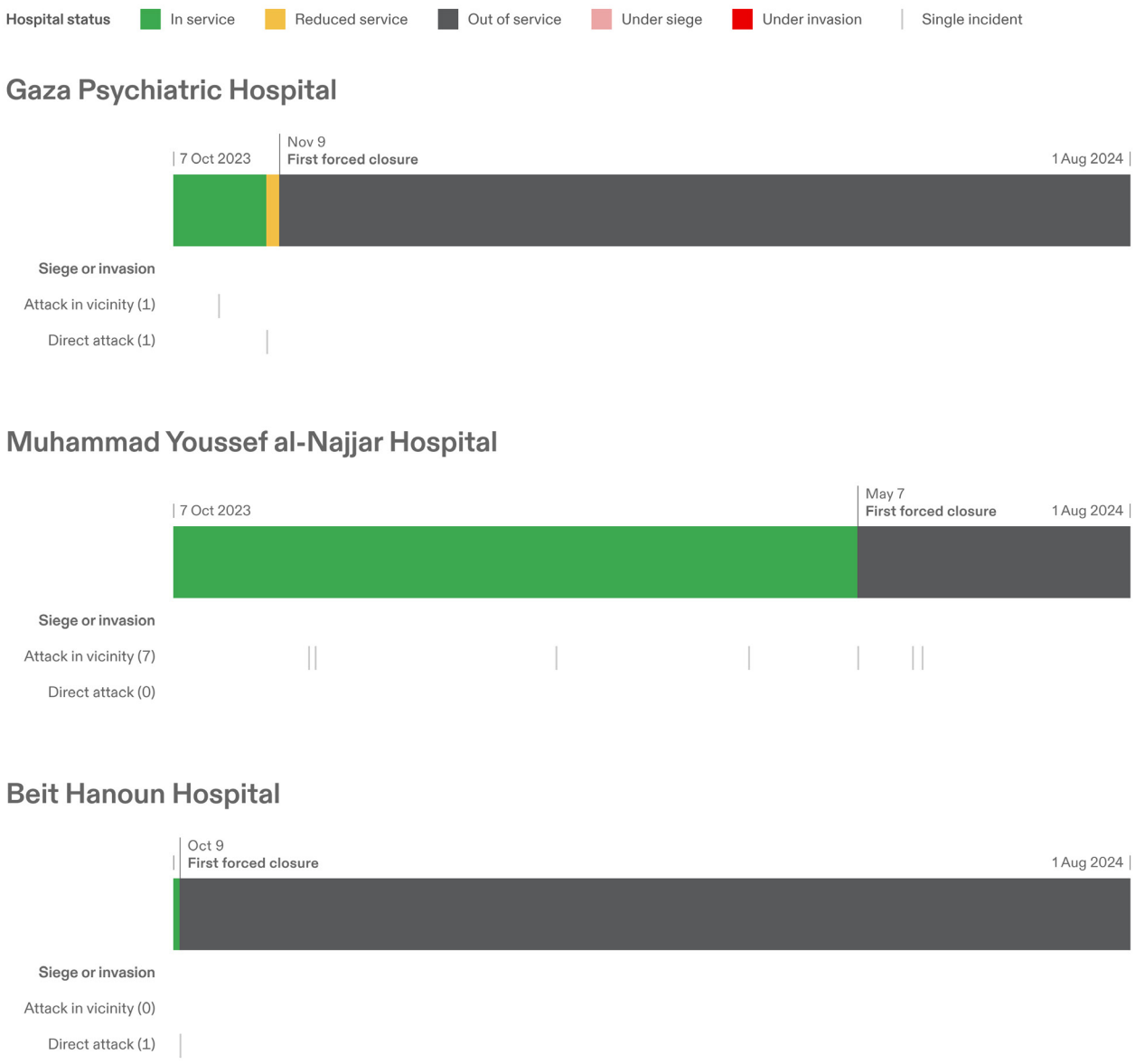


Figure 5.10 The status of functioning and targeting by the Israeli military for 1) Gaza Psychiatric Hospital, 2) Muhammad Youssef al-Najjar Hospital, 3) Beit Hanoun Hospital.

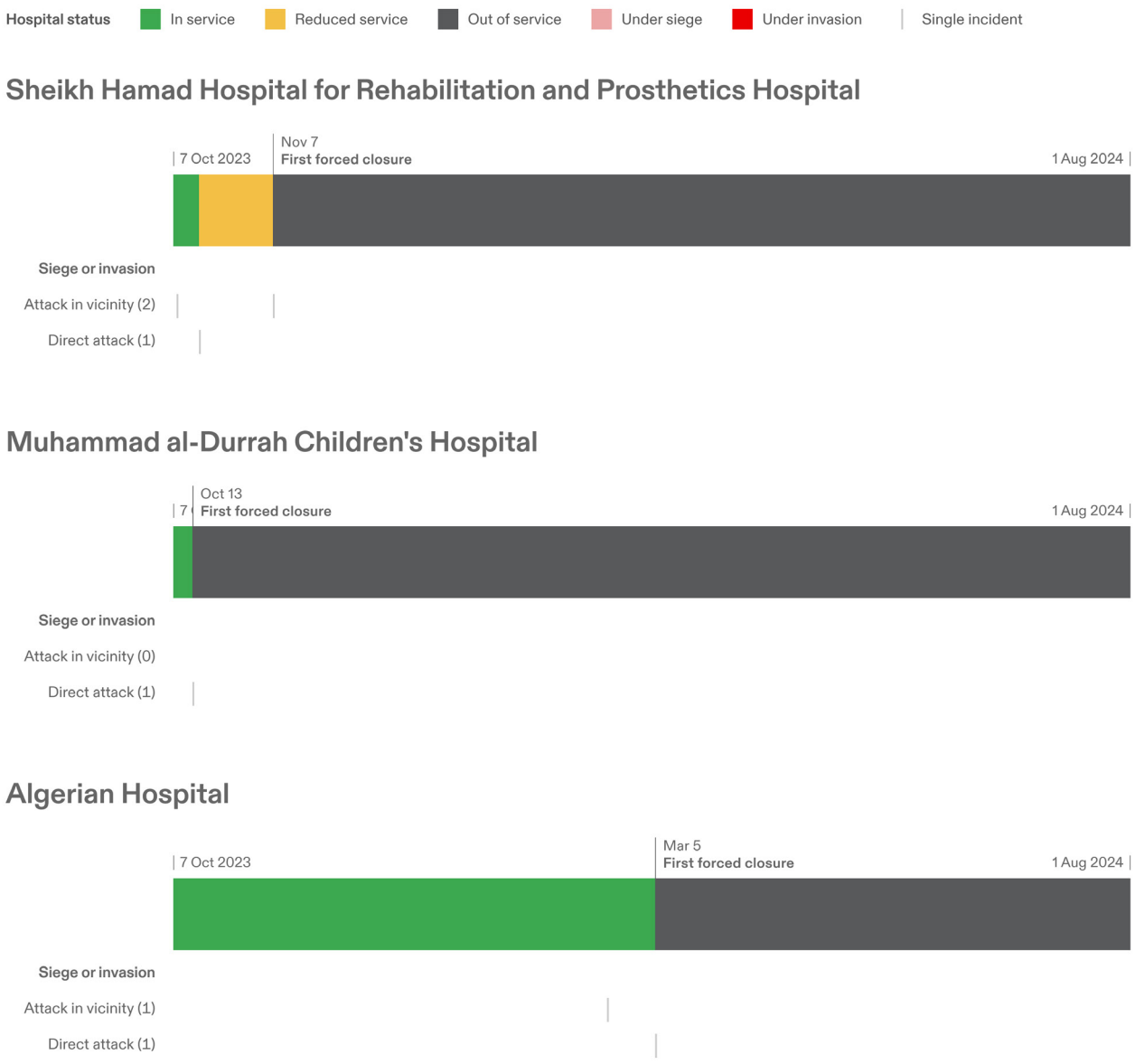


Figure 5.11 The status of functioning and targeting by the Israeli military for 1) Sheikh Hamad Hospital for Rehabilitation and Prosthetics Hospital, 2) Muhammad al-Durrah Children's Hospital, 3) Algerian Hospital.

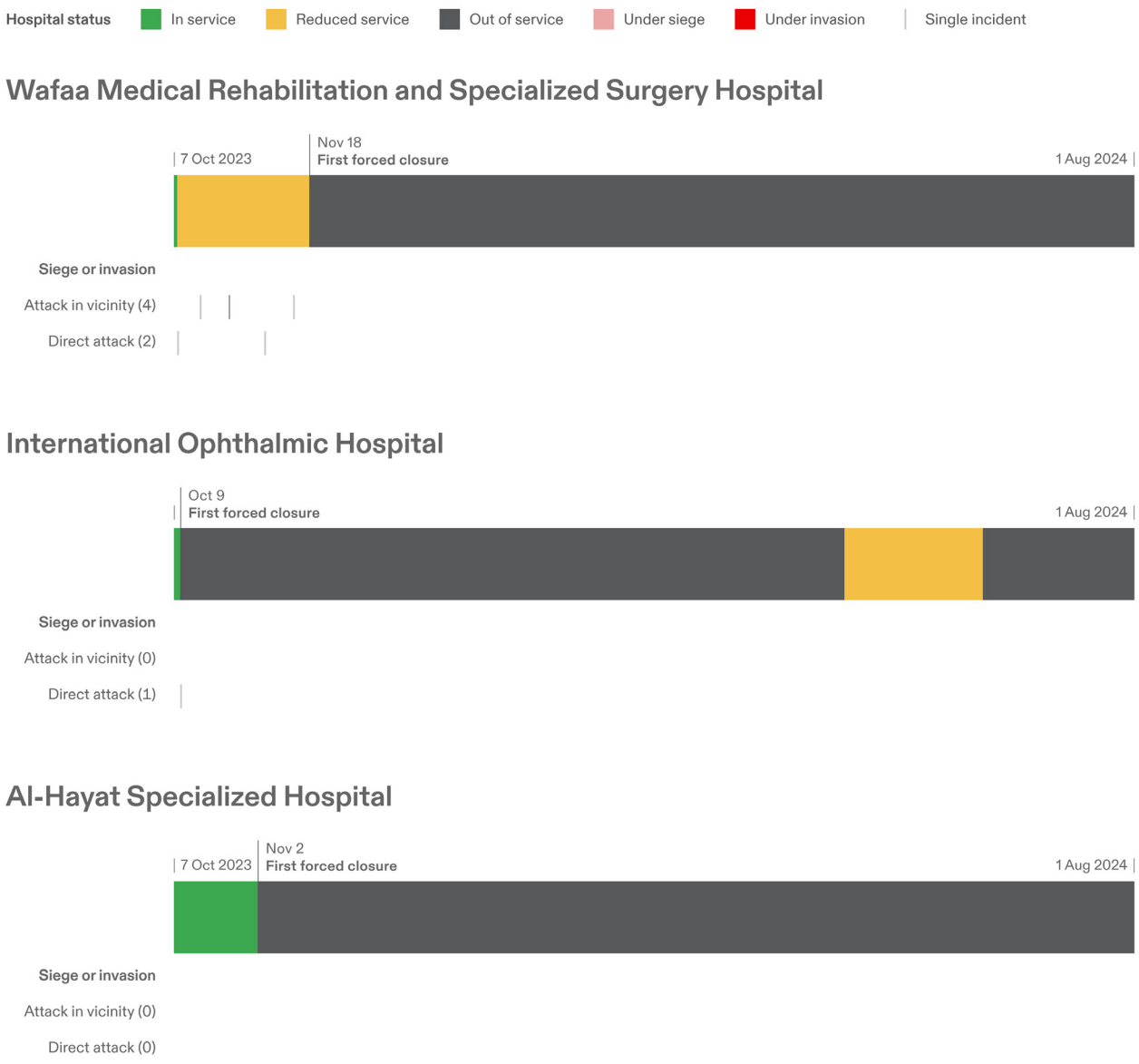


Figure 5.12 The status of functioning and targeting by the Israeli military for 1) Wafaa Medical Rehabilitation and Specialized Surgery Hospital, 2) International Ophthalmic Hospital, 3) Al-Hayat Specialized Hospital.

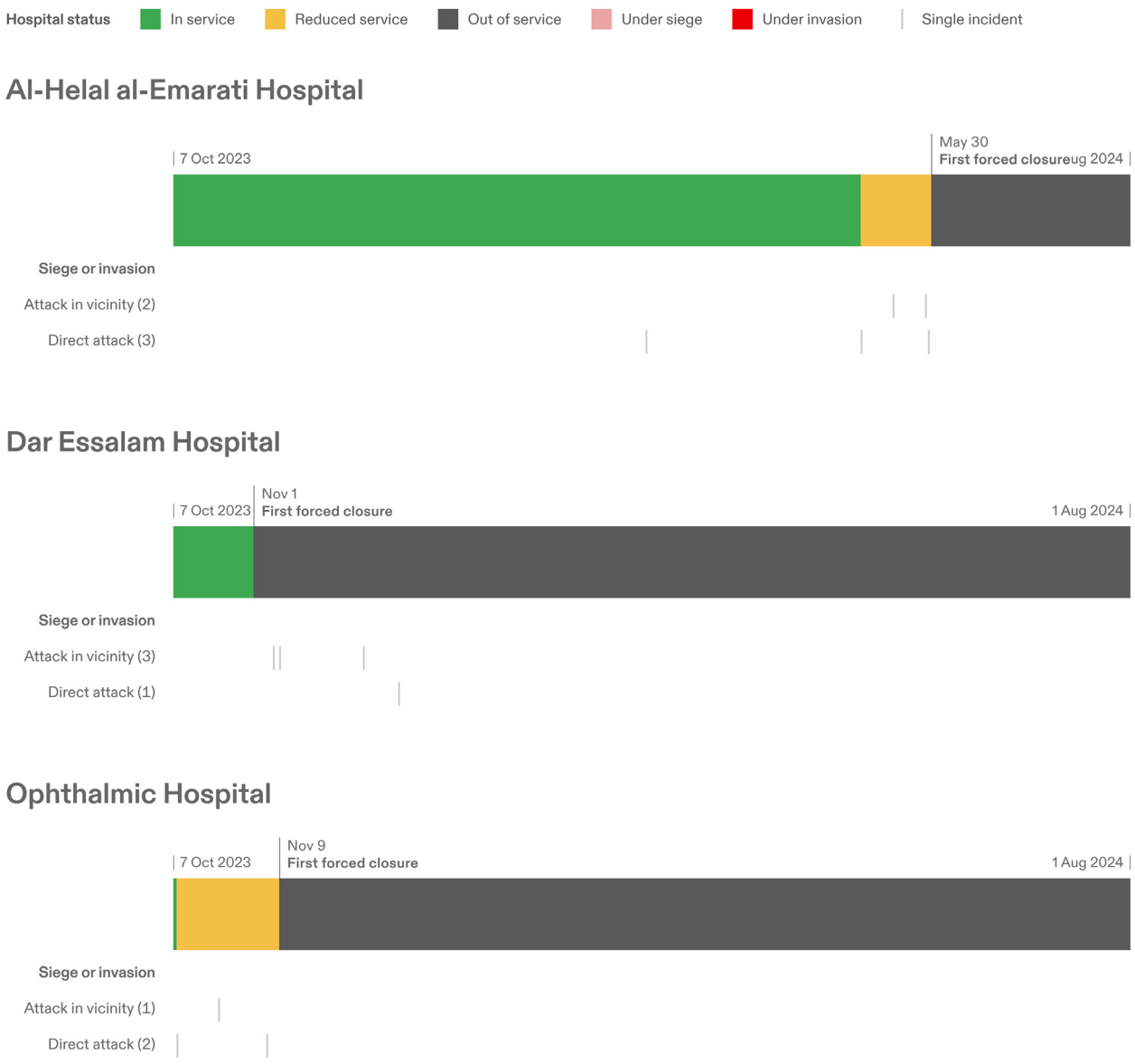


Figure 5.14 The status of functioning and targeting by the Israeli military for 1) al-Helal al-Emarati Hospital, 2) Dar Essalam Hospital, 3) Ophthalmic Hospital.

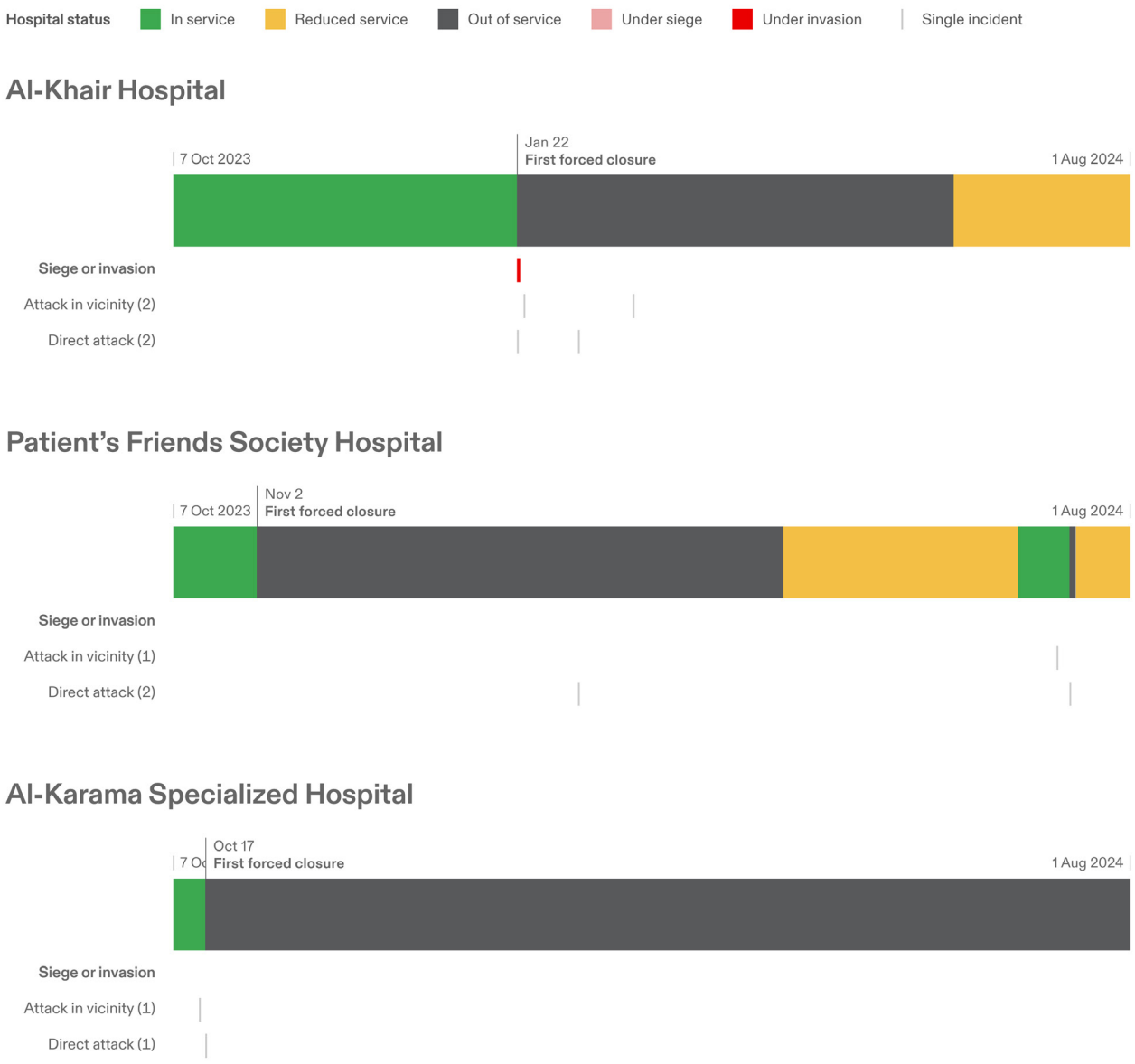


Figure 5.15 The status of functioning and targeting by the Israeli military for 1) al-Khair Hospital, 2) Patient's Friends Society Hospital, 3) al-Karama Specialized Hospital.

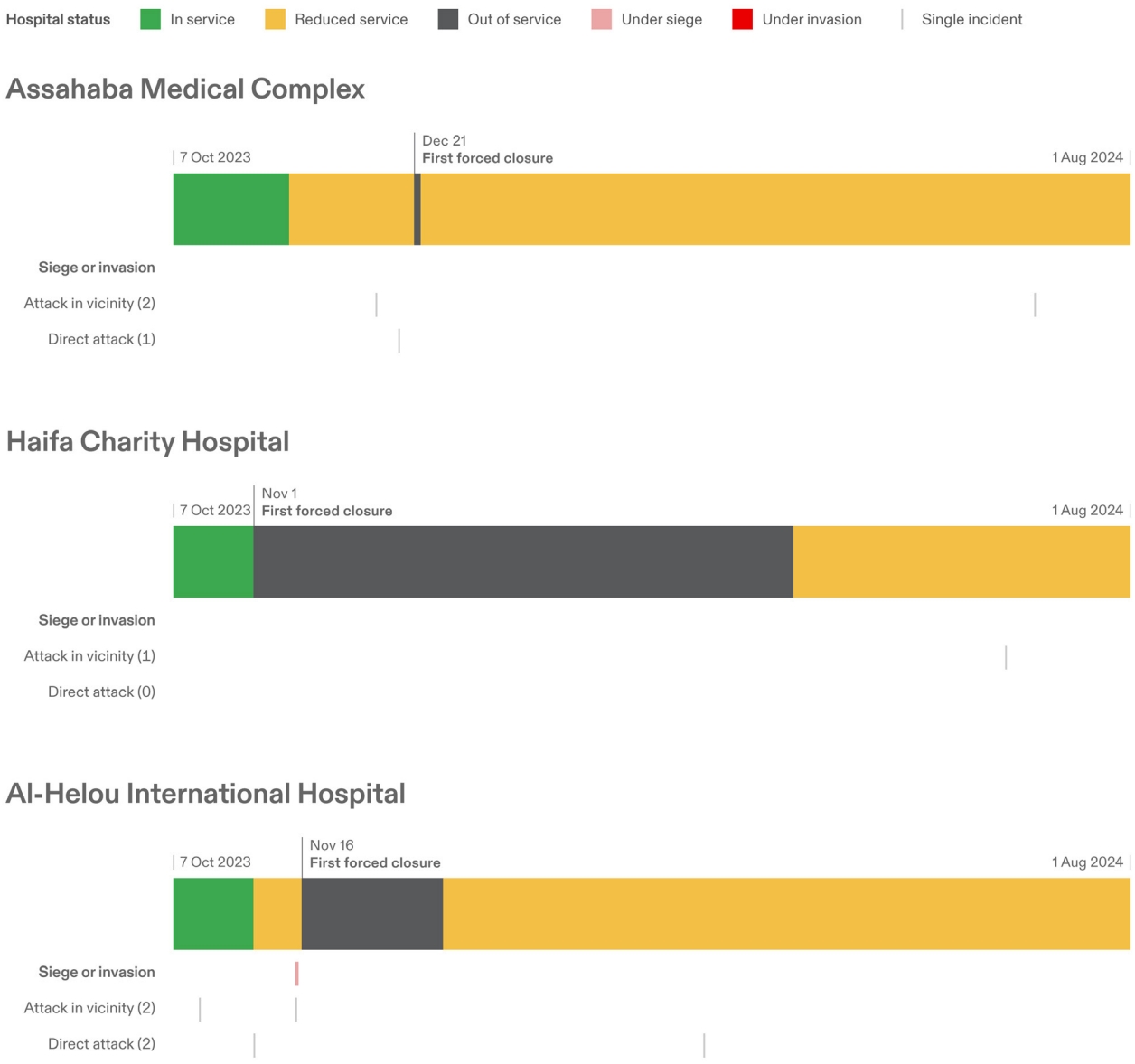


Figure 5.16 The status of functioning and targeting by the Israeli military for 1) Assahaba Medical Complex, 2) Haifa Charity Hospital, 3) al-Helou International Hospital.

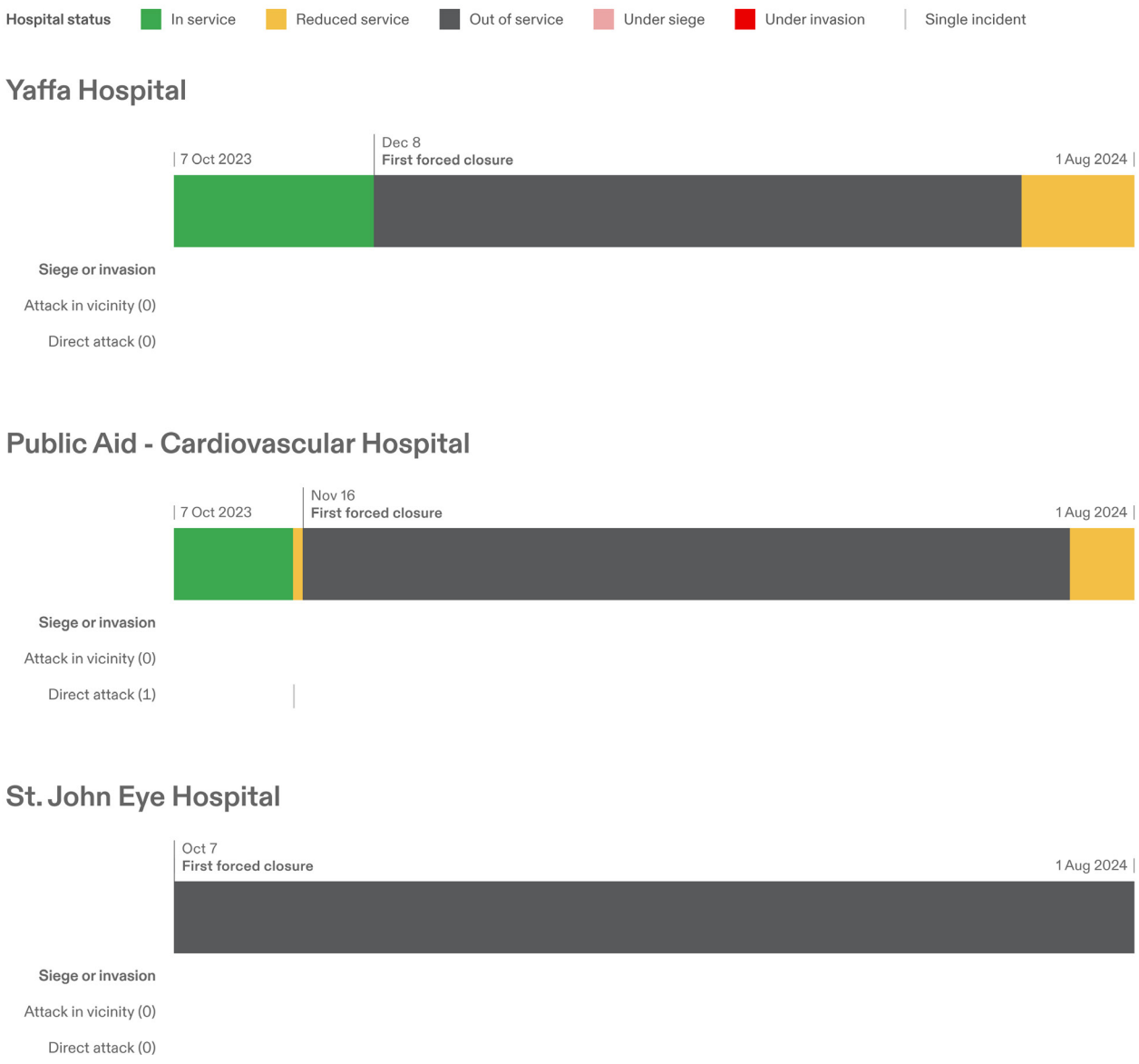


Figure 5.17 The status of medical functioning and targeting by the Israeli military for 1) Yaffa Medical Hospital, 2) Public Aid – Cardiovascular Hospital, 3) St John Eye Hospital.

(a) 5 hospitals have been besieged twice

(b) 4 hospitals have been invaded twice

(c) 1 hospital has been attacked and forced out of service twice, having rebuilt and reestablished operations

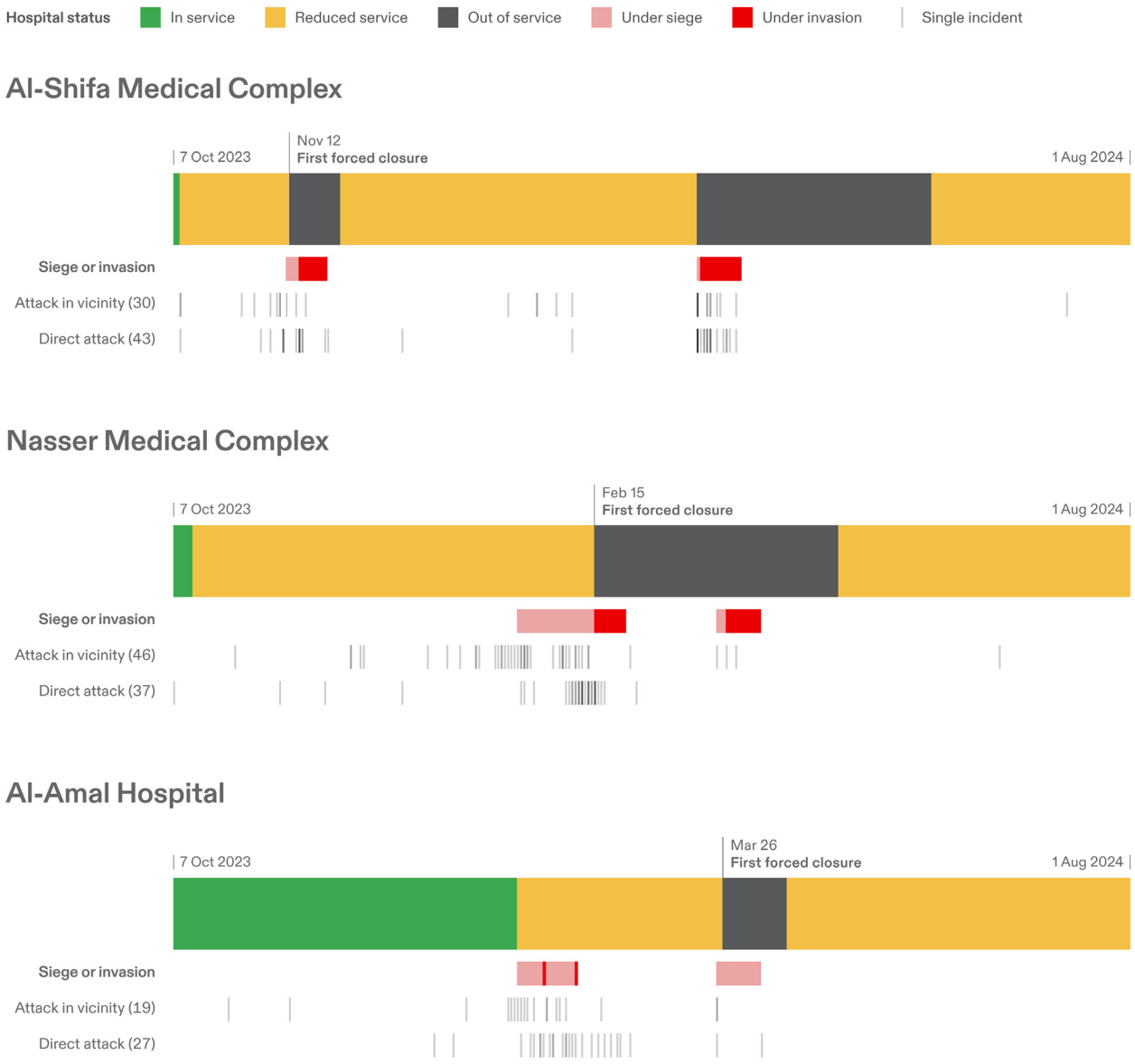


Figure 5.18 Hospitals that have been besieged or invaded twice in Gaza between 7 October 2023 and 1 August 2024 by the Israeli military.

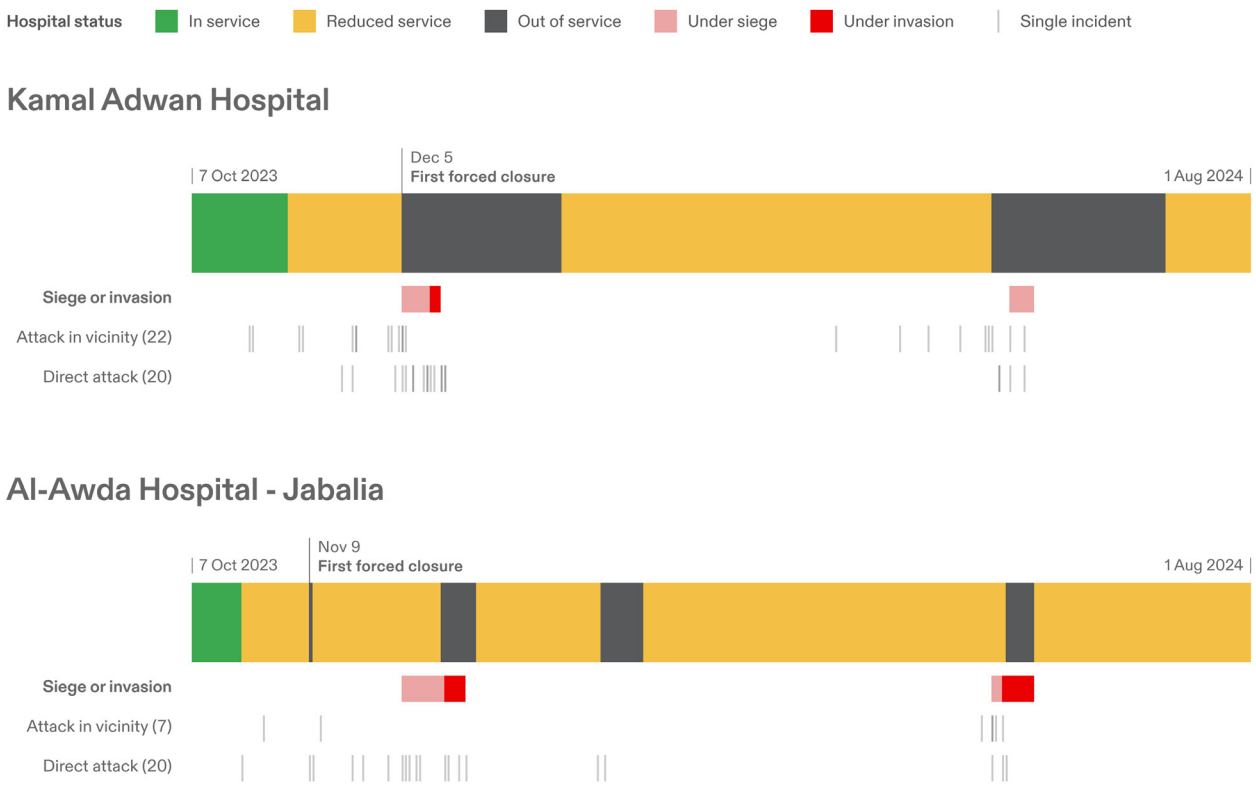


Figure 5.19 Hospitals that have been besieged or invaded twice in Gaza between 7 October 2023 and 1 August 2024 by the Israeli military.

(d) 27 hospitals are within areas that received evacuation orders

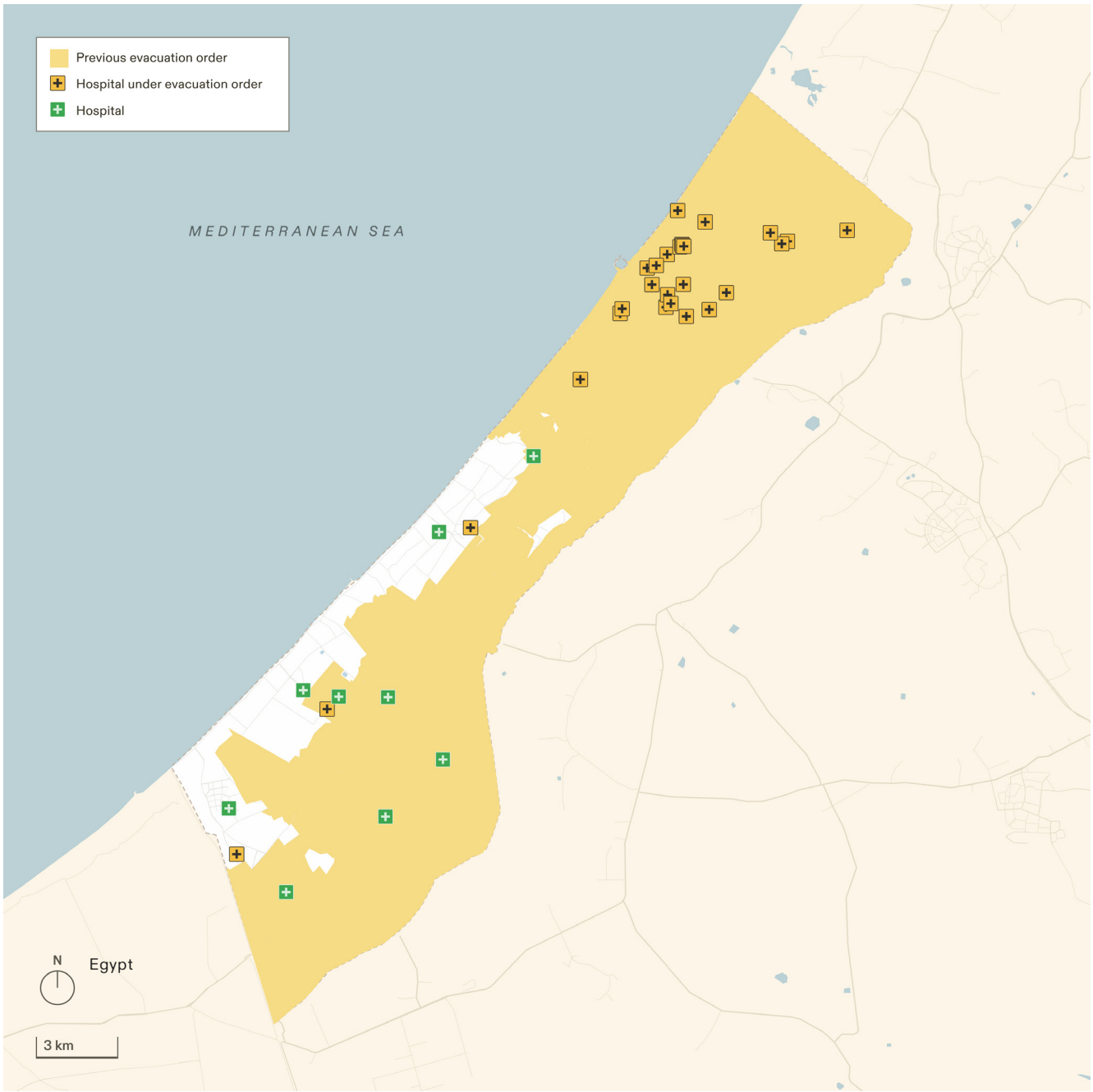


Figure 5.20. Hospitals in Gaza that have been issued orders to evacuate by the Israeli military, and hospitals within areas subject to evacuation orders, between 7 October 2023 and 1 August 2024.

(e) 4 field hospitals have been forced out of service and were subsequently evacuated

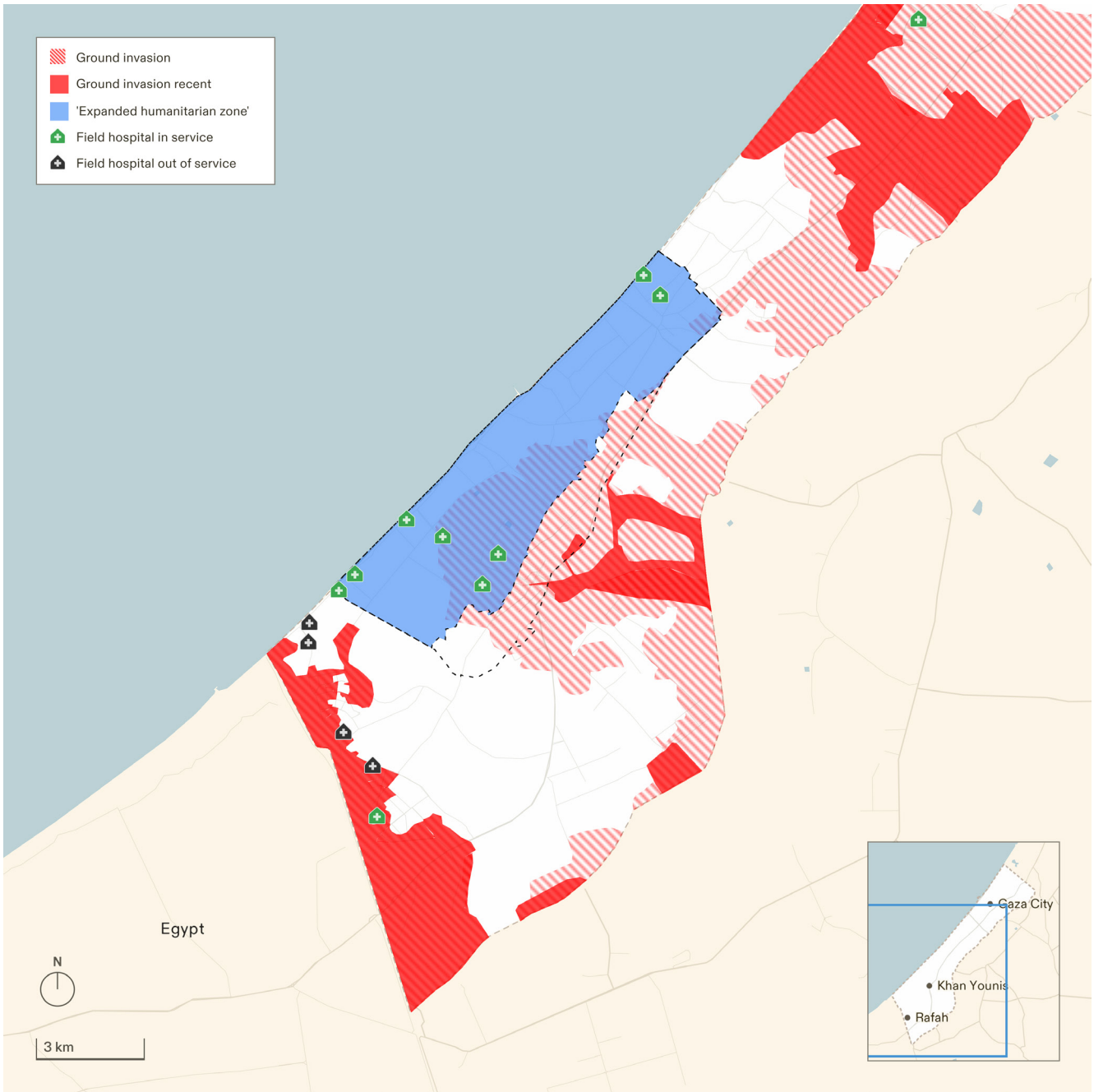


Figure 5.21 Southern Gaza on 27 July 2024, showing the status of field hospitals that have been forced out of service.

J PATTERN FINDINGS

1 *The Israeli military repeatedly targeted medical infrastructure across Gaza*

1.1 The Israeli military's targeting of hospitals follows a consistent and discernible pattern of five typically consecutive phases

69 Our data indicates a pattern of actions by which the Israeli military has repeatedly targeted hospitals. 35 of the 36 hospitals in Gaza have been forced out of service at one point in time between 7 October 2023 and 1 August 2024, and only 16 were partially functioning as of 1 August 2024 (see Figure 5.4).

70 Our analysis indicates that the Israeli military's targeting of hospitals follows a consistent and discernible pattern of five typically consecutive phases which ultimately led to the cessation of function at that hospital:

(a) Evacuation orders and warnings

(b) Attacks on the surroundings of hospitals

(c) Direct attacks on hospitals

(d) Putting hospitals under siege

(e) Invading hospitals

71 According to our analysis:

(a) 22 hospitals have been subject to at least three out of the five phases

(b) 12 hospitals have been subject to at least four out of the five phases

(c) 7 hospitals have been subject to all five of the phases

(A) Evacuation orders and warnings

72 Our data shows that at least 27 hospitals in Gaza have received evacuation orders between 7 October and 1 August 2024.

73 Evacuation orders exerted immense pressure on hospitals whose capacity was already stretched by a significant influx of patients. In October 2023, tens of thousands of civilians sought refuge in al-Shifa Medical Complex, believing it to be the safest place in the area at that time.[21]

[21] Ruth Michaelson, '"People Are Terrified": Gaza's Main Hospital Overflows with the Living and the Dead' *The Guardian* (17 October 2023) <https://www.theguardian.com/world/2023/oct/17/gaza-main-hospital-overflows-with-living-dead-dar-al-shifa> accessed 14 October 2024.

74 On 13 October, an evacuation order was issued for the entire area of Gaza north of Wadi Gaza.[22] Reportedly, 23 hospitals in north Gaza received direct instructions to evacuate on the same day.[23] The World Health Organization described Israeli evacuation orders on hospitals as a 'death sentence' for patients who needed urgent care.[24]

75 Following the 13 October evacuation order, hospitals continued to receive phone calls from the Israeli military ordering them to comply.[25] Some of these hospitals were told they had only hours to evacuate.[26]

(a) Three evacuation warnings were reportedly communicated to staff at al-Ahli Arab Hospital on consecutive days, before a blast killed hundreds of people sheltering in its courtyard on 17 October 2023.[27]

(b) On 10 November 2023, al-Nasr Children's Hospital was forced to evacuate by the Israeli military following a siege. Following the Israeli military's withdrawal from the al-Nasr area on 29 November, decomposing bodies of babies were discovered at the hospital. [Incident ID: 31110-79172]

[22] Ruwaida Amer, '"What to Do?": Fear, Confusion in Gaza after Israeli Evacuation Order' (Al Jazeera) <https://www.aljazeera.com/news/2023/10/13/fear-confusion-as-israel-issues-evacuation-order-for-northern-gaza> accessed 26 September 2024.
[23] 'Israel & OPT: Rescind Evacuation Order against Gaza Hospitals' [n 4].
[24] 'Evacuation Orders by Israel to Hospitals in Northern Gaza Are a Death Sentence for the Sick and Injured' <https://www.who.int/news/item/14-10-2023-evacuation-orders-by-israel-to-hospitals-in-northern-gaza-are-a-death-sentence-for-the-sick-and-injured> accessed 26 September 2024.
[25] 'Israel & OPT: Rescind Evacuation Order against Gaza Hospitals' [n 4].
[26] 'Israel Has given Al Awda Hospital Just Two Hours to Evacuate. Our Staff Are Still Treating Patients.' <https://x.com/MSF/status/1712886892885061811?lang=en> accessed 26 September 2024;
[27] 'Patriarchs and Heads of the Churches in Jerusalem Hold Press Conference After Gaza Hospital Explosion | National Catholic Register' <https://www.ncregister.com/cna/patriarchs-and-heads-of-the-churches-in-jerusalem-hold-press-conference-after-gaza-hospital-explosion> accessed 26 September 2024. In a press conference on 18 October 2023, one day after a huge blast at the hospital caused hundreds of deaths, Anglican Bishop Hosam Naum of the Episcopal Diocese of Jerusalem, which runs al-Ahli hospital, said the hospital had received warnings to evacuate on the three days before the explosion.

PALESTINE RED CRESCENT SOCIETY جمعية الهلال الأحمر الفلسطيني

HUMANITARIAN ALERT

Imminent Threat received for Immediate Evacuation of PRCS Al Quds Hospital

(29.10.2023) PRCS has just received a new threat by the Israeli Authorities this morning; ordering the team to immediately evacuate Al Quds Hospital, located in Tal Al Hawa in the Gaza city.

Two phone calls were received, with a clear and direct threat, that the hospital must be evacuated at once, otherwise PRCS holds full responsibility for the lives of everyone inside the hospital.

As clarified earlier, PRCS Al Quds Hospital has hundreds of wounded and patients receiving medical care, including in the Intensive Care Unit (ICU) and Children in Incubators. In addition to approximately 12'000 Internally displaced civilians sheltering at the hospital; as well as PRCS management and operations team, who are still serving hundreds of thousands of civilians staying in the North of Gaza Strip.

All medical facilities and medical missions, as well as civilians are protected under International Humanitarian Law. States Parties to the Geneva Convention, are called upon to ensure respect for the Convention in all circumstances (common article 1). Furthermore, we call upon the ICRC and the International Red Cross and Red Crescent Movement, to intervene to ensure the protection of civilians and the protection of PRCS' teams and facilities in accordance with IHL and in fulfillment of their humanitarian mission.

We call once again on the international community as a whole, The Red Cross and Red Crescent Movement, the UN system and the International agencies to act immediately and save Al Quds Hospital, as well as All Hospitals in Gaza from being targeted, and to prevent a humanitarian catastrophe from unfolding.

END.

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E-Mail: info@palestineRCS.org www.palestineRCS.org

Figure 5.22. A press release by PRCS announcing that al-Quds hospital in Gaza City had received an evacuation order on the morning of 29 October 2023. At the time it was providing shelter for approximately 12,000 displaced persons.[28]

[28] 'Imminent Threat Received for Immediate Evacuation of PRGS Al Quds Hospital' (*reliefweb*) <https://reliefweb.int/report/occupied-palestinian-territory/imminent-threat-received-immediate-evacuation-prgs-ai-quds-hospital> accessed 26 September 2024

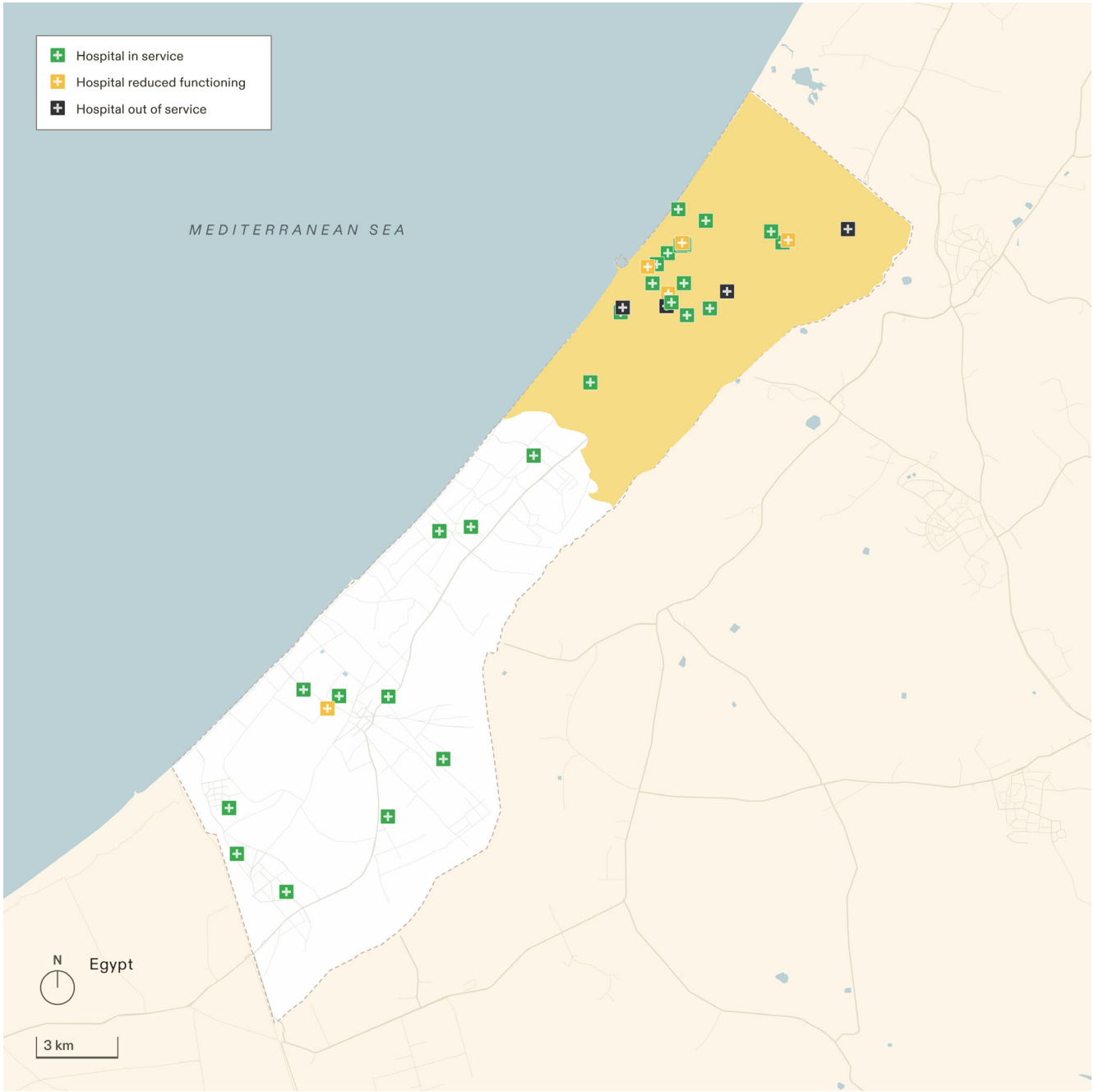

Figure 5.23. 23 hospitals in northern Gaza reportedly received direct orders from the Israeli military to evacuate, following the general evacuation order for northern Gaza on 13 October 2023. This map shows the status of hospitals in Gaza on 13 October 2023.

(B) Attacks on the surroundings of hospitals

76 Our data shows that the surroundings of 29 of the 36 hospitals were attacked by the Israeli military.[29] Our analysis of this data shows that the Israeli military repeatedly attacked neighbourhoods surrounding hospitals. As demonstrated below, attacking the vicinity of a hospital often caused major disruptions for the hospital due to a sudden influx of patients, halting movement and accessibility for staff and ambulances, and disrupting the delivery of medical supplies due to the danger posed to personnel. Attacks on the immediate surroundings of hospitals often followed evacuation warnings to hospital staff.

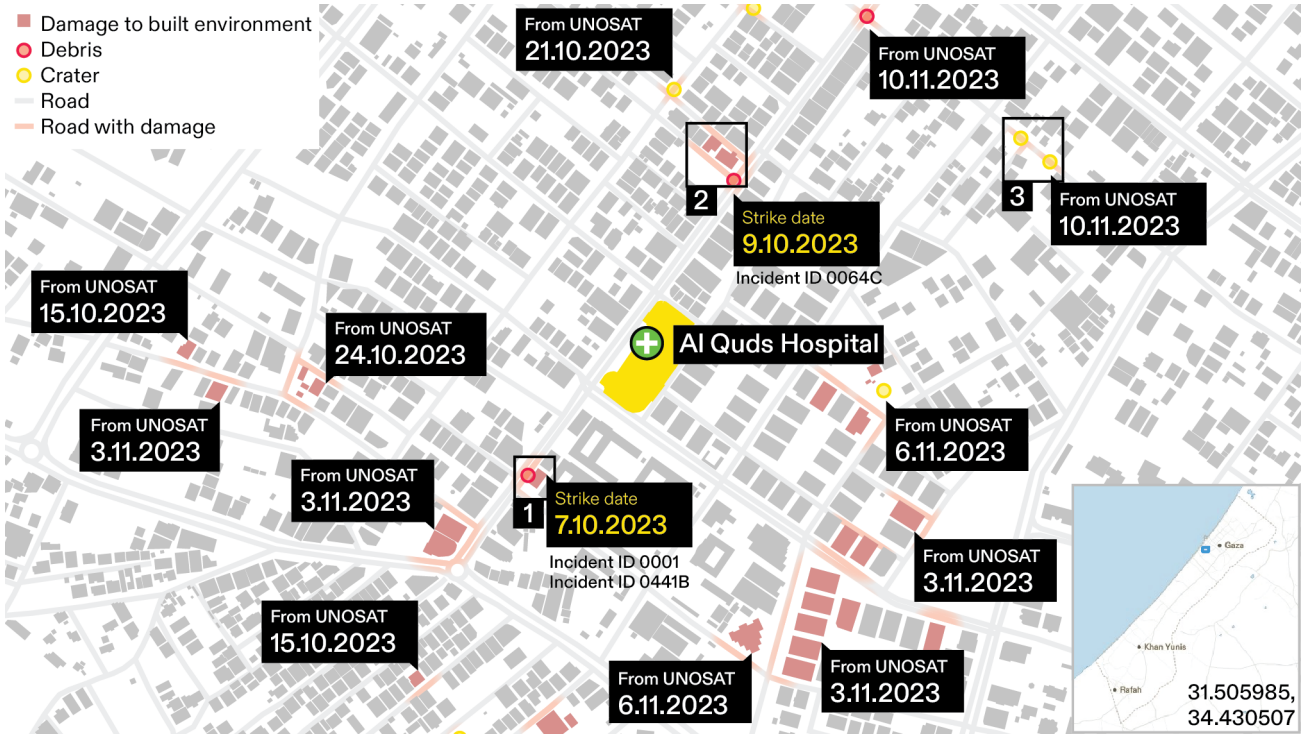

Figure 5.24 Loss of access to al-Quds Hospital due to activity by the Israeli military in October and November 2023 (see Chapter 6: Destruction of Civilian Infrastructure).

[29] Incident IDs: 31009-83107, 31201-81900, 31112-15078, 31015-82935, 31028-50615, 31122-33931, 40106-91367, 31221-83844, 31214-06891, 31022-01365, 31016-59347, 31015-61592, 31008-48738, 40219-08449, 31015-68803, 40302-26943, 31107-17527, 40124-18196, 40708-56220, 31015-62557, 31209-07540, 40622-49156, 31015-02159, 40203-52642, 31225-37146.

(a) Between 9 October and 9 November 2023, the surroundings of al-Shifa Medical Complex were repeatedly attacked by the Israeli military, reportedly raising the number of evacuees sheltering there to 60,000 (see Figure 5.25).

(b) On 4 December 2023, Doctors Without Borders (MSF) reported that hospitals were at a breaking point as bombing had intensified. MSF workers stated they had received 100 deceased and 400 injured people in 48 hours at al-Aqsa Martyrs Hospital.[30] Prior to this date, the surroundings of al-Aqsa Martyrs Hospital were targeted.[31]

(c) On 6 November 2023, following a period of its vicinity being targeted, the al-Aqsa Martyrs Hospital director announced the closing of the women's and maternity department and its transfer to al-Awda Hospital in Nuseirat. [Incident ID: 31106-74802] The hospital stated that it closed the women's and maternity department to accommodate a surge of patients.[32]

(d) Between October and November 2023, prior to al-Quds Hospital being forced out of service and evacuated on 14 November, buildings and roads surrounding the hospital sustained significant damage from Israeli bombing (see Figure 5.23).[33] Loss of access to al-Quds Hospital due to activity by the Israeli military in October and November 2023, forced ambulances to take a rough, unpaved road to retrieve injured people.[34] (see Chapter 6: Destruction of Civilian Infrastructure)

(e) On 5 November 2023, the PRCS reported that targeting of al-Quds surroundings had significantly disrupted its ability to function and that displaced people sheltering at the hospital were suffering from extreme panic and fear.[35]

(f) On 5 November 2023, an airstrike targeted the vicinity of four hospitals on al-Nasr Street in Gaza City: al-Rantisi Specialized Hospital, al-Nasr Paediatric Hospital, Ophthalmic Hospital, and Gaza Psychiatric Hospital. OCHA reported eight people were killed, and buildings and medical equipment were damaged (see Figure 5.24).[36] An image posted the following day showed the impact of the attack on al-Rantisi Hospital, opening a large hole in the building's facade.

(g) Between 24 October 2023 and 22 January 2024, the surroundings of al-Nasser Medical Complex were repeatedly targeted by the Israeli military (see GCD for documented incidents), raising the number of evacuees sheltering at al-Nasser Medical Complex to 30,000.[37]

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[30] 'Hospitals at Breaking Point in Southern Gaza as Bombing Intensifies | Doctors Without Borders - USA' <https://www.doctorswithout-borders.org/latest/hospitals-are-breaking-point-southern-gaza-bombing-intensifies> accessed 14 October 2024.

[31] Incident IDs: 30915-48436, 31021-68249, 31022-01365, 31025-24450, 31204-31282.

[32] 'ياسر البنا، مدير مستشفى شهداء الأقصى: إسرائيل استخدمت أسلحة جديدة وخطرة' <https://tinyurl.com/2pm7a3rz> accessed 26 September 2024.

[33] 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Hostilities in the Gaza Strip and Israel | Flash Update #40' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 15 November 2023) <http://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-40> accessed 14 October 2024.

[34] 'Al-Quds Hospital in Gaza Runs out of Fuel, Shuts down Key Services' (*Al Jazeera)* <https://www.aljazeera.com/news/2023/11/8/al-quds-hospital-in-gaza-runs-out-of-fuel-shuts-down-key-services> accessed 26 September 2024.

[35] 'Palestine Red Crescent Society: Response Report From Saturday, 07/10/2023, 6:00 AM To Sunday, 05/11/2023, 13:00 PM [EN/AR] - Occupied Palestinian Territory | ReliefWeb' (5 November 2023) <https://reliefweb.int/report/occupied-palestinian-territory/palestine-red-crescent-society-response-report-saturday-07102023-600-am-sunday-05112023-1300-pm-enar> accessed 14 October 2024.

[36] 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Hostilities in the Gaza Strip and Israel | Flash Update #31' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 6 November 2023) <http://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-31> accessed 14 October 2024.

[37] 'Telegram: Contact @AjaNews' <https://t.me/AjaNews/243796> accessed 26 September 2024.

77 Those displaced by bombardment sought shelter in hospitals, as they were seen as the only safe place. This led to hospital grounds sheltering thousands, as people set up tents in gardens and courtyards. Eventually, displaced civilians entered hospital buildings, taking refuge in stairwells and corridors, or anywhere they could find space.[38]

[38] 'Ezz.Lulu on TikTok' (TikTok) <https://www.tiktok.com/@ezzlulu/video/7296193094133796097> accessed 26 September 2024; Ruth Michaelson, '"People Are Terrified": Gaza's Main Hospital Overflows with the Living and the Dead' *The Guardian* (17 October 2023) <https://www.theguardian.com/world/2023/oct/17/gaza-main-hospital-overflows-with-living-dead-dar-al-shifa> accessed 14 October 2024.



Figure 5.25. Damage in al-Rantisi Specialized Hospital as a result of an Israeli airstrike, stills taken from video.[39] [Incident ID: 31105-12642]

[39] Manisha Ganguly and others, 'Hospital Damage in Gaza during Israeli Offensive – a Visual Investigation' *The Guardian* (1 December 2023) <https://www.theguardian.com/world/2023/dec/01/hospital-damage-in-gaza-during-israeli-offensive-a-visual-investigation> accessed 14 October 2024.

(C) Direct attacks on hospitals

78 Our data indicates that 31 of the 36 hospitals across Gaza have been subject to attacks by the Israeli military since October 2023. Many of these hospitals were attacked after they became shelters for thousands of displaced people. Al-Shifa Medical Complex was struck by airstrikes when around 60,000 were sheltering there.[40] Nasser Medical Complex was struck when 30,000 people were sheltering there.[41] The Indonesian Hospital had 20,000 displaced people,[42] al-Quds had 14,000,[43] and Kamal Adwan sheltered 7,000 displaced people when they were directly attacked.[44]

(a) Following evacuation orders and the repeated targeting of its surroundings, Kamal Adwan Hospital was directly targeted on 18 November 2023 when an artillery shell struck the children's department. [Incident ID: 31118-49498] A siege was imposed on the hospital on 5 December 2023. [Incident ID: 31205-66186]

(b) Al-Shifa Medical Complex was first directly targeted on 3 November, when an Israeli airstrike hit an ambulance convoy, killing fifteen people and injuring sixty others. [Incident ID: 31103-44745] The hospital was subsequently directly attacked six more times (see footnote 40). These attacks struck the hospital's courtyard, where civilians were sheltering, as well as its maternity building, outpatient ward, and emergency department.

79 Commonly, civilians sheltering within hospital grounds have lived in tents in the courtyards of the complex, or in hallways, stairwell corridors, or storage closets.[45] This repurposing of medical environments as shelters has reportedly led to an increase in infections.[46]

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40 ''Israel Says Al Shifa Hospital Conceals Hamas Underground Command Centers' [n 17]. Incident IDs: 31103-44745, 31106-90552, 31110-73646, 31110-53734, 31110-98994, 31110-25697.

41 'Telegram: Contact @AjaNews' <https://t.me/AjaNews/243796> accessed 26 September 2024. Incident IDs: 40206-32039, 40208-73438.

42 'Telegram: Contact @AjaNews' <https://t.me/AjaNews/221653> accessed 26 September 2024. [Incident ID: 31109-89467].

43 'Telegram: Contact @AjaNews' <https://t.me/AjaNews/217690> accessed 26 September 2024. [Incident ID: 31102-88761].

44 'Telegram: Contact @AjaNews' <https://t.me/AjaNews/229819> accessed 26 September 2024. [Incident ID: 31205-45342].

45 Irfan Galaria, 'Opinion: I'm an American Doctor Who Went to Gaza. What I Saw Wasn't War — It Was Annihilation' (Los Angeles Times, 16 February 2024) <https://www.latimes.com/opinion/story/2024-02-16/rafah-gaza-hospitals-surgery-israel-bombing-ground-offensive-children> accessed 26 September 2024; Mohammed R Mhawish, '"We Have Nothing": Families Seek Safety from Bombs inside Gaza Hospitals' (*Al Jazeera*) <https://www.aljazeera.com/news/2023/11/4/we-have-nothing-families-seek-safety-from-bombs-inside-gaza-hospitals> accessed 26 September 2024.

46 World Health Organization, 'Infection prevention and Control and Water, Sanitation and Hygiene in Health-Care and Shelters/ Congregate Settings in Gaza' <https://www.who.int/publications/i/item/WHO-oPt-IPC_WASH-2024.1> accessed 26 September 2024



Figure 5.26: Documented incidents at al-Shifa Medical Complex and Nasser Medical Complex between 7 October 2023 and 1 August 2024 by the Israeli military, demonstrating the phases of targeting: evacuation orders, attacking the surroundings, direct attacking, siege, and invasion.

(D) Putting hospitals under siege

80 Our data indicates that 11 of 36 hospitals across Gaza have been subject to siege by the Israeli military since October 2023. When the Israeli military places a hospital under siege, it maintains an armed presence in the immediate surroundings and control the access of people and supplies. We have observed the following consequences on hospitals, healthcare workers, and displaced civilians working there:

(a) Disruption to medical function

(b) Obstruction of access to aid

(c) Burial of deceased patients to occur in makeshift cemeteries in hospital grounds

(d) Civilian harm and fatalities

81 Below are incidents that reflect the observed consequences listed above.

82 **Disruption to medical function**

83 During its sieges on hospitals, the Israeli military has repeatedly restricted the entry of medical equipment, medicine, and fuel needed to run its generators for electricity.

84 Fuel for generators was necessary for these hospitals due to the restriction of electricity supply, and the destruction of electrical infrastructure (see Chapter 6: Destruction of Civilian Infrastructure)

(a) On 23 November 2023, during the siege of the Indonesian Hospital, the Ministry of Health reported electricity generators had been targeted. [Incident ID: 31123-86382]

(b) On 12 December 2023, during the siege of al-Awda Hospital in Jabalia, the Ministry of Health reported the Israeli military had prevented the hospital from receiving water and food. [Incident ID: 31212-66146]

(c) On 24 February, three days into the second siege of Nasser Medical Complex, a doctor operated on an injured patient's arm, illuminated only by a head torch and a mobile phone light. [Incident ID: 40224-72253]

85 ## Access to aid

86 The Israeli military obstructed aid deliveries from reaching hospitals, and damaged nearby roads.

(a) On 16 February 2024, the day after the Israeli military invaded the hospital, following a siege that began on 22 January [Incident ID: 40122-67070], a UNRWA mission was unable to deliver aid to Nasser Medical Complex.[47] According to GHM, this was the result of damage to roads caused by the Israeli military.[48] Figure 5.26, a map from 14 February shows the state of the siege prior to the invasion, with the Israeli military surrounding Nasser Medical Complex.

(b) On 28 January 2024, seven days into the siege, al-Amal Hospital reported oxygen stock had depleted and run out due to the Israeli military's siege on the hospital. [Incident ID 40128-57219]

(c) On 16 February 2024, at al-Amal Hospital, the PRCS reported that the Israeli military had tanks stationed at the hospital gates for two weeks, blocking any aid or logistical supplies entering the hospital. [Incident ID: 40216-26319]

[47] Administrator, 'WHO Transfers Critical Patients out of Nasser Medical Complex, Fears for Safety of Remaining Patients' (*World Health Organization - Regional Office for the Eastern Mediterranean*) <http://www.emro.who.int/media/news/who-transfers-critical-patients-out-of-nasser-medical-complex-fears-for-safety-of-remaining-patients.html> accessed 26 September 2024.
[48] 'Telegram: Contact @MOHMediaGazal' <https://t.me/MOHMediaGaza/5019> accessed 1 October 2024.

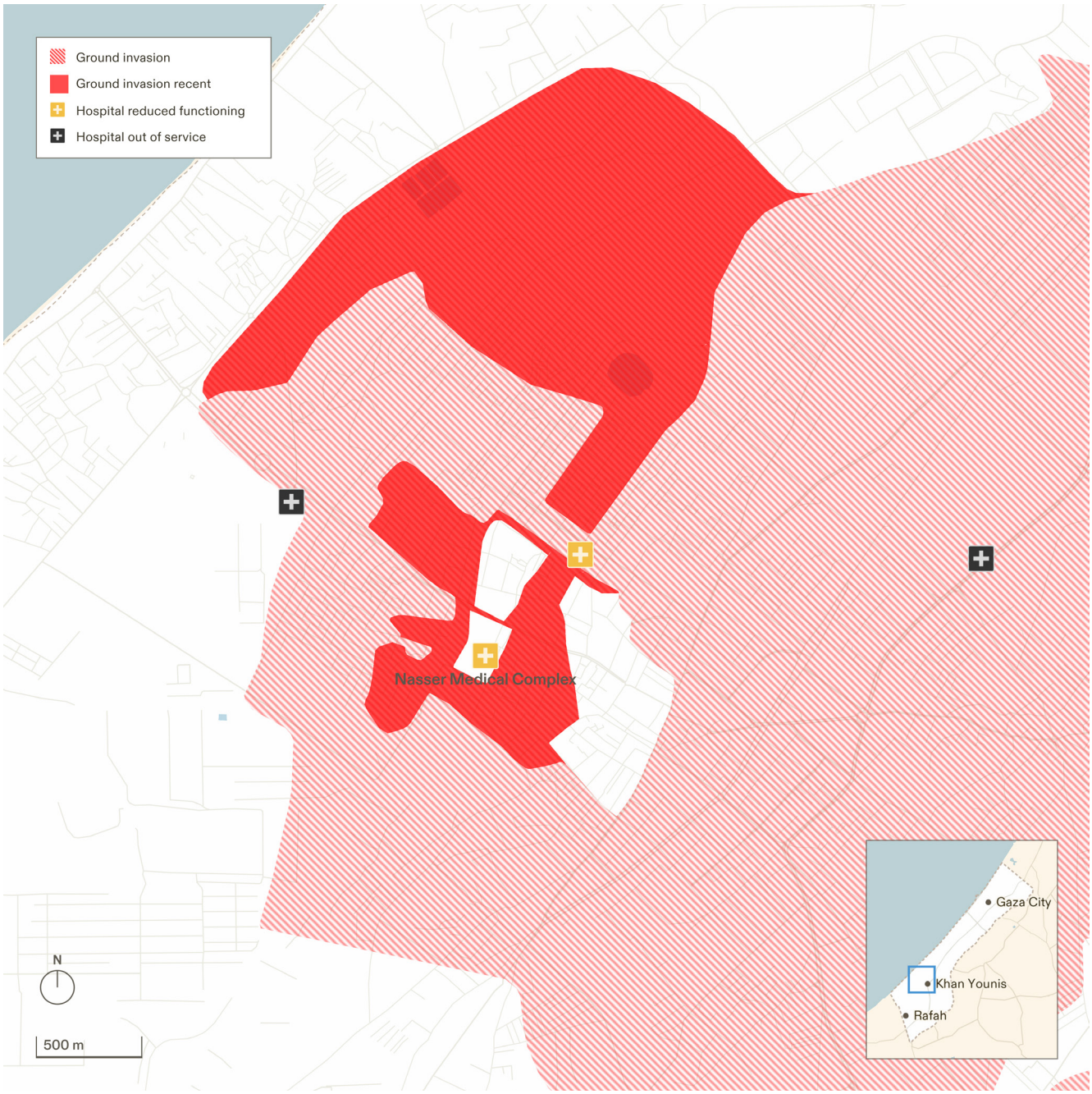

Figure 5.27. 14 February 2024, 24 days into the siege of Nasser Medical Complex.

87 **Burial of deceased civilians**

88 The Israeli military's bombing of Gaza resulted in mass casualties, overwhelming hospital morgues. In the case of al-Shifa Medical Complex, the scale of dead bodies prompted authorities to station a refrigerated food truck in the courtyard to serve as an additional morgue on 9 November 2023.[49] [Incident ID: 31109-80450]

89 At least two hospitals under siege have reportedly not been permitted to transport deceased patients from the hospital to outside of their grounds.[50] As a result, healthcare workers and displaced people were forced to bury the dead within the little space available on hospital grounds.

(a) On 14 November 2023, four days into the siege of al-Shifa Medical Complex, workers dug a trench in the courtyard outside the surgery building to bury several bodies, wrapped in plastic and placed side by side. [Incident ID: 31114-79285]

(b) On 28 January 2024, seven days into the siege of Nasser Medical Complex, a mass grave containing 30 bodies was dug inside the hospital grounds. [Incident ID: 40128-38331]

90 **Risk to life**

91 While besieging hospitals, the Israeli military has repeatedly attacked civilians within hospitals:

(a) Our data includes seven incidents at Nasser Medical Complex in which people were targeted in and around the hospital grounds, several reportedly resulting in fatalities.[51]

(b) In December 2023, an Israeli tank shell reportedly struck the maternity ward at Nasser Medical Complex and killed a 12-year-old girl. [Incident ID: 31217-53341]

(c) On 8 February 2024, a nurse at Nasser Medical Complex was shot while inside the hospital.[52] [Incident ID: 40208-73438]

(d) On 10 February 2024, a nurse was targeted at the entrance to Nasser Medical Complex. [Incident ID: 40210-30424]

(e) On 8 December 2023, four days into the siege of Kamal Adwan Hospital, the GMH reported that Israeli snipers were targeting the hospital's courtyard and patient rooms. [Incident ID: 31208-65299]

(f) On 20 November 2023, the day the Israeli military besieged the Indonesian Hospital, a school next to the hospital where civilians were sheltering, was shot at by the Israeli military. [Incident ID: 31120-80816]

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49 'Ruth Michaelson, "In the Circle of Death": Gaza Doctors Say Patients Are under Siege in al-Shifa' *The Guardian* (13 November 2023) <https://www.theguardian.com/world/2023/nov/13/in-the-circle-of-death-gaza-doctors-say-patients-are-under-siege-in-al-shifa> accessed 26 September 2024

50 'Al-Shifa: WHO Says Gaza Hospital Unable to Bury Dead Bodies' *BBC News* (13 November 2023) <https://www.bbc.com/news/world-middle-east-67410093> accessed 26 September 2024.

51 Incident IDs: 40206-32039, 40208-73438, 40208-97049, 40210-30424, 40211-81532, 40211-62362, 40211-15963.

52 'How Gunfire and Fear Engulfed Gaza Hospital before Israeli Raid' *BBC News* (14 March 2024) <https://www.bbc.com/news/world-middle-east-68536243> accessed 26 September 2024.

(g) OCHA reported on the same day, the Indonesian Hospital was struck by Israeli military artillery, resulting in the deaths of 12 people. [Incident ID: 31120-00499]

92 ## Displacement

93 Sieges on hospitals, and the military advancement towards hospitals that precede them, encourage the displacement of civilians sheltering within them. Hospitals across Gaza have been reported to experience the displacement of civilians sheltering inside them. These paths, damaged by military operations, often remain active combat zones.[53]

(a) At Nasser Medical Complex, the military forced a previously detained civilian, handcuffed and wearing a white disposable suit, to deliver the evacuation message to staff and civilians inside the hospital. He was subsequently seen returning towards the military's position, only to be later found dead, shot by a sniper. [Incident ID: 40213-93269]

(b) During evacuations, civilians have faced attacks from the military. During the siege of al-Shifa Medical Complex in November, reports stated civilians waving white flags came under fire on 14 November while attempting to evacuate from the hospital's main gate. This forced them to return inside. [Incident ID: 31114-62776]

[53] Claire Parker and others, 'Fighting Rages around Gaza's Hospitals as Civilians Flee for Safety' *Washington Post* (10 November 2023) <https://www.washingtonpost.com/world/2023/11/10/gaza-israel-palestinians-hospitals-hamas/> accessed 14 October 2024.

(E) Invading hospitals

94 Our data indicates that 10 of the 36 hospitals across Gaza have been subject to ground invasion by the Israeli military since October 2023.

95 These invasions have commonly entailed interruption to the functioning of the hospitals and structural damage to hospital buildings.

96 Civilians remaining after the evacuations during the siege often comprise patients too injured to be transported, along with healthcare workers.

97 After the Israeli military entered hospitals, healthcare workers have been detained, further dismantling what remains of the hospital's healthcare system. This removal of personnel, along with the frequent damage to facilities,[54] threatened the lives of civilians seeking care, often resulting in multiple deaths during a hospital invasion.

(a) Between 15 and 24 November 2023, during the invasion of al-Shifa Medical Complex, three premature infants died due to lack of electricity for incubators.[55] Five infants died before a World Health Organization mission evacuated 31 infants in incubators to al-Helal al-Emarati Hospital in Rafah on 19 November.[56]

(b) On 1 April 2024, following the Israeli military withdrawal from the second invasion of al-Shifa Medical Complex, four burial sites were desecrated during the military's attack.[57] [Incident ID: 40401-42366] Mass graves were also discovered within al-Shifa grounds following the second invasion.[58]

(c) On 8 April 2024 at al-Shifa Medical Complex, bodies were exhumed from mounds of soil by Palestinian emergency and civil defence workers. [Incident ID: 40408-72163]

(d) On 16 February 2024, a day into the invasion of Nasser Medical Complex, the director of the surgery department stated five patients had died from electricity outages and shortage of oxygen.[59] [Incident ID: 40216-79052]

(e) On 17 February 2024, two days into the invasion of Nasser Medical Complex, the GHM announced that a large number of healthcare workers were arrested by the Israeli military. [Incident ID: 40217-35074]

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54 'Retaliatory Spiral in Middle East Must End, Says UN Chief after Reported Strikes on Iran' <https://news.un.org/en/story/2024/04/1148741#:~:text=%E2%80%9CWhat%20I%20saw%2C%20it%20breaks%20my%20heart%E2%80%A6&text=What%20we%20see%20there%20is,other%20with%20the%20screens%20smashed.> accessed 26 September 2024

55 'Hostilities in the Gaza Strip and Israel | Flash Update #41 [EN/AR/HE] | OCHA' (17 November 2023) <https://www.unocha.org/publications/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-41> accessed 26 September 2024.

56 'Hostilities in the Gaza Strip and Israel | Flash Update #44 [EN/AR/HE] | OCHA' (19 November 2023) <https://www.unocha.org/publications/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-44> accessed 26 September 2024.

57 'Mass Burials At Al-Shifa Hospital ← Forensic Architecture' <https://forensic-architecture.org/investigation/mass-burials-at-al-shifa-hospital> accessed 26 September 2024.

58 'AJ 360 Premieres Unflinching Film with Al-Shifa Hospital Siege Survivors' (*Al Jazeera*) <https://www.aljazeera.com/program/newsfeed/2024/6/13/aj-360-premieres-unflinching-film-with-al-shifa-hospital-siege-survivors> accessed 26 September 2024.

59 'At Least Five Patients Dead after Israeli Army Raid on Nasser Hospital' (*Al Jazeera*) <https://www.aljazeera.com/news/2024/2/16/at-least-five-people-dead-after-israeli-army-raid-on-nasser-hospital> accessed 26 September 2024.

1.2 The Israeli military's attacking of hospitals correlates with the advancement and presence of Israeli ground forces

98 We analysed the relationship between when hospitals across Gaza reduced their function, or went out of service, and the progress of the Israeli ground invasion. This analysis suggests three patterns:

(a) Hospitals that were first forced out of service due to attacks by the Israeli military were in the same areas where the ground invasion first advanced.

(b) The position of the Israeli ground forces correlates to where hospitals were subsequently forced out of service

(c) The advancement of the Israeli military accelerated the phases of targeting for small hospitals – forcing them out of service.

(A) The first hospitals in Gaza forced out of service by Israeli attacks were in areas into which the ground invasion first advanced

(a) On 9 October 2023, Beit Hanoun Hospital was severely damaged by bombings, forcing the hospital out of service. [Incident ID: 31009-74237] The hospital is the most northern facility in Gaza 2 km from the northern border of Gaza, in the municipality of Beit Hanoun.

(b) On 15 October 2023, Sheikh Hamad Hospital was severely damaged by airstrikes. It was later evacuated. [Incident ID: 31015-35056] The hospital is in the municipality of Jabalia, 6.2 km from the northern border of Gaza.

(c) On 17 October 2023, al-Karama Specialized Hospital was severely damaged and forced out of service. [Incident ID: 31017-39971] The hospital is in the municipality of Jabalia, 5.8 km from the northern border of Gaza.

99 The ground invasion commenced on 27 October through Beit Lahia and Beit Hanoun, with the military advancing towards Sheikh Hamad Hospital and Beit Hanoun Hospital. Figure 5.28 shows the areas the Israeli military first invaded. By removing essential medical facilities and basic services, the military sought to force populations in these areas to relocate.

100 Our analysis suggests that targeting these hospitals served as a tool for displacing Palestinians and facilitated the ground invasion into Gaza. This is evident from Figure 5.29 showing the Israeli military ground invasion on 1 November and the areas it would advance into, areas over and near the three hospitals that were first forced out of service.

101 As the Israeli military invaded north Gaza, it simultaneously entered through the Netzarim corridor, where the Turkish-Palestinian Friendship Hospital is located. On 30 October 2023, while the ground invasion forces were stationed along Salah-al-Din Road approximately 2.3 km away from the hospital, the facility was targeted by an Israeli airstrike (see Figure 5.28). [Incident ID: 31030-94975]

102 Following this incident, the hospital (the only specialised cancer hospital in Gaza) was forced out of service on 1 November 2023 and evacuated.[60] Photographs posted on 9 November 2023 (see Figure 5.27) shows the hospital to have sustained severe destruction by the Israeli military.

103 On 1 November 2023, the same day it went out of service, the Israeli military had advanced to 500 m from the Turkish-Palestinian Friendship Hospital.

104 On 22 February 2024, a video emerged of an Israeli soldier bulldozing areas inside the Turkish-Palestinian Friendship Hospital. [Incident ID: 40222-57565] The Israeli military eventually used the hospital as a military base (see Section: The Israeli military destroyed and occupied hospitals even after they had been forced out of service and evacuated). [Incident ID: 40512-49194]

105 By examining the locations of hospitals that were forced to close and evacuate, alongside the ground invasion and occupation of the Netzarim corridor, our analysis suggests that, like the three hospitals in the north, the targeting of the Turkish-Palestinian Friendship Hospital was due to it being in an area where the ground invasion would advance (see Figure 5.30).

60 'Gaza's Only Cancer Hospital Shuts down after Running out of Fuel' (*Al Jazeera*) <https://www.aljazeera.com/news/2023/11/1/gazas-only-cancer-treatment-hospital-shuts-down-after-running-out-of-fuel> accessed 26 September 2024.



Figure 5.28. Images posted on 9 November 2023, showing the aftermath of attacks on the Turkish-Palestinian Friendship Hospital.[61]

[61] 'Telegram: Contact @AlarabyTelevision' <https://t.me/AlarabyTelevision/35476> accessed 26 September 2024.

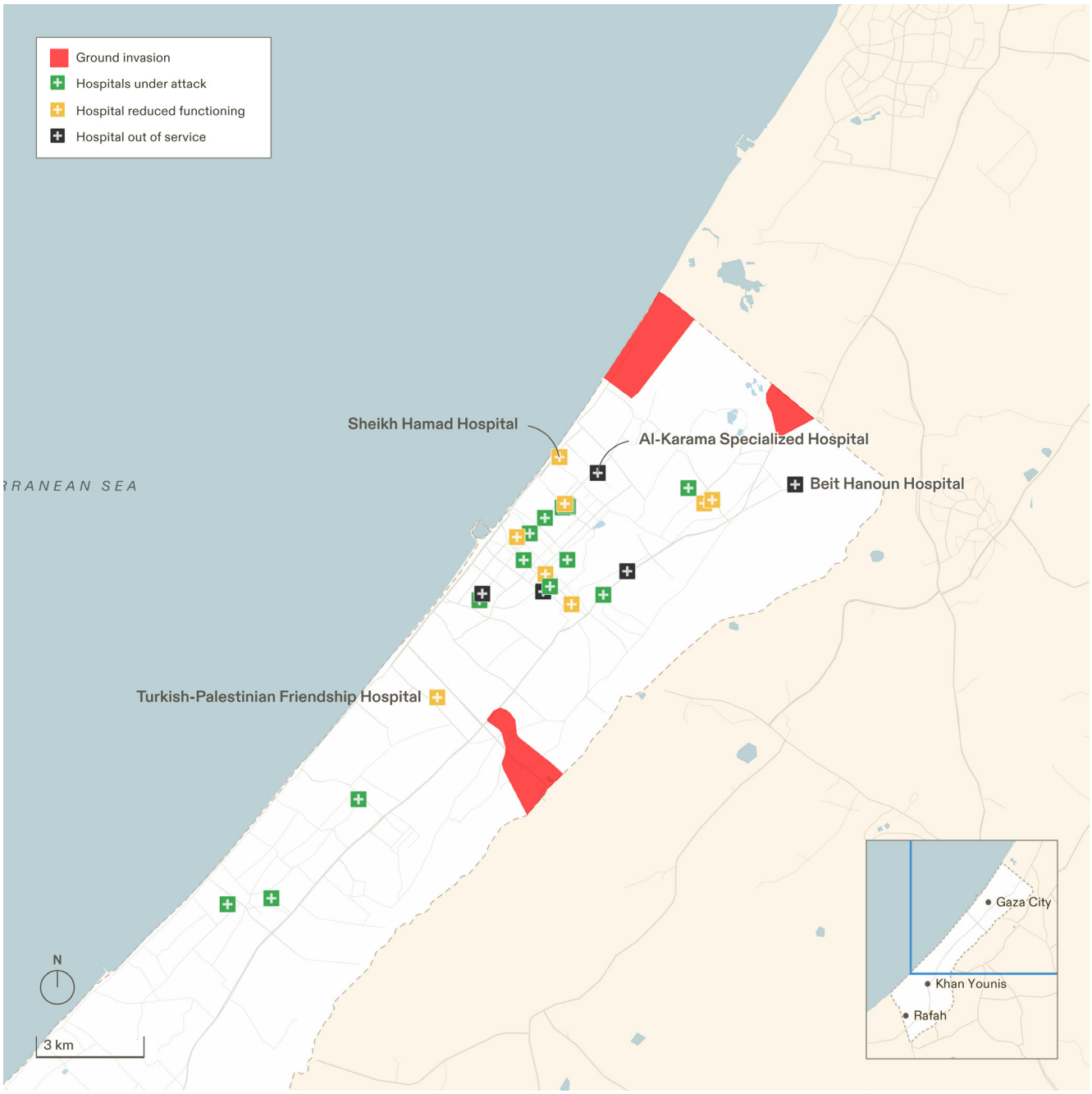

Figure 5.29 Map of north Gaza on 30 October 2023, showing the areas of Gaza that were first subject to the Israeli military ground invasion.

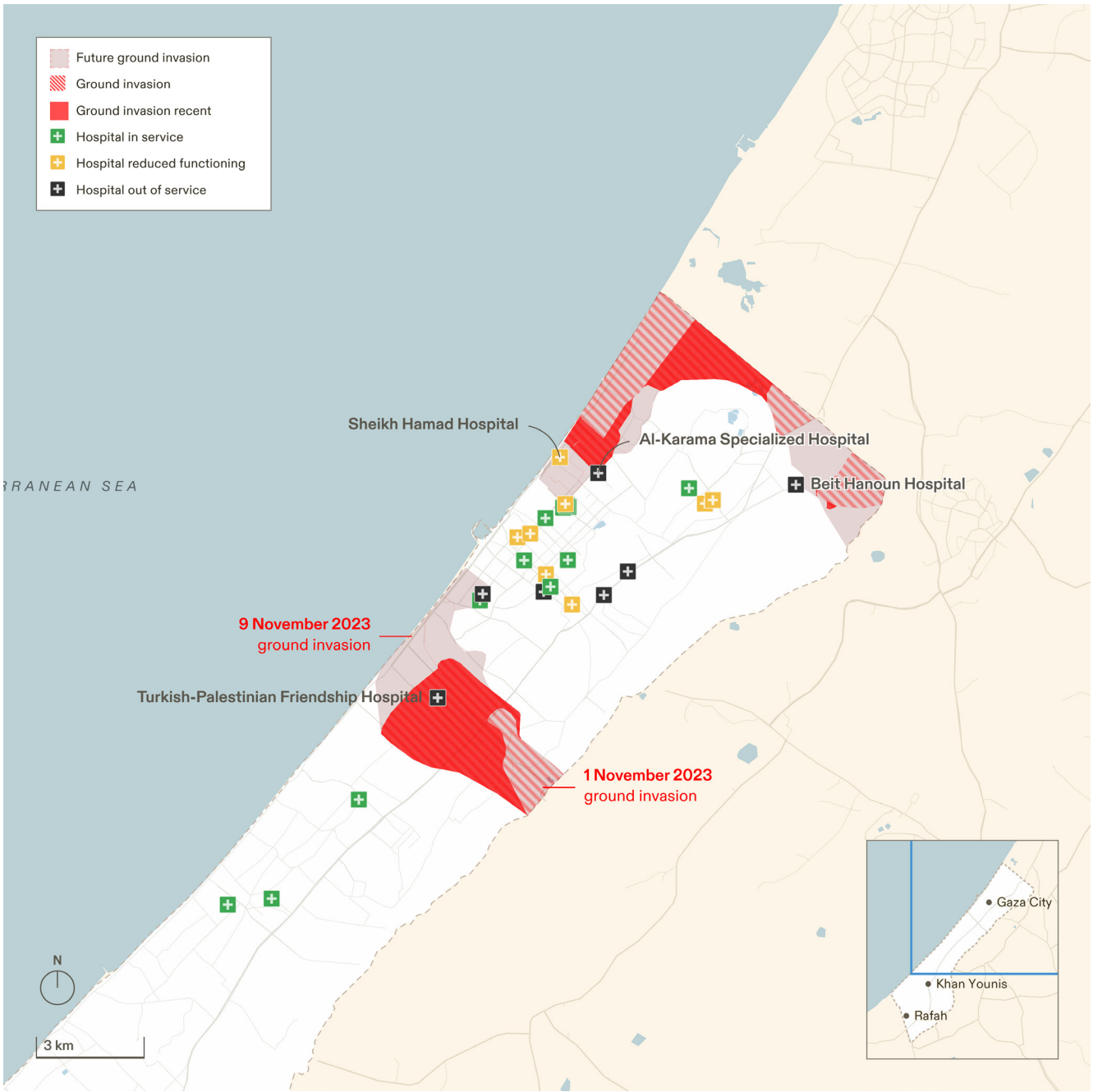

Figure 5.30. Map of north Gaza on 1 November 2023, showing hospitals that had been forced out of service. Future ground invasion shows the areas the Israeli military would later invade on 9 November 2023.

(B) The position of the Israeli ground forces correlates with where hospitals were subsequently forced out of service

106 Our analysis of incidents (below) where and when large hospitals were forced out of service in relation to the movement of Israeli ground forces suggests that the advancement of the Israeli military towards hospitals closely related to the phases of targeting.

107 Of the 17 hospitals in the municipality of Gaza City, six small hospitals were forced out of service prior to the ground invasion reaching Gaza City.

(a) St John Eye Hospital was forced out of service at the beginning of Israel's military campaign, with its healthcare workers moving to the south of Gaza. [Incident ID: 31007-10564]

(b) The International Ophthalmic Hospital was forced out of service on 9 October 2023, following a bombing by the Israeli military. [Incident ID: 31009-64406]

(c) Muhammad al-Durrah Children's Hospital was forced out of service on 13 October 2023. [Incident ID: 31013-47741]

(d) Haifa Charity Hospital was forced out of service on 1 November 2023. [Incident ID: 31101-45535]

(e) Al-Hayat Specialized Hospital was forced out of service on 2 November 2023. [Incident ID: 31102-66278]

(f) Patient's Friends Society Hospital was forced out of service on 2 November 2023, after running out of fuel. [Incident ID: 31102-21433]

108 Following the Israeli military's incursion from the northwest of Gaza and through the Netzarim corridor, Israeli ground forces entered the municipality of Gaza City on 7 November 2023 (see Figure 5.30), advancing through Sheikh Hamad Hospital, a small, specialised hospital which had been forced out of service prior. At that point 11 hospitals were operational, though all except two, Public Aid – Cardiovascular Hospital and Assahaba Medical Complex, were functioning at reduced capacity.

109 By the time the Israeli military withdrew during the temporary ceasefire on 24 November 2023, 10 of these hospitals had been forced out of service at some point between 7 October and the beginning of the temporary ceasefire. Seven of these hospitals were besieged, of which two were subsequently invaded by the Israeli military. The three other hospitals were forced out of service.

110 The siege and invasion of the seven hospitals mentioned above correlates with the position of Israeli ground forces (see Figure 5.31). For example, as the ground invasion advanced to al-Quds Hospital on 12 November 2023 (see Figure 5.32), the hospital was evacuated because of direct attacking by the Israeli military. Subsequently, the facility was forced out of service. [Incident ID: 31112-71864]

111 For the two hospitals that were invaded, al-Rantisi Specialized Hospital and al-Shifa Medical Complex, as the ground invasion advanced towards these hospitals the phases of siege and invasion began.[62]

[62] Incident IDs: 31112-47166; 31219-42493; 31115-59237.

112 This analysis shows that the complete, phased destruction of a hospital – involving its invasion by the Israeli military while occupied by healthcare workers, injured individuals, and displaced people – was dependent on the presence of a ground invasion force.

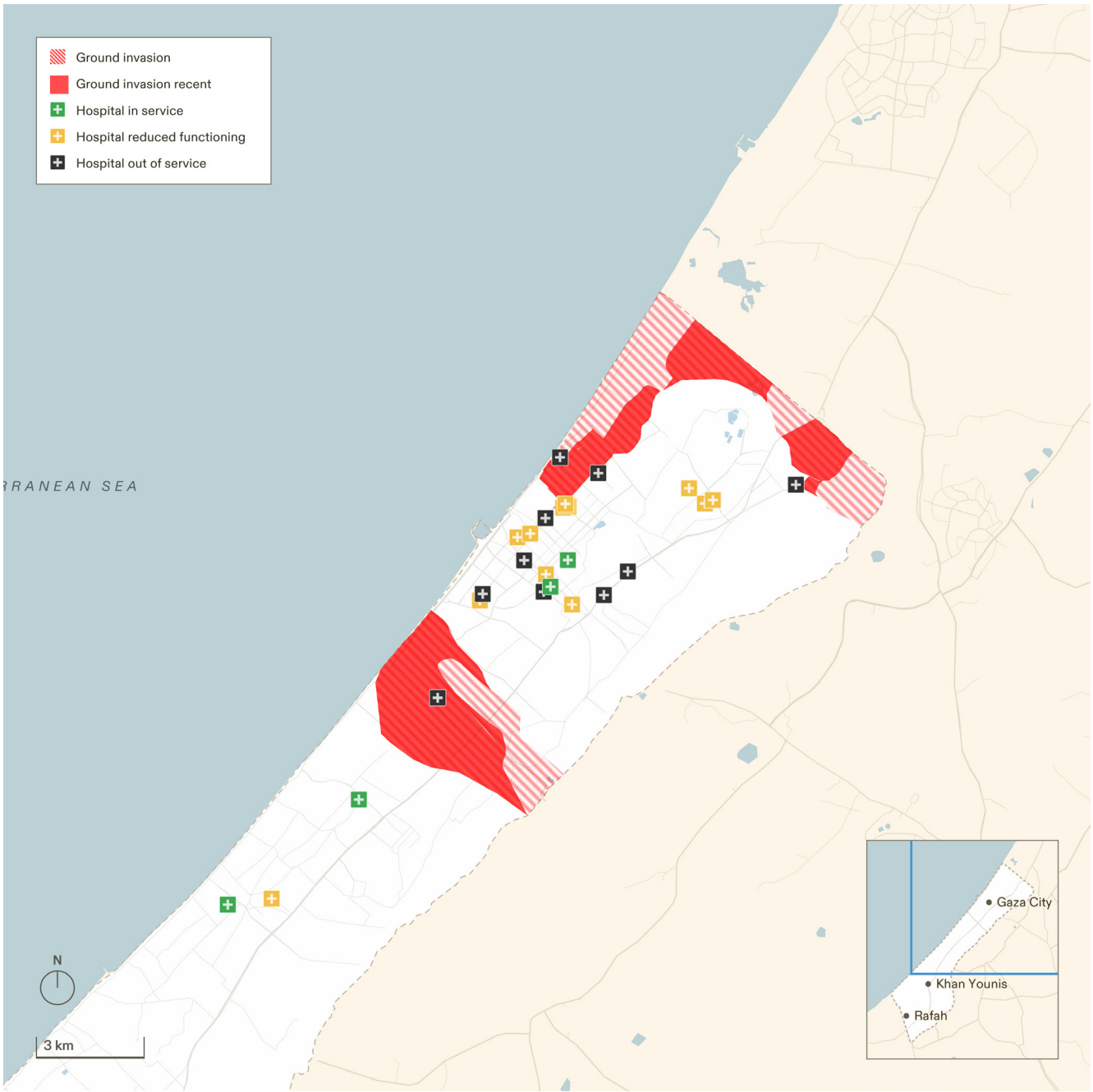

Figure 5.31. Status of hospitals in north Gaza as of 7 November 2023.

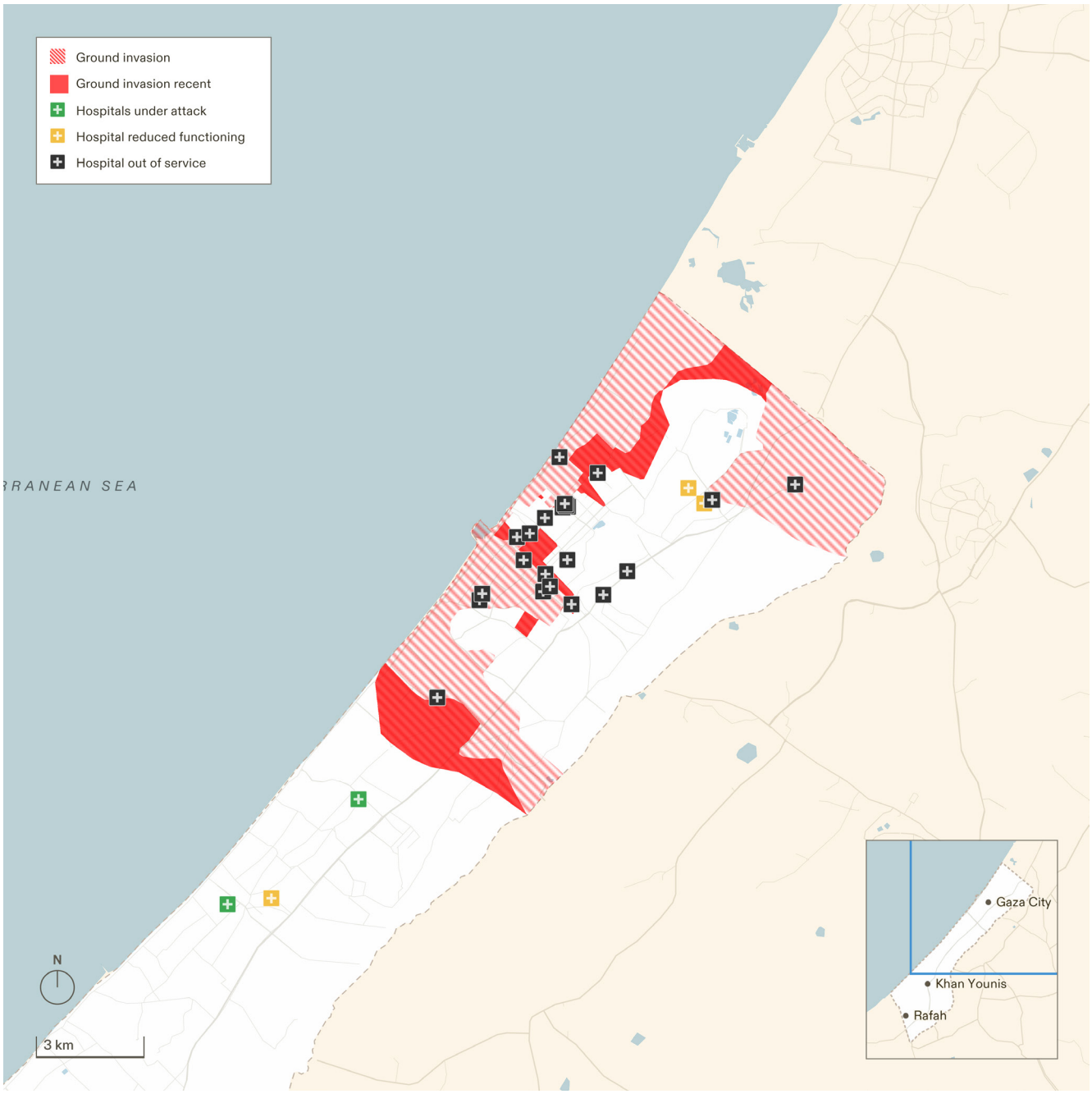

Figure 5.32. Map of north Gaza on 22 November 2023, showing the impact of the ground invasion on hospitals in north Gaza.

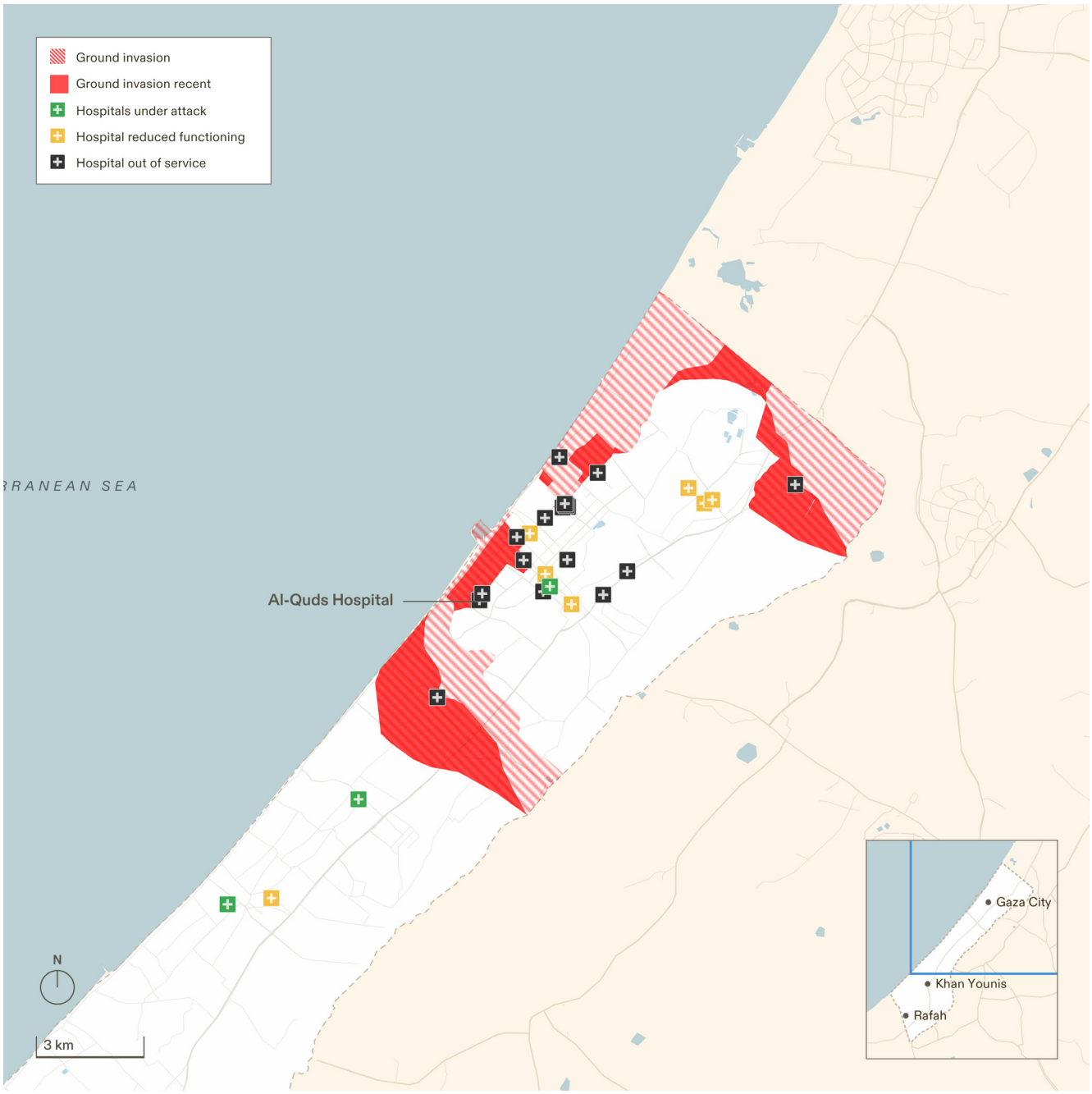

Figure 5.33. Map of north Gaza on 12 November 2023, showing the Israeli military ground invasion and status of hospitals.

113 The Israeli military ground invasion advanced into Khan Younis in late 2023, causing the reduction of medical service at al-Amal Hospital [Incident ID: 40130-37584] and Nasser Medical Complex [Incident ID: 40215-77699] between January and March 2024, due to multiple sieges and invasions, before both were forced out of service. Al-Khair Hospital was also invaded in January 2024.

114 In May 2024, as the Israeli military entered Rafah, advancing from Karem Abu Salem/Kerem Shalom crossing, hospitals from east to west were subsequently attacked and forced out of service as the ground invasion moved across Gaza, demonstrated in Figure 5.33 to Figure 5.35.

115 On 7 May 2024, the day after the Israeli military offensive on Rafah began from the Karem Abu Salem/Kerem Shalom crossing (see Figure 5.33), Muhammad Youssef al-Najjar Hospital, the closest to the crossing, was evacuated and forced out of service [Incident ID: 40507-73444]. On 27 May, the Kuwait Specialized Hospital was forced to close as the Israeli military approached within 1 km of the facility (see Figure 5.34) and an airstrike hit close to the hospital's gate, killing two health workers. [Incident ID: 40528-94766]

116 As shown in Figure 5.35, the ground invasion then advanced in proximity of al-Helal al-Emarati Hospital, which was forced out of service on 30 May. [Incident ID: 40530-27196]

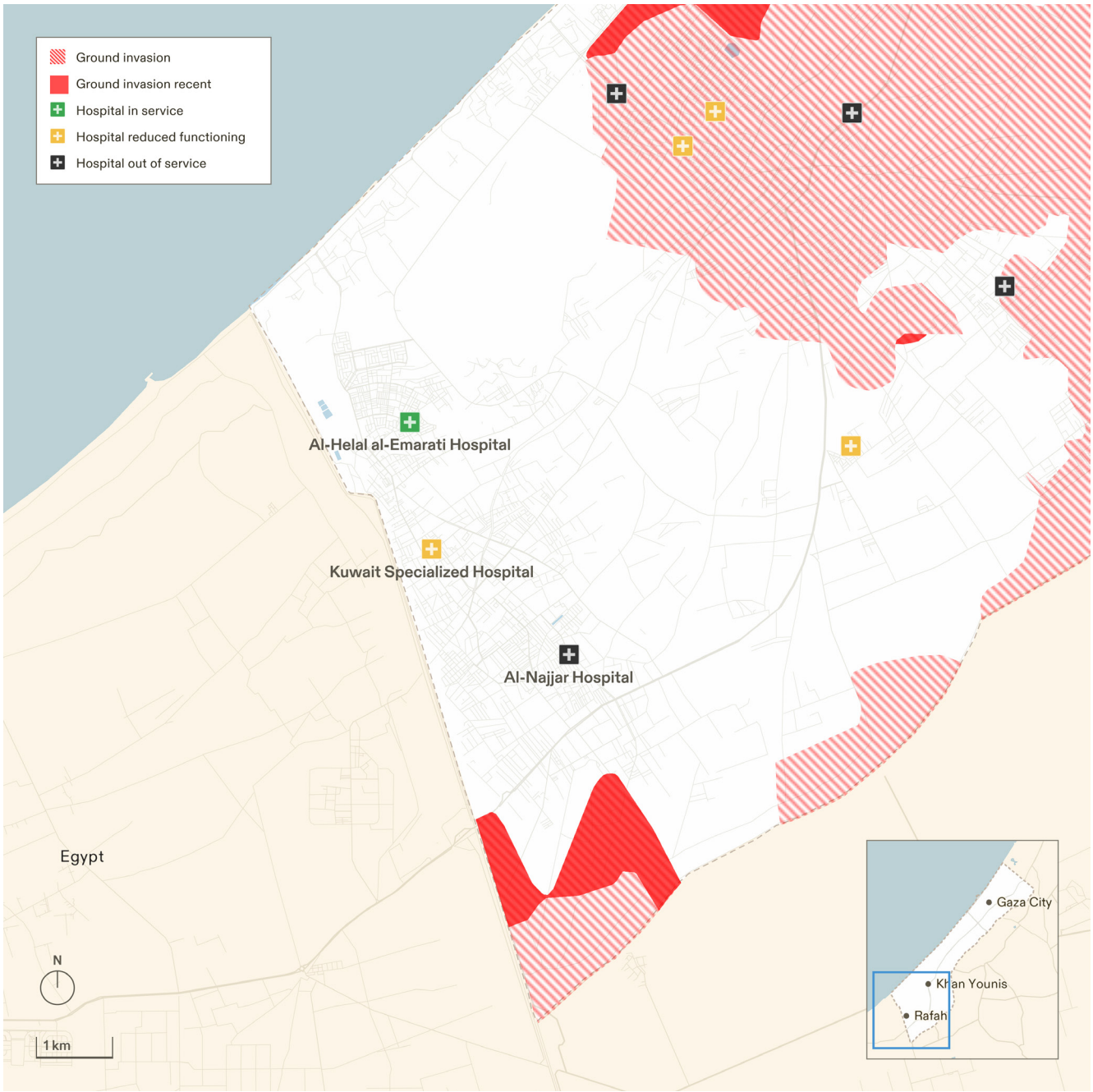

Figure 5.34. The extent of the ground invasion of Rafah on 7 May 2024.

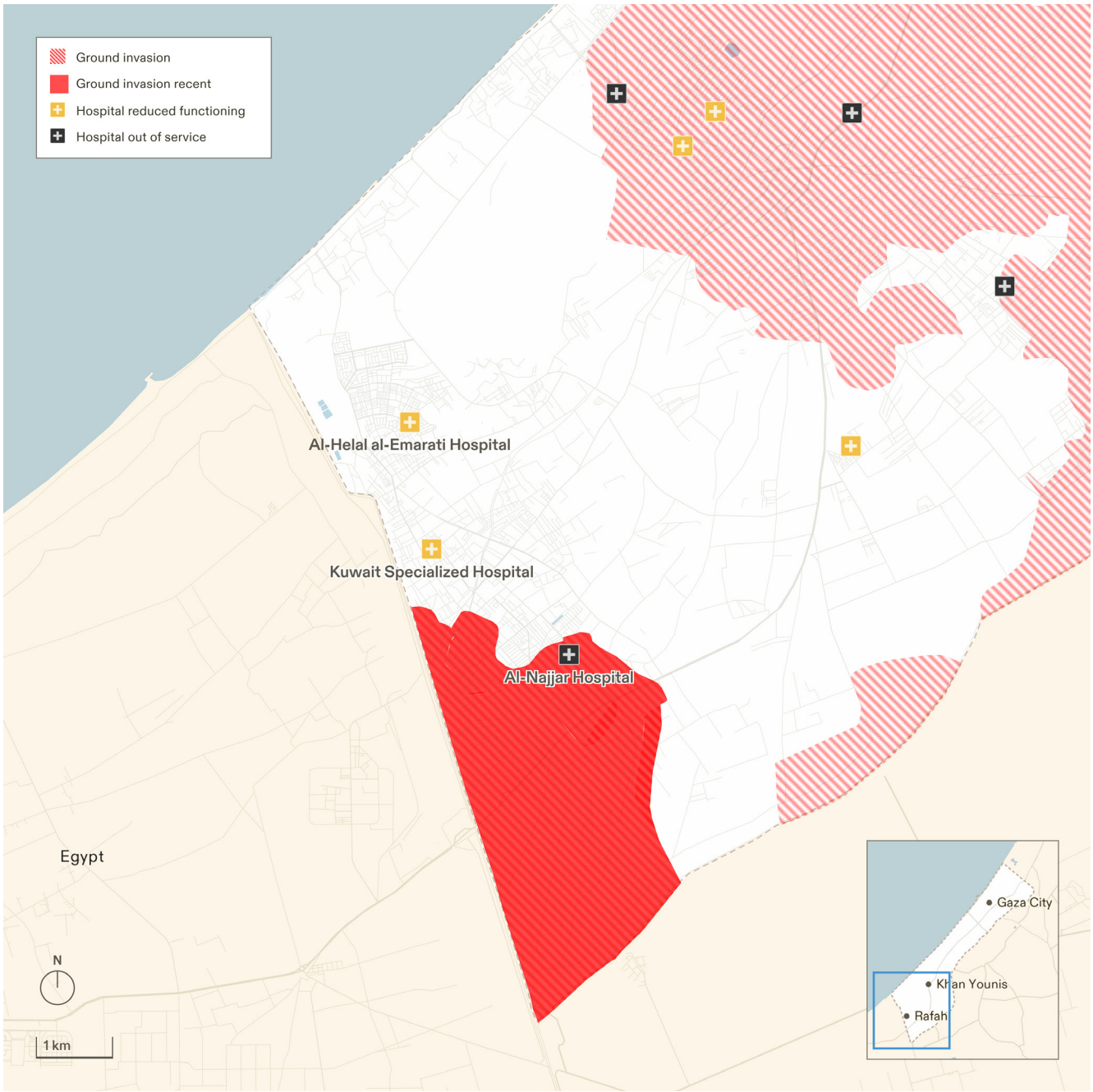

Figure 5.35. The extent of the ground invasion of Rafah on 27 May 2024.

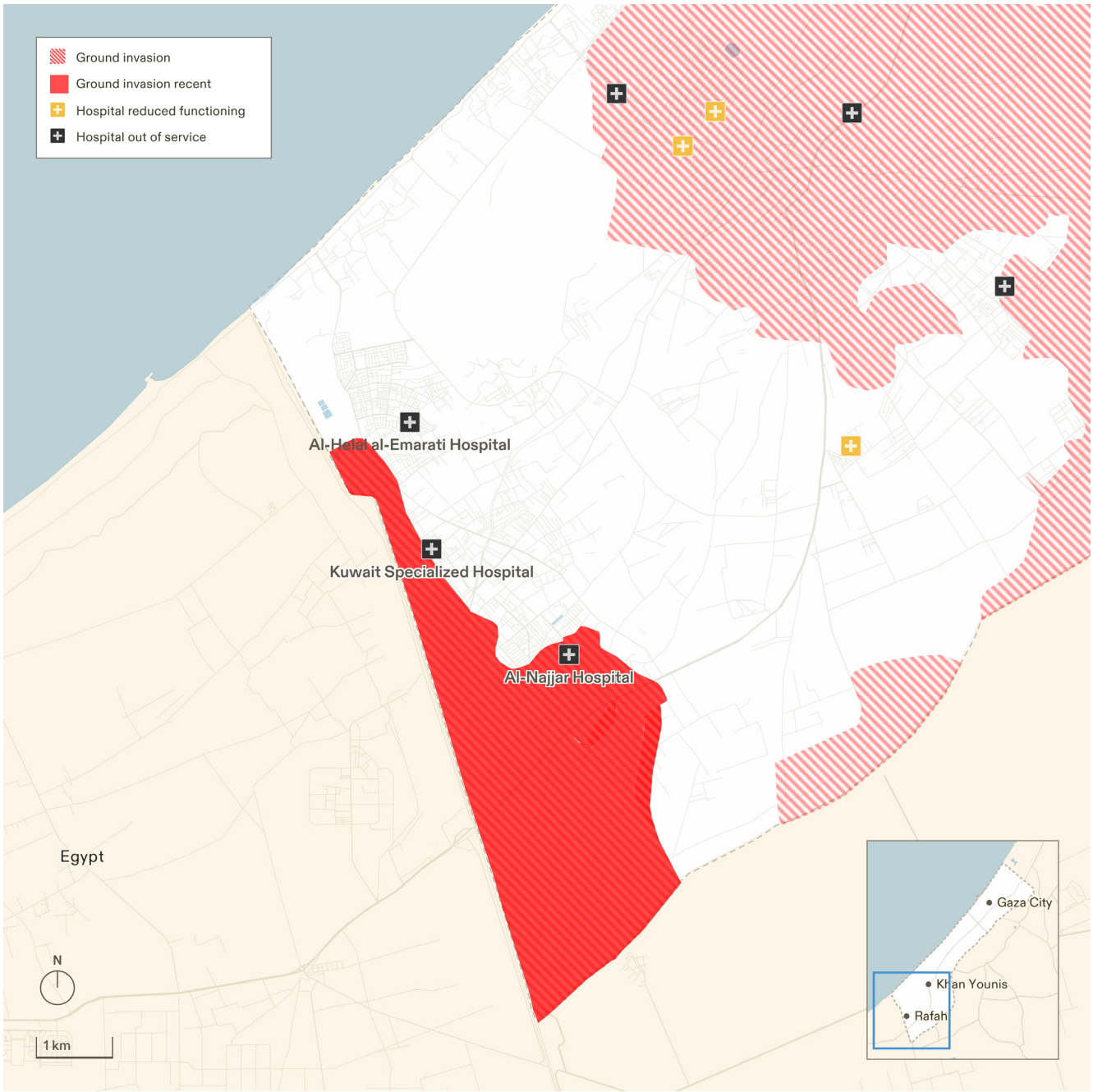

Figure 5.36. The extent of the ground invasion of Rafah on 30 May 2024.

(C) When large hospitals were attacked by the Israeli ground forces, small hospitals in the surrounding area were often also attacked and forced out of service

117 We analysed incidents at three small hospitals which were functioning at varying capacities prior to the Israeli incursion into Gaza City on 2 November 2023:

(a) Al-Helou International Hospital

(b) Wafaa Medical Rehabilitation and Specialized Surgery Hospital

(c) Public Aid – Cardiovascular Hospital

118 We have observed a pattern that when large hospitals are attacked, small hospitals in the surrounding area are often also attacked and forced out of service.

119 The siege of al-Shifa Medical Complex, a large hospital, which began on 11 November 2023 [Incident ID: 31111-00049] and the subsequent invasion on 15 November [Incident ID: 31115-59237], coincided with the closing of al-Helou International Hospital on 16 November 2023, a small hospital located 250 m from al-Shifa. [Incident ID: 31116-21034]

120 On 12 November 2023, the Israeli military advanced southeast from the area near the Patient's Friends Society Hospital towards al-Ahli Arab Hospital (see Figure 5.36), which they would besiege on 16 November 2023. [ID: 31116-93455] Along this route taken by the military were two small hospitals, Wafaa Medical Rehabilitation and Specialized Surgery Hospital and Public Aid – Cardiovascular Hospital. Both hospitals were forced out of service between 12 November and 18 November 2023, as the Israeli military advanced towards and maintained a presence around al-Ahli Arab Hospital (see Figure 5.37). In this period Wafaa Hospital suffered severe damage from Israeli military activity, with tanks visible around the hospital. [Incident ID: 31113-75064] The Public Aid – Cardiovascular Hospital was also targeted by a bombing. [Incident ID: 31113-91332]

121 Our analysis of the above incidents suggests that multiple hospitals in a single area were attacked in close succession.

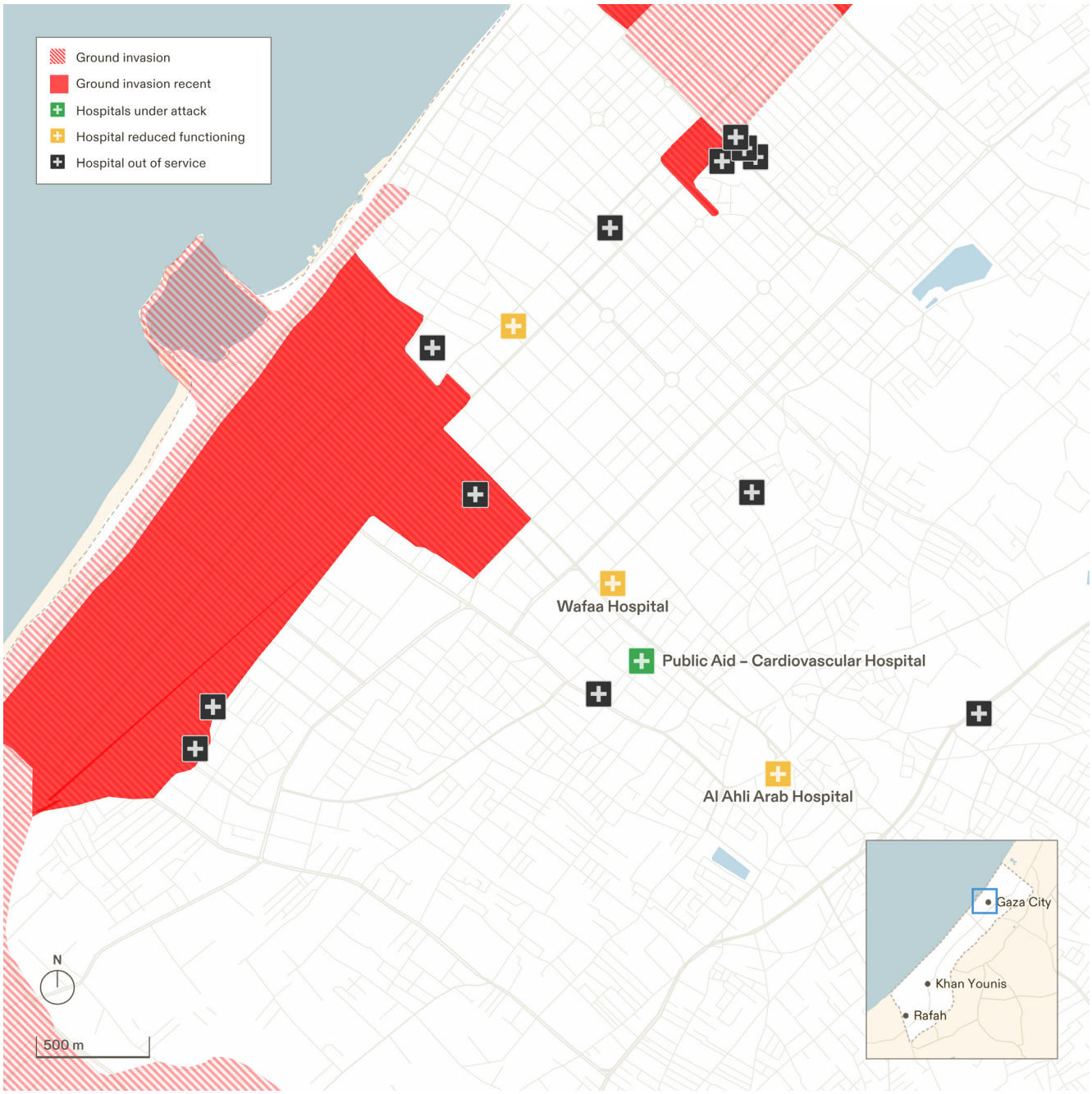

Figure 5.37. Extent of the ground invasion in Gaza City on 12 November 2023.

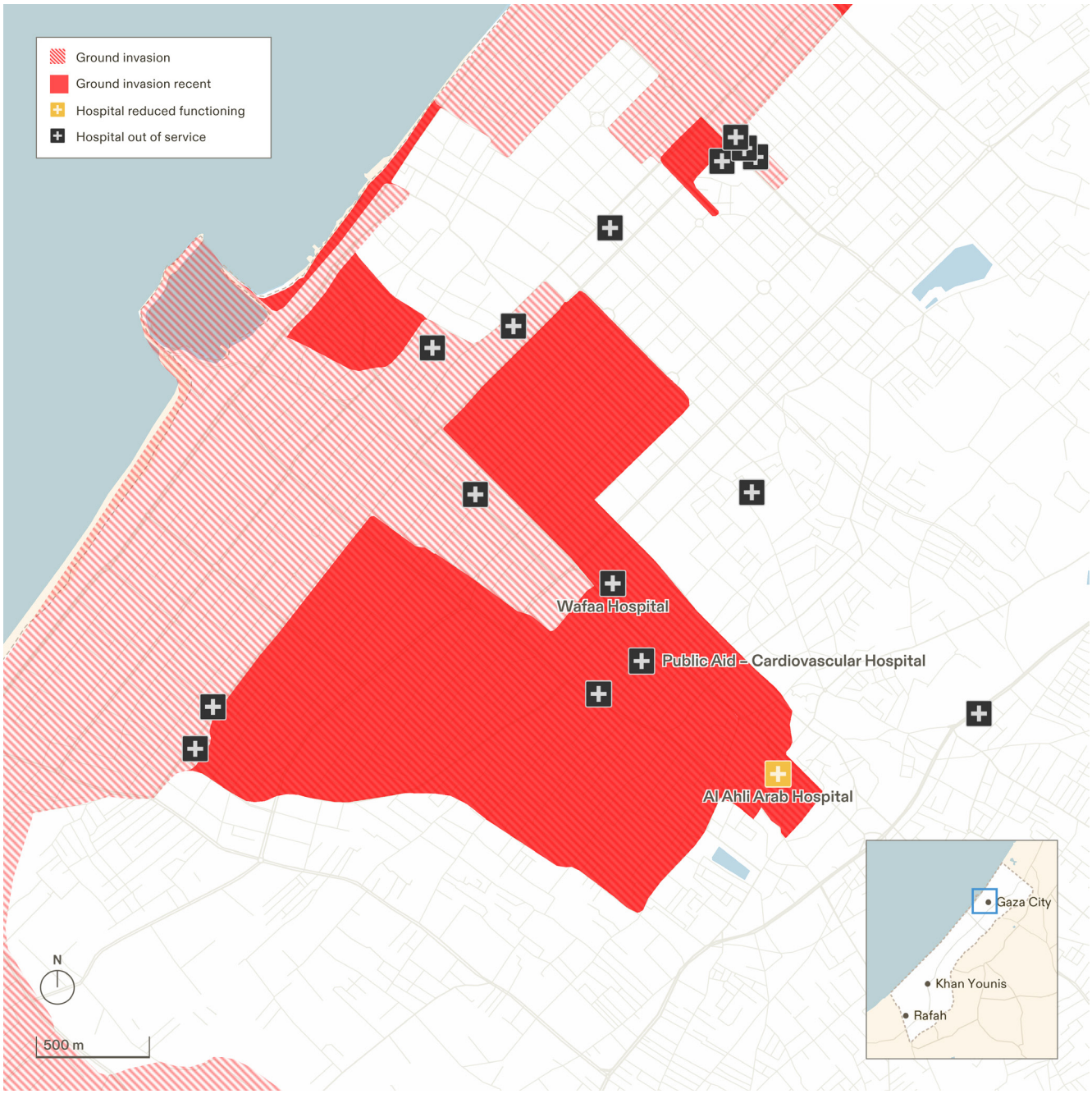

Figure 5.38 Extent of the ground invasion in Gaza City on 18 November 2023.

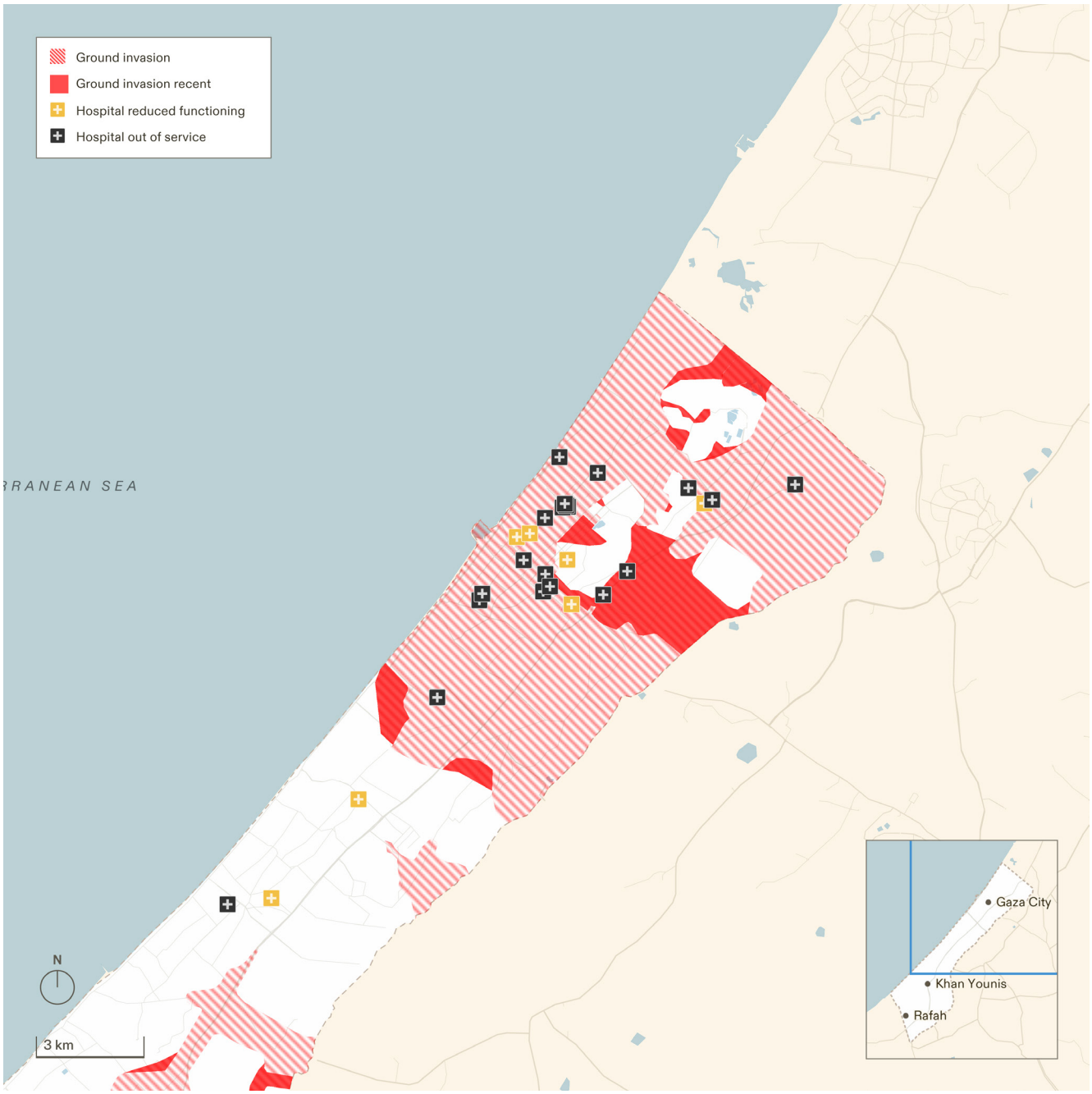

Figure 5.39. Map of north Gaza on 31 December 2023, showing the status of hospitals following the Israeli military ground invasion.

1.3 Sites of medical infrastructure where healthcare services were (a) reestablished and (b) introduced were subsequently targeted by the Israeli military

122 We analysed the relationship between Israeli military activity and (a) hospitals that reestablished healthcare services, after they had been forced out of service, and (b) field hospitals introduced to support Gaza's healthcare system.

(a) Hospitals where healthcare services reemerged faced subsequent attacks by the Israeli military.

(b) Field hospitals were repeatedly forced out of service due to Israeli military conduct.

(A) Hospitals where healthcare services reemerged endured subsequent attacks by the Israeli military

123 We observed a pattern by which hospitals that were initially forced out of service and reestablished healthcare services were attacked again and forced out of service.

(a) Al-Shifa Medical Complex regained partial functionality on 28 November 2023. [Incident ID: 31128-32101] As the hospital resumed operations, its population of patients and displaced people increased again to 30,000.[63] Al-Shifa Medical Complex was invaded again between 18 March [Incident ID: 40318-08413] and 1 April 2024. [Incident ID: 40401-20910]

(b) The Patient's Friends Society Hospital, in Gaza City, was destroyed and burned by the Israeli military on 10 February 2024. [Incident ID: 40210-27919] It reopened on 26 June [Incident ID: 40626-24979], after large parts of it were renovated to restore medical function. [Incident ID: 40712-00290] On 8 July, the Israeli military issued evacuation warnings in Gaza City, where the hospital was located, resulting in the evacuation of 30 patients. [Incident ID: 40708-75402] Five days later the hospital was attacked and destroyed by the Israeli military for the second time. [Incident ID: 40712-00290]

(c) Following the invasion of Kamal Adwan Hospital (13 December 2023) and al-Awda Hospital – Jabalia (17 December), both hospitals were forced out of service.[64] After regaining functionality between January and April 2024, on 16 May, the Israeli military advanced towards Jabalia, around Kamal Adwan Hospital and al-Awda Hospital (see Figure 5.39). Both were forced out of service again, due to a siege by the Israeli military on 24 May at Kamal Adwan Hospital and 19 May at al-Awda Hospital (see Figure 5.40. Al-Awda Hospital was subsequently invaded on 22 May.[65] This series of incidents suggest that the Israeli military ground invasion was directed towards Kamal Adwan Hospital and al-Awda Hospital – Jabalia.

[63] 'Telegram: Contact @AjaNews' <https://t.me/AjaNews/243796> accessed 26 September 2024.
[64] Incident ID's: 31213-16165, 31216-20087
[65] Incident ID's: 40524-70221, 40519-21235, 40522-81837

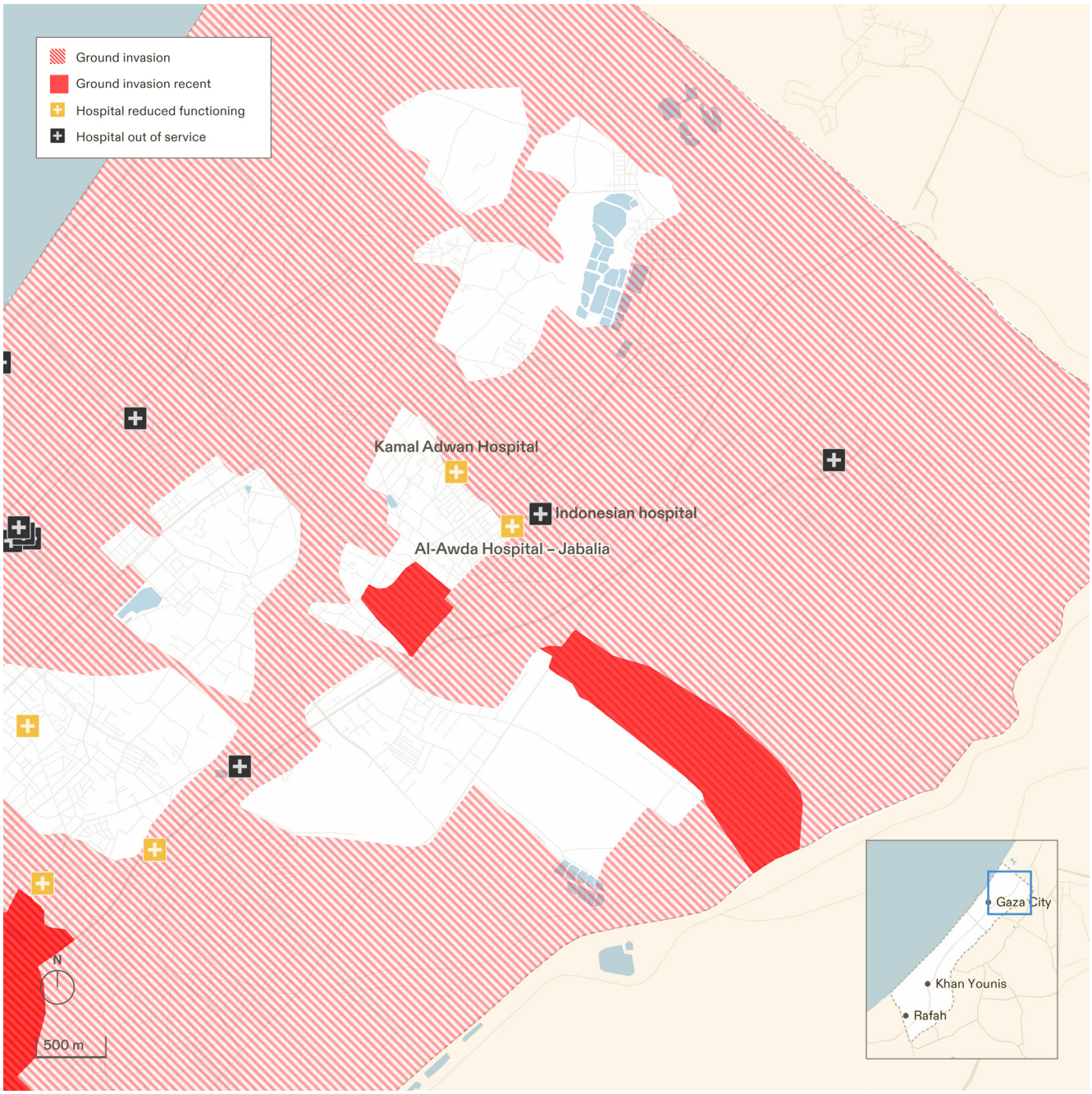

Figure 5.40. Map of the ground invasion of the Israeli military in northern Gaza on 16 May 2024.

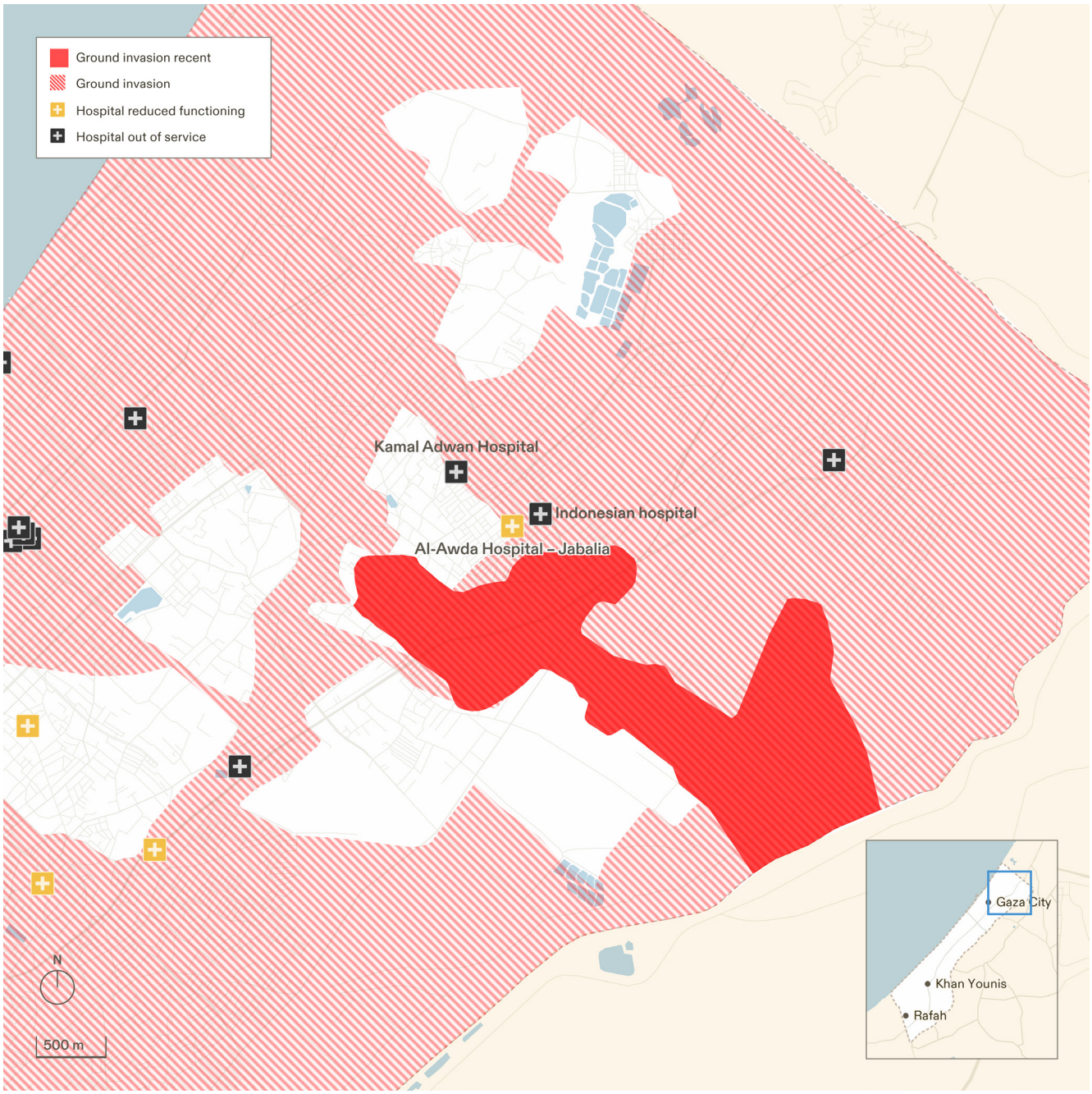

Figure 5.41. Map of the ground invasion of the Israeli military in northern Gaza on 19 May 2024.

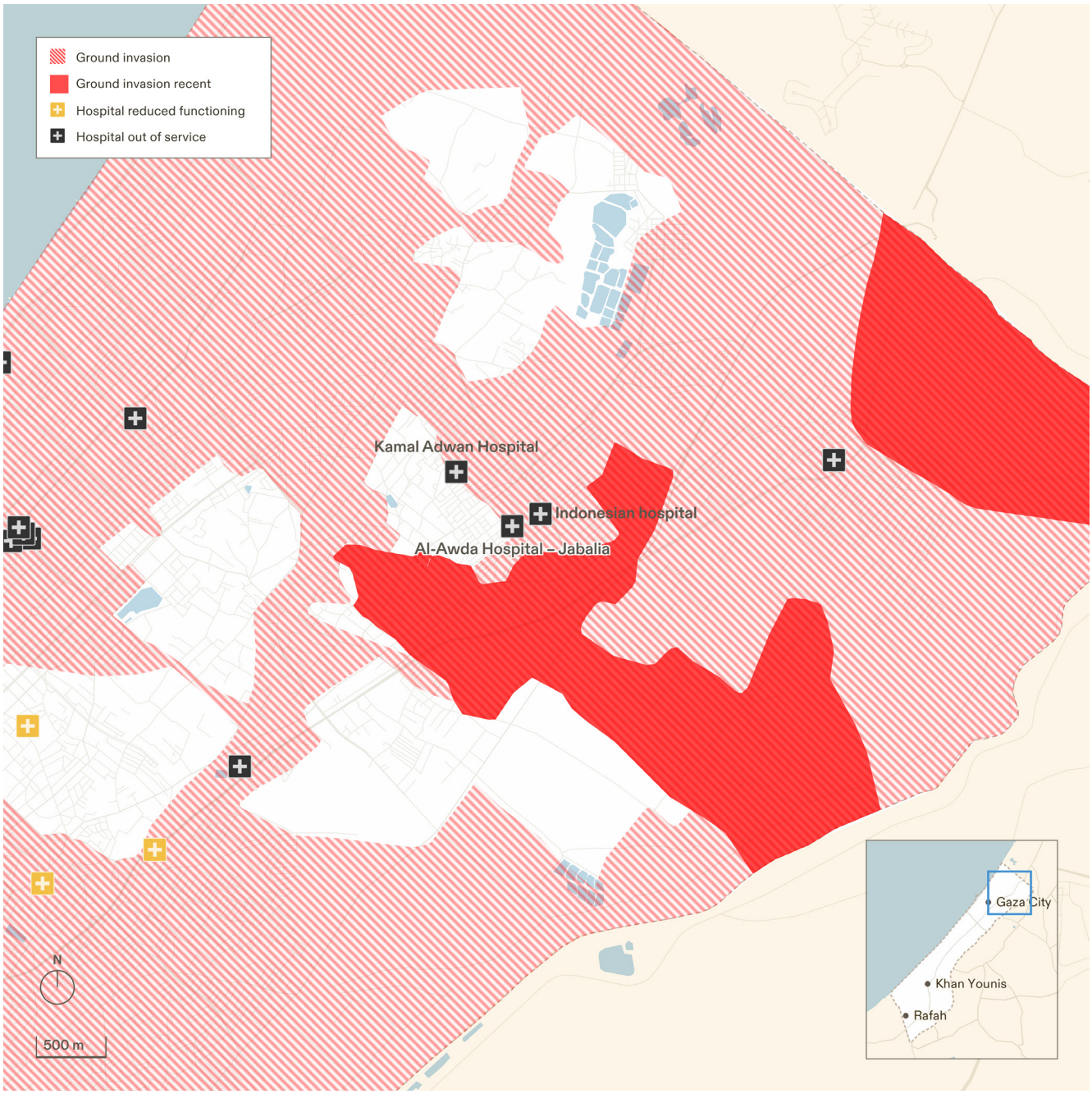

Figure 5.42. Map of the ground invasion in northern Gaza on 25 May 2024.

(B) Field hospitals introduced to support Gaza's healthcare system were closed due to Israeli military conduct

124 As hospitals were forced out of service by Israeli military conduct, field hospitals were established. In total, 13 field hospitals have operated in Gaza.[66] 12 of 13 field hospitals were in the south of Gaza, with six located in Rafah and five in Khan Younis. Four of the six located in Rafah were established between December 2023 and May 2024: the UAE Field Hospital (December 2023),[67] Al-Quds Field Hospital (February 2024),[68] IMC Field Hospital (February 2024),[69] and ICRC Field Hospital (May 2024).[70]

125 By May 2024, Gaza's healthcare system had been incapacitated by the Israeli military, leading to the introduction of these field hospitals due to the absence of, and need for, healthcare services in Gaza.[71] In Rafah, field hospitals were established to especially serve the influx of displaced civilians who had fled to the south of Gaza (see Chapter 3: Displacement). Following the Israeli military's invasion of Rafah on 6 May, two field hospitals were opened in al-Mawasi to serve the civilian population that had been displaced to there once again.[72]

126 After the invasion of Rafah on 6 May, four of the field hospitals in the region were forced out of service. As the military advanced towards areas where field hospitals were located, we observed a correlation between the advancement of the Israeli military and field hospitals being forced out of service.[73] This is the case even when the military's position is moving in the direction of but has not yet reached the field hospital (Rafah Indonesian Field Hospital), due to the risk posed on healthcare workers and patients (see Figure 5.42).[74] The closure of these field hospitals correlated with the movement of the Israeli military ground invasion, successively forcing these facilities out of service as it advanced from Karem Abu Salem/Kerem Shalom crossing towards the coast. This is evident in Figure 5.42 to Figure 5.44, with the closure of field hospitals corresponding with the direction of the ground invasion. Following the closure of al-Quds Field Hospital in Rafah, it was reestablished in al-Mawasi in June 2023.

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66 Power BI Report' <https://app.powerbi.com/view?r=eyJrIjoiODAxNTYzMDYtMjQ3YS00OTMzLTkxMWQtOTU1NWEwMzE5NTMwIiwidCI6ImY2MTBjMGI3LWJkMjQtNGIzOS04MTBiLTNkYzI4MGFmYjU5MCIsImMiOjh9> accessed 27 September 2024.

67 'Emirati Integrated Field Hospital Launched in Gaza' <https://www.mofa.gov.ae/en/mediahub/news/2023/12/3/3-12-2023-uae-ghaza> accessed 26 September 2024

68 'The Palestine Red Crescent Teams Have Established the Al-Quds Field Hospital West of #Rafah Governorate to Provide Medical Services to the Wounded and Patients despite the Shortage of Medical Supplies.' <https://x.com/PalestineRCS/status/1757400933166641462> accessed 26 September 2024.

69 'A Field Hospital in Rafah: Supporting the Health Response' (Health Cluster) <https://healthcluster.who.int/newsroom/news/item/15-02-2024-a-field-hospital-in-rafah-supporting-the-health-response> accessed 26 September 2024.

70 'Red Cross Opens New 60-Bed Field Hospital in Gaza' (*International Committee of the Red Cross*) <https://www.icrc.org/en/document/red-cross-opens-new-60-bed-field-hospital-gaza> accessed 26 September 2024.

71 'Red Cross Opens New 60-Bed Field Hospital in Gaza' [n 70].

72 Kuwait Field Hospital (Heal Palestine) and Al-Quds Field Hospital were established in June 2023.

73 'OPt Emergency Situation Update Issue 32' (*World Health Organization*) <https://www.emro.who.int/images/stories/Sitrep_-_issue_32c.pdf> accessed 26 September 2024; 'Humanitarian Situation Update #176 | Gaza Strip' (*OCHA*) <https://www.ochaopt.org/content/humanitarian-situation-update-176-gaza-strip> accessed 26 September 2024

74 'Another Hospital in Gaza Forced to Close amid Intensified Israeli Offensive in Rafah' (Médecins Sans Frontières) <https://www.msf.org/another-hospital-gaza-forced-close-amid-intensified-israeli-offensive-rafah> accessed 26 September 2024.

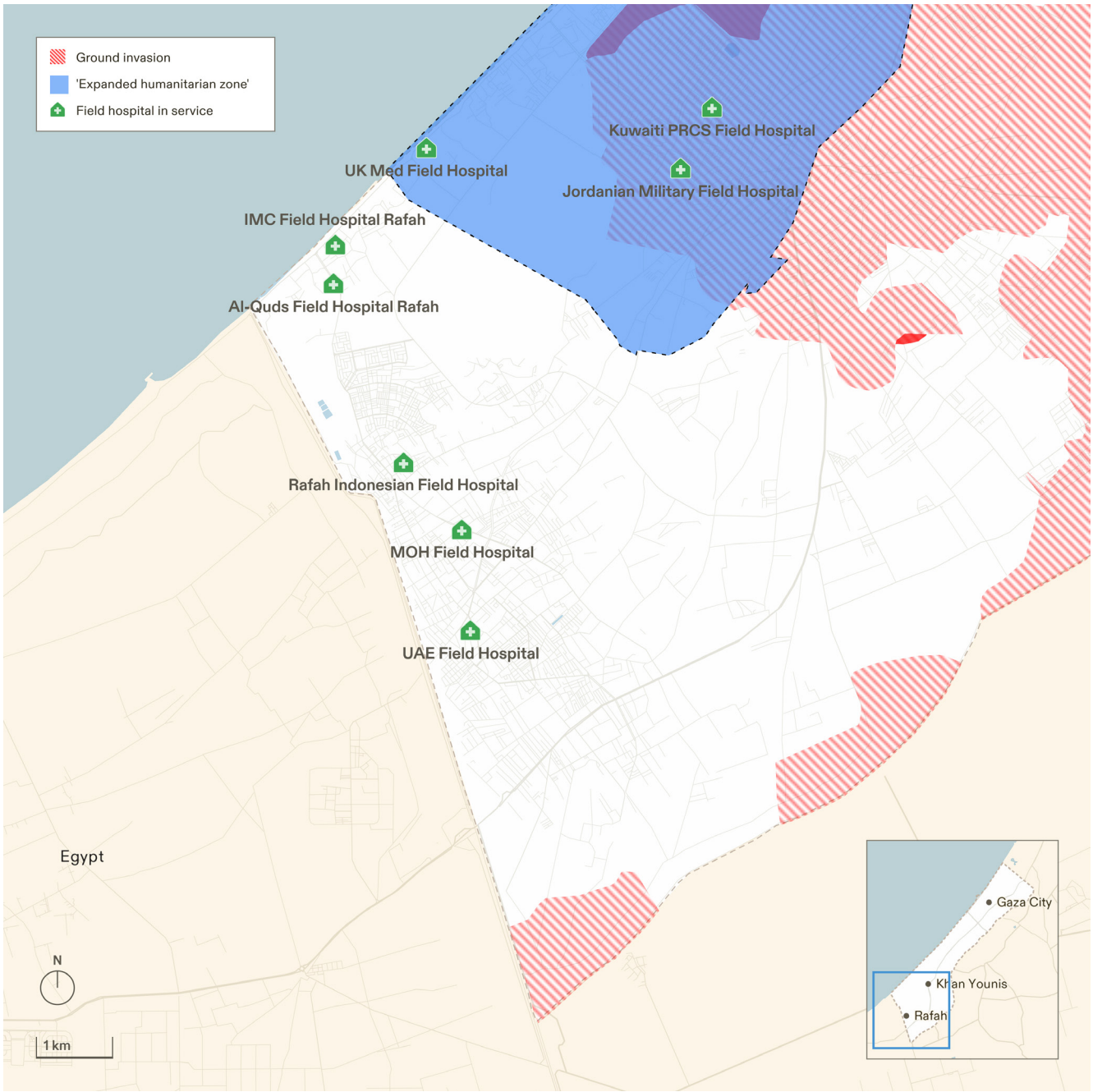

Figure 5.43 Map of southern Gaza on 6 May 2024, showing field hospitals in service as the Israeli military invades Rafah.

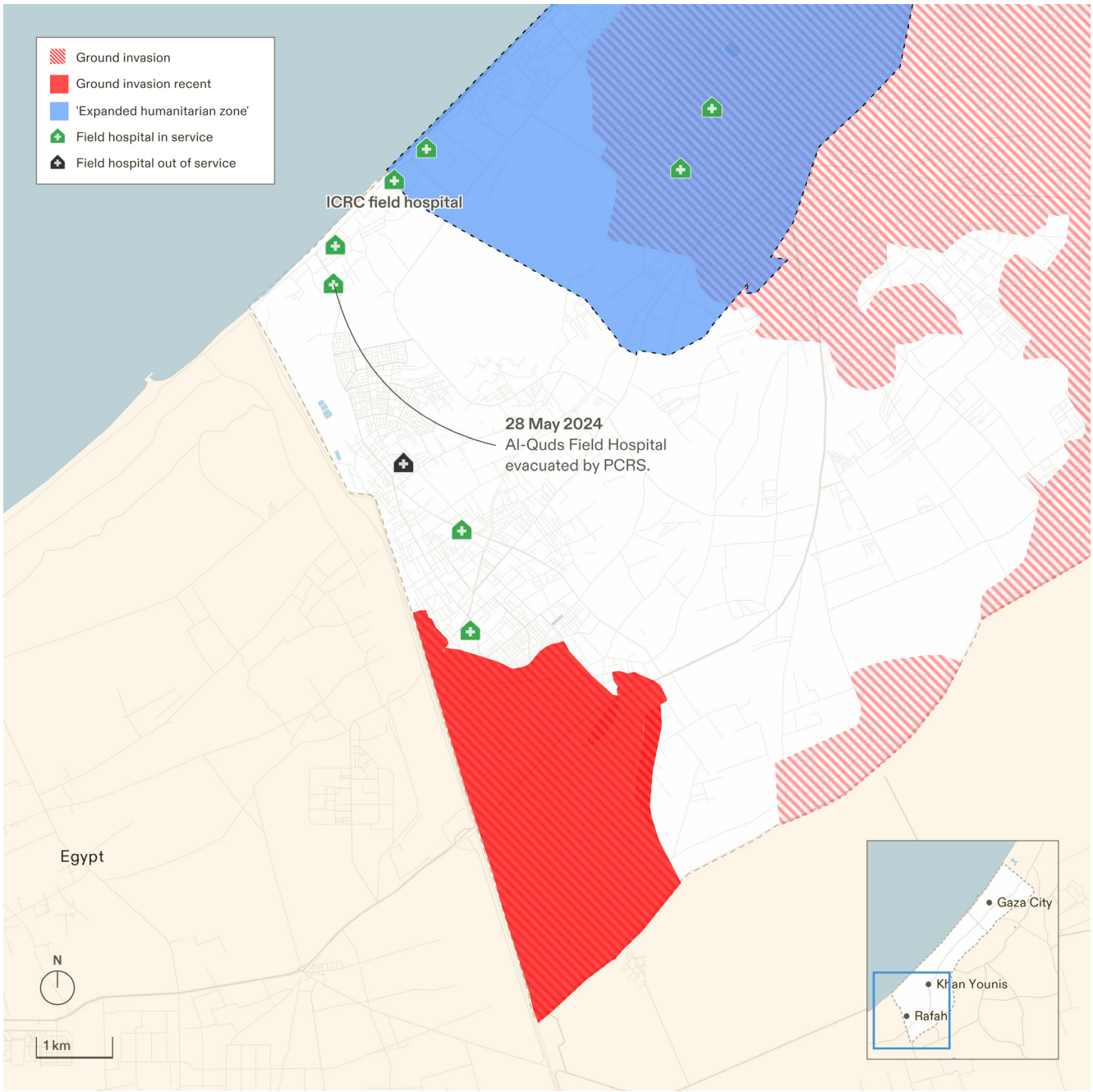

Figure 5.44 Map of southern Gaza on 23 May 2024. As the Israeli military ground invasion advances across Rafah (moving from southeast to northwest) field hospitals are forced out of service.

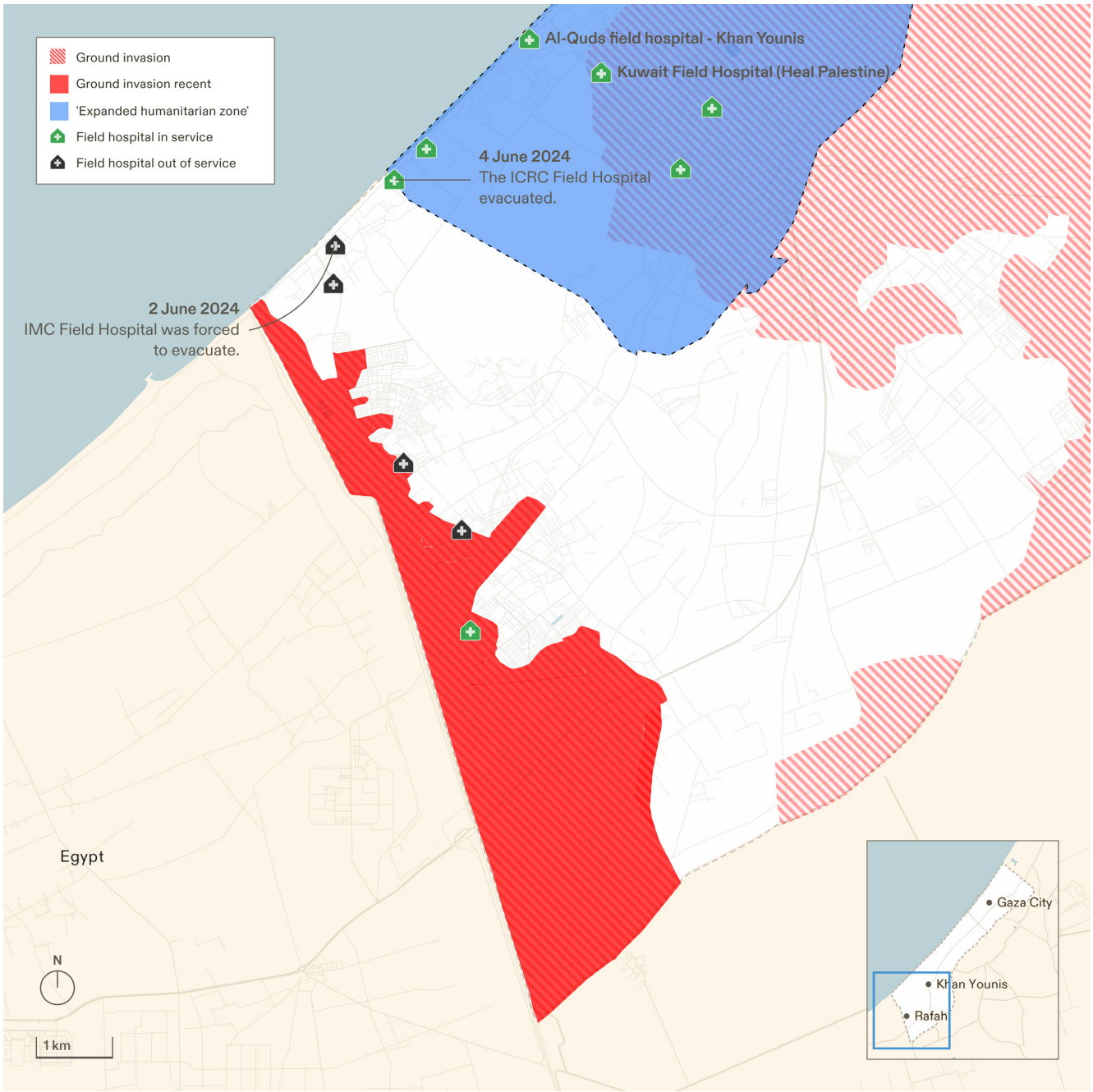

Figure 5.45 Map of Rafah on 15 June 2024. As the Israeli military continues to advance, field hospitals are forced out of service and medical points are targeted.

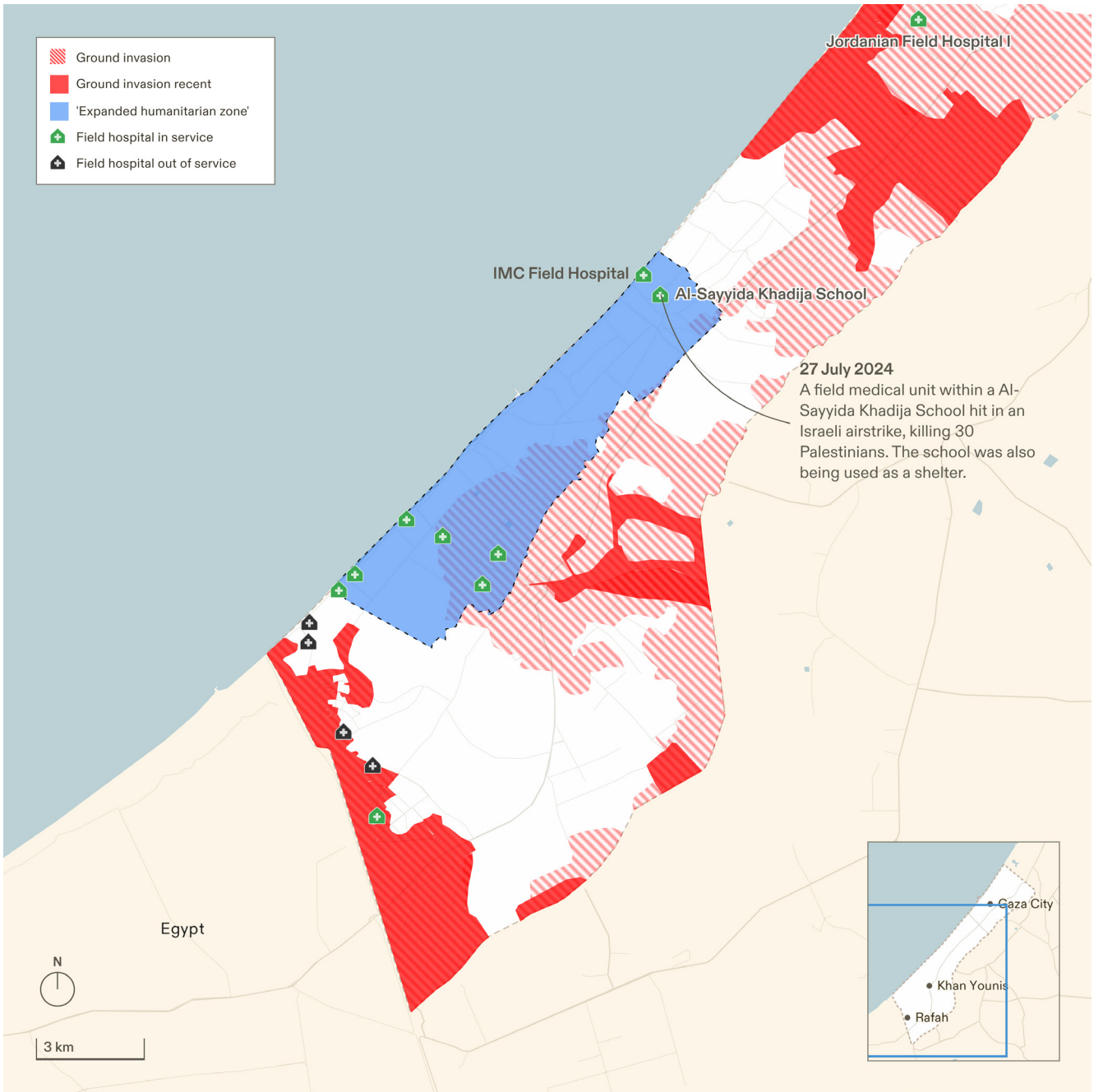

Figure 5.46 Map of south Gaza on 27 July 2024.

127 **The Israeli military targeted medical infrastructure across Gaza – conclusion**

128 This analysis reveals a long-term pattern of targeting hospitals across Gaza. The attacks exhibit three key characteristics: 1) repetition, evidenced by the number of hospitals targeted by the Israeli military, 2) consistency, shown through the sustained number of attacks on multiple hospitals in different locations over an extended time period, 3) form, demonstrated by the five-phase pattern we observed in the targeting of hospitals.

129 This pattern of targeting hospitals is supported by the repeatedly observed correlation between the attacks on hospitals and the advancement and presence of Israeli ground forces.

130 The continuation of attacks on hospitals that reestablished healthcare services and field hospitals demonstrates a persistent targeting of Gaza's healthcare system, reinforcing evidence that medical infrastructure in Gaza was targeted by the Israeli military.

2 *The timing of the Israeli military's attacks on hospitals correlates with the presence of displaced civilians at those hospitals*

131 We analysed the relationship between the timing of Israel's attacks on six hospitals with the documented presence of civilians within them. The six hospitals we examined are:

(a) Al-Shifa Medical Complex

(b) Nasser Medical Complex

(c) Al-Amal Hospital

(d) Al-Quds Hospital

(e) Kamal Adwan Hospital

(f) Al-Rantisi Specialized Hospital

132 For each hospital, we plotted on a timeline: the data pertaining to attacks on that hospital captured in the GCD; the state of service of the hospital (in service, reduced functioning, or out of service); if, and when, the hospital had faced a siege or invasion; and any information captured about the number of displaced civilians sheltering there over time.[75]

133 The attacks we plotted in this analysis are what we categorised as 'direct attacks' and 'attacking the surroundings of hospitals' (see Section: Methodology).

134 Figure 5.46 shows a table of the hospitals we analysed, including the total number of attacks documented and the highest recorded number of displaced civilians sheltering there. Figure 5.47, Figure 5.48, and Figure 5.49 show the distribution of these figures over time. The timelines demonstrate that attacks on each of these hospitals were most frequent at the height of the displaced civilian population sheltering there. By cross-referencing the highest recorded number of displaced civilians sheltering at each hospital with the total number of attacks each hospital faced, we observed that the greater the number of displaced civilians at a given hospital, the greater the number of attacks by the Israeli military on that hospital.

[75] The documented recordings of the number of displaced civilians sheltering at each hospital are made up of figures published by OCHA and the Gaza Ministry of Health.

Hospital	Highest population	Direct attacks on hospitals
Al-Shifa Medical Complex	60,000 (10-11-23)	43
Nasser Medical Complex	30,000 (01-02-2024)	37
Al-Amal Hospital	14,000 (04-01-2024)	27
Al-Quds Hospital	14,000 (10-11-2023)	6
Kamal Adwan Hospital	7,000 (05-12-2023)	20
Al-Rantisi Specialized Hospital	6,000 (07-11-2023)	4

Figure 5.47. Table of hospitals showing highest population and targeting by the Israeli military.

135 The two hospitals that have sheltered the highest populations: al-Shifa Medical Complex, which at its peak sheltered 60,000 people, and Nasser Medical Complex, which accommodated up to 30,000.[76] These hospitals have endured the highest number of attacks (see Figure 5.46). Both hospitals have suffered significant destruction. Al-Shifa Medical Complex was invaded twice, in November 2023 and March 2024. Nasser Medical Complex endured multiple phases of destruction between 22 January and 7 April 2024, with two sieges and invasions.

136 The hospitals with the next largest populations, sheltering tens of thousands of people during periods of the Israeli military campaign, include al-Amal Hospital (14,000) and al-Quds Hospital (14,000).[77]

137 Other hospitals sheltered thousands of people, such as al-Rantisi Specialized Hospital (6,000), and have experienced fewer attacks.[78] Although Kamal Adwan has sheltered fewer people than larger hospitals (7,000),[79] it has endured multiple cycles of targeting from the Israeli military.

[76] ''Israel Says Al Shifa Hospital Conceals Hamas Underground Command Centers' [n 17].
'Telegram: Contact @AjaNews' [n 37].
[77] Telegram: Contact @AjaNews' <https://t.me/AjaNews/217690> accessed 26 September 2024; 'Telegram: Contact @AlarabyTelevision' <https://t.me/AlarabyTelevision/52419> accessed 26 September 2024.
[78] 'Telegram: Contact @AlarabyTelevision' <https://t.me/AlarabyTelevision/46120> accessed 26 September 2024;
'Hostilities in the Gaza Strip and Israel | Flash Update #32 [EN/AR/HE]' (OCHA) <https://www.unocha.org/publications/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-32> accessed 26 September 2024
[79] 'Telegram: Contact @AjaNews' [n 44].



Figure 5.48 The targeting of al-Shifa Medical Complex and Nasser Medical Complex between 7 October 2023 and 1 August 2024. Demonstrating the status of functioning, phases of targeting, and population of hospitals. Dots on the graph represent sourced data points of the population. The dashed line is an extrapolation between the points.

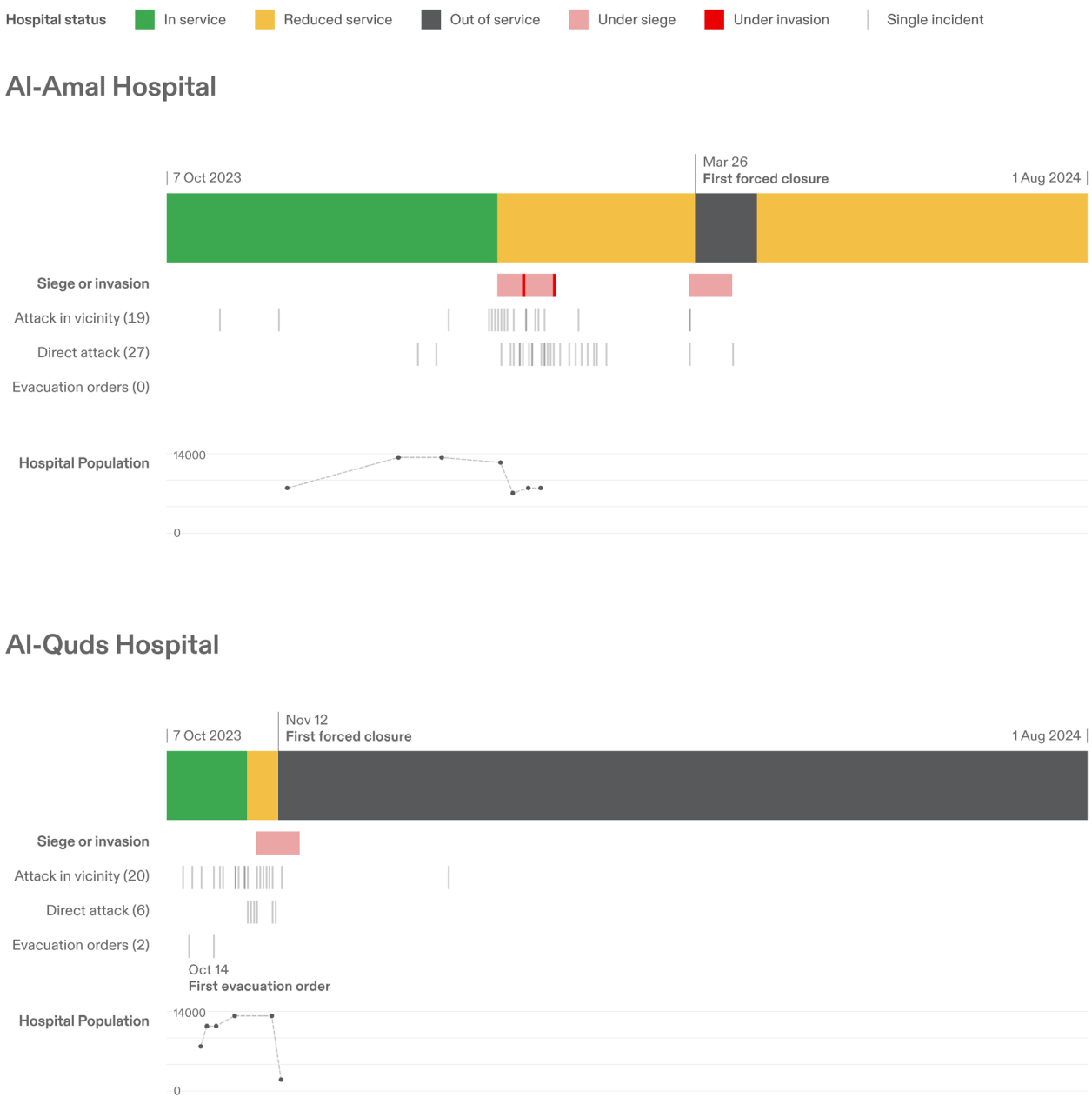

Figure 5.49 The targeting of al-Amal Hospital and al-Quds Hospital between 7 October 2023 and 1 August 2024. Demonstrating the status of functioning, phases of targeting, and population of hospitals. Dots on the graph represent sourced data points of the population. The dashed line is an extrapolation between the points.

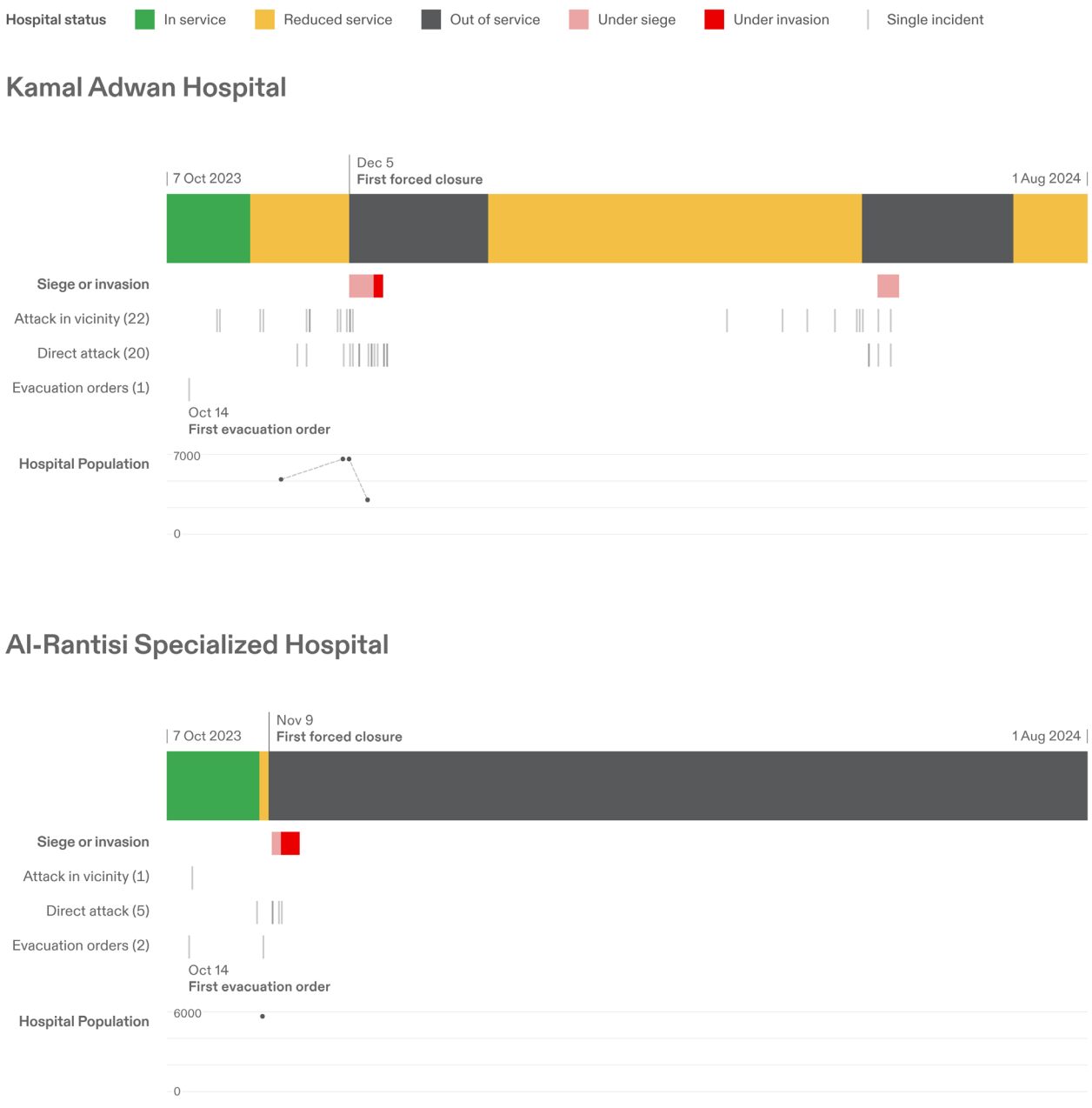

Figure 5.50 The targeting of Kamal Adwan Hospital and al-Rantisi Specialized Hospital between 7 October 2023 and 1 August 2024. Demonstrating the status of functioning, phases of targeting, and population of hospitals. Dots on the graph represent sourced data points of the population. The dashed line is an extrapolation between the points.

Al-Shifa Medical Complex

138

139 One example where displaced people correlates to attacks on hospitals is al-Shifa Medical Complex. The hospital population of internally displaced people increased in al-Shifa Medical Complex in October 2023. The area surrounding al-Shifa Medical Complex was targeted with aerial bombardment as early as 9 October, [ID: 31009-83107] with a mass evacuation order for the north of Gaza issued on 13 October. By 23 October, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) reported 45,000 internally displaced people were sheltering in the hospital at that time.

140 On the 10 November, the GMH reported that 60,000 displaced people were sheltering in the hospital. In the early hours of that day, al-Shifa Medical Complex was attacked four times by the Israeli military (see Section: Appendix: al-Shifa Medical Complex – Visual Case Study for visual evidence):

(a) 01:00 – Courtyard [Incident ID: 31110-73646]

(b) 02:00 – Maternity ward [Incident ID: 31110-53734]

(c) 08:00 – Maternity ward [Incident ID: 31110-98994]

(d) 09:16 – Outpatient clinic [Incident ID: 31110-25697]

141 Following the direct attack on al-Shifa Medical Complex, civilians left the complex in large numbers. OCHA reported that by 11 November, only 15,000 people remained sheltering in the facility.[80] On 14 November, the day before the invasion, reports indicated that 7,000 displaced people and 1,500 healthcare workers remained within al-Shifa Medical Complex.[81] Between 11 and 14 November, while al-Shifa was under siege, 6,500 civilians who were sheltering at the hospital had fled. This demonstrates how the siege on the hospital had steadily depopulated the facility and displaced its occupants.

142 The Israeli military's first invasion of al-Shifa Medical Complex ended on the first day of the temporary ceasefire, 24 November. OCHA reported an estimated 250 patients and healthcare workers remained at al-Shifa Medical Complex, which shows the final phase of destruction almost completely depopulated the hospital.[82]

[80] 'Hostilities in the Gaza Strip and Israel | Flash Update #36' (OCHA) <https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-36> accessed 26 September 2024

[81] 'Gaza's Al-Shifa Hospital under Siege, Attacks Put People's Lives at Risk: Health Ministry' [n 16]

[82] 'Hostilities in the Gaza Strip and Israel | Flash Update #49' (OCHA) <https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-49> accessed 26 September 2024

143 The mass displacement from the hospital filtered displaced civilians through Israeli-designated 'safe' routes, yet these routes were disrupted and destroyed by military operations.[83] Israeli military checkpoints were identified along these 'safe routes', including at multiple points on Salah al-Din Road, al-Rashid Road, and al-Mawasi. This process of displacement through attacks by the Israeli military was repeated during al-Shifa's second siege and invasion, between 18 to 31 March, after the number of displaced civilians sheltering at al-Shifa increased. This led to a decrease in the population of displaced civilians, healthcare workers and patients from 30,000 to 107 patients in 14 days.[84]

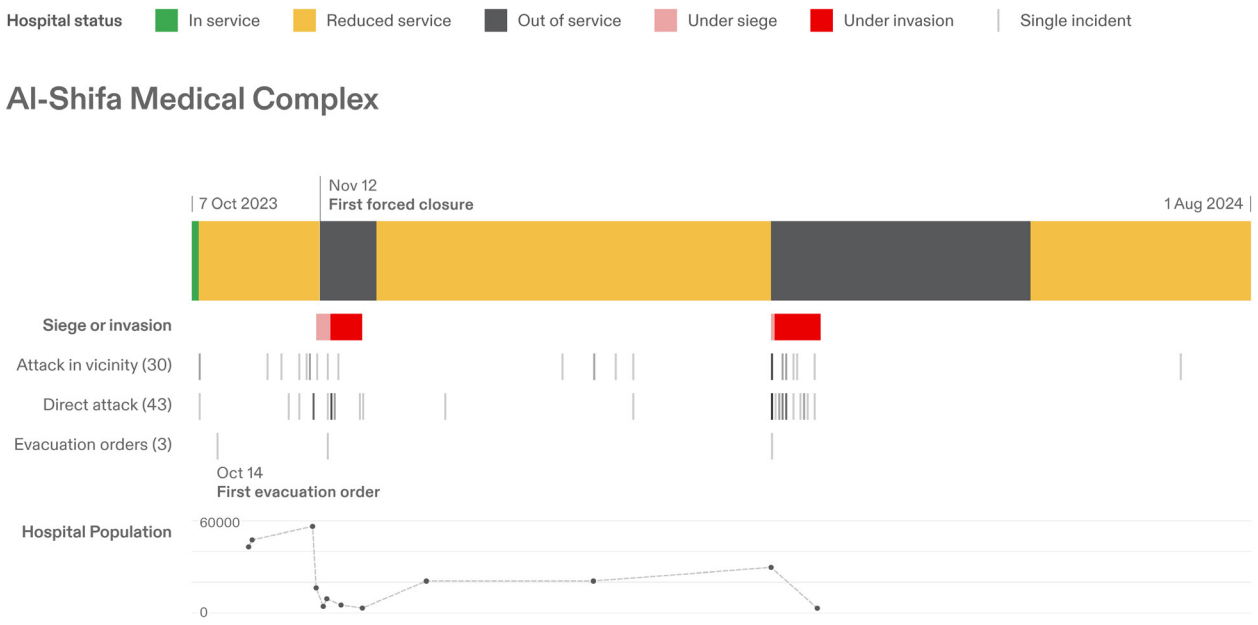

Figure 5.51 Al-Shifa Medical Complex population at points between October 7 2023 and 1 August 2024. Dots on the graph represent sourced data points of the population. The dashed line is an extrapolation between the points.

83 'Panic as Gaza's al-Shifa Evacuates, Israel Army Denies Ordering It to Do So' (*Al Jazeera*) <https://www.aljazeera.com/news/2023/11/18/israel-gives-gazas-al-shifa-hospital-one-hour-to-evacuate> accessed 26 September 2024

84 'Gaza: Israeli Forces Leave Al-Shifa Hospital in Ruins' (*Doctors Without Borders / Médecins Sans Frontières (MSF ...*, 2 April 2024) <https://www.doctorswithoutborders.ca/gaza-israeli-forces-leave-al-shifa-hospital-in-ruins/> accessed 14 October 2024.

144 **The timing of the Israeli military's attacks on hospitals correlates with the presence of displaced civilians at those hospitals – conclusion**

145 Our analysis demonstrates that the timing of the Israeli military's attacks on hospitals correlates with the presence of displaced civilians at those hospitals. We observe the greater the number of displaced civilians at a hospital, the greater the number of attacks by the Israeli military on that hospital.

3 *The Israeli military targeted medical personnel and facilities in a manner that causes damage to Gaza's medical system*

146 Our analysis of attacks on all aspects of medical infrastructure, including healthcare workers, suggests:

(a) Healthcare workers have been direct targets of the Israeli military, as opposed to being indirect casualties of attacks on hospitals.

(b) The Israeli military destroyed and occupied hospitals even after they had been forced out of service and evacuated.

(c) The Israeli military's targeting of hospitals caused damage to Gaza's maternity services.

3.1 Healthcare workers have been direct targets of the Israeli military, as opposed to being indirect casualties of attacks on hospitals.

147 The Israeli military have arrested and detained healthcare workers from hospitals, for example, on 17 December 2023 at al-Awda Hospital in Jabalia. [Incident ID: 31216-20087]

148 Healthcare workers were also arrested at Nasser Medical Complex in February 2024, following the Israeli invasion of that hospital.[85] [Incident ID: 40216-72485] This conduct shows a deliberate targeting of medical personnel by the Israeli military.

149 Across Gaza between 7 October 2023 and 20 September 2024, Healthcare Workers Watch has reported that:[86]

(a) 595 Palestinian healthcare workers were killed by the Israeli military[87]

(b) 300 Palestinian healthcare workers were unlawfully detained by the Israeli military

(c) 23 Healthcare workers in Gaza are missing

150 Healthcare workers have been unlawfully detained. On 23 November, Dr Abu Salmiya was evacuated from al-Shifa Medical Complex in a UN convoy. While travelling, Dr Salmiya was arrested, and subsequently detained and held as a prisoner by the Israeli military until 1 July 2024. Along with Dr Salmiya, reports indicate that several other healthcare workers were detained from al-Shifa Medical Complex.[88]

151 On 9 December, a convoy of six PRCS ambulances, accompanied by a UN vehicle, attempted to cross the Wadi Gaza checkpoint, to evacuate patients from the partially functioning al-Ahli Arab Hospital.[89] The immediate vicinity of the facility had been bombed by the Israeli military several days earlier. [Incident ID: 31204-57019] During this evacuation mission, the convoy faced four separate incidents:

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85 'Gaza Medics Tell BBC That Israeli Troops Beat and Humiliated Them after Hospital Raid' *BBC News* <https://www.bbc.co.uk/news/world-middle-east-68513408> accessed 26 September 2024

86 Nael Qtati, 'Home - Healthcare Workers Watch' (7 September 2024) <https://healthcareworkerswatch.org/> accessed 26 September 2024.

87 The killings of an additional 420 healthcare workers are still being verified.

88 'Israeli Army Arrests Al-Shifa Hospital Director, Other Doctors in Gaza' (Al Jazeera) <https://www.aljazeera.com/news/2023/11/23/al-shifa-hospital-director-arrested-by-israeli-army-in-gaza> accessed 26 September 2024.

89 [Incident ID: 31209-13488], [Incident ID: 31209-70752], [Incident ID: 31209-28227], [Incident ID: 31209-55750].

(a) The convoy was made to wait four hours before being allowed to advance towards a military checkpoint, and another hour waiting to cross the checkpoint.

(b) During a two-hour inspection by Israeli military, two paramedics were detained and released once the convoy was allowed to pass.

(c) After leaving the checkpoint, Israeli soldiers opened fire on one of the ambulances as it arrived at the Kuwait roundabout (see Figure 5.51).

(d) As the convoy returned to the checkpoint following its mission to al-Ahli Arab Hospital, it was stopped again by the Israeli military. This delay resulted in the death of one of the patients. During this inspection a paramedic was detained.[90]

152 On 21 September 2024, the Palestinian Health Minister stated that 130 ambulances had been forced out of service by the Israeli military.[91]

153 On 23 January 2024, Israeli artillery fire struck the fourth floor of the PRCS headquarters. [Incident ID: 40123-12741] Following a two-week siege, the headquarters was evacuated, displacing the PRCS's administrative hub and its use as a shelter for displaced civilians. [Incident ID: 40205-54715] PRCS administration subsequently evacuated from their temporary headquarters when it was struck by shrapnel from nearby Israeli airstrikes. [Incident ID: 40629-77907]

[90] 'The Palestine Red Crescent Society Coordinated with the United Nations to Evacuate 11 Casualties in a Critical Condition Last Night (Amputees and Head Casualties) from Al-Ahli Baptist Hospital in #Gaza City to the Hospital in the South of the Strip.' (X) <https://x.com/PalestineRCS/status/1733762810998358428> accessed 26 September 2024; 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Hostilities in the Gaza Strip and Israel | Flash Update #65' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 10 December 2023) <http://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-65> accessed 14 October 2024.

[91] 'Nearly 1,000 Palestinian Medics Killed in Israeli Attacks in Gaza since Oct. 7: Health Ministry' (Anadolu Agency) <https://www.aa.com.tr/en/middle-east/nearly-1-000-palestinian-medics-killed-in-israeli-attacks-in-gaza-since-oct-7-health-ministry/3337108> accessed 26 September 2024.

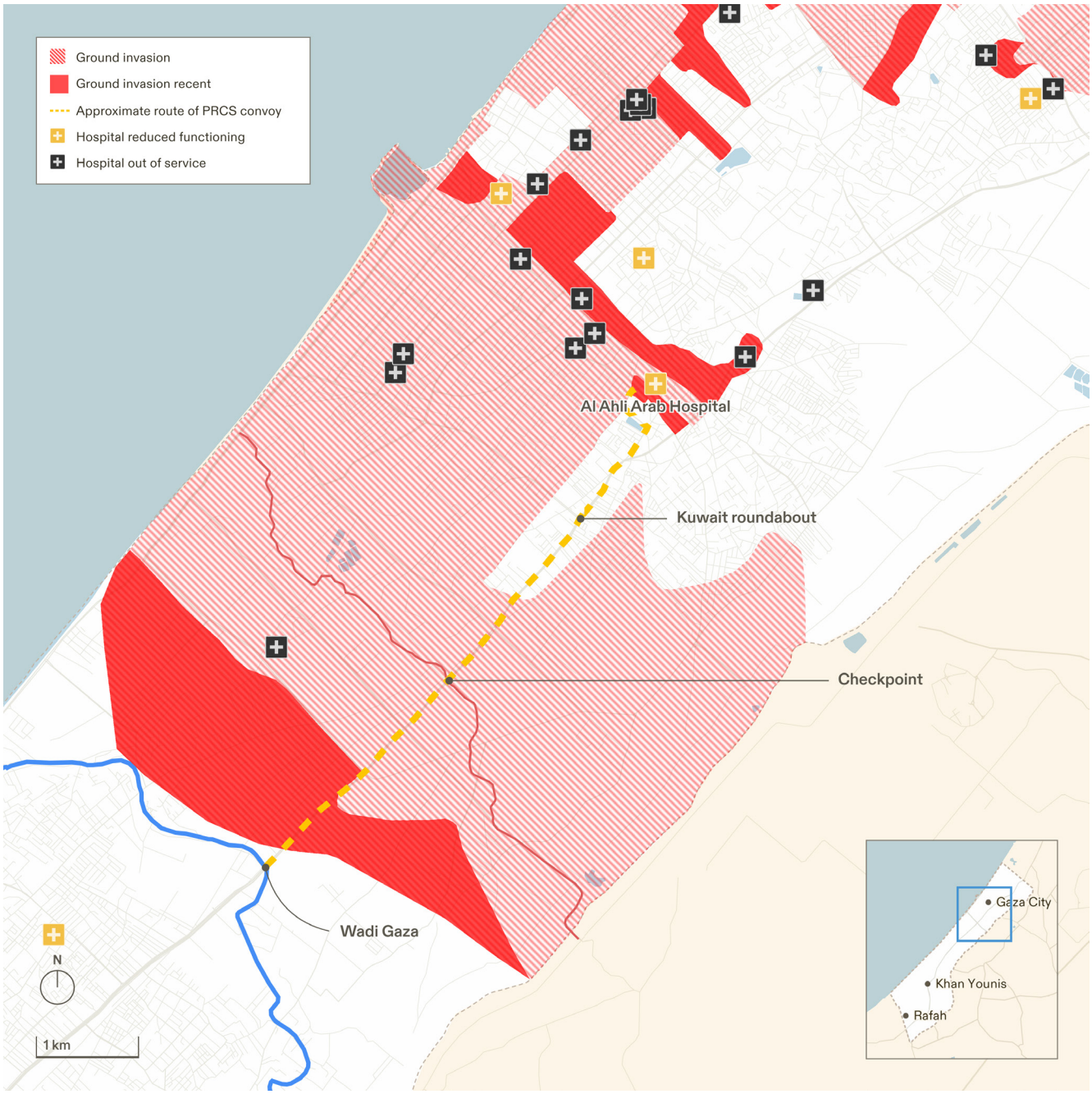

Figure 5.52: Map of Netzarim corridor on 9 December 2024, with the approximate route of PRCS convoy.

3.2 The Israeli military destroyed and occupied hospitals even after they had been forced out of service and evacuated

154 We analysed the relationship between the timing and position of hospitals being depopulated and forced out of service, due to Israeli military targeting, and the continued destruction and occupation of these medical facilities. Our analysis in the following case studies suggests hospitals that had been forced out of service and evacuated were subsequently destroyed and occupied by the Israeli military.

(A) Turkish-Palestinian Friendship Hospital

155 After four direct attacks on the Turkish-Palestinian Friendship Hospital, and a shortage of utilities caused by the broader siege of humanitarian supplies, this medical facility was forced out of service. Patients were subsequently evacuated on 24 December to three hospitals: al-Aqsa Martyrs Hospital, Nasser Medical Complex, and Muhammad Youssef al-Najjar Hospital.

156 On 22 February, a video was posted by an Israeli soldier on social media. The footage shows the soldier operating an excavator, using its mechanical arm to demolish buildings in its path. The video was geolocated to the Turkish-Palestinian Friendship Hospital.

157 The caption read: '*The hospital accidentally broke*.'

158 The occupation of this hospital appeared to become formalised over the following months. On 10 April, the Israeli military released a video showing a soldier operating a rocket launcher on the hospital roof. [Incident ID: 40410-11914] In subsequent days, satellite imagery and other video evidence showed earthworks and barracks constructed in and around the hospital grounds. [Incident ID: 40425-35747]

159 Footage released in July (though potentially recorded earlier) shows Israeli soldiers destroying an MRI machine inside the Turkish-Palestinian Friendship Hospital. [Incident ID: 40723-57542]



Figure 5.53. On the left: a still frame from a video circulating on 22 February 2024 in which an Israeli soldier joked, 'The hospital accidentally broke.'[92] On the right: 12 May, Israeli soldiers held a Memorial Day ceremony on the south side of the Turkish-Palestinian Friendship Hospital in the Netzarim corridor.[93]

[92] 'This Video Is the Most Horrifying Thing I Have Ever Seen ! Israeli Soldier Named Eliya Cohen Posted a 3.5 Min Video Today of Himself Flattening the Turkish-Palestinian Friendship Hospital in Netzarim, South of Gaza City. Cohen Mockingly Writes: "The Hospital Accidentally Broke"' (X) <https://x.com/ytirawi/status/1760766861279391872> accessed 26 September 2024.

[93] יהתקווה במסדרון נצרים' (X) <https://x.com/ItayBlumental/status/1789709717326938401> accessed 26 September 2024.

(B) Al-Karama Specialized Hospital

160 On 17 October 2023, al-Karama Specialized Hospital was forced out of service and evacuated after sustaining severe damage as a result of airstrikes. [Incident ID: 31017-39971]

161 A series of images and videos posted on the al-Karama Specialized Hospital Facebook page between 15 and 17 February 2024 showed the hospital to be largely destroyed, leaving just the concrete frame of the building.[94] Large sections of the facade were demolished, revealing significant destruction inside the hospital. Amid the debris, medical equipment was visible.

162 The hospital must have been destroyed after it was evacuated on 17 October 2023, and before 15 February 2024. From assessing satellite imagery of al-Karama Hospital, it is evident the hospital was destroyed between the 4 and 7 of January 2024.[95] Comparing the imagery strongly suggests the presence of the Israeli military in this time period from the razing and building of military barracks of a field 420 metres away from the hospital.



Figure 5.54. Al-Karama Specialized Hospital in an image posted on Facebook on 15 February 2024.

94 'مستشفى الكرامة التخصصي' <https://www.facebook.com/photo/?fbid=789367066548859&set=pcb.789367233215509> accessed 26 September 2024

95 Planet Labs LLC., 'Satellite Image of Al-Karama Hospital, 4 January 2024'; Planet Labs LLC., 'Satellite Image of Al-Karama Hospital, 7 January 2024'.

(C) Kuwait Specialized Hospital

163 On 6 May 2024, after the Israeli ground invasion advanced into Rafah from Karem Abu Salem/Kerem Shalom crossing, in the following weeks as the military advanced in Rafah, three hospitals in the region (Muhammad Youssef al-Najjar Hospital, Kuwait Specialized Hospital, and the al-Helal al-Emarati Hospital) were all forced out of service.

164 Following orders from the Israeli military to evacuate Kuwait Specialized Hospital, two healthcare workers were killed on 28 May by an airstrike at the gate of the hospital. [Incident ID: 40528-94766] The hospital was forced out of service and evacuated.[96]

165 A video of the aftermath of the killing of these two healthcare workers shows people, including other healthcare workers, carrying the bodies from an area outside the hospital gate to the hospital courtyard (see Figure 5.54). The roads outside the facility and the buildings of the hospital are seen to be relatively undamaged.

166 On 3 August 2024, the Kuwait Specialized Hospital posted an image on the hospital's Facebook page (see Figure 5.55) with the caption: 'The Israeli occupation destroys large parts of the Kuwait Specialized Hospital in Rafah Governorate.' In the image, a cluster of buildings appear to be severely damaged. A roof appears damaged, and a solar panel has been destroyed. The surrounding area of the hospital is covered in debris.

167 Geolocating the video from 28 May and comparing it to the subsequent image clearly shows that both depict the same area. Key features include the hospital entrance, a cluster of smaller buildings northwest of the courtyard, and two large buildings east and south of the courtyard. One of these buildings displays the words 'Kuwait Speciality Hospital' on its facade when viewed from the courtyard entrance.

168 Comparing the two pieces of media suggests that the hospital was destroyed between 28 May, the date of the evacuation, and 3 August. From assessing satellite imagery of Kuwait Specialized Hospital, it is evident the hospital was severely damaged between 18 and 23 June.[97] Substantial damage of the area surrounding the hospital strongly suggests the presence of the Israeli military in this time period.

169 During this period, Rafah had been depopulated by the Israeli military's ground invasion, displacing civilians to other areas in Gaza, particularly al-Mawasi.

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96 'WHO in Occupied Palestinian Territory on X: "Al-Helal al-Emirati Hospital - the Last Functional Hospital in #Rafah - Went out of Service on 30 May. The Two Other Main Hospitals in Rafah, al-Najjar and Kuwaiti Hospitals, Stopped Functioning on May 7 and May 28, Respectively. There Are Almost No Health Services Available, 1 June 2024' <https://x.com/WHOoPt/status/1796975909502947517> accessed 26 September 2024.

97 Planet Labs LLC., 'Satellite Image of Al-Karama Hospital, 18 June 2024'; Planet Labs LLC., 'Satellite Image of Al-Karama Hospital, 23 June 2024'.



Figure 5.55. Kuwait Specialized Hospital on 28 May 2024[98]



Figure 5.56. Kuwait Specialized Hospital, posted on 3 August 2024[99]

98 'مستشفى الكويت التخصصي' (Facebook) <https://www.facebook.com/Kuwait.hos/videos/744635417586120/> accessed 26 September 2024
99 'مستشفى الكويت التخصصي' (Facebook) <https://www.facebook.com/Kuwait.hos/posts/pfbid0JT1z5wpeLA2aoKcCCvcvvc79JXn6P-M97AnP1tUBMorCAPVFczqubtdasr7Wckhzwl> accessed 26 September 2024

3.3 The Israeli military's targeting of hospitals caused damage to Gaza's maternity services

170 We analysed the relationship between the Israeli military's targeting of hospitals and the impact on maternity services in Gaza. From this analysis we have observed:

(a) Maternity wards and specialist maternity hospitals have been directly attacked by the Israeli military.

(b) The Israeli military's offensive in Gaza has forced the closure of maternity services.

171 Our data shows that the Israeli military has repeatedly targeted maternity wards and specialist maternity hospitals. These attacks, alongside the existing strain on hospitals due to the sharp increase of patients since the Israeli military campaign began, have caused long-term damage to Gaza's maternity services. We analysed the attacks on maternity services by organising the number of attacks on hospitals according to the services they provide. We also analysed the details of each attack on hospitals with maternity wards to assess whether there was evidence of a pattern of directly targeting maternity services.

(A) Attacks on maternity wards and specialist maternity hospitals

(a) 1 November 2023: bombing of al-Helou International Hospital, which had taken over maternity ward functions from al-Shifa Medical Complex. [Incident ID: 31101-64384]

(b) 10 November 2023: al-Shifa Medical Complex maternity department was hit with tank shell (02:00). [Incident ID: 31110-53734]

(c) 10 November 2023: al-Shifa Medical Complex maternity department was hit again (08:00). [Incident ID: 31110-98994]

(d) 11 December 2023: Kamal Adwan Hospital's maternity department was hit, killing two mothers and wounding several others. [Incident ID: 31211-49070]

(e) 16 December 2023: Assahaba Medical Complex was bombed; at the time it was reported to be the only maternity centre operating in Gaza City. [ID: 31216-50822]

(f) 17 December 2023: Nasser Medical Complex's children's department was shelled. [Incident ID: 31217-53341]

(B) Attacks on al-Helal al-Emarati Maternity Hospital

(a) 2 March 2024: area near al-Helal al-Emarati Hospital where tents were set up bombed by Israeli aircraft, killing 11 people, including a nurse and members of an ambulance crew. [Incident ID: 40302-26943]

(b) 8 May 2024: al-Helal al-Emarati Hospital courtyard hit with shelling. [Incident ID: 40508-38892]

(c) 29 May 2024: al-Helal al-Emarati Hospital entrance hit with shelling. [Incident ID: 40529-99892]

(C) Damage to maternity services in Gaza

172 The attacks on maternity wards, specialist maternity hospitals as well as hospitals with maternity wards has caused severe disruption to the provision of these services. Alongside these direct attacks, hospitals have repeatedly reported needing to shut down their maternity departments due to the immense pressure on their emergency departments caused by a large surge of civilian patients wounded in the Israeli military campaign. For instance, by 13 October, Nasser Medical Complex had declared it had run out of beds and was operating at double capacity.[100]

173 The provision of maternity services has been further disrupted by the restriction of aid (see Chapter 7: Targeting of Aid). The restriction of aid entering Gaza and reaching hospitals (see Section: Putting hospitals under siege) has meant a shortage of necessary medical materials, medicine, and equipment, including diagnostic testing, sterile supplies, and hand soap, as well as basic necessities such as fuel for power generators.[101] Water has also been directly disrupted by the attacks on critical infrastructure (see Chapter 6: Destruction of Civilian Infrastructure) and by the restriction of its flow (see report Appendix).

174 The ability to access clean water has a particularly severe impact on pregnant women, since water is important for supporting the life of the foetus and maintaining hygiene to prevent ailments that can cause birth complications. Hospitals where maternity services were available changed frequently over the course of the conflict, which caused distress for women trying to remain close to services towards the end of their pregnancy.[102]

175 By 3 November, Nasser Medical Complex announced it had begun operating at minimal levels of medical services. This was due to a severe shortage of medical supplies and fuel, coupled with an increasing number of wounded and hospitalised patients.[103]

176 These demands and lack of services led to the sacrifice of departments and services to cope with the pressure of emergency medical treatment. Across Gaza, this has had a significant impact on the function of maternity services. Due to this pressure at Nasser Medical Complex, the complex announced on 16 November that it had repurposed some maternity wards and intensive care units into rooms for the wounded. [ID: 31116-27844] They stated this would negatively impact their capacity to accommodate childbirth cases. In the hospitals that remained functioning, maternity services were cut to a minimum, facilitating only the birth of babies. Women had to travel home immediately after giving birth with no post-partum care. For women who aren't pregnant, there are also no routine gynaecological appointments, fertility or contraception support.[104]

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100 Nasser Medical Complex مجمع ناصر الطبي <https://www.facebook.com/permalink.php/?story_fbid=784795316778571&id=100057443290195> accessed 26 September 2024.

101 Testimony collected by Forensic Architecture in September 2024 from American midwife Bridget Rochios (CNM, WHNP) who worked in Gaza in May 2024.

102 Testimony collected by Forensic Architecture in September 2024 from American midwife Bridget Rochios (CNM, WHNP) who worked in Gaza in May 2024.

103 Nasser Medical Complex <https://www.facebook.com/permalink.php/?story_fbid=796255378965898&id=100057443290195> accessed 26 September 2024.

104 Testimony collected by Forensic Architecture in September 2024 from American midwife Bridget Rochios (CNM, WHNP) who worked in Gaza in May 2024.

177 Dr Walid Abu Hatab, director of al-Tahrir Hospital for Women and Childbirth, which is part of Nasser Medical Complex, described the situation as particularly severe due to the large numbers of Palestinians already displaced from northern Gaza, including many pregnant women seeking services.[105] As of mid-November 2023, Dr Abu Hatab said, 'More than 50,000 pregnant women in the Gaza Strip lack primary care and childbirth services.'

178 This issue is further exacerbated as patients must be transferred from hospitals under attack, placing additional strain on Gaza's medical infrastructure. This was evident in November 2023 when hospitals in northern Gaza were targeted by the Israeli military, necessitating the transfer of patients to southern hospitals. Over three consecutive days, from 24 November 2023, Nasser Medical Complex received patients from the Indonesian Hospital [Incident ID: 31124-98572], al-Shifa Medical Complex [Incident ID: 31125-92222], and Kamal Adwan Hospital. [Incident ID: 31126-03500]

179 The elimination of these services forced maternity patients to be transferred to other hospitals that could accommodate them. Even before November, al-Helou Hospital had absorbed and replaced al-Shifa Medical Complex's maternity ward, which had been repurposed to treat wounded people.[106]

180 Similarly, on 6 November, the hospital director of al-Aqsa Martyrs Hospital announced that the maternity (gynaecology) department would close and transfer services to al-Awda Hospital in Nuseirat due to the large influx of wounded patients.[107]

181 Nevertheless, even when maternity patients have been transferred to hospitals that could take in pregnant women, these hospitals are still affected by the siege of humanitarian aid in Gaza. Only a month after taking over al-Aqsa Martyrs Hospital's maternity services, on 2 December al-Awda in Nuseirat declared it was at risk of shutting down after exhausting the fuel used for generators and ambulances, risking the closure of the main maternity provider in central Gaza at that time.[108]

182 Likewise, on 20 December the only functional maternity hospital in north Gaza, Assahaba Medical Complex, was at risk of having to reduce its services, as fuel could not be delivered due to the insecurity of the area during that period.[109]

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105 Nasser Medical Complex <https://www.facebook.com/permalink.php/?story_fbid=802569731667796&id=100057443290195> accessed 26 September 2024.

106 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Hostilities in the Gaza Strip and Israel | Flash Update #26' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 1 November 2023) <http://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-26> accessed 26 September 2024.

107 'ياسر البنا, مدير مستشفى شهداء الأقصى: إسرائيل استخدمت أسلحة جديدة وخطرة' (<https://aja.ws/2ila1d> accessed 26 September 2024.

108 'Hostilities in the Gaza Strip and Israel | Flash Update #58 [EN/AR/HE] | OCHA' (3 December 2023) <https://www.unocha.org/publications/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-58> accessed 26 September 2024.

109 'Hostilities in the Gaza Strip and Israel | Flash Update #74 | United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory' <https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-74> accessed 26 September 2024.

183 **The Israeli military targeted medical personnel and facilities in a manner which causes damage to Gaza's medical system – conclusion**

184 This analysis reveals a pattern of attacks on healthcare workers, facilities, and services that suggests a deliberate attempt to cause damage to Gaza's medical system with possible long-term effects. The attacks are clustered around several strands of healthcare in Gaza: 1) healthcare workers, who have been targeted during the phases of destruction of hospitals and outside of hospitals, 2) maternity services, which have been directly targeted by the Israeli military, both maternity hospitals and departments, 3) the occupation and destruction of hospitals after the depopulation of displaced civilians, the injured, and healthcare workers.

185 The attacks on healthcare across several elements of its infrastructure, across multiple incidents, demonstrates a widespread pattern of destruction to Gaza's healthcare system. The combination and repetition of these forms of attack by the Israeli military suggests the targeting of medical infrastructure is not accidental. The attacks target both the physical and social elements of healthcare, suggesting an effort to destroy medical infrastructure in Gaza. The targeting of healthcare workers, services, and facilities across Gaza poses long-term impacts through the elimination of a skilled workforce, access to healthcare, and the physical infrastructure that provides healthcare.

K APPENDIX – DESTRUCTION OF MEDICAL INFRASTRUCTURE

1 *Testimony on the targeting of hospitals*

186 Below is the testimony of MB, a man who was arrested on 18 March at al-Shifa Medical Complex, where he had been for two months with his injured wife. MB's wife had been injured when the family home in al-Daraj was shelled. MB was detained for 57 days. For the duration of this time, his family thought he had been killed. This testimony was shared with FA by the Palestinian NGO al-Haq. According to MB's testimony:

(a) The Israeli military invaded al-Shifa Medical Complex at 02:00 on 18 March. They used loudspeakers to instruct everyone inside the hospital to stay where they were until they received additional instructions from the military.

(b) MB was on the fourth floor of the emergency building. His room looked out at the eastern gate of the hospital. He felt it was dangerous. Along with many other people on that floor, he hid in the corridor.

(c) The military invaded the dialysis department first and forced people out of the building five at a time and arrested some of them.

(d) At sunset, the military used the loudspeakers to instruct everyone on the fourth floor to go to the courtyard. Between 40 to 50 men were held under the marquee in the centre of the main courtyard.

(e) While the men were held there, the military would call them for identification, five at a time. Some were told to leave, and some were instructed to stay. It was not clear to MB what the logic was, whether the military had intelligence or if it was based on the arbitrary decision of the officer in charge.

(f) MB was among the group the military instructed to stay. He was told to step outside the marquee and ordered to take his clothes off while soldiers pointed guns at him.

(g) This happened at around 21:00 to 21:30, and it was raining when he stood outside the marquee.

(h) Later he was taken to the outpatient building. The soldiers asked the men for their ID cards and scanned their eyes. Later, with a group of other detainees, he was taken to a room inside the building, where he was blindfolded and handcuffed. Detainees were kept on their knees until the early morning of the following day. MB realised it was the next morning when he sensed light from underneath the blindfold.

(i) In the early hours of 19 March, the detainees were loaded onto a truck, 'similar to trucks used to transfer animals', according to MB. The detainees were taken in the direction of Nabulsi roundabout, and later outside Gaza. Some of the detainees were injured patients from the hospital.

(j) Until the detainees reached the prison, they were beaten and insulted. MB was beaten with a baton on his head. He was asked: 'Why were you in al-Shifa Medical Complex? Why was your home bombed? How come your wife was injured?'

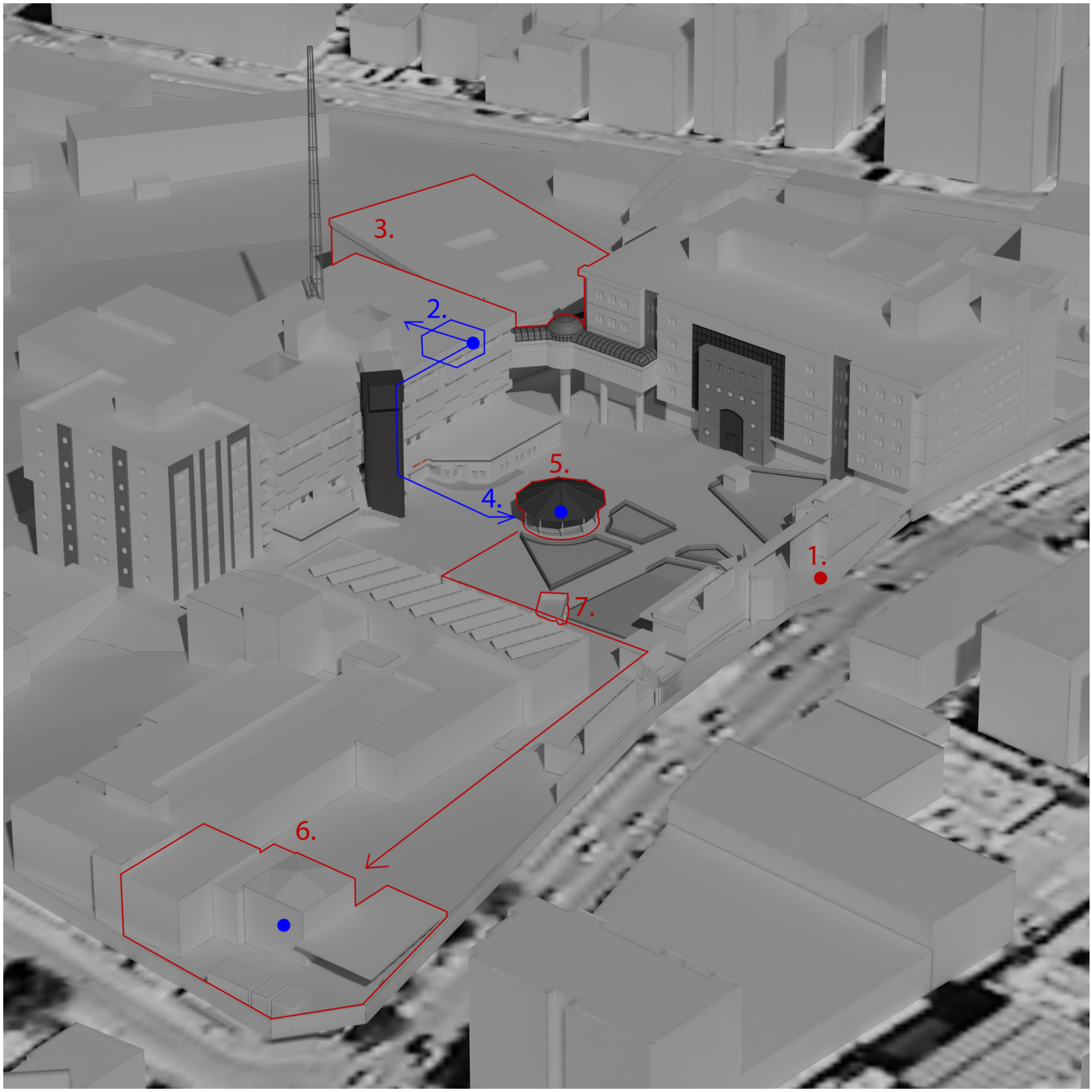

Figure 5.57. Locations around al-Shifa Medical Complex, mentioned in MB's testimony. 1) The eastern gate of the compound. 2) The fourth floor of the emergency building where MB was staying. 3) The dialysis department, first building emptied by the Israeli military on 18 March. 4) Instructing people on the fourth floor of the emergency building to go to the main courtyard of the medical complex. 5) The marquee in the main courtyard where 40–50 men were held before interrogation. 6) Outpatient department, where detainees were handcuffed and blindfolded.

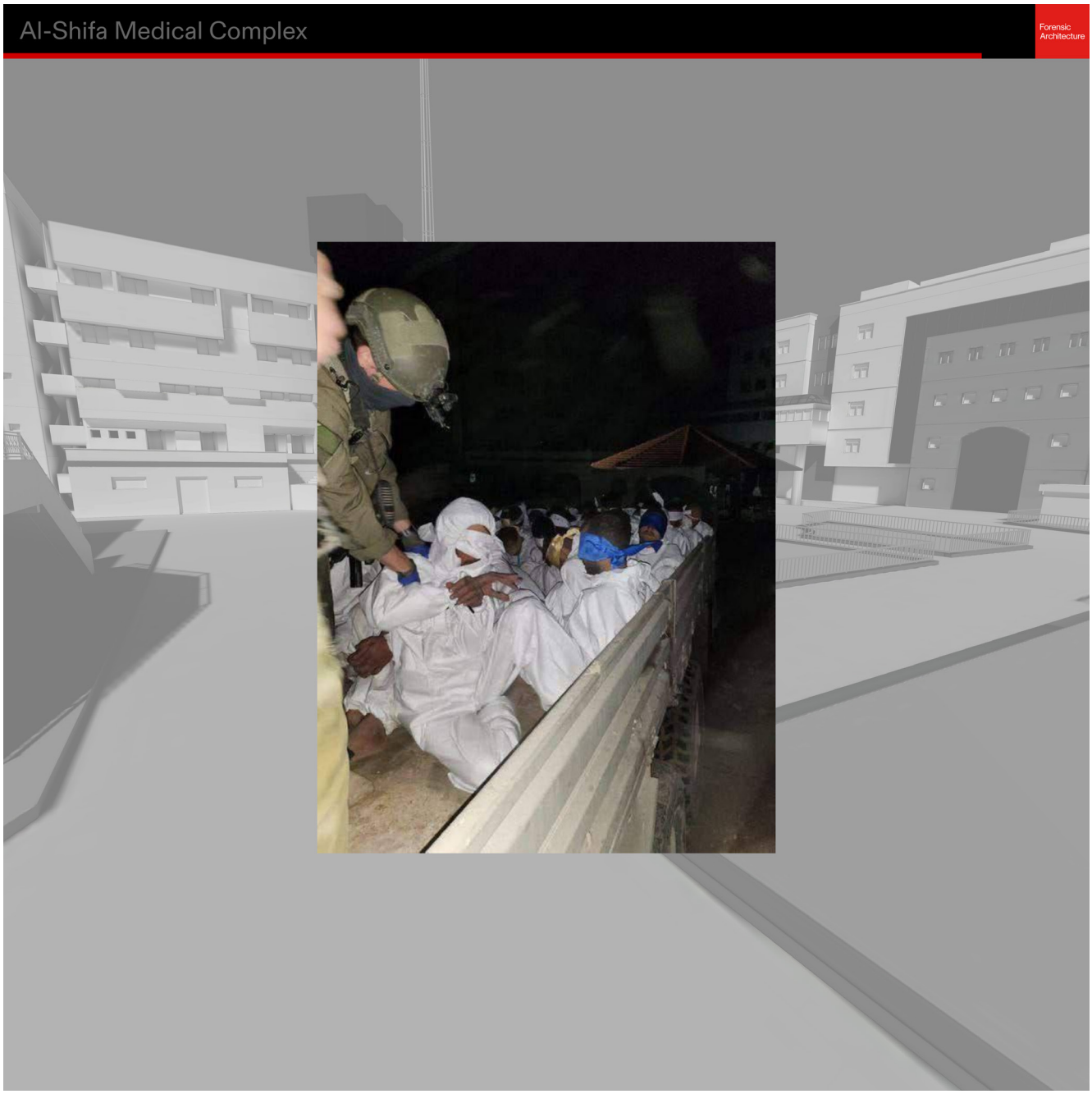

Figure 5.58. We verified the location of this image showing detainees from al-Shifa Medical Complex to be inside the main courtyard of the hospital.

2 A doctor's account regarding field hospitals

187 This testimony was collected by an al-Haq researcher in September 2024, who interviewed a doctor in Gaza about the state of field hospitals. This doctor is a member of the Supreme Emergency Committee in the Palestinian Ministry of Health.

188 Researcher: First, we are from al-Haq Human Rights Organisation, and we'd like to get a testimony regarding the field hospitals and the map claim made by the Israeli military, which mentions over twenty field hospitals in the Mawasi area. To begin, can you tell us your full name?

189 Doctor: I am Dr. X, former director of X Hospital, currently the X of Field Hospitals at the Palestinian Ministry of Health, and a member of the Supreme Emergency Committee in the Palestinian Ministry of Health.

190 Doctor: Regarding the question, the Israeli military's map is one with a purpose and a goal. The Israeli occupation wants to appear as if it is supporting us with medical teams, field hospitals, and medical centres, while in reality, it is the one killing our people, destroying hospitals, damaging infrastructure, and ruining medical centres and field hospitals. The number of field hospitals is not as claimed by the Israeli occupation. These 20 are a mix of hospitals, clinics, and medical elite teams. First, the UKMID hospitals in the central area, as claimed by the Israeli occupation, are merely medical points that don't even qualify as clinics. Only two are functional, and the third is not operational. Also, the field hospital affiliated with UKMID in the southern Gaza Strip, between Rafah and Khan Younis, barely qualifies as a polyclinic and not a hospital due to the lack of full services – no laboratory equipment, no CT scans, no MRIs, and as I mentioned, even weak X-ray services. Additionally, the hospital's operation rooms, and inpatient facilities are below standard, so it cannot be called a field hospital but rather an advanced clinic.

191 Researcher: Can we say that there are twelve field hospitals in the central and southern areas we know of?

192 Doctor: Not even that. At most, if we consider what we have, there are between three and five hospitals. But in terms of real functionality and operations on the ground, there are three field hospitals.

193 First, the Jordanian field hospital near Nasser Hospital is a field hospital, but it lacks a CT scan, has limited bed capacity, and lacks specialties that we need in the Gaza Strip. Nevertheless, it receives patients, conducts outpatient services, and performs surgeries. Some things are missing, but the lab and X-ray services are available, though without a CT scan.

194 In addition, there's the Red Cross field hospital in al-Mawasi, Rafah, which operates as outpatient clinics and has two surgery rooms along with a portable X-ray machine, though without protection from radiation. Recently, some lab equipment was added, and the Red Cross field hospital operates with its full capacity. It has 50–60 inpatient beds, including four obstetrics beds and 15 paediatric beds. This is the Red Cross field hospital.

195 There's also the Jordanian hospital, along with the Emirati field hospital in Rafah, which has all specialties, including orthopaedics and surgery, and it has X-rays and CT, though the CT does not have a printer. This hospital was used during its time in Rafah, but after the Israeli occupation entered

Rafah, it became inaccessible and is now 'non-functional'. Therefore, we need to reactivate it, and for the Israeli occupation to leave Rafah so that this hospital can provide services worthy of an Emirati field hospital.

196 These are the field hospitals in the south, in addition to an annexed hospital of the Palestine Red Crescent in Khan Younis, the Kuwaiti Red Crescent Hospital, which has ICU beds, inpatient beds, a portable X-ray machine, and about 40 beds. But it is affiliated with the Palestine Red Crescent Hospital [al-Amal].

197 There's also what is called the Jerusalem Hospital in Rafah, affiliated with the Red Crescent, but it lacks the complete facilities to be considered a hospital. It only has inpatient rooms without surgical facilities, X-rays, or labs. It's called a hospital, but it doesn't reach that level. These are the functioning hospitals in Rafah.

198 There is also a specialized hospital, which the Israeli occupation deliberately targeted, the Kuwaiti Specialty Hospital or Shifa Palestine, which has surgery rooms and X-rays, but no inpatient beds for extended stays, only for day surgeries. It operates as a 'polyclinic' or a field hospital.

199 These are the working field hospitals in the southern Gaza Strip, along with the only hospital in the central area, the International Medical Corps (IMC) hospital, which is a fully equipped hospital with about 124 beds. It has X-rays and operating rooms but lacks intensive care units (ICUs), with only four post-op beds. They rely on oxygen cylinders since there's no oxygen generation station. The hospital is expanding its bed capacity daily, but it still lacks proper radiology, a CT scanner, and ICU services. Some specialties are also missing. It is now extending to open a children's and internal medicine ward, though it hasn't yet opened.

200 Moreover, the Palestinian Ministry of Health has set up the al-Zawaida field hospital, but we are in the process of activating it. There are three to five active [field] hospitals in the Gaza Strip, not as the Israeli occupation claims with 11, 10, or 12. They have even included small clinics on their map, labelling them as field hospitals. I say, inside the camps – this was a question I read – there are medical points that work in the morning, but they are inadequate. They lack sufficient treatment for the people, they don't have lab equipment, and there are no specialties, only a general practitioner, a pharmacist, and a nurse. These are the points available in every area, but in some camps, even these services are lacking, along with the clinics and even water. There is no water for the people, let alone a clinic or a specialised one. In some areas, a tent is set up by a doctor and a nurse to give out a few injections and pills, but it's not a clinic; it's merely a medical point for a doctor and a nurse.

201 Researcher: Have there been any issues affecting the work of clinics and field hospitals in humanitarian areas?

202 Doctor: Field hospitals are always under bombardment. The Red Cross field hospital and the IMC hospital when it was in Rafah always had their surroundings targeted. Even drones fired at these hospitals. The Red Cross hospital often had bombings and drone strikes around it, and mass casualty incidents would overwhelm the hospital's capacity. Additionally, there's been bombing near government hospitals and even within government hospitals, such as Shuhada al-Aqsa Hospital. Bombings in the camps also damage all the tents and medical clinics there. The Israeli occupation shows no respect for medical teams, hospitals, or medical centres, even field hospitals. There is no sanctity for these hospitals, and we need guarantees for the safety of operations within them, whether government hospitals, field hospitals, or medical points.

203 Researcher: Many patients from humanitarian areas suffer from a lack of transportation and the distance to field hospitals ...

204 Doctor: The overcrowding of people is a cause of disease spread. Tents worsen conditions for chronic patients. The lack of transportation and difficulty of movement with the overcrowding can cause patients to die in ambulances before they reach a medical point, a field hospital, or a government hospital. Patients also struggle to find medicine. For example, painkillers like Acamol, Trophen, Coxib, and Tramadol seem like they are from another world – rarely found. Even if you reach the clinic, you'll find they've run out. There's a shortage of medicines, treatments, and difficulties in getting to hospitals, all due to the Israeli occupation crowding people into camps. Ambulances can't transport patients safely without running over other people, hitting tents, or colliding with passersby. This is the situation. The war needs to stop. The war is behind every calamity in the Gaza Strip, and it must end before it's too late.

3 *Al-Shifa Medical Complex – visual case study*

205 FA investigated al-Shifa Medical Complex in detail, collecting visual evidence, images, and videos taken between October 2023 and April 2024, documenting the series of attacks on the hospital by the Israeli military. The visual evidence is collated in a three-dimensional environment, using the FA method of photomatching, placing the images and videos evidencing attacks in space and time. The following images are taken from the 3D online platform, where the sources of the photomatched images can be found: https://shifa.forensic-architecture.org/

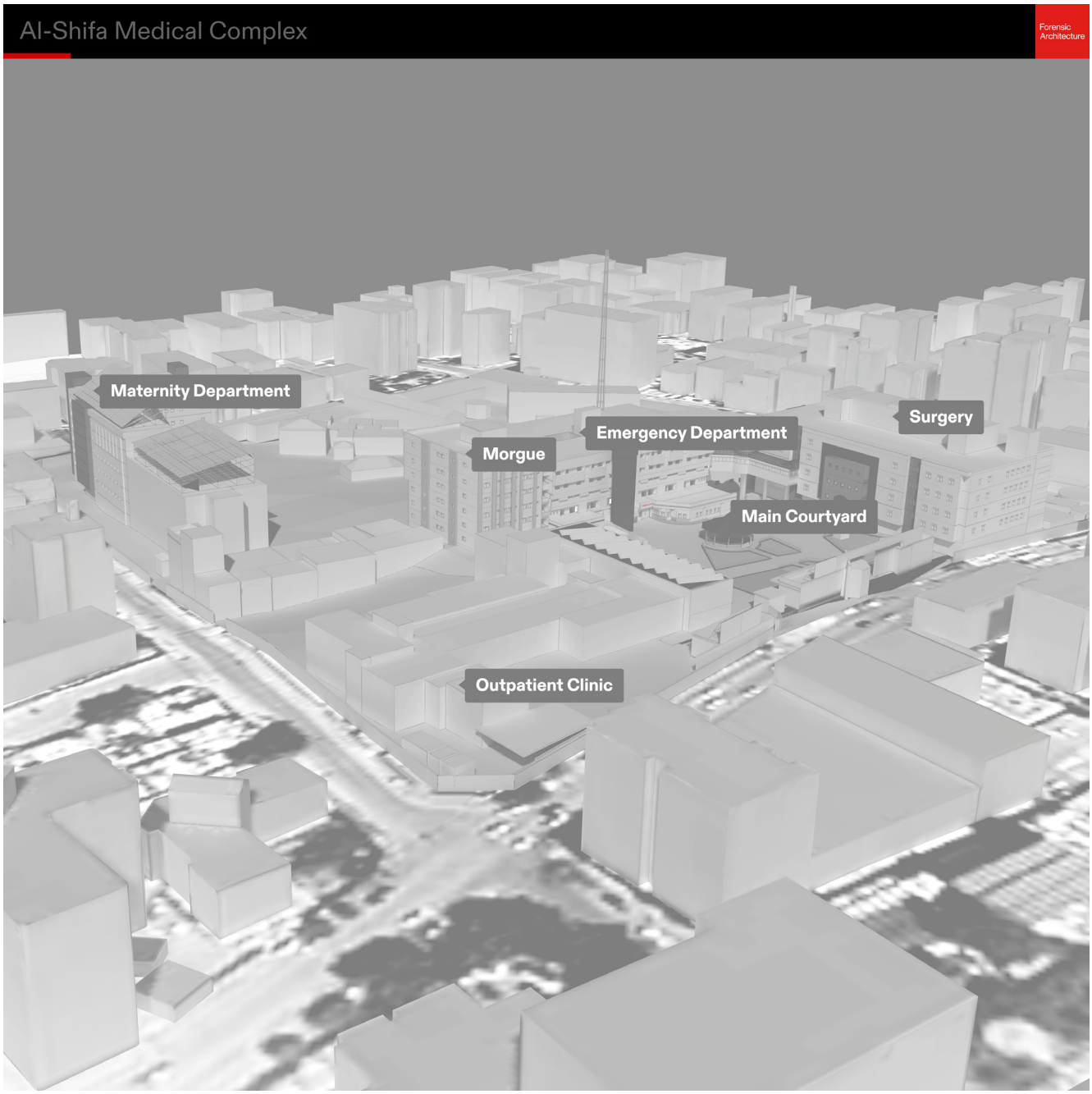

Figure 5.59 Al-Shifa Medical Complex.[110]

[110] 'Al Shifa Hospital'<https://shifa.forensic-architecture.org/> Accessed 1 October 2024.

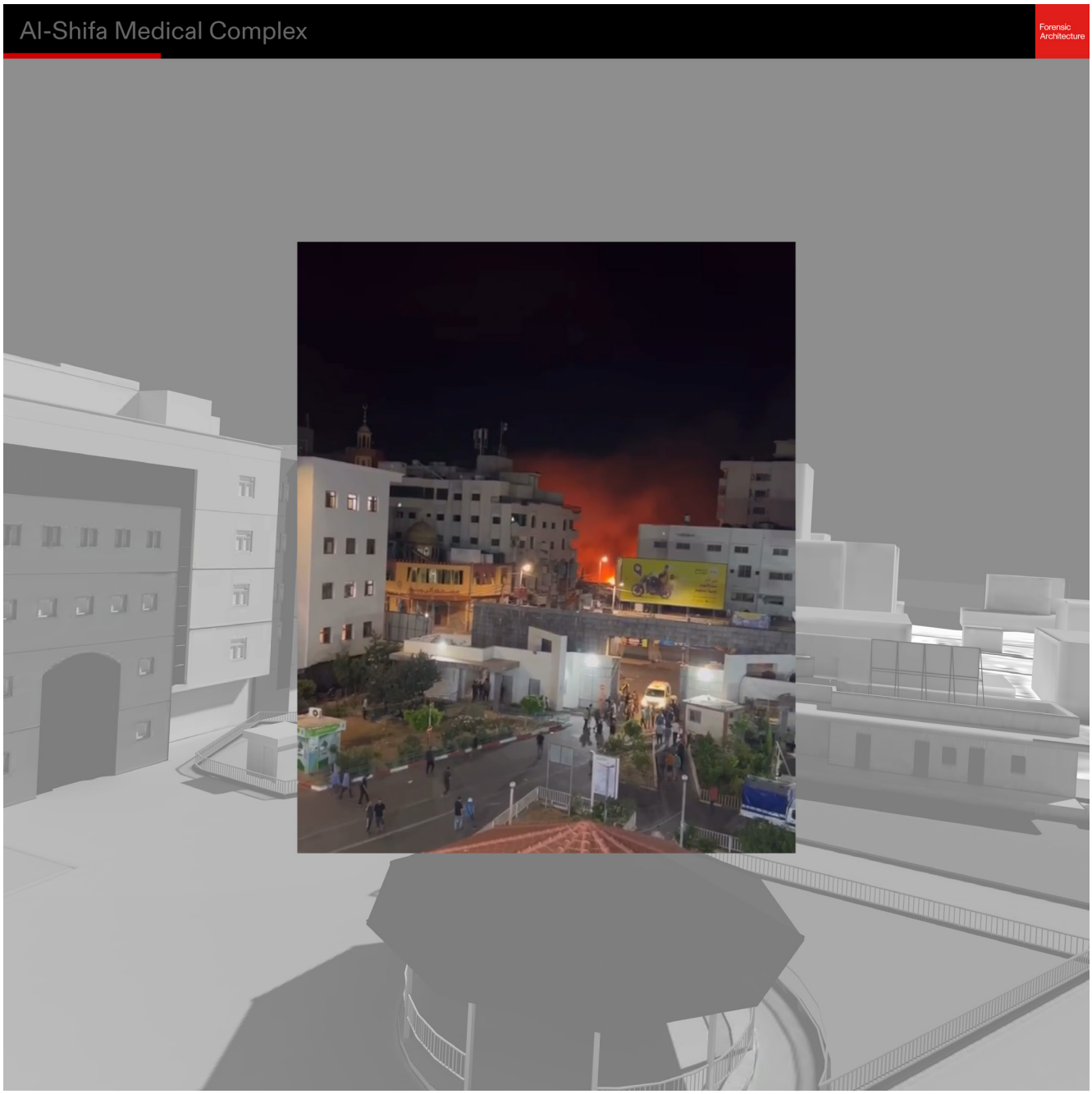

Figure 5.60 9 October 2023: A video taken in the aftermath of an airstrike shows the proximity to al-Shifa Medical Complex. [Incident ID: 31010-29706]

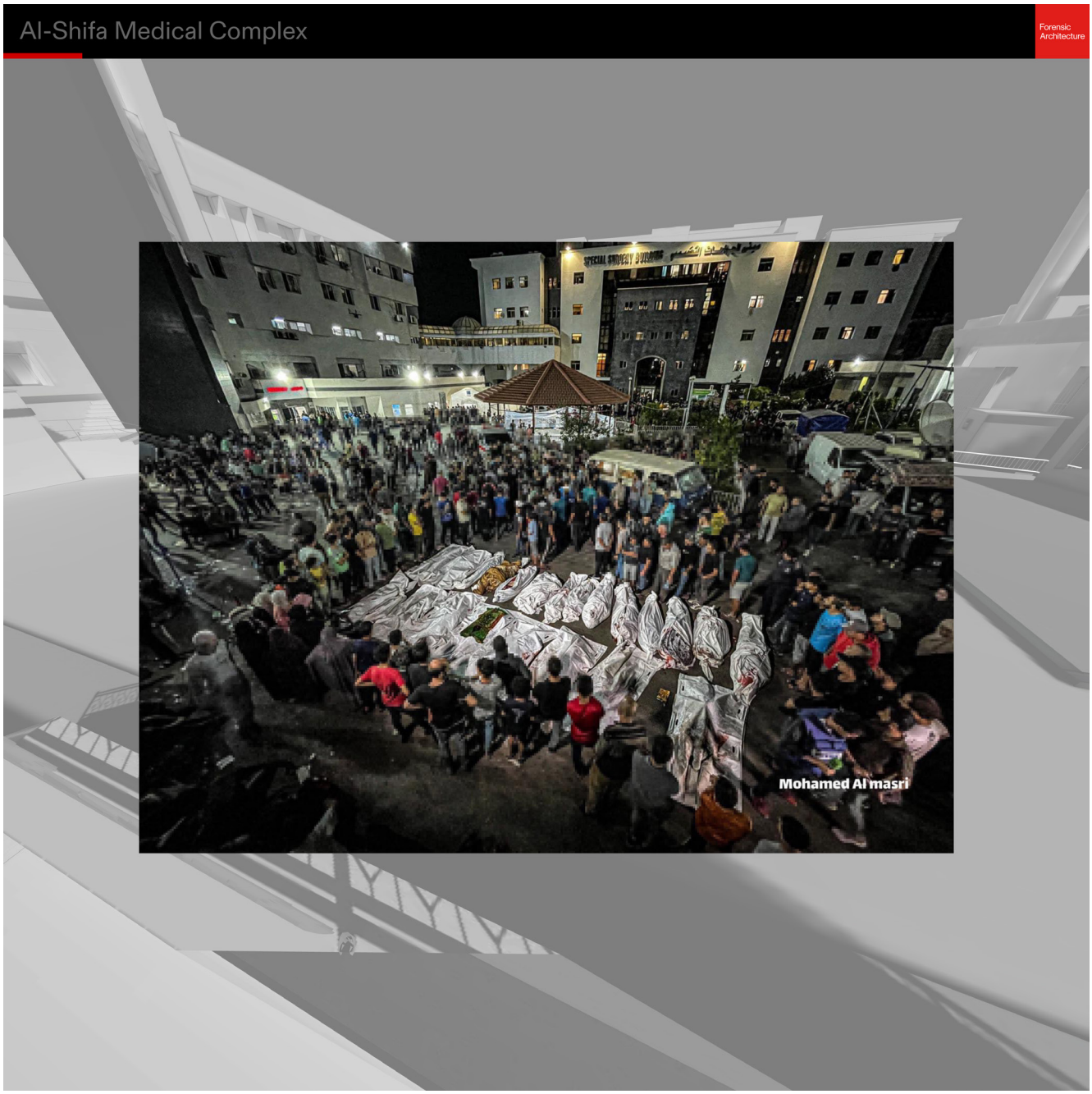

Figure 5.61 13 October 2023: Tens of thousands of displaced civilians take refuge in and around the hospital. Owing to the rapidly rising death toll, the morgue is full, forcing dozens of the deceased to be placed in the front courtyard. [Incident ID: 31013-90072]

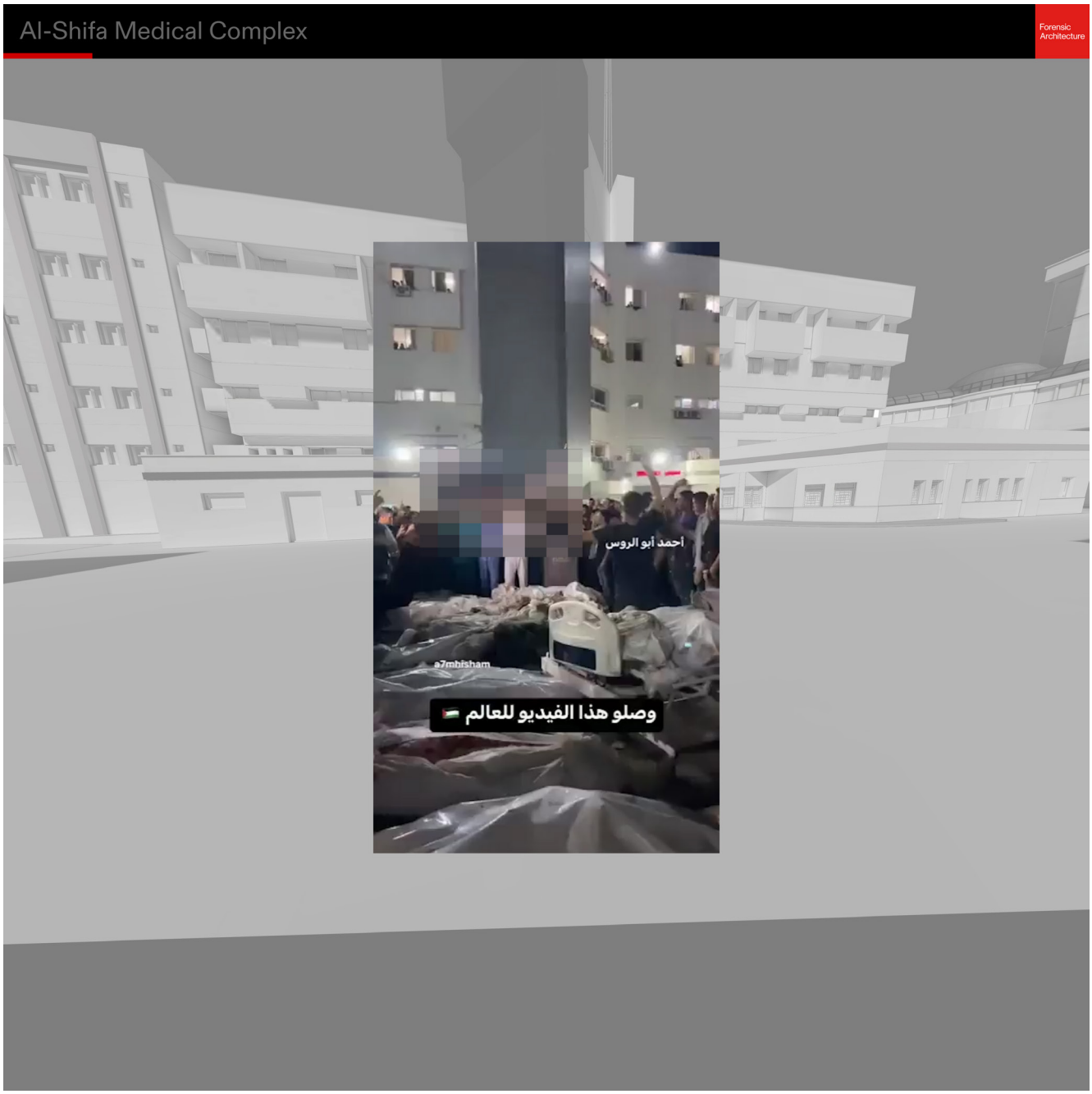

Figure 5.62 14 October 2023: 'The hospital yard is now filled with martyrs for families to give a quick farewell, before being taken out of the yard and buried,' al-Shifa's director, Dr Mohammad Abu Salmiya, tells *+972 Magazine*. [Incident ID: 31014-49262]

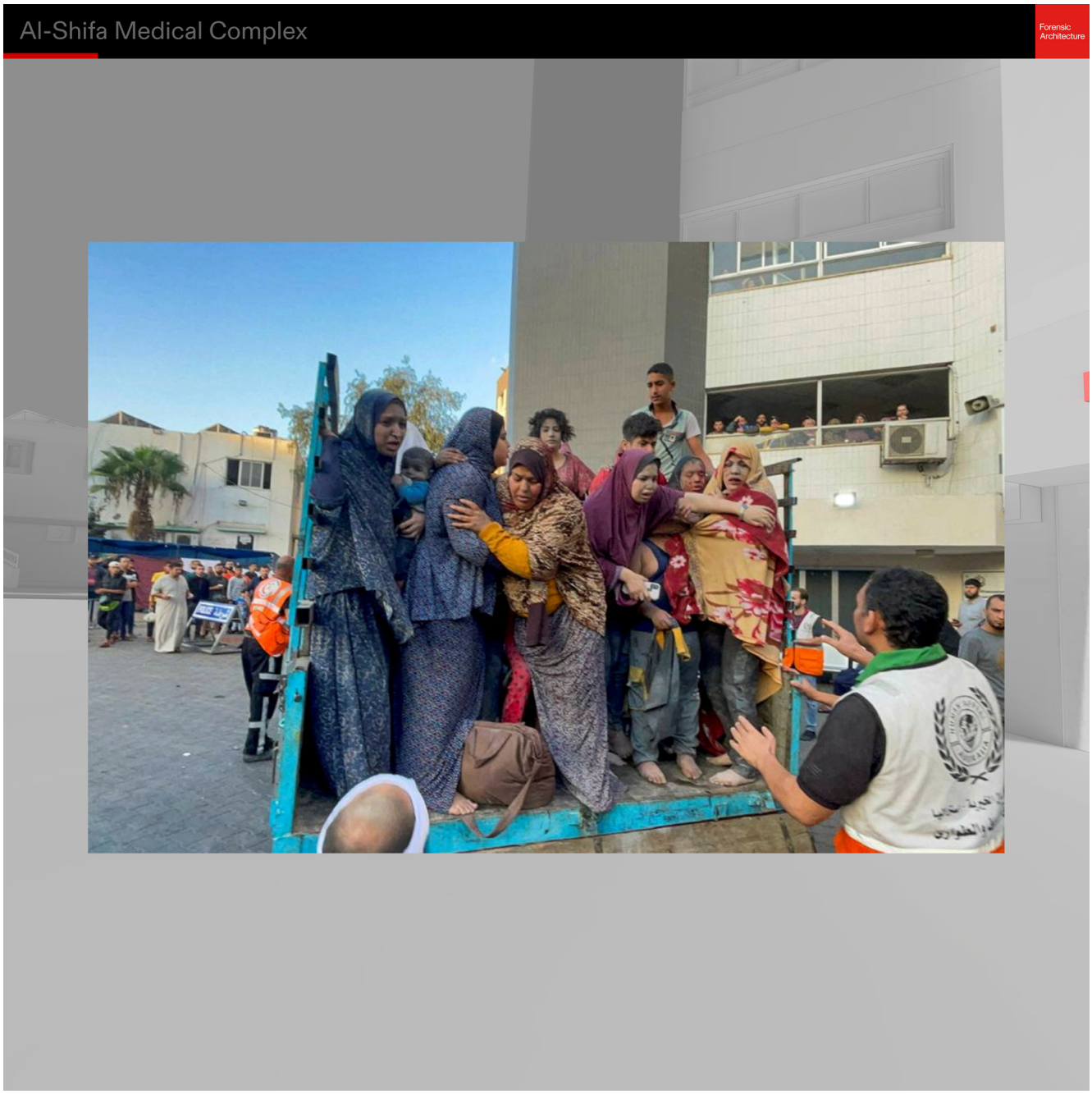

Figure 5.63 16 October 2023: Women and children injured in an Israeli strike arrive at al-Shifa for treatment. [Incident ID: 31016-06784]

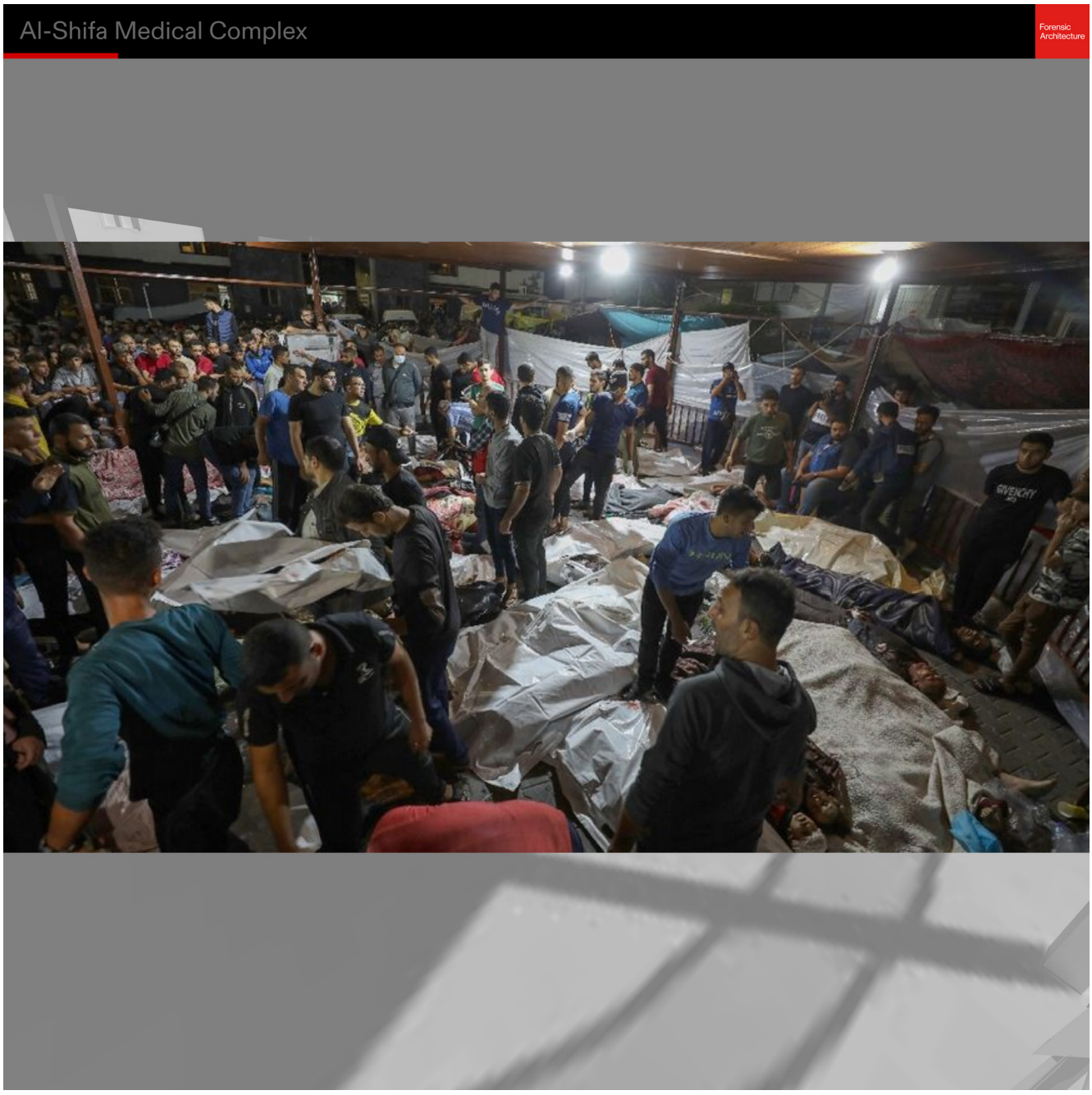

Figure 5.64 17 October 2023: Victims of the al-Ahli blast were mourned in the courtyard of al-Shifa. A week later, the UN estimated that 45,000 displaced Gazans were taking shelter at al-Shifa, including those who fled al-Ahli. [Incident ID: 31017-92788]

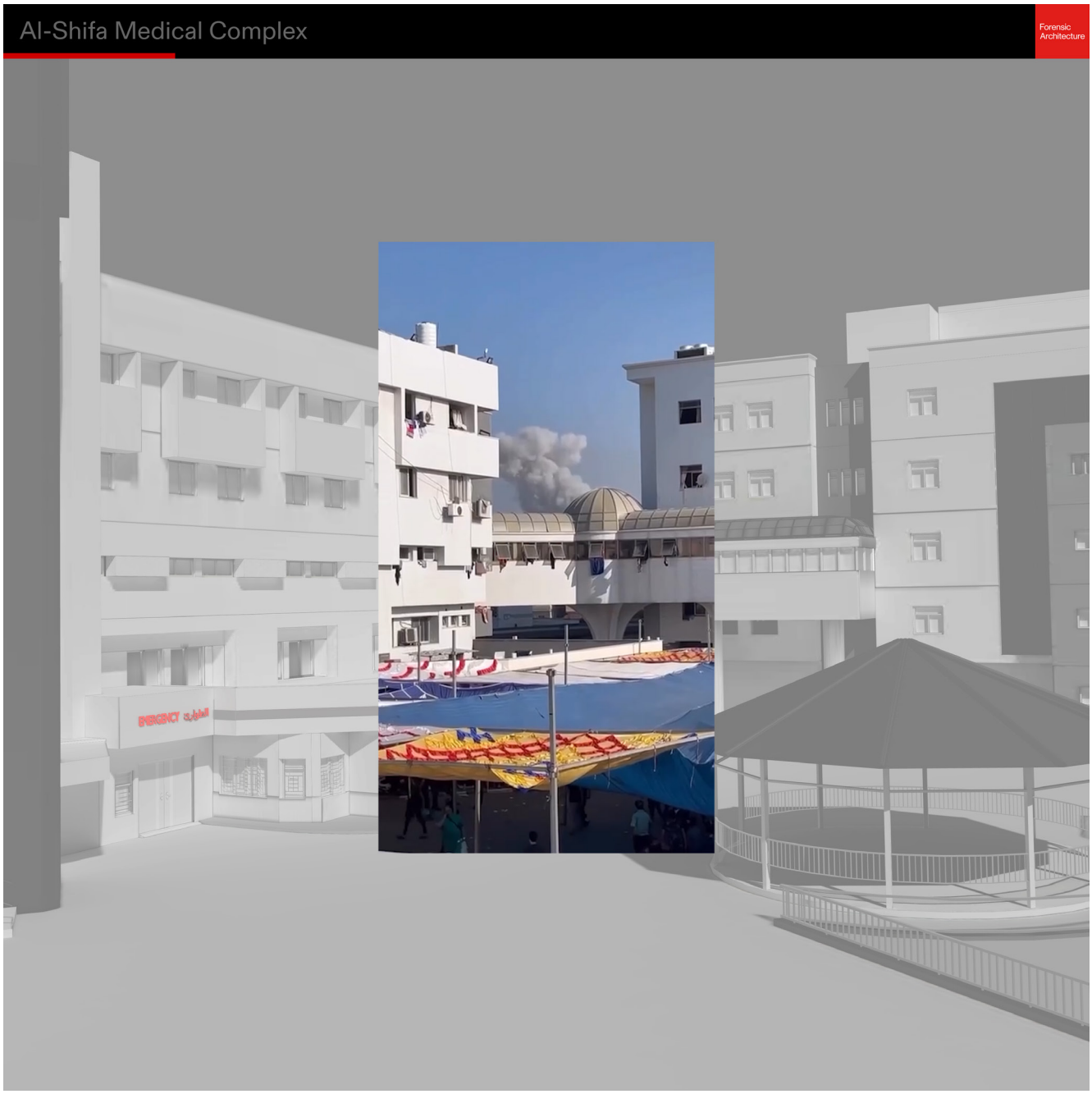

Figure 5.65 1 November 2023: Israeli military strikes the area surrounding the hospital. [Incident ID: 31101-92314]

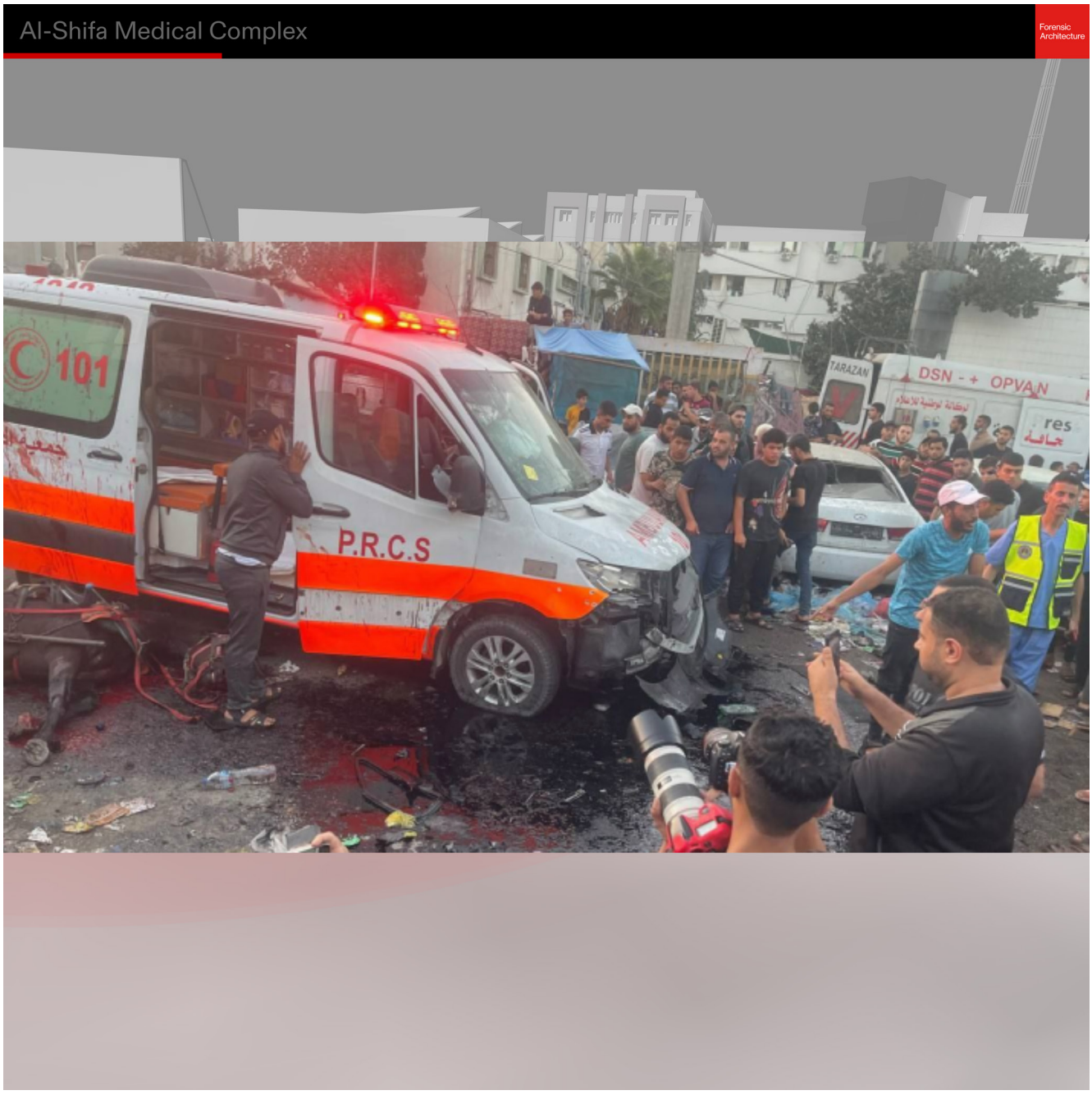

Figure 5.66 3 November 2023: An Israeli missile strikes an ambulance at the Shifa hospital gate. [Incident ID: 31103-44745]



Figure 5.67 3 November 2023: 'Thousands of people around! All of these people lose their homes. They are evacuating to Shifa. They are sitting outside because there is no places in Shifa.' [Incident ID: 31103-44745]

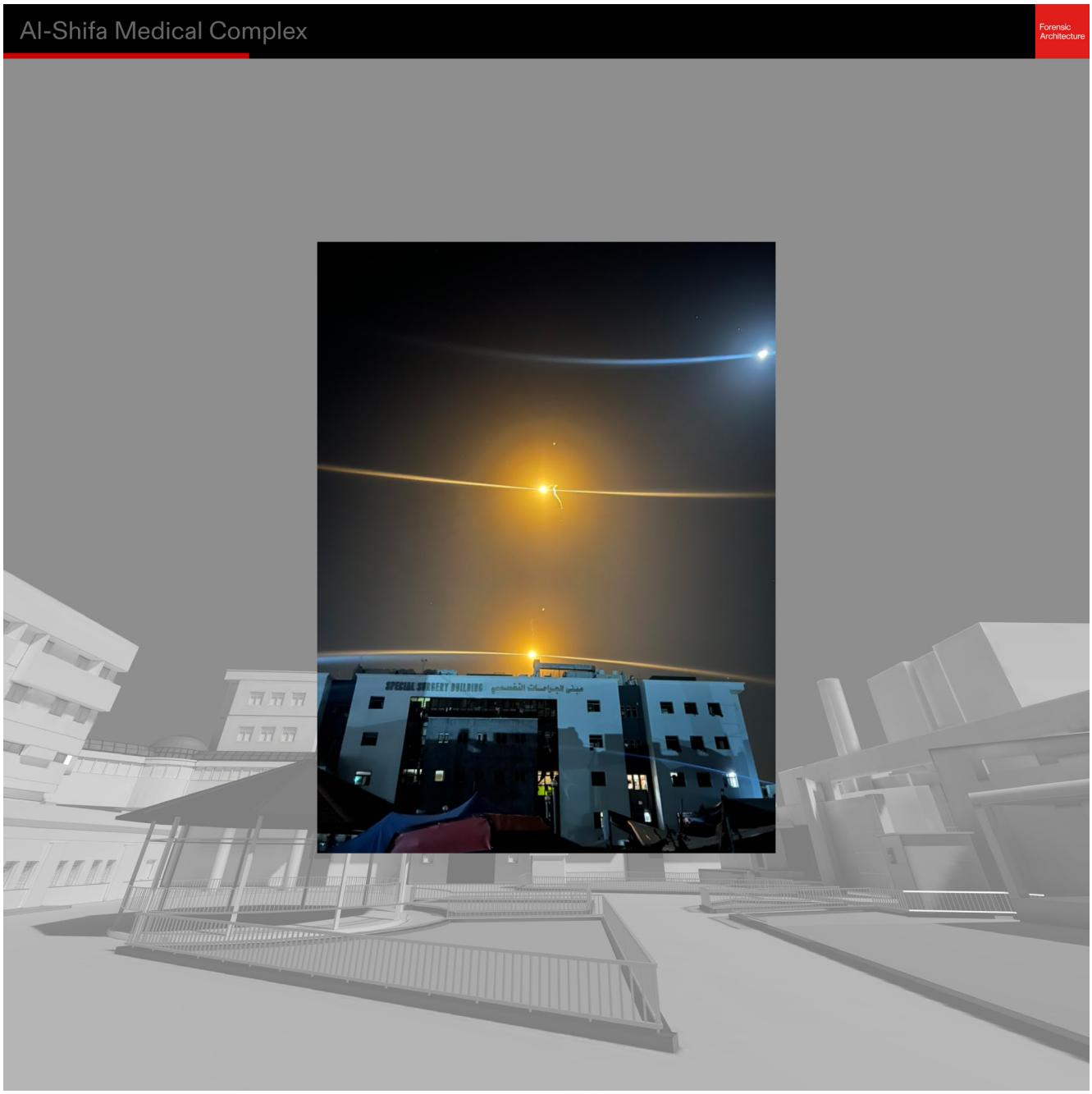

Figure 5.68 4 November 2023: Ahmed Hijazi, a Gazan content creator sleeping in the Shifa courtyard, photographs Israeli military flares very close to the hospital. [Incident ID: 31104-38030]

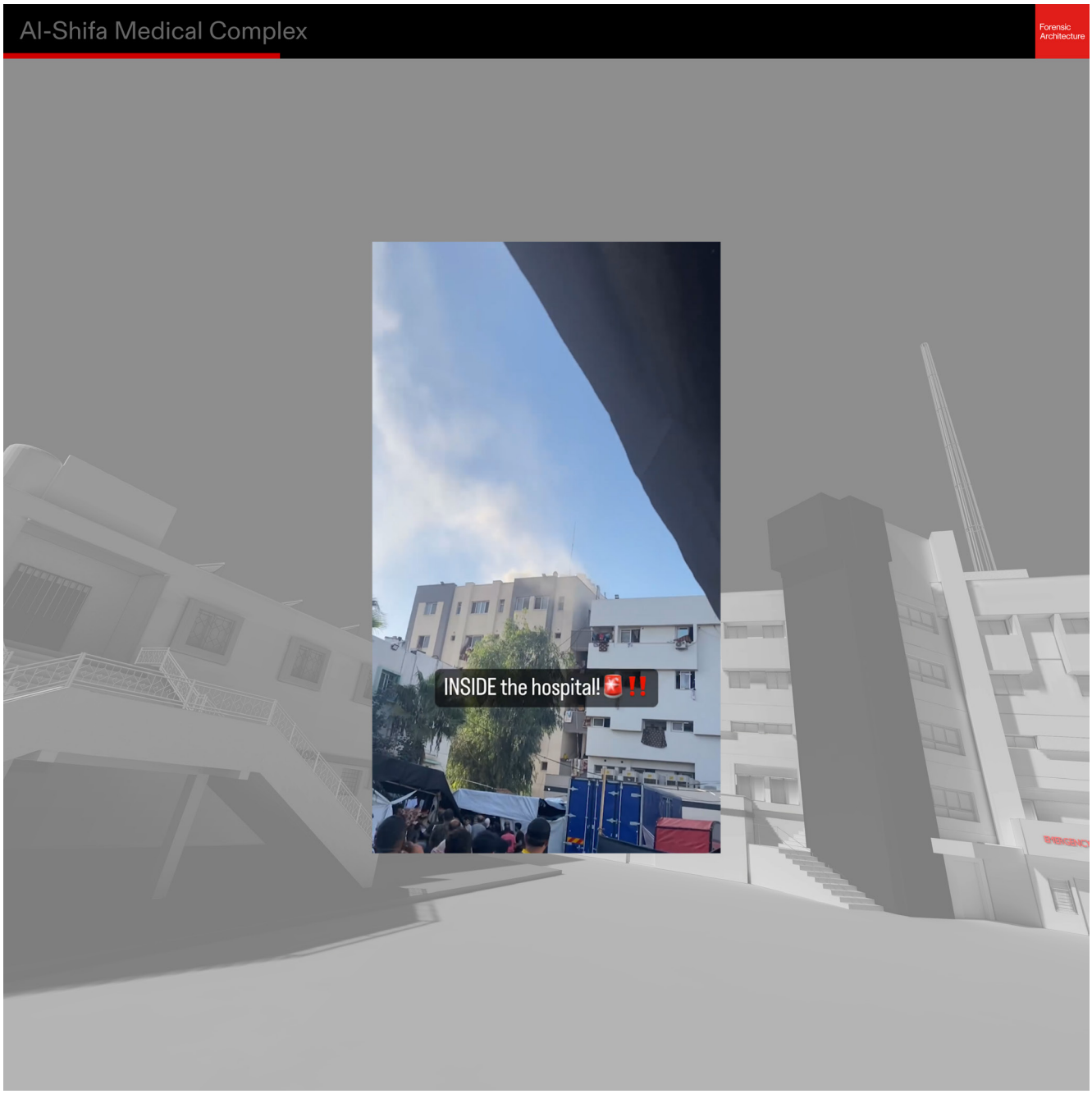

Figure 5.69 Image from Gazan filmmaker Bisan Owda shows smoke rising from a rooftop after a reported strike destroyed solar panels. [Incident ID: 31106-90552]



Figure 5.70 9 November 2023: The aftermath of Israeli bombing of a home just outside the Shifa compound, seen from inside the hospital. [Incident ID: 31109-12945]

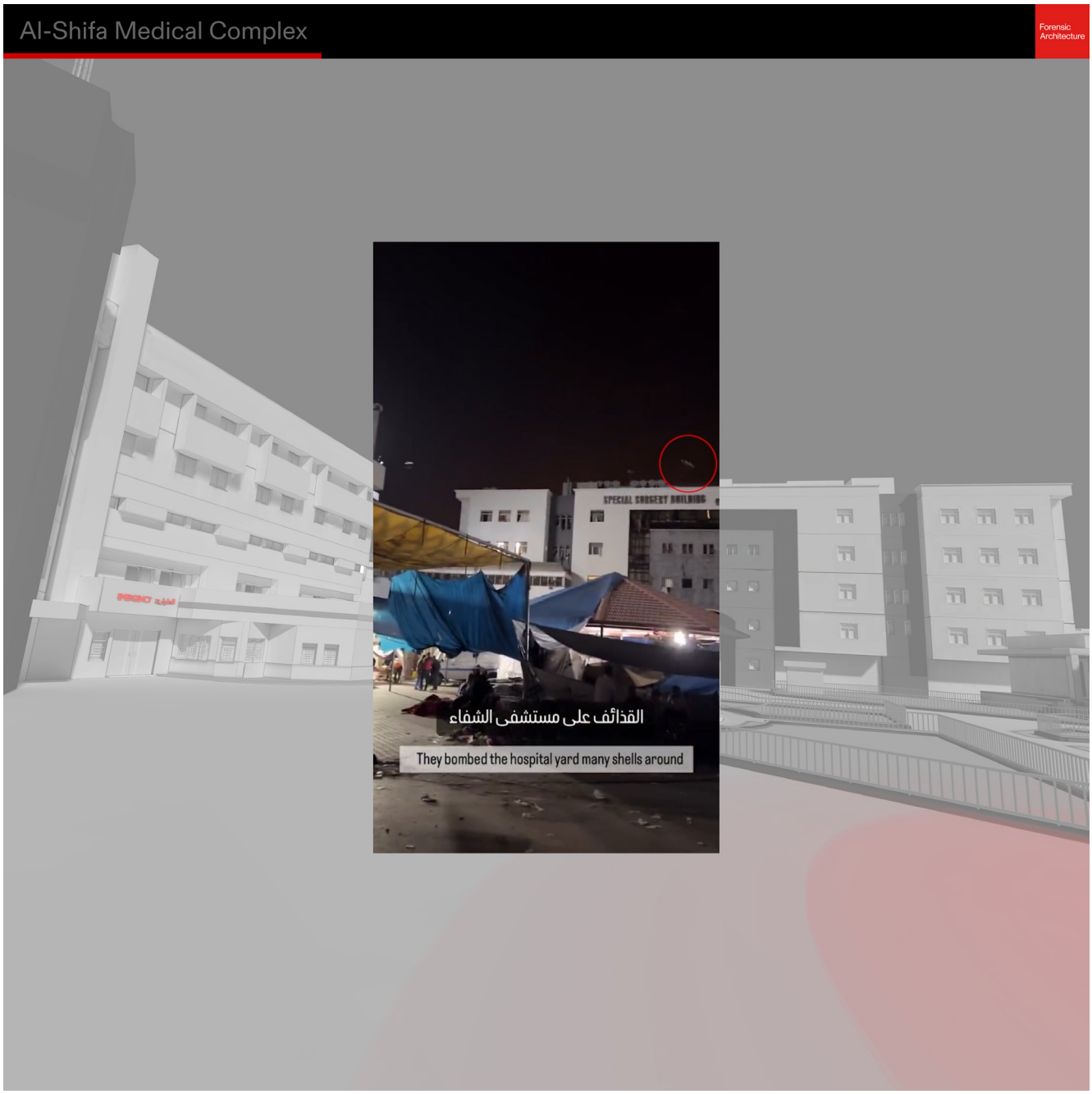

Figure 5.71 10 November 2023: An Israeli munition hits the crowded courtyard just after 01:00 local time. [Incident ID: 31110-73646]



Figure 5.72 10 November 2023: Shortly after the strike on the courtyard, a pair of 120 mm tank shells hit the hospital's maternity ward, reportedly killing one person. [Incident ID: 31110-53734]

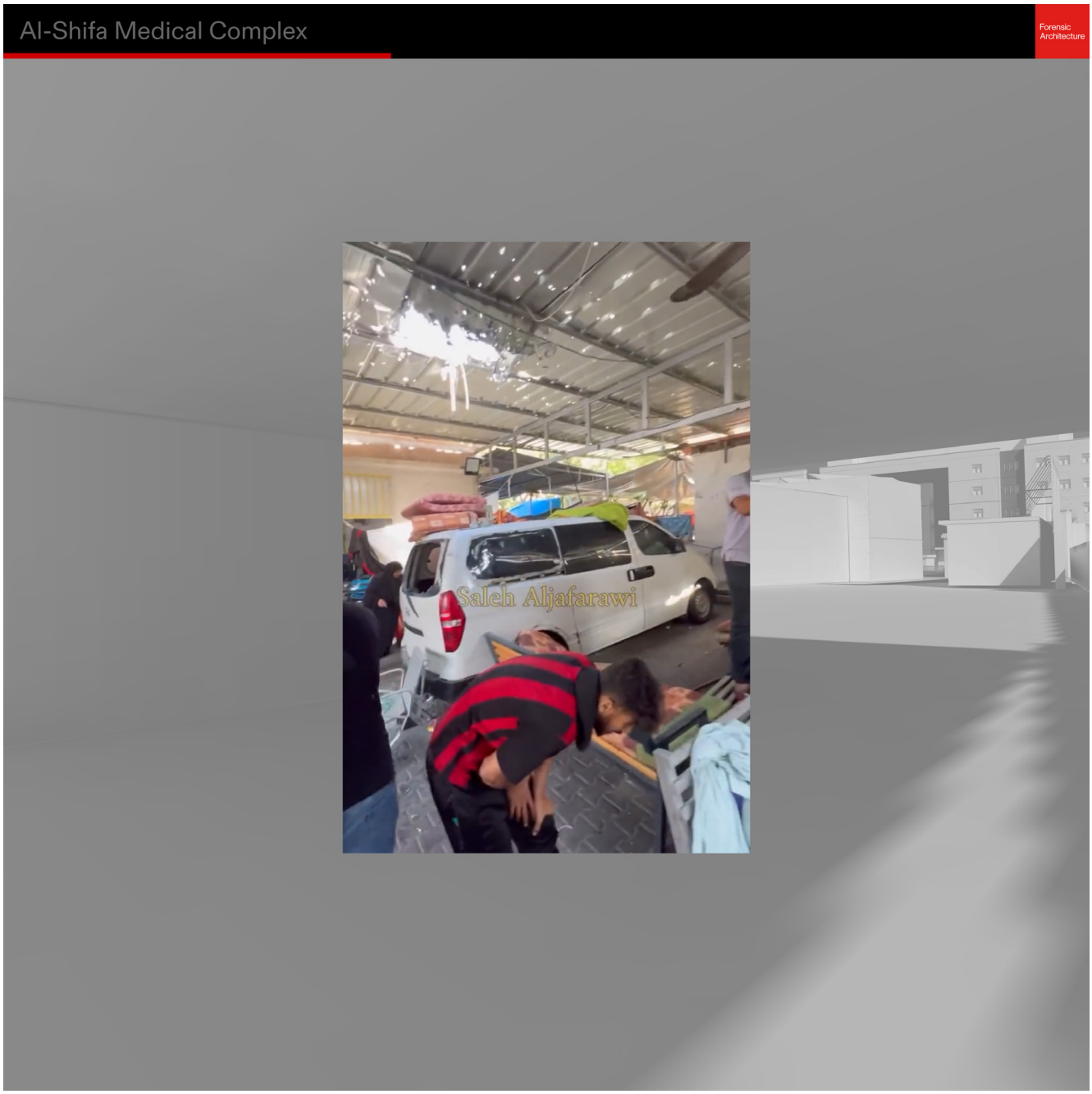

Figure 5.73 10 November 2023: Gazan Instagrammer Saleh al-Jafarawi filmed a huge hole in the clinic's roof which was penetrated by the shelling. [Incident ID: 31110-27023]



Figure 5.74 10 November 2023: By 10:00, the hospital has been attacked four times with Israeli munitions that morning, killing seven people who sought refuge in the al-Shifa complex. Incident IDs: 31110-73646], 31110-53734, 31110-98994, 31110-25697

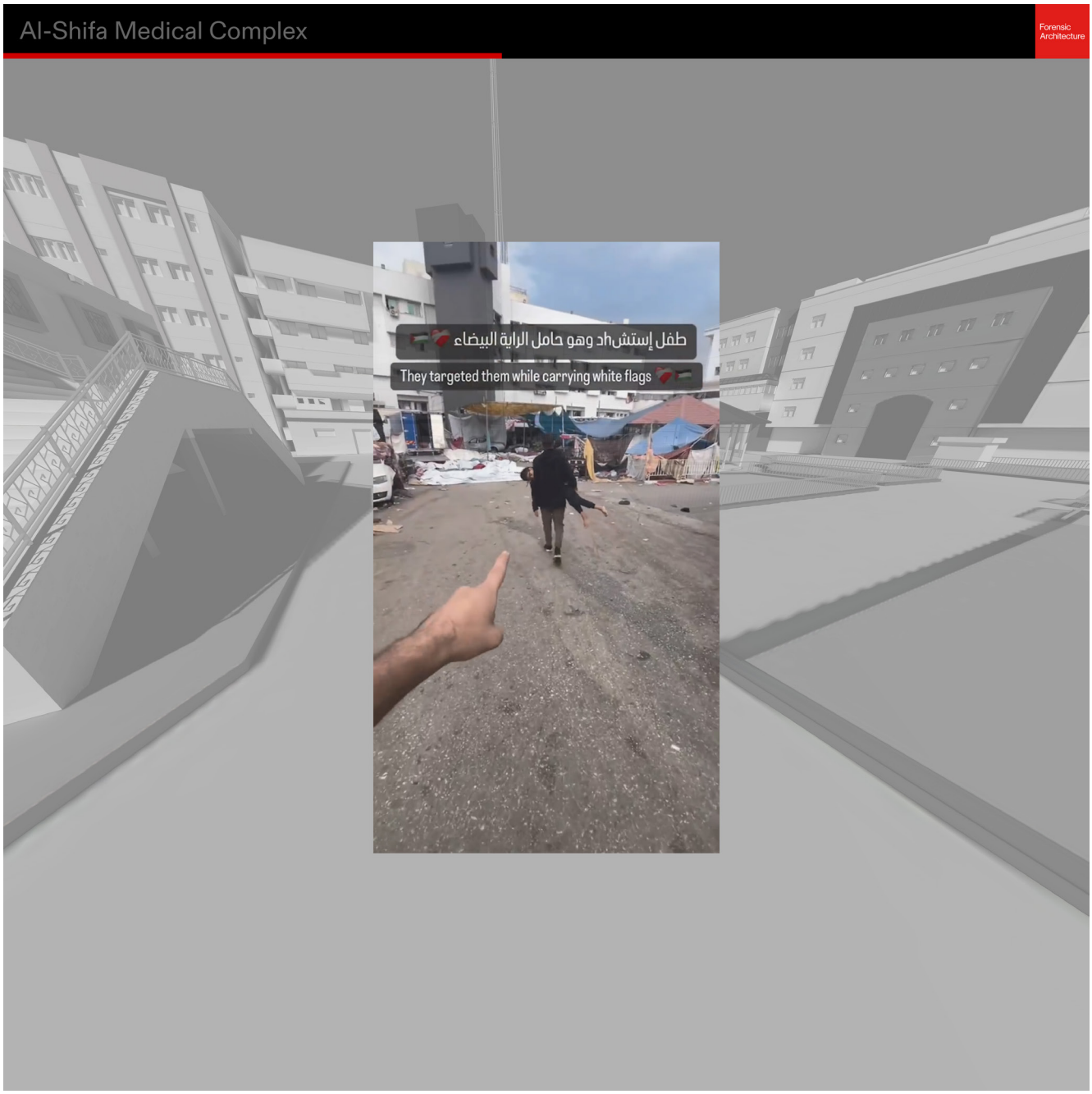

Figure 5.75 14 November 2023: Civilians holding white flags are fired on as they try to leave al-Shifa, journalist Mustafa Sarsour reports. [Incident ID: 31114-62776]



Figure 5.76 14 November 2023: Under siege, the hospital is no longer able to care for the living or the dead. Doctors and civilians are forced to dig a mass grave in the courtyard. [Incident ID: 31114-79285]



Figure 5.77 14 November 2023: Journalist Khader Al Za'anoun, documents the deceased, wrapped in plastic, being placed in the mass grave. [Incident ID: 31114-79285]

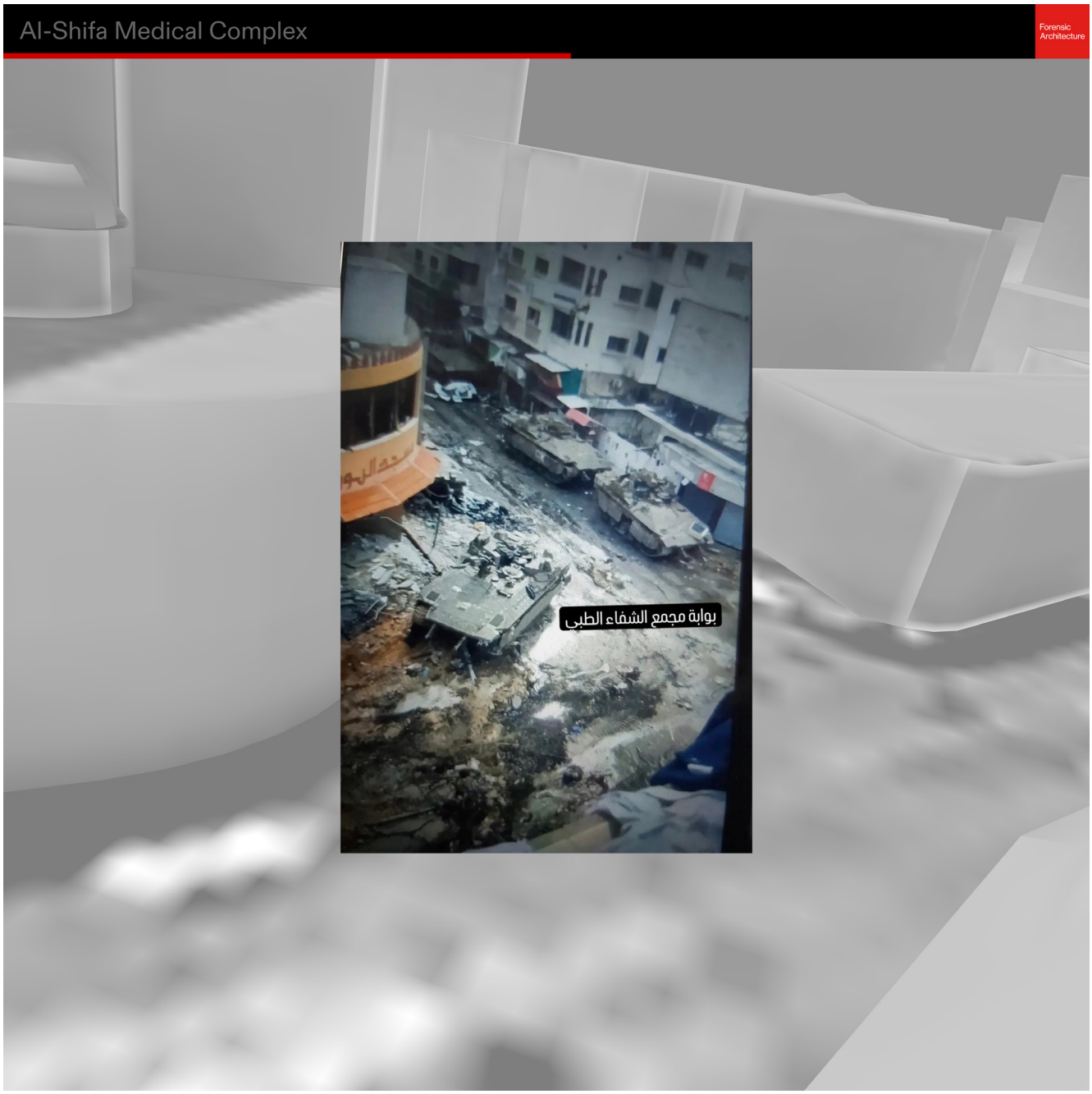

Figure 5.78 15 November 2023: A picture taken from the surgery shows Israeli military tanks located outside the entrance to al-Shifa. [Incident ID: 31115-16368]

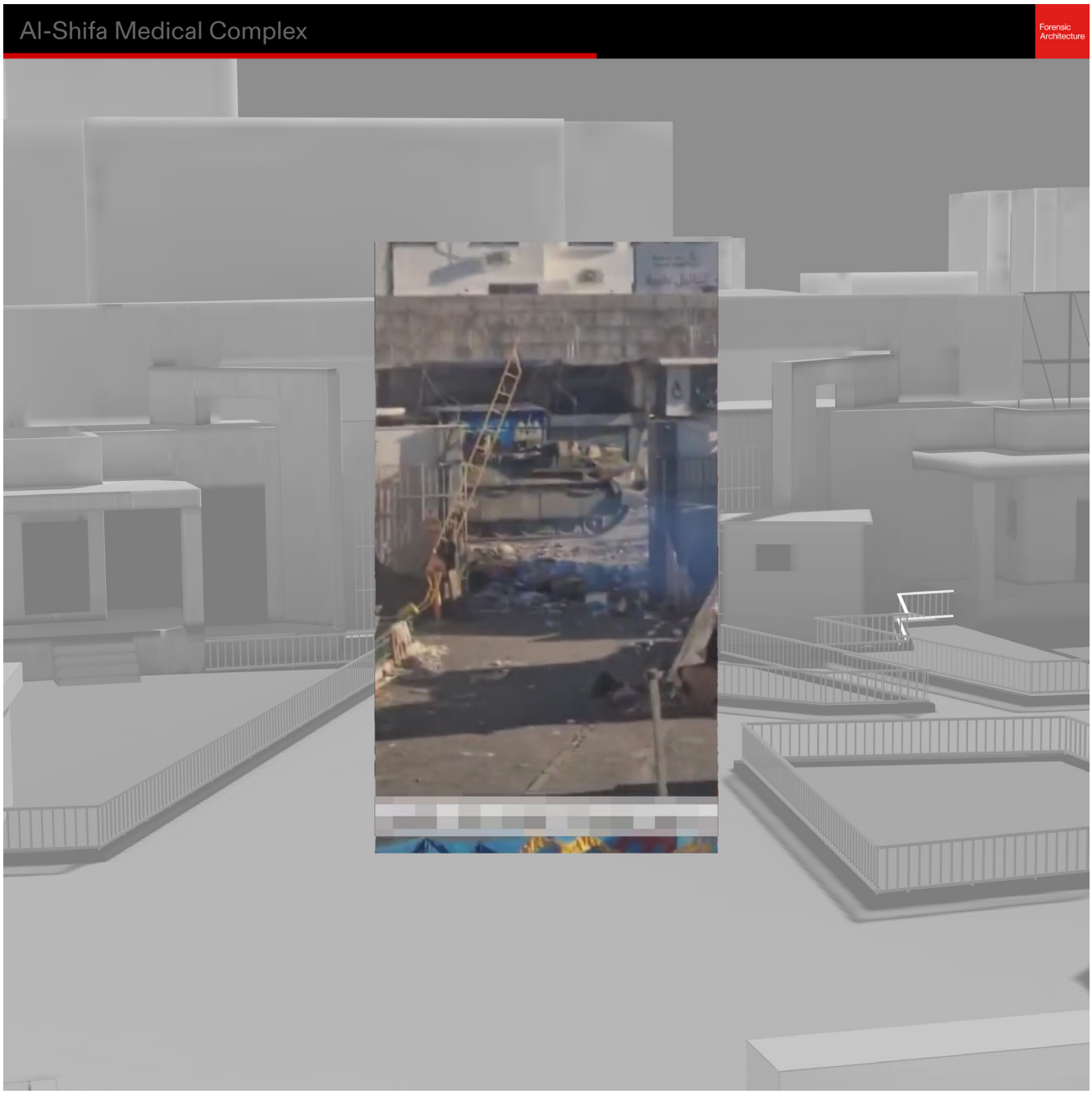

Figure 5.79 18 November 2023: Israeli tanks surrounding the hospital. [Incident ID: 31115-51044]



Figure 5.80 18 November 2023: From a window in the emergency department Israeli soldiers are seen occupying the hospital courtyard. [Incident ID: 31115-51044]



Figure 5.81 25 November 2023: After the Israeli military withdrawal during the temporary ceasefire, injured and displaced people seeking refuge inside the hospital gather in the courtyard. [Incident ID: 31125-04620]



Figure 5.82 11 December 2023:An Alaraby report broadcasts the main courtyard of al-Shifa, showing two locations of mass graves located in fenced areas, which were previously vegetation. [Incident ID: 31211-59644]

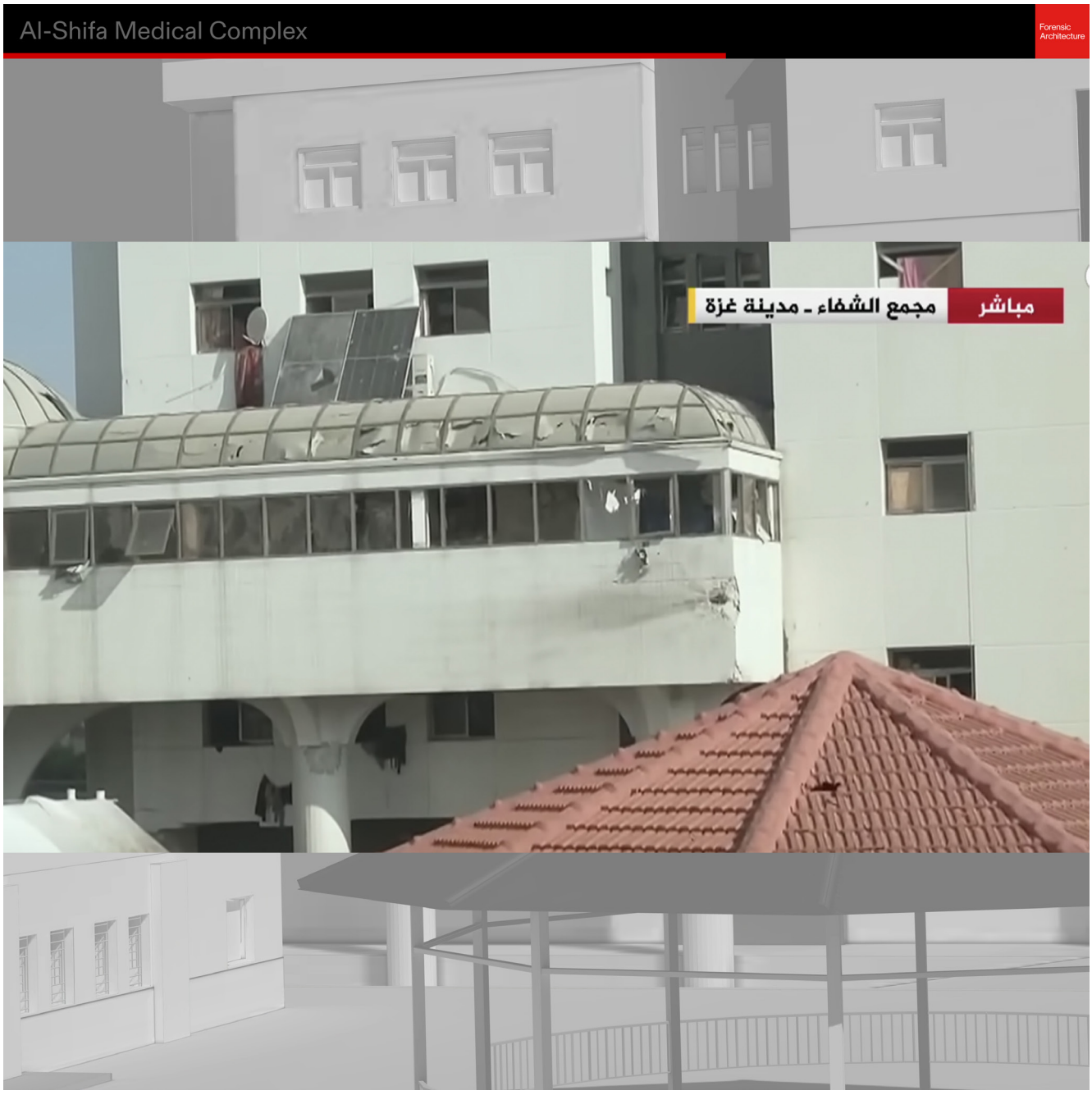

Figure 5.83 17 December 2023: Damage from the strike is visible on the bridge between the surgery and the emergency department. [Incident ID: 31217-53694]

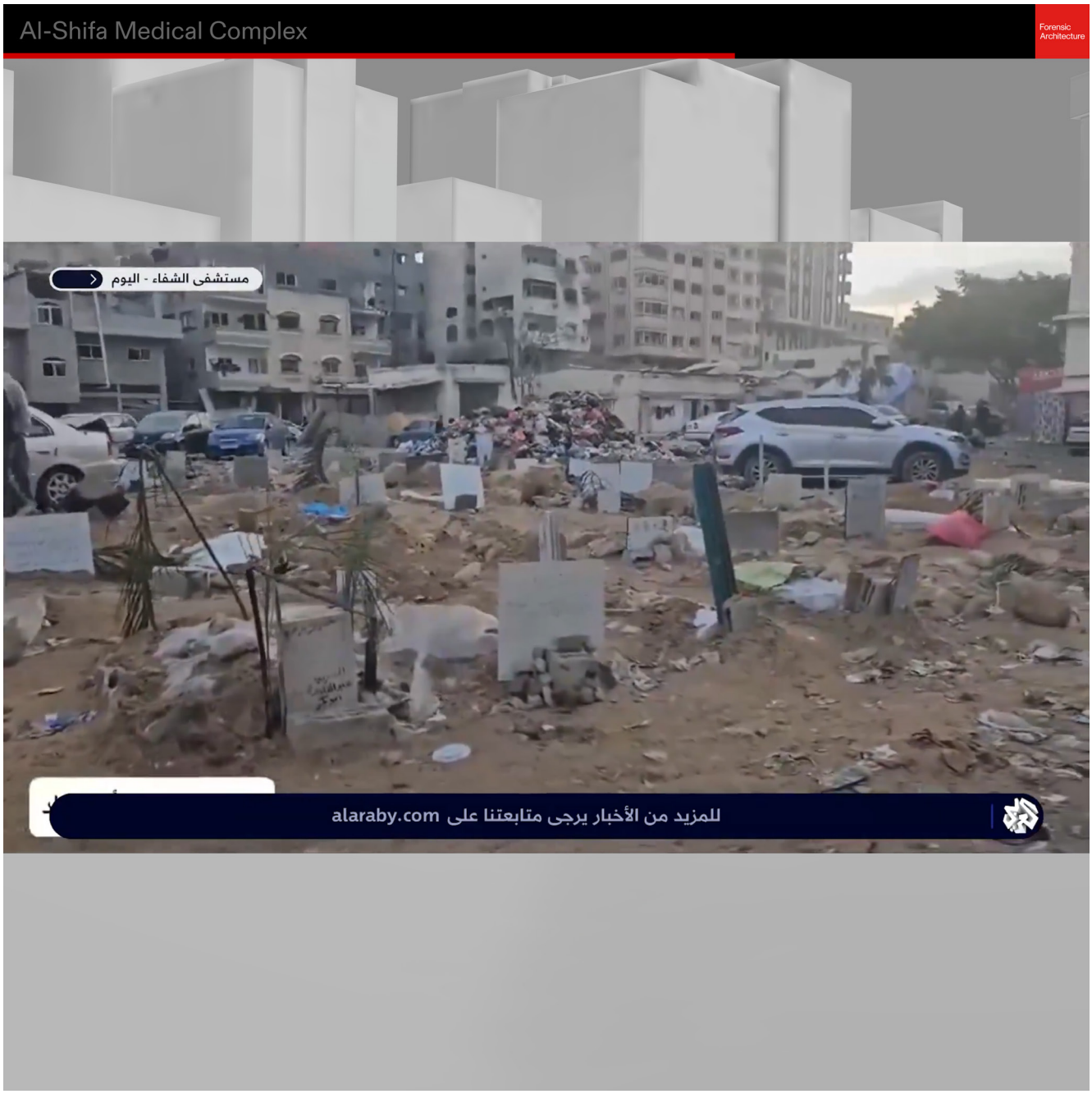

Figure 5.84 23 December 2023: A site of mass burials located to the west of the dialysis building is broadcast on Alaraby at the end of December. [Incident ID: 31223-90802]

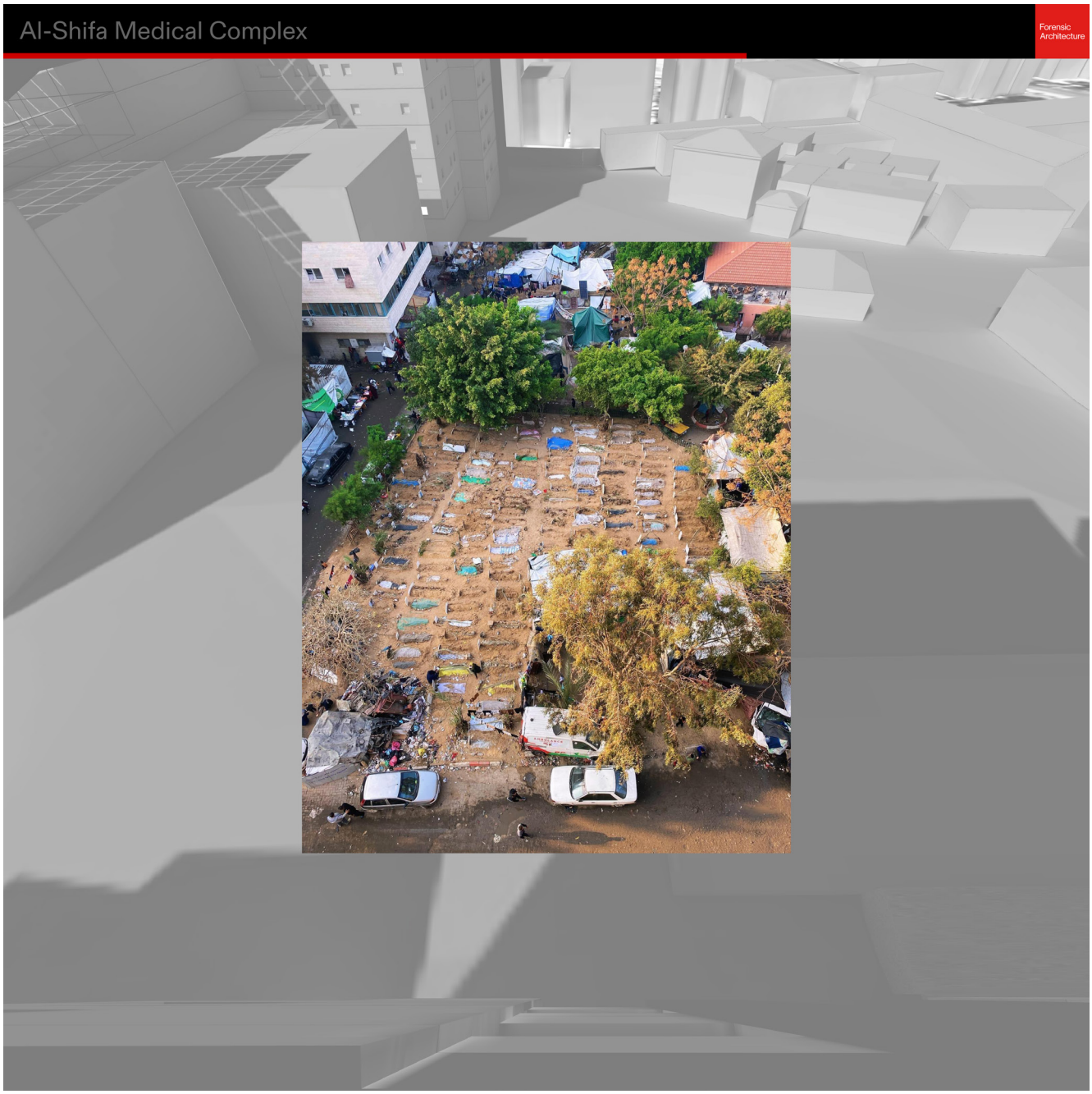

Figure 5.85 1 January 2024: The burial site between the emergency department and maternity ward contains over a hundred graves, filling a plot of land once covered in grass. [Incident ID: 40101-63130]

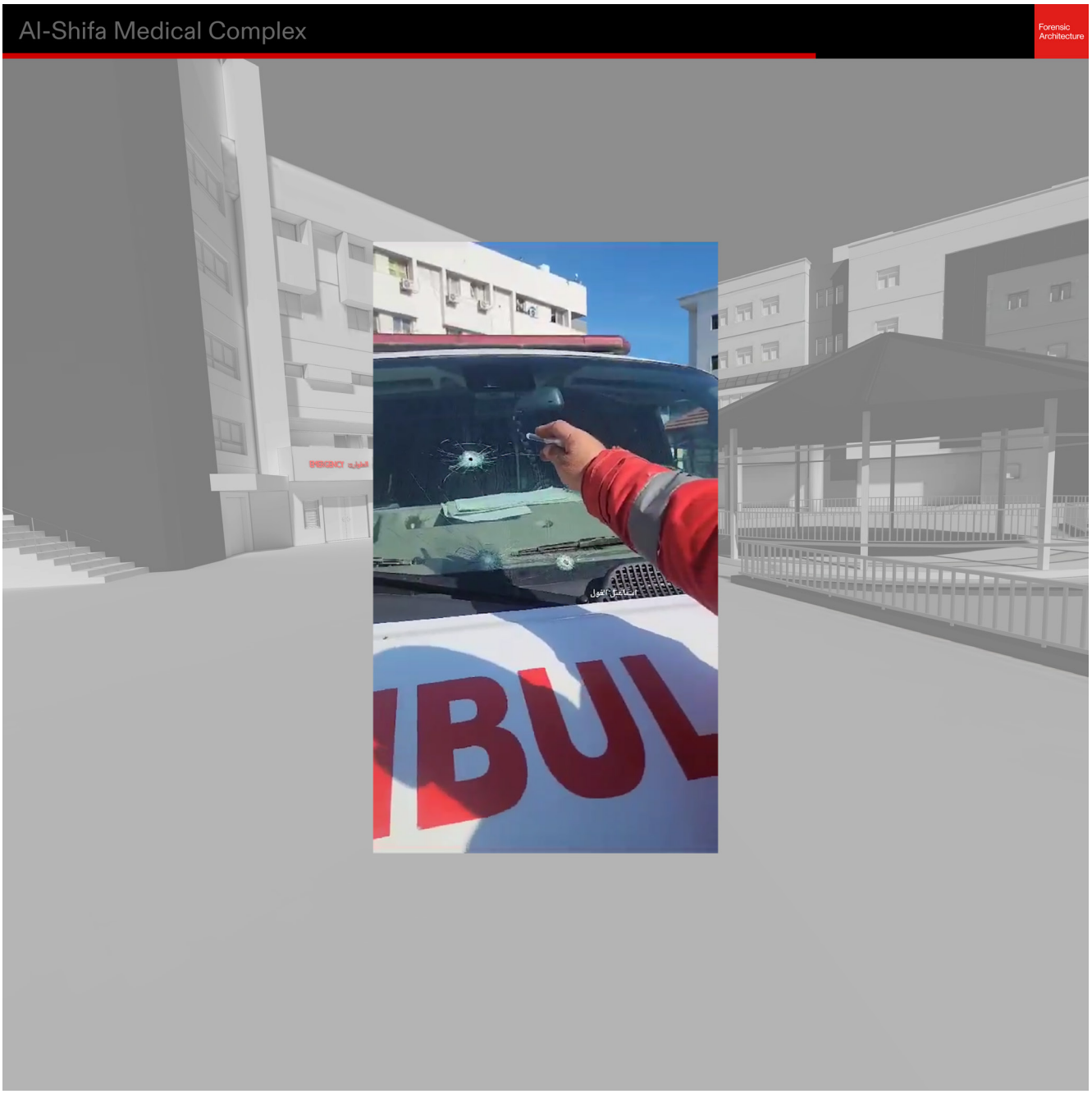

Figure 5.86 8 February 2024: An ambulance convoy arrives at the hospital after being targeted by the Israeli military. [Incident ID: 40208-69676]

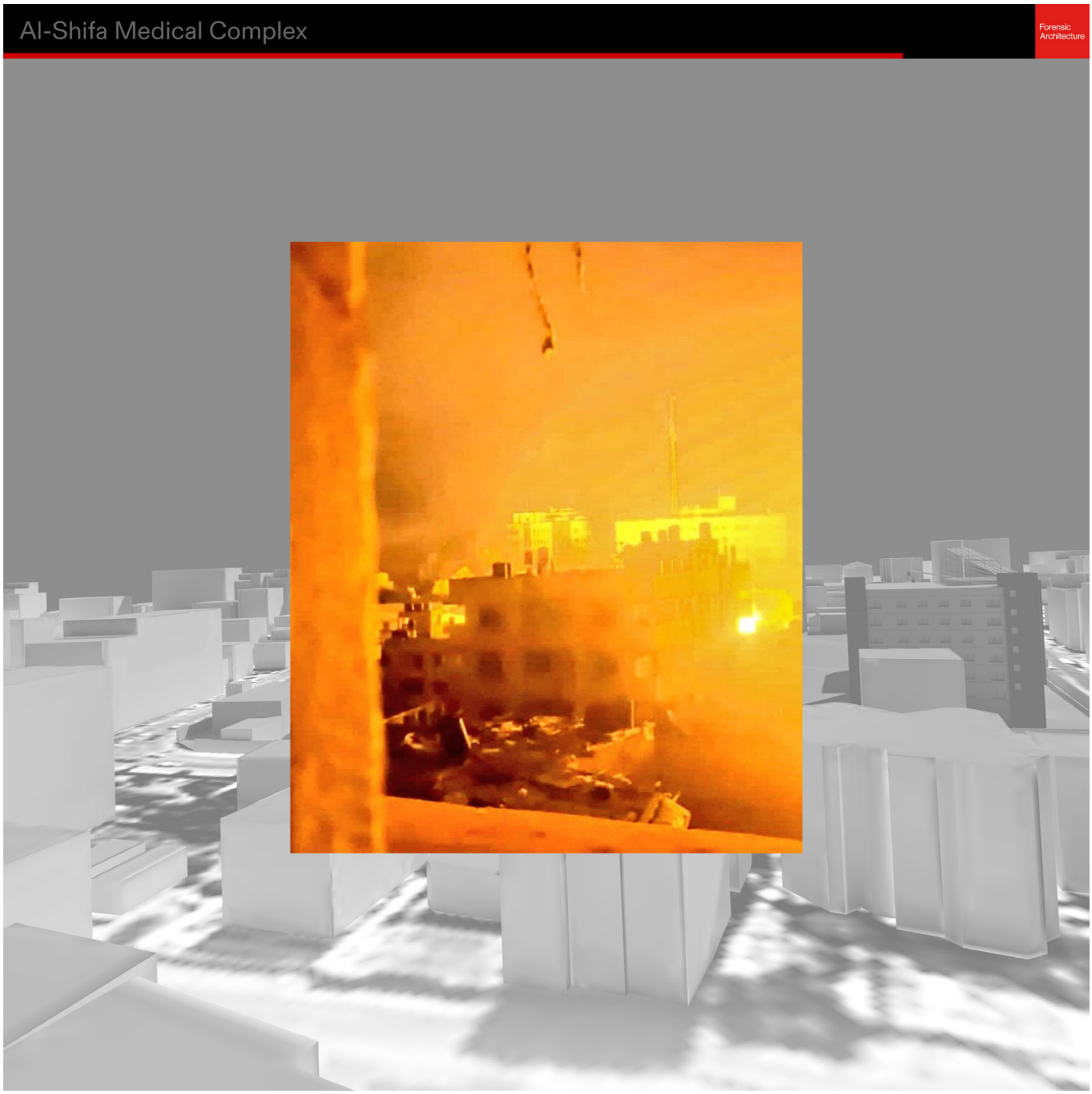

Figure 5.87 18 March 2024: Al-Shifa Medical Complex was attacked and invaded in the early hours. This photo shows an explosion in a courtyard of the al-Shifa compound sometime in the early hours of 18 March. [Incident ID: 40318-27377]

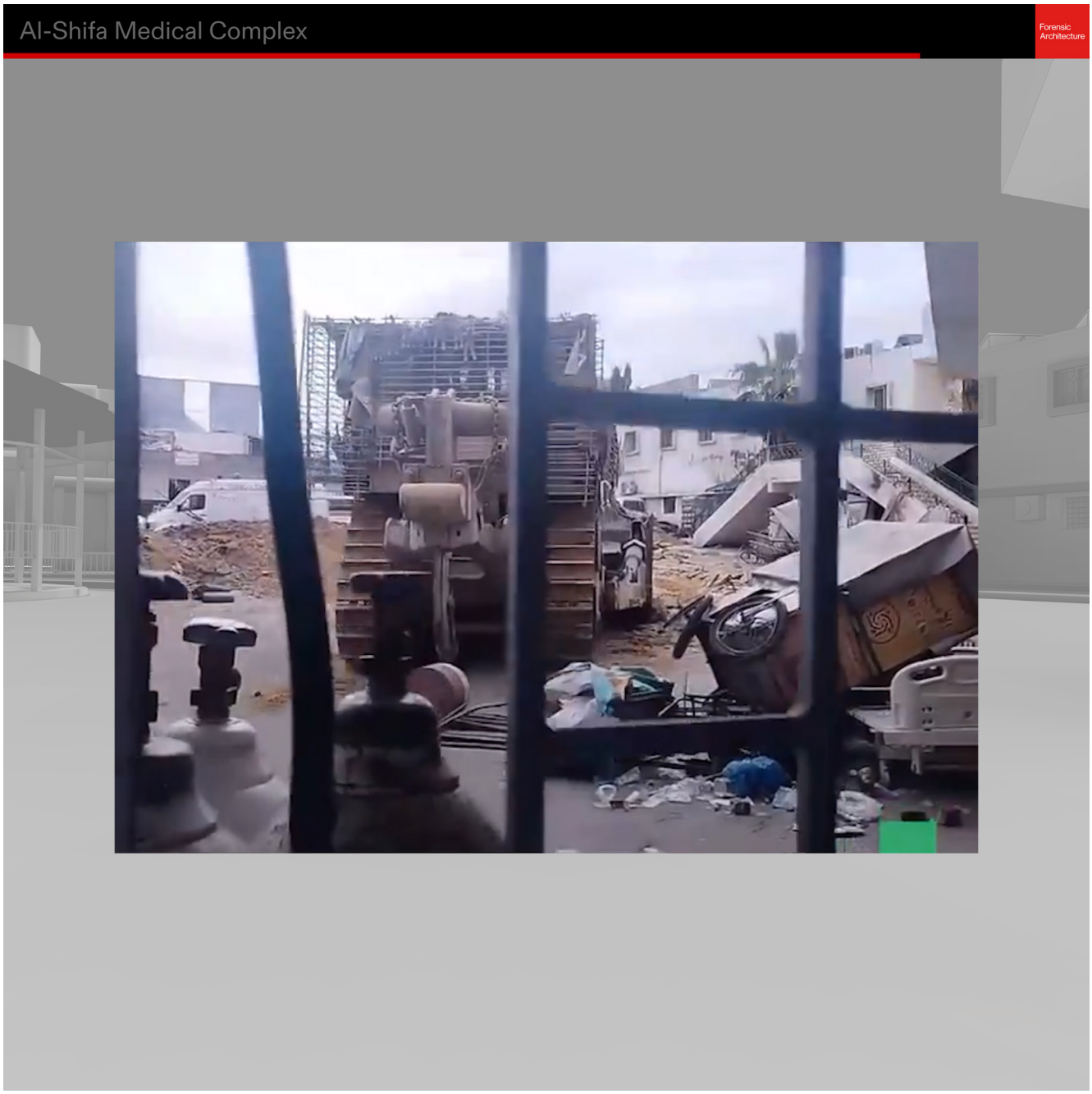

Figure 5.88 18 March 2024: Footage filmed on the morning of 18 March, from the entrance of the hospital's emergency department, shows an Israeli bulldozer inside the al-Shifa compound. [Incident ID: 40318-13135]



Figure 5.89 18 March 2024: One Israeli military tank was located on this street, northeast of the compound. [Incident ID: 40318-08413]



Figure 5.90 18 March 2024, later this day, another video of the same street shows Palestinians forced out of the hospital. [Incident ID: 40318-02936]

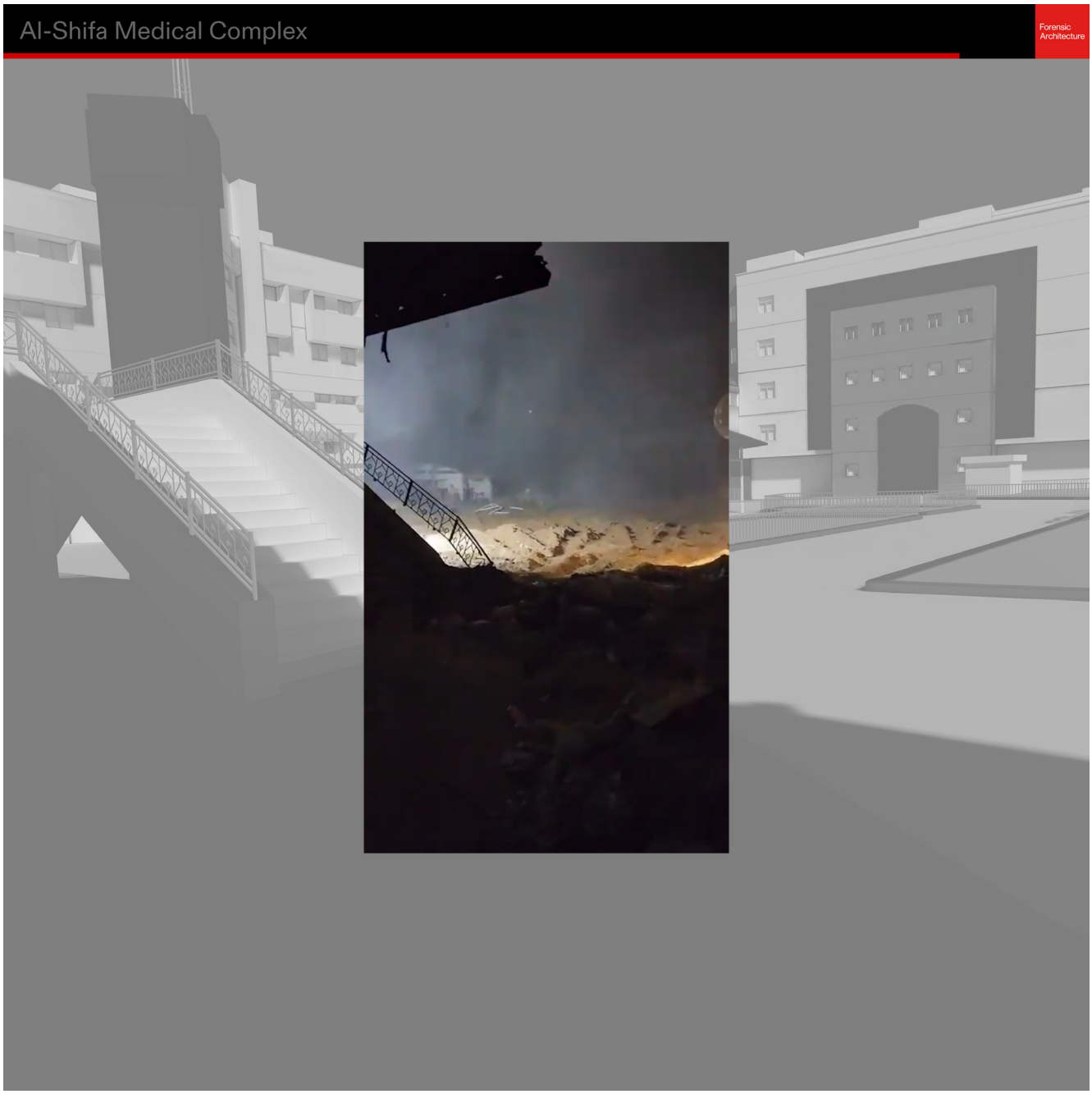

Figure 5.91 March 2024: The courtyard of al-Shifa Medical Complex during the second invasion. [Incident ID: 40327-73041]



Figure 5.92 March 2024: The surgery building of al-Shifa Medical Complex. [Incident ID: 40327-59380]

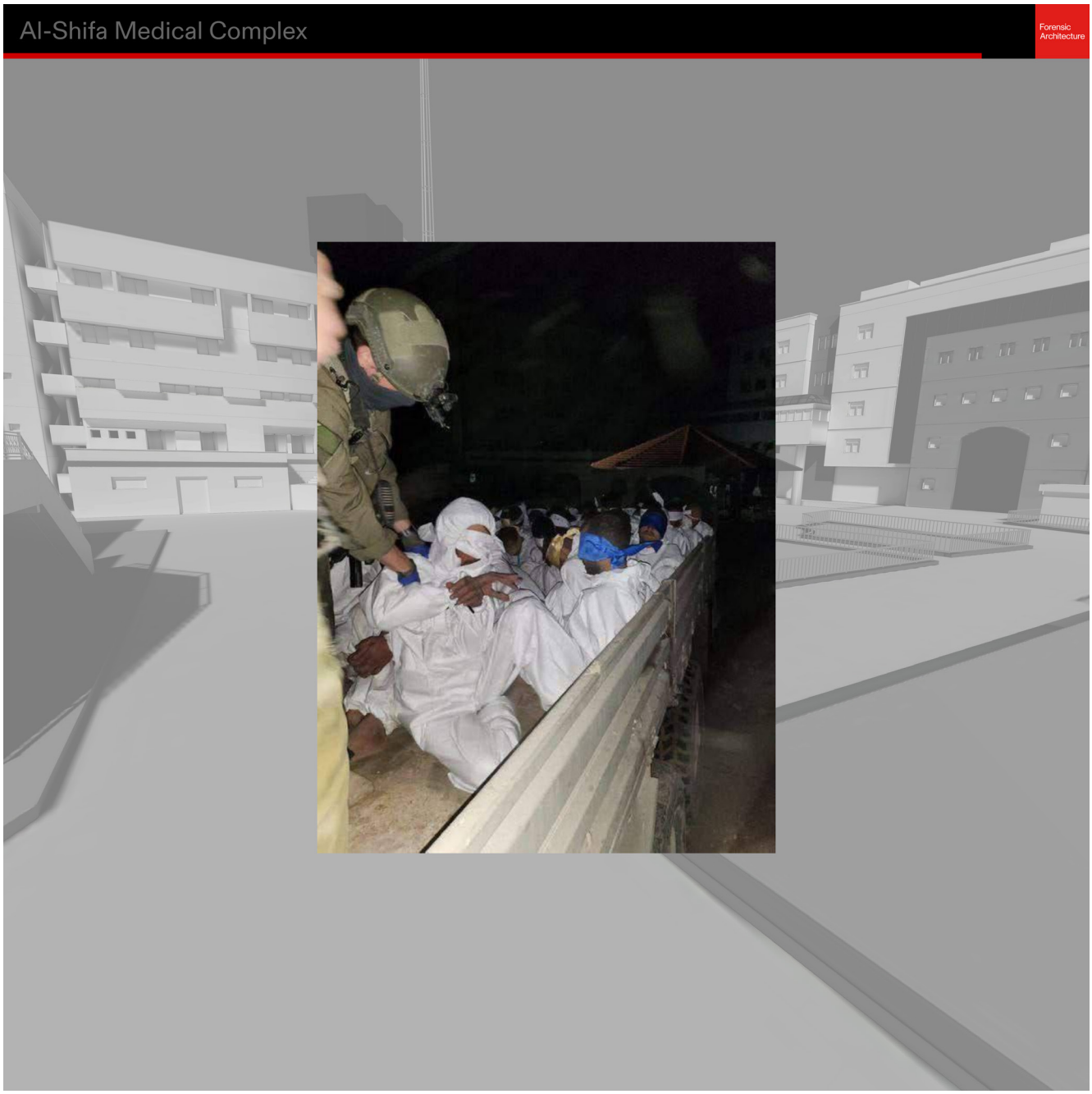

Figure 5.93 March 2024: Palestinians detained by the Israeli military in al-Shifa Medical Complex. [Incident ID: 40320-28033]

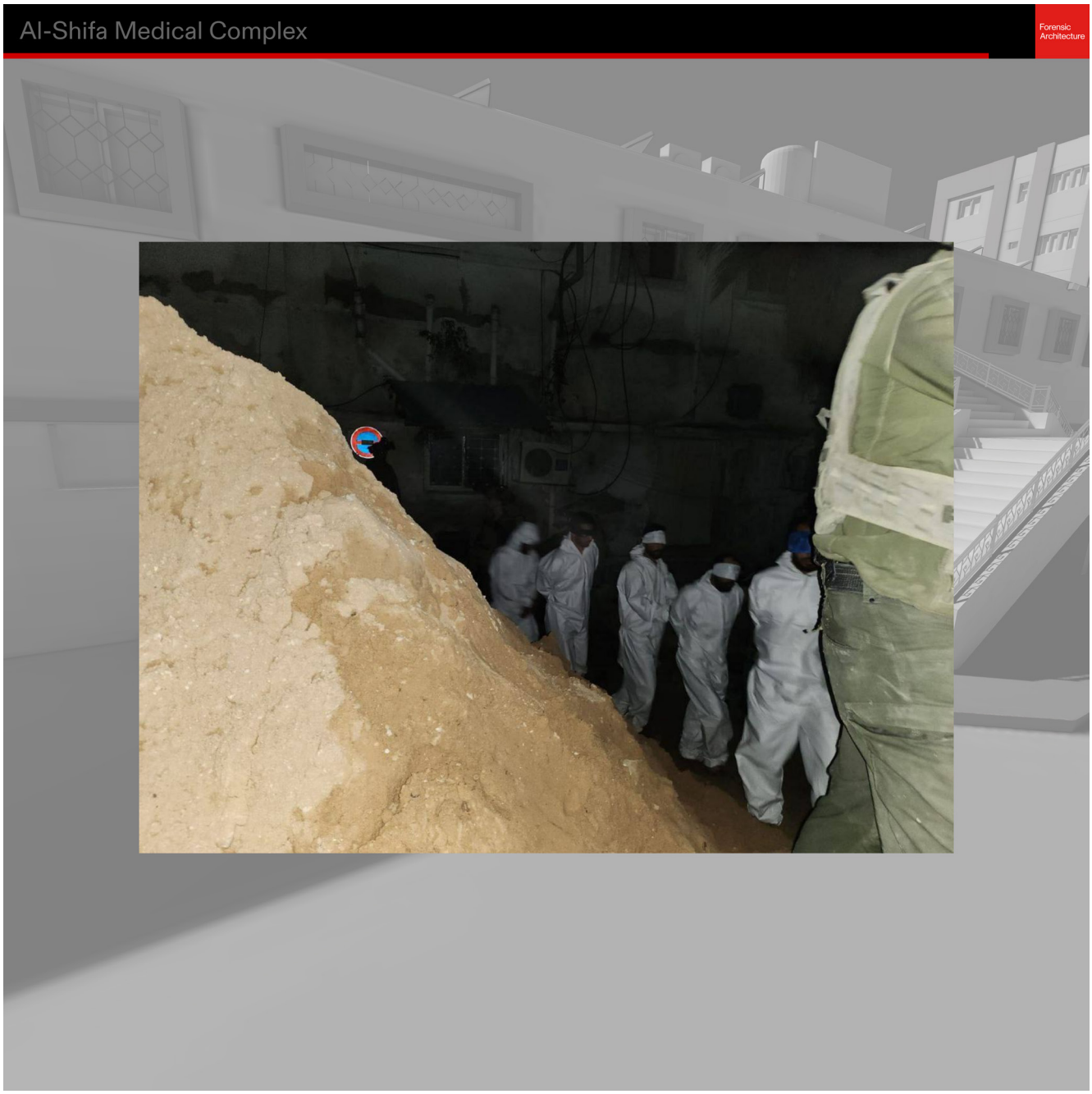

Figure 5.94 March 2024: Palestinians detained by the Israeli military in al-Shifa Medical Complex. [Incident ID: 40320-28033]

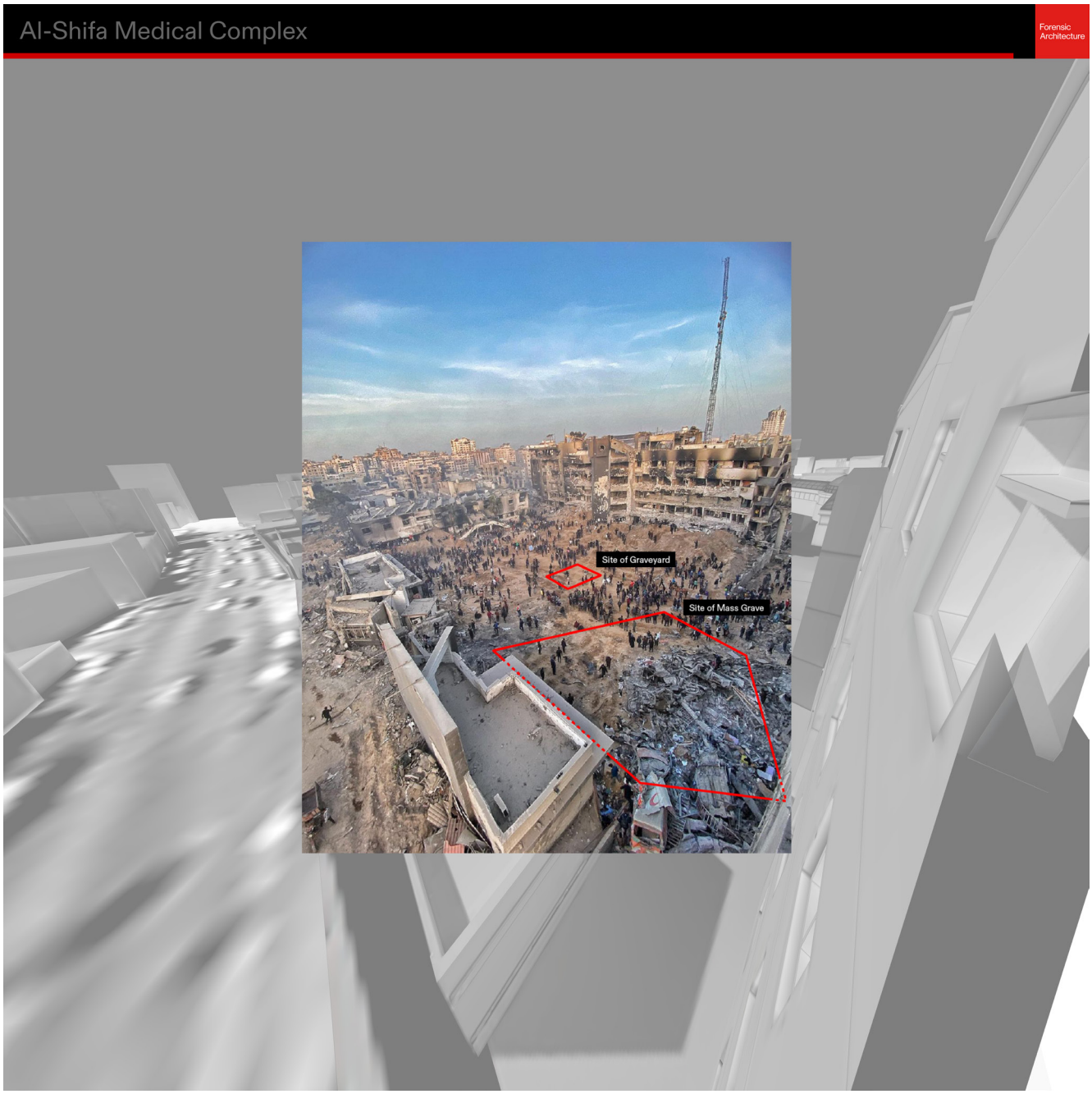

Figure 5.95 1 April 2024: Al-Shifa Medical Complex after the withdrawal of the Israeli military, showing the desecration of two burial sites. [Incident ID: 40401-42366]

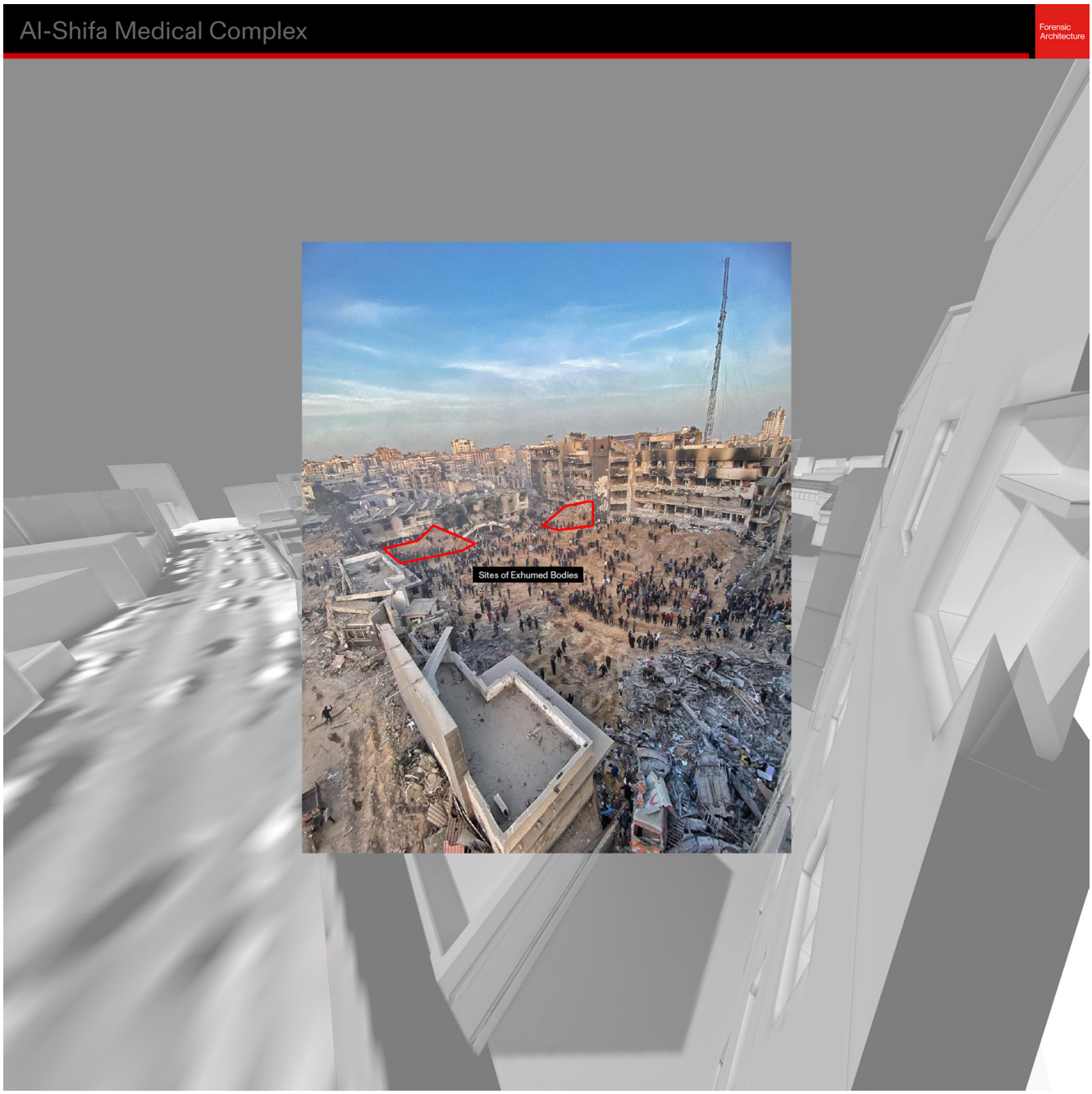

Figure 5.96 1 April 2024: Al-Shifa Medical Complex after the withdrawal of the Israeli military, showing two sites where bodies were exhumed. [Incident ID: 40401-42366]



Figure 5.97 April 2024: A still frame from video posted on 8 April shows Palestinian civil defence and emergency workers exhuming remains from a pile of earth and rubble outside al-Shifa's emergency department. [Incident ID: 40408-72163]



Figure 5.98 April 2024: Still frame from video published on 8 April, one week after the end of the second Israeli invasion of al-Shifa, showing one of the sites where bodies were exhumed. [Incident ID: 40408-72163]



Figure 5.99 April 2024: Still frame from video published on 8 April, one week after the end of the second Israeli invasion of al-Shifa, showing one of the sites where bodies were exhumed. [Incident ID: 40408-72163]



Figure 5.100 1 April 2024: Al-Shifa Medical Complex after the withdrawal of the Israeli military, showing the desecration of a mass burial site. [Incident ID: 40401-42366]



Figure 5.101 April 2024: A video still showing the location of a burial ground within Forensic Architecture's 3D model of al-Shifa Hospital compound. The still frame taken from video broadcast by Al Jazeera shows the largest makeshift burial site in al-Shifa was desecrated during the Israeli military's second invasion of the hospital. [Incident ID: 40408-08841]

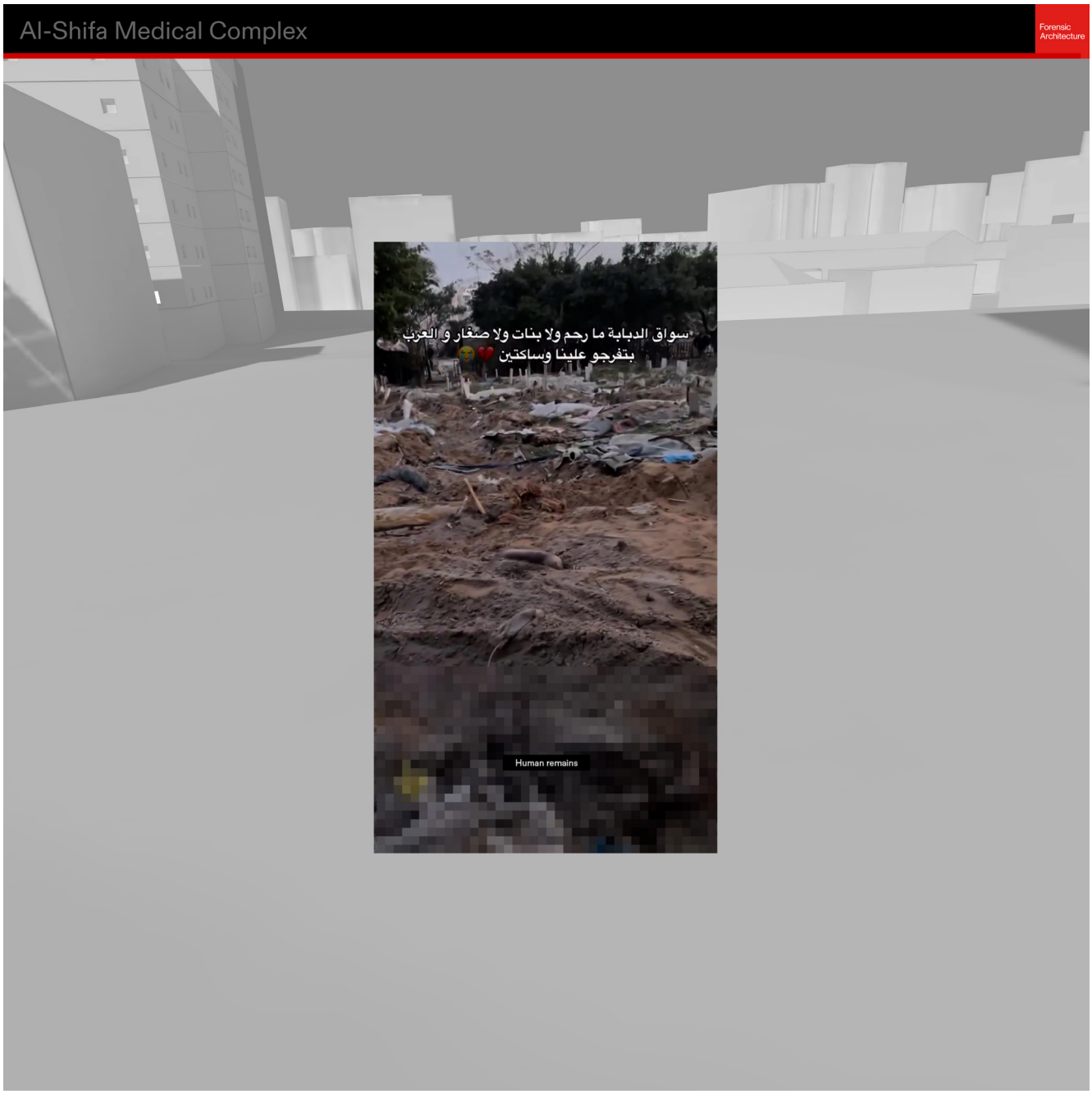

Figure 5.102 April 2024: Human remains exposed above the soil in the location of the grave site behind the emergency department in al-Shifa. [Incident ID: 40401-50634]



Figure 5.103 April 2024: Families digging to find the remains of relatives in al-Shifa following the withdrawal of the Israeli military. [Incident ID: 40401-01505]

L APPENDIX

1 *Incident*

ID	Date	Location Name	Latitude	Longitude	Source	Verification
40629-77907	2024-06-29	N/A	31.3550656	34.2610942	https://x.com/PalestineRCS/status/1807110631826329820	CONFIRMED
40205-54715	2024-02-05	N/A	31.34771271	34.29676786	https://x.com/QudsNen/status/1754492016048619780	CONFIRMED
40123-12741	2024-01-23	N/A	31.34771271	34.29676786	https://x.com/PalestineRCS/status/1750048432113242567	CONFIRMED
31209-13488	2023-12-09	N/A	31.45539124	34.41497335	https://x.com/PalestineRCS/status/1733762748108923378	CONFIRMED
31209-70752	2023-12-09	N/A	31.49098662	34.45241689	https://x.com/PalestineRCS/status/1733762748108923378	CONFIRMED
31209-28227	2023-12-09	N/A	31.46498227	34.42660329	https://x.com/PalestineRCS/status/1733762748108923378	CONFIRMED
31209-55750	2023-12-09	N/A	31.45502523	34.41450128	https://x.com/PalestineRCS/status/1733762748108923378	CONFIRMED
31009-83107	2023-10-09	Shifa Medical Complex vicinity	31.52397705	34.44439526	https://twitter.com/hamdahsalhut/status/1711301863046267046	CONFIRMED
31010-29706	2023-10-09	Shifa Medical Complex	N/A	N/A	https://t.me/AlarabyTelevision/24267, https://t.me/ShehabTelegram/400849	CONFIRMED
31013-90072	2023-10-13	Shifa Medical Complex	N/A	N/A	https://twitter.com/OsaidesserMD/status/1712996210506707359	CONFIRMED
31014-49262	2023-10-14	Shifa Medical Complex	N/A	N/A	https://www.instagram.com/reel/CyY6oWOt7nV/?igshid=MzRlOD-BiNWFlZA%3D%3D	CONFIRMED
31016-06784	2023-10-16	Shifa Medical Complex vicinity	N/A	N/A	https://www.episcopalnews-service.org/2023/10/16/anglican-hospital-among-facilities-struggling-to-respond-to-growing-humanitarian-crisis-in-gaza/	CONFIRMED
31017-92788	2023-10-17	Shifa Medical Complex	N/A	N/A	https://www.ochaopt.org/ar/content/hostilities-gaza-strip-and-israel-flash-update-12	CONFIRMED
31101-92314	2023-11-01	Shifa Medical Complex vicinity	N/A	N/A	https://twitter.com/no_itsmyturn/status/1719619170071871521	CONFIRMED
31103-44745	2023-11-03	Shifa Medical Complex	N/A	N/A	https://www.instagram.com/p/CzMBjcpsTX-/?hl=en	CONFIRMED
31104-38030	2023-11-04	Shifa Medical Complex	N/A	N/A	https://twitter.com/ahmedhijazee/status/1720592788276834622	CONFIRMED
31106-90552	2023-11-06	Shifa Medical Complex	N/A	N/A	https://www.instagram.com/p/CzUDjVTrRUX/?hl=en	CONFIRMED
31109-12945	2023-11-09	Shifa Medical Complex vicinity	N/A	N/A	https://t.me/AlarabyTelevision/35393	CONFIRMED
31109-80450	2023-11-09	Shifa Medical Complex	N/A	N/A	https://twitter.com/GhassanAbuSitt1/status/1722587475485286505	CONFIRMED
31110-73646	2023-11-10	Shifa Medical Complex	N/A	N/A	https://x.com/ahmedhijazee/	CONFIRMED

31110-53734	2023-11-10	Shifa Medical Complex	N/A	N/A	https://www.nytimes.com/2023/11/14/world/middleeast/israel-gaza-Shifa Medical Complex-hospital.html	CONFIRMED
31110-98994	2023-11-10	Shifa Medical Complex	N/A	N/A	https://www.nytimes.com/2023/11/14/world/middleeast/israel-gaza-Shifa Medical Complex-hospital.html	CONFIRMED
31110-25697	2023-11-10	Shifa Medical Complex	N/A	N/A	https://twitter.com/ahmedhijazee/status/1722875805691207890	CONFIRMED
31110-27023	2023-11-10	Shifa Medical Complex	N/A	N/A	https://www.instagram.com/p/CzdOI7Dgpj7/?hl=en	CONFIRMED
31111-00049	2023-11-11	Shifa Medical Complex	N/A	N/A	https://www.aljazeera.com/news/2023/11/11/israeli-forces-close-in-on-al-shifa-hospital-trapping-thousands	CONFIRMED
31114-36734	2023-11-14	Shifa Medical Complex	N/A	N/A	https://www.instagram.com/reel/CzoOf_WtloS/?igshid=MzRlOD-BiNWFlZA%3D%3D	CONFIRMED
31114-79285	2023-11-14	Shifa Medical Complex	N/A	N/A	https://edition.cnn.com/interactive/2024/01/middleeast/gaza-hospitals-destruction-investigation-intl-cmd/img/CyMHoVMw.jpeg	CONFIRMED
31114-62776	2023-11-14	Shifa Medical Complex	N/A	N/A	https://www.instagram.com/p/Czp8cj6tapK/	CONFIRMED
31115-59237	2023-11-15	Shifa Medical Complex	N/A	N/A	https://www.aljazeera.com/news/2023/11/15/israels-raid-on-al-shifa-hospital-heres-what-you-should-know	CONFIRMED
31115-16368	2023-11-15	Shifa Medical Complex	N/A	N/A	https://www.theguardian.com/world/2023/nov/15/all-men-16-years-and-above-raise-your-hands-how-Shifa Medical Complex-raid-unfolded	CONFIRMED
31115-51044	2023-11-15	Shifa Medical Complex	N/A	N/A	https://twitter.com/QudsNen/status/1726149104386916518	CONFIRMED
31124-12897	2023-11-24	Shifa Medical Complex	N/A	N/A	https://www.aljazeera.net/news/2023/11/24/%D8%A7%D9%84%D8%A7%D8%AD%D8%AA%D9%84%D8%A7%D9%84-	CONFIRMED
31125-04620	2023-11-25	Shifa Medical Complex	N/A	N/A	https://edition.cnn.com/interactive/2024/01/middleeast/gaza-hospitals-destruction-investigation-intl-cmd/	CONFIRMED
31128-32101	2023-11-28	Shifa Medical Complex	N/A	N/A	https://www.aa.com.tr/ar/%D8%A7%D9%84%D8%AA%D9%82%D8%A7%D8%B1%D9%8A%D8%B1/%D9%84%D8%A3%D9%88%D9%84-%D9%85%D8%B1%D8%A9-%D9%85%D9%86%D8%B0-	CONFIRMED
31211-59644	2023-12-11	Shifa Medical Complex	N/A	N/A	https://t.me/AlarabyTelevision/48983	CONFIRMED
31217-53694	2023-12-17	Shifa Medical Complex	N/A	N/A	https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-72	CONFIRMED
31223-90802	2023-12-23	Shifa Medical Complex	N/A	N/A	https://t.me/AlarabyTelevision/53206	CONFIRMED
40101-63130	2024-01-01	Shifa Medical Complex	N/A	N/A	https://twitter.com/RamAbdu/status/1741845936874144016	CONFIRMED

40208-69676	2024-02-08	Shifa Medical Complex	N/A	N/A	https://www.instagram.com/p/C3GOWIoLsck	CONFIRMED
31110-73646	2024-03-18	Shifa Medical Complex	N/A	N/A	https://www.ochaopt.org/ar/content/hostilities-gaza-strip-and-israel-flash-update-141	CONFIRMED
40318-27377	2024-03-18	Shifa Medical Complex	N/A	N/A	https://t.me/hamza20300/223257	CONFIRMED
40318-13135	2024-03-18	Shifa Medical Complex	N/A	N/A	https://x.com/AJA_Palestine/status/1769766966812959128	CONFIRMED
40318-02936	2024-03-18	Shifa Medical Complex	N/A	N/A	https://x.com/ForensicArchi/status/1770544811159982242	CONFIRMED
40318-08413	2024-03-18	Shifa Medical Complex	N/A	N/A	https://t.me/hamza20300/223301	CONFIRMED
40327-59380	2024-03-27	Shifa Medical Complex	N/A	N/A	https://x.com/ajarabic/status/1772915211491852326?s=46&t=xpoT-pRvOr1g_JYpMkN4hXw	CONFIRMED
40327-73041	2024-03-26	Shifa Medical Complex	N/A	N/A	https://www.instagram.com/p/C4_o5bzN81n/	CONFIRMED
40320-28033	2024-03-20	Shifa Medical Complex	N/A	N/A	https://x.com/ShehabAgency/	CONFIRMED
40401-20910	2024-04-02	Shifa Medical Complex	N/A	N/A	https://www.instagram.com/p/C5QUPCGN58J/?hl=en&img_index=1	CONFIRMED
40401-50634	2024-04-01	Shifa Medical Complex	N/A	N/A	https://x.com/ForensicArchi/status/1778106742737375471	CONFIRMED
40401-01505	2024-04-01	Shifa Medical Complex	N/A	N/A	https://x.com/i/status/1774788721000296611	CONFIRMED
40401-42366	2024-04-01	Shifa Medical Complex	N/A	N/A	https://forensic-architecture.org/investigation/mass-burials-at-al-shifa-hospital	CONFIRMED
40408-72163	2024-04-08	Shifa Medical Complex	N/A	N/A	https://x.com/ForensicArchi/status/1778106742737375471	CONFIRMED
40408-08841	2024-04-08	Shifa Medical Complex	N/A	N/A	https://x.com/ForensicArchi/status/1778106742737375471	CONFIRMED
31116-27844	2023-11-16	Nasser Hospital	N/A	N/A	https://www.facebook.com/permalink.php?story_fbid=pfbid02jKCFAAqE3KMVjKNEj1D26JWsJ3PoiS7ZHFtDbyVLad2qPXo9CcFmCuz4bFq7H3NJl&id=100057443290195	CONFIRMED
31124-98572	2023-11-24	Nasser Hospital	N/A	N/A	https://www.facebook.com/permalink.php?story_fbid=pfbid0ZdrZaSkhp1dFKECpJ1PQ5WiCvHb2bMjNvfFD6zfEbRJwbtRL36eEnuodZkdCgFSLl&id=100057443290195	CONFIRMED
31125-92222	2023-11-25	Nasser Hospital	N/A	N/A	https://t.me/ShehabTelegram/423995	CONFIRMED
31126-03500	2023-11-26	Nasser Hospital	N/A	N/A	https://t.me/AJPalestine/13212	CONFIRMED
31201-81900	2023-12-01	Nasser Hospital vicinity	N/A	N/A	https://twitter.com/AlHadath/status/1730675045993705683	CONFIRMED
31217-53341	2023-12-17	Nasser Hospital	N/A	N/A	https://www.facebook.com/permalink.php?story_fbid=pfbid02RuEBgbqVGaoyW5vYqRbRY5Vh89RuKAkNjSXNNBhtZUd8TdZ1rKHhdibaQmxrCC8Vl&id=100057443290195	CONFIRMED

40122-67070	2024-01-22	Nasser Hospital	N/A	N/A	https://t.me/AlarabyTelevision/61509	CONFIRMED
40128-38331	2024-01-28	Nasser Hospital	N/A	N/A	https://x.com/hassaneslayeh/status/1751613092755026039	CONFIRMED
40206-32039	2024-02-06	Nasser Hospital	N/A	N/A	https://twitter.com/qudsn/status/1755120520817774875	CONFIRMED
40208-73438	2024-02-08	Nasser Hospital	N/A	N/A	https://x.com/ShehabAgency/status/1755556528780636391	CONFIRMED
40208-97049	2024-02-08	Nasser Hospital	N/A	N/A	https://x.com/i/status/1755586476719452339	CONFIRMED
40210-30424	2024-02-10	Nasser Hospital	N/A	N/A	https://x.com/i/status/1756216226424987933	CONFIRMED
40211-81532	2024-02-11	Nasser Hospital	N/A	N/A	https://x.com/i/status/1756807660056227938	CONFIRMED
40211-62362	2024-02-11	Nasser Hospital	N/A	N/A	https://twitter.com/QudsNen/status/1756646737479946277	CONFIRMED
40211-15963	2024-02-11	Nasser Hospital	N/A	N/A	https://www.instagram.com/reel/C3Nkh3nqejT/?utm_source=ig_web_copy_link&igsh=MzRlOD-BiNWFlZA%3D%3D	CONFIRMED
40213-93269	2024-02-13	Nasser Hospital	N/A	N/A	https://www.instagram.com/reel/C3SvNlHtlQC/?utm_source=ig_web_copy_link&igsh=MzRlOD-BiNWFlZA==	CONFIRMED
40215-77699	2024-02-15	Nasser Hospital	N/A	N/A	https://www.ochaopt.org/ar/content/hostilities-ga-za-strip-and-israel-flash-update-120	CONFIRMED
40216-79052	31109-20929	Nasser Hospital	N/A	N/A	https://www.aljazeera.com/news/2024/2/16/at-least-five-people-dead-after-israeli-army-raid-on-nasser-hospital	CONFIRMED
40216-72485	2024-02-16	Nasser Hospital	N/A	N/A	https://t.me/MOHMediaGaza/5015	CONFIRMED
40217-35074	2024-02-17	Nasser Hospital	N/A	N/A	https://www.emro.who.int/media/news/who-transfers-critical-patients-out-of-nasser-medical-complex-fears-for-safety-of-remaining-patients.html	CONFIRMED
40224-72253	2024-02-24	Nasser Hospital	N/A	N/A	https://x.com/HuDa_Nalm92/status/1761718092181164425	CONFIRMED
31112-15078	2023-11-12	Al-Awda - Jabalia vicinity	N/A	N/A	https://t.me/AlarabyTelevision/37391	MOST LIKELY
31205-78350	2023-12-05	Al-Awda - Jabalia	N/A	N/A	https://t.me/youseffares19/13114	CONFIRMED
31212-66146	2023-12-12	Al-Awda - Jabalia	N/A	N/A	https://t.me/MOHMediaGaza/4572	CONFIRMED
31216-20087	2023-12-17	Al-Awda - Jabalia	N/A	N/A	https://t.me/MOHMediaGaza/4600	CONFIRMED
40519-21235	2024-05-19	Al-Awda - Jabalia	N/A	N/A	https://t.me/AjaNews/268675	CONFIRMED
40522-81837	2024-05-22	Al-Awda - Jabalia	N/A	N/A	https://www.nytimes.com/2024/05/23/world/middleeast/israeli-forces-raided-a-major-hospital-in-northern-gaza-forcing-patients-and-staff-to-evacuate.html	CONFIRMED
31015-82935	2023-10-15	Turkish Friendship	N/A	N/A	Satellite imagery from 15-10-2023	CONFIRMED

31030-94975	2023-10-30	Turkish Friendship	N/A	N/A	https://t.me/ShehabTelegram/411649	CONFIRMED
40222-57565	2024-02-22	Turkish Friendship	N/A	N/A	https://twitter.com/ytirawi/status/1760766861279391872	CONFIRMED
40410-11914	2024-04-10	Turkish Friendship	N/A	N/A	https://twitter.com/manniefabian/status/1778000029078159492	CONFIRMED
40425-35747	2024-04-25	Turkish Friendship	N/A	N/A	https://twitter.com/IsraelWarRoom/status/1783454246748229910	CONFIRMED
40512-49194	2024-05-12	Turkish Friendship	N/A	N/A	https://twitter.com/ItayBlumental/status/1789709717326938401	CONFIRMED
40723-57542	2024-07-23	Turkish Friendship	N/A	N/A	https://t.me/QudsN/439339	CONFIRMED
31028-50615	2023-10-28	Indonesian Hospital vicinity	N/A	N/A	https://twitter.com/Mhmd_Rahman90/status/1718303904184619218	CONFIRMED
31028-91205	2023-10-28	Indonesian Hospital	N/A	N/A	https://t.me/ShehabTelegram/409919	CONFIRMED
31120-23667	2023-11-20	Indonesian Hospital	N/A	N/A	https://twitter.com/FahrettinAltay_/status/1726523361390670065	CONFIRMED
31120-80816	2023-11-20	Indonesian Hospital	N/A	N/A	https://twitter.com/clashreport/status/1726529174083686405	CONFIRMED
31120-00499	2023-11-20	Indonesian Hospital	N/A	N/A	https://t.me/AJPalestine/11233	CONFIRMED
31123-86382	2023-11-23	Indonesian Hospital	N/A	N/A	https://www.ochaopt.org/ar/content/hostilities-gaza-strip-and-israel-flash-update-48	CONFIRMED
31124-77291	2023-11-24	Indonesian Hospital	N/A	N/A	https://t.me/MOHMediaGaza/4455	CONFIRMED
31118-49498	2023-11-18	Kamal Adwan	N/A	N/A	https://t.me/ShehabTelegram/421260	CONFIRMED
31122-33931	2023-11-22	Kamal Adwan vicinity	N/A	N/A	https://t.me/ShehabTelegram/422690	CONFIRMED
31205-66186	2023-12-05	Kamal Adwan	N/A	N/A	https://t.me/AlarabyTelevision/46635	CONFIRMED
31205-45342	2023-12-05	Kamal Adwan	N/A	N/A	https://t.me/MOHMediaGaza/4525	CONFIRMED
31208-65299	2023-12-08	Kamal Adwan	N/A	N/A	https://t.me/MOHMediaGaza/4539	CONFIRMED
31211-49070	2023-12-11	Kamal Adwan	N/A	N/A	https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-66	CONFIRMED
31212-69474	2023-12-12	Kamal Adwan	N/A	N/A	https://t.me/MOHMediaGaza/4566	CONFIRMED
31213-16165	2023-12-13	Kamal Adwan	N/A	N/A	https://www.ochaopt.org/ar/content/hostilities-gaza-strip-and-israel-flash-update-68	CONFIRMED
40521-64207	2024-05-21	Kamal Adwan	N/A	N/A	https://x.com/AnasAlSharif0/status/1792909058296414327	CONFIRMED
40524-70221	2024-05-24	Kamal Adwan	N/A	N/A	https://www.nytimes.com/2024/05/24/world/middleeast/israel-gaza-kamal-adwan-hospital.html	CONFIRMED
40106-91367	2024-01-06	Al-Amal vicinity	N/A	N/A	https://twitter.com/cheguwera/status/1743560066068893732	CONFIRMED

40128-57219	2024-01-28	Al-Amal	N/A	N/A	https://www.facebook.com/PalestineRCS/posts/pfbid0QwHsy4guZQnapRNu-Vwdx5Z2pzh2ygZroeacNEJtSV-GHuVyqtmB9UK5XKmHaZTzYxl	CONFIRMED
40130-37584	2024-01-30	Al-Amal	N/A	N/A	https://www.facebook.com/PalestineRCS/posts/pfbid08B6x-Ev3BDGEfMARuT8ocdCSVnnBe-htVYop5Uhn69qkJUZYXDB6G-5ASVjbZPL3WiHl	CONFIRMED
40216-26319	2024-02-16	Al-Amal	N/A	N/A	https://www.facebook.com/PalestineRCS/posts/pfbid09is-jDDMDrMWL1yUM69iAwo5sb-pqaF63C4r3KMhRh6hLRXYiu-WYHcJuoJMMkLPUdel	CONFIRMED
31102-88761	2023-11-02	Al-Quds	N/A	N/A	https://www.palestinercs.org/public/files/image/2023/News/latestresponse23012023/PRCS%20OR%20%20%20%20124.pdf	CONFIRMED
31105-52971	2023-11-05	Al-Quds	N/A	N/A	https://www.facebook.com/watch/?v=863878098748838	CONFIRMED
31112-71864	2023-11-11	Al-Quds	N/A	N/A	https://www.aa.com.tr/en/middle-east/israeli-tanks-20-meters-away-from-al-quds-hospital-in-gaza-city-palestinian-red-crescent/3051032#:~:text='Direct%20shooting%20at%20hospital%2C%20creating,says%20Palestinian%20Red%20Crescent%20Society&text=Israeli%20tanks%20are%2020%20meters,Crescent%20Society%20said%20on%20Saturday.	CONFIRMED
31017-81032	2023-10-17	Gaza European	N/A	N/A	https://t.me/AjaNews/213150	MOST LIKELY
31221-83844	2023-12-21	Gaza European vicinity	N/A	N/A	https://www.ochaopt.org/ar/content/hostilities-gaza-strip-and-israel-flash-update-76	CONFIRMED
40701-88777	2024-07-01	Gaza European	N/A	N/A	https://www.aa.com.tr/ar/%D8%A5%D8%B3%D8%B1%D8%A7%D8%A6%D9%8A%D9%84/%D8%B9%D9%82%D8%A8-	CONFIRMED
31214-06891	2023-12-14	Kuwaiti Specialized vicinity	N/A	N/A	https://twitter.com/Timesofgaza/status/1735404298761293947	CONFIRMED
40528-94766	2024-05-28	Kuwaiti Specialized	N/A	N/A	https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-172?_gl=1%2A-1caydog%2A_ga%2ANTUwOT-kyNjE2LjE3MDcxMzg0NjA.%2A_ga_E60ZNX2F68%2AMT-cyMzAyODUzOS4xNjYuMS4xN-zIzMDI5MTU2LjUxLjAuMA..	CONFIRMED
40803-25011	2024-08-03	Kuwaiti Specialized	N/A	N/A	https://www.facebook.com/Kuwait.hos/posts/pfbid0JT1z5wpeLA2aoKc-CCvcvvc79JXn6PM97AnP1tUB-MorCAPVFczqubtdasr7Wckhzwl	CONFIRMED

30915-48436	2023-09-15	Shuhada Al-Aqsa vicinity	N/A	N/A	https://t.me/AjaNews/212227	CONFIRMED
31021-68249	2023-10-21	Shuhada Al-Aqsa vicinity	N/A	N/A	https://t.me/QudsN/315969	MOST LIKELY
31022-01365	2023-10-22	Shuhada Al-Aqsa vicinity	N/A	N/A	https://t.me/AlarabyTelevision/28585	CONFIRMED
31025-24450	2023-10-25	Shuhada Al-Aqsa vicinity	N/A	N/A	https://t.me/AlarabyTelevision/29807	CONFIRMED
31106-74802	2023-11-06	Shuhada Al-Aqsa	N/A	N/A	https://www.aljazeera.net/politics/2023/11/6/%D9%85%D8%AF%D9%8A%D8%B1-%D9%85%D8%B3%D8%AA%D8%B4%D9%81%D9%89-	CONFIRMED
31204-31282	2023-12-04	Shuhada Al-Aqsa vicinity	N/A	N/A	https://t.me/ShehabTelegram/427281	CONFIRMED
31016-59347	2023-10-16	Al-Ahli vicinity	N/A	N/A	Forensic Architecture testimony	CONFIRMED
31116-93455	2023-11-16	Al-Ahli	N/A	N/A	https://www.middleeasteye.net/live-blog/live-blog-update/israeli-military-tanks-surround-al-ahli-baptist-hospital-violent-attacks?nid=316601&topic=Israel-Palestine%2520war&fid=489406	CONFIRMED
31204-57019	2023-12-04	Al-Ahli	N/A	N/A	https://www.ochaopt.org/ar/content/hostilities-gaza-strip-and-israel-flash-update-59	CONFIRMED
31219-42493	2023-12-19	Al-Ahli	N/A	N/A	https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-73	CONFIRMED
31015-61592	2023-10-15	Al-Rantisi	N/A	N/A	Satellite imagery from 15-10-2023	CONFIRMED
31105-12642	2023-11-05	Al-Rantisi	N/A	N/A	https://twitter.com/Stevesosebee/status/1721642308934762532	CONFIRMED
31110-95365	2023-11-10	Al-Rantisi	N/A	N/A	https://twitter.com/NourNaim88/status/1722879356463157270	CONFIRMED
31112-47166	2023-11-12	Al-Rantisi	N/A	N/A	https://www.palestinercs.org/public/files/image/2023/News/latestresponse23012023/PRCS%20OR%20156.pdf	CONFIRMED
31113-72105	2023-11-13	Al-Rantisi	N/A	N/A	https://twitter.com/JoeTruzman/status/1724151349279965496	CONFIRMED
31107-15508	2023-11-07	Al-Nasr	N/A	N/A	https://x.com/MayadeenEnglish/status/1722892275284340747	CONFIRMED
31110-79172	2023-11-10	Al-Nasr	N/A	N/A	https://www.aa.com.tr/en/middle-east/israeli-army-left-infants-to-die-in-al-nasr-childrens-hospital-palestinian-doctor/3160114	CONFIRMED
31009-74237	2023-10-09	Beit Hanoun Hospital	N/A	N/A	https://www.aa.com.tr/en/middle-east/israeli-attacks-force-beit-hanoun-hospital-in-gaza-strip-to-suspend-services/3012969	CONFIRMED
31008-48738	2023-10-08	Sheikh Hamad Hospital	N/A	N/A	Satellite imagery from 08-10-2023	CONFIRMED

31015-35056	2023-10-15	Sheikh Hamad Hospital	N/A	N/A	https://www.aa.com.tr/en/middle-east/qatar-built-hospital-in-gaza-severely-damaged-by-israeli-airstrikes/3021184	CONFIRMED
31013-47741	2023-10-13	Al-Durrah	N/A	N/A	https://www.aa.com.tr/en/middle-east/palestinian-death-toll-from-israeli-attacks-on-gaza-reaches-1-900-including-614-children/3018813	CONFIRMED
40219-08449	2024-02-19	Algerian	N/A	N/A	https://x.com/AJA_Palestine/status/1759477756889350232	MOST LIKELY
31015-68803	2023-10-15	Al-Wafa (Gaza)	N/A	N/A	Satellite imagery from 15-10-2023	CONFIRMED
31113-75064	2023-11-13	Al-Wafa (Gaza)	N/A	N/A	Satellite imagery from 14-11-2023	CONFIRMED
31009-64406	2023-10-09	International Eye Hospital	N/A	N/A	https://www.theguardian.com/world/2023/dec/01/hospital-damage-in-gaza-during-israeli-offensive-a-visual-investigation	CONFIRMED
31102-66278	2023-11-02	Al-Hayat	N/A	N/A	https://www.youm7.com/story/2023/11/2/%D9%85%D8%B3%D8%AA%D8%B4%D9%81%D9%8A%D8%A7%D8%AA-	MOST LIKELY
40302-26943	2024-03-02	Emirates Crescent Hospital	N/A	N/A	https://x.com/MSF/status/1764027512357519527?s=20	CONFIRMED
40508-38892	2024-05-08	Emirates Crescent Hospital	N/A	N/A	https://www.youtube.com/watch?v=TMJd847XmD8	CONFIRMED
40529-99892	2024-05-29	Emirates Crescent Hospital	N/A	N/A	https://www.aljazeera.com/program/newsfeed/2024/5/29/video-maternity-hospital-in-rafah-damaged-in-israeli-attack	CONFIRMED
40530-27196	2024-05-30	Emirates Crescent Hospital	N/A	N/A	https://x.com/WHOoPt/status/1796975909502947517	CONFIRMED
31107-17527	2023-11-07	Dar Al Salam Charity Hospital vicinity	N/A	N/A	https://t.me/hamza20300/177909	CONFIRMED
31008-87626	2023-10-08	Gaza Eye Hospital	N/A	N/A	https://gazahcsector.palestine-studies.org/sites/default/files/pdf/public_records/%D8%A7%D9%84%D8%A7%D9%86%D8%AA%D9%87%D8%A7%D9%83%D8%A7%D8%AA%20%D8%B6%D8%AF%20%D8%A7%D9%84%D9%85%D8%A4%D8%B3%D8%B3%D8%A7%D8%AA%20%D8%A7%D-	CONFIRMED
40124-18196	2024-01-24	Al-Khair vicinity	N/A	N/A	https://t.me/amitsegal/32214	CONFIRMED
31102-21433	2023-11-02	Patient Friends Charitable Soci	N/A	N/A	https://www.alwatanvoice.com/arabic/news/2023/11/02/1538226.html	CONFIRMED
40708-75402	2024-07-08	Patient Friends Charitable Soci	N/A	N/A	https://www.facebook.com/reel/1387967491895887	CONFIRMED

40210-27919	2024-02-10	Patient Friends Charitable Soci	N/A	N/A	https://www.aa.com.tr/ar/%D8%A5%D8%B3%D8%B1%D8%A7%D8%A6%D9%8A%D9%84/%D9%85%D8%B3%D8%AA%D8%B4%D9%81%D9%89-%D8%A3%D8%B5%D8%AF%D9%82%D8%A7%D8%A1-	CONFIRMED
40626-24979	2024-06-26	Patient Friends Charitable Soci	N/A	N/A	https://arabic.rt.com/rtonline/video/1577183-%D8%A7%D9%81%D8%AA%D8%AA%D8%A7%D8%AD-%D9%85%D8%B3%D8%AA%D8%B4%D9%81%D9%89-%D8%A3%D8%B5%D8%AF%D9%82%D8%A7%D8%A1-%D8%A7%D9%84%D9%85%D-8%B1%D9%8A%D8%B6-	CONFIRMED
40712-00290	2024-07-12	Patient Friends Charitable Soci	N/A	N/A	https://twitter.com/QudsNen/status/1811797891343700110	CONFIRMED
31015-62557	2023-10-15	Al-Karama Hospital	N/A	N/A	Satellite imagery from 15-10-2023	CONFIRMED
31017-39971	2023-10-17	Al-Karama Hospital	N/A	N/A	https://www.savethechildren.org.uk/news/media-centre/press-releases/Gaza-500-killed-schools-hospitals-must-not-be-targets	CONFIRMED
31209-07540	2023-12-09	Sahaba Medical Complex vicinity	N/A	N/A	https://www.alquds.co.uk/%D8%B9%D8%B4%D8%B1%D8%A7%D8%AA-%D8%A7%D9%84%D8%B4%D9%87%D8%AF%D8%A7%D8%A1-%D9%88%D8%A7%D9%84%D8%AC%D8%B1%D8%AD%D9%89-%D9%81%D9%8A-%D9%82%D8%B5%D9%81-%D8%A5%D8%B3%D8%B1%D8%A7%D8%A6%D9%8A%D9%84%D9%8A-4/	CONFIRMED
31216-50822	2023-12-16	Sahaba Medical Complex	N/A	N/A	https://twitter.com/QudsNen/status/1735933971165282666	CONFIRMED

31101-45535	2023-11-01	Haifa Charity Hospital	N/A	N/A	https://www.almamlakatv.com/news/128819-	MOST LIKELY
40622-49156	2024-06-22	Haifa Charity Hospital vicinity	N/A	N/A	https://x.com/PalinfoAr/status/1804458364291760573	MOST LIKELY
31015-02159	2023-10-15	Al-Helou International Hospital	N/A	N/A	Satellite imagery from 15-10-2023	CONFIRMED
31101-64384	2023-11-01	Al-Helou International Hospital	N/A	N/A	https://www.ochaopt.org/ar/content/hostilities-ga-za-strip-and-israel-flash-up-date-26	CONFIRMED
31116-21034	2023-11-16	Al-Helou International Hospital	N/A	N/A	https://t.me/hamza20300/182667	CONFIRMED
31114-59129	2023-11-14	Al-Helou International Hospital	N/A	N/A	https://twitter.com/AJEnglish/status/1724381684722737157	CONFIRMED
31113-91332	2023-11-13	Cardio-vascular Hospital	N/A	N/A	https://twitter.com/qudsn/status/1724059449357127718	CONFIRMED
31007-10564	2023-10-07	St. John's Eye Hospital	N/A	N/A	https://www.stjohneyehospital.org/israel-gaza-hostilities-weekly-bulletin/	CONFIRMED
40203-52642	2024-02-03	Al-Najjar vicinity	N/A	N/A	https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-110	CONFIRMED
40507-73444	2024-05-07	Al-Najjar	N/A	N/A	https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-flash-update-163?_gl=1*1uat-pra*_ga*NTUwOTkyNjE2LjE3M-DcxMzg0NjA.*_ga_E60ZNX-2F68*MTcxNjc5NjI1NC44OC4xL-jE3MTY3OTYyNzcuMzcuMC4w	CONFIRMED
31225-37146	2023-12-25	Al-Awda - Nuseirat vicinity	N/A	N/A	https://www.masrawy.com/news/news_publicaffairs/details/2023/12/25/2515135/%D8%A7%D9%84%D8%A7%D8%AD%D8%AA%D9%84%D8%A7%D9%84-%D9%8A%D8%B4%D9%86-	CONFIRMED

6. Destruction of Civilian Infrastructure

1 This report presents an analysis of the damage and destruction to Gaza's infrastructure by the Israeli military from 7 October 2023 to 6 July 2024 and its impact on the civilian population.

A GLOSSARY

2 **Critical infrastructure**: Hospitals and clinics (health facilities); shelters (including education facilities and hospitals that received IDPs); power plants, water wells, desalination plants, wastewater plants, reservoirs, sewage plants, and fuel stations (utilities); and the designated evacuation route.

3 **Public infrastructure**: Infrastructure which plays a significant role in cultural, religious, and governance functions. This includes schools and universities (education facilities), mosques and churches (religious institutions), municipality offices, ministry buildings, courthouses, police stations (government buildings), and cultural heritage sites.

4 **Services:** Commercial services, including markets, supermarkets, bakeries, office buildings, banks, and other commercial buildings.

5 **Residential buildings**: Any building that includes residential use.

6 **Street network**: The structure and connectivity of roads and streets.

7 **Damaged**: A structure is considered damaged if a part of the structure has been compromised in such a way that the building no longer has its normal function.

8 **Destroyed**: A structure is considered destroyed if the entire structure has been demolished or reduced to rubble, in such a way that no functional part of the building remains.

B SUMMARY OF FINDINGS

1 *Quantitative findings*

9 **Between 7 October 2023 and 6 July 2024:**

10 Of 110 health facilities in Gaza:

(a) 57% were attacked; 45 were damaged and 18 were destroyed (see Chapter 5: Destruction of Medical Infrastructure).

11 Of 353 shelters in Gaza:

(a) 71% were attacked; 219 were damaged and 31 were destroyed (see Chapter 7: Targeting of Aid).

12 Of 605 utilities (power plants, water wells, desalination plants, and fuel stations) in Gaza:

(a) 53% were attacked; 166 were damaged and 152 were destroyed, rendering them inoperable.

13 Of 564 education facilities – schools in Gaza:

(a) 75% were attacked; 334 were damaged and 91 were destroyed.

14 Of 44 education facilities – universities in Gaza:

(a) 81% were attacked; 18 were damaged and 18 were destroyed.

15 Of 45 government buildings in Gaza:

(a) 82% were attacked; 17 were damaged and 20 were destroyed.

16 Of 341 religious institutions in Gaza:

(a) 80% were attacked; 143 were damaged and 130 were destroyed.

17 Of 44 cultural heritage sites in Gaza:

(a) 91% were attacked; 10 were damaged and 30 were destroyed.

18 During the two-month period from 5 May to 6 July 2024 in Gaza:

(a) A total of 9,524 structures were destroyed.

(b) This is more than double the number of structures destroyed in the previous two months (29 February to 5 May), when 4,225 structures were destroyed.

(c) It also surpasses the earlier two-month period from 7 January to 29 February, when 8,899 structures were destroyed.

(d) A total of 10,308 structures were damaged.

(e) This is three times higher than the number of damaged structures in the previous period from 29 February to 5 May, which was 3,213.

19 An analysis of the road network shows that:

(a) Between 7 October and 7 November 2023, 47.3% of the main roads were damaged in north Gaza, cutting off large parts of the population from critical infrastructure.

(b) Between 7 October 2023 and 7 January 2024, 33.7% of the main roads were damaged in south Gaza, cutting off large parts of the population from critical infrastructure.

20 Please see chapter appendix for maps showing the spatial distribution of these findings across Gaza.

2 *Pattern findings*

21 Pattern findings of the attacks on civilian infrastructure are divided into two parts:

(a) an analysis of the first three weeks of the aerial bombing campaign in Gaza.
Time period: 7–28 October 2023
Scale of analysis: daily

(b) An analysis of the first ten months of Israel's military campaign in Gaza.
Time period: 7 October 2023–6 July 2024
Scale of analysis: monthly

22 Using both daily and monthly scales of analysis allowed us to observe the granular distribution of infrastructural destruction in space, while also identifying broader patterns across time. For further detail on this, please see 'Scope' in this report.

2.1 Our analysis of the first three weeks of the aerial bombing campaign in Gaza (7–28 October 2023) indicates:

(A) The timing of the Israeli military's airstrikes on specific infrastructure correlates with the time at which a higher density of civilians would be expected to be present.

(a) Strikes on residential buildings happened more at night than during the day.

(b) Strikes on commercial spaces, including bakeries and markets happened more during operational hours than outside of operational hours.

(B) Israel's attacks south of Wadi Gaza increased after it ordered civilians from the north to evacuate to the south.

2.2 Our analysis of the first ten months of Israel's military campaign in Gaza (7 October–6 July) indicates:

(A) Public infrastructure was destroyed even after it had been previously damaged, and when it was unlikely to be occupied.

(B) Areas in proximity to critical infrastructure were targeted:

(a) We observed repeated damage to service roads immediately surrounding critical infrastructure.

(b) We observed repeated destruction of buildings in the same vicinity, leading to accumulation of debris on the roads surrounding critical infrastructure.

(C) Repeated disruption of road networks isolated civilians in two ways:

(a) It was more difficult for civilians to leave areas in which infrastructure had been destroyed.

(b) It was more difficult for aid to reach civilians in those areas disconnected from the road network.

C BACKGROUND

23 Gaza is one of the most densely populated regions in the world, with approximately 15,000 people per square mile.[1] The high density creates an urban fabric where residential areas and critical and public infrastructure – such as hospitals, schools, power plants, desalination plants – are located in close proximity.

24 The longstanding blockade on Gaza restricted the import of construction materials, fuel, and other essential resources. As a result, critical systems – already stressed by the high demands of the densely packed population – were made further vulnerable to collapse during military conflict.

25 Between 7 October 2023 and 6 July 2024, Gaza's already fragile infrastructure experienced extensive damage and destruction. In the first month of the military campaign, the Israeli military dropped over 25,000 tons of munitions on densely built areas, which caused, beyond a human toll estimated for that period to be 10,328 deaths, extensive damage to critical infrastructure, public facilities, and road transport networks.[2] The months that followed saw the near total destruction of Gaza's infrastructure.[3] This report presents an analysis of this destruction and its effects on the civilian population.

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1 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Reported Impact Snapshot | Gaza Strip (9 October 2024)' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 9 October 2024) <https://www.ochaopt.org/content/reported-impact-snapshot-gaza-strip-9-october-2024> accessed 14 October 2024.

2 'United Nations Office for the Coordination of Humanitarian Affairs - Occupied Palestinian Territory | Hostilities in the Gaza Strip and Israel - Reported Impact | Day 32' (*United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*, 7 November 2023) <http://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-reported-impact-day-32> accessed 26 September 2024.

3 'Joint World Bank, UN Report Assesses Damage to Gaza's Infrastructure' (*World Bank*) <https://www.worldbank.org/en/news/press-release/2024/04/02/joint-world-bank-un-report-assesses-damage-to-gaza-s-infrastructure> accessed 26 September 2024.

D SCOPE

26 This analysis is divided into two scales:

27 (1) For the period between 7 October to 28 October 2023 we use a **daily** analysis to show the granular relationship between airstrikes, the destruction of infrastructure, and civilian casualties. We use verified social media reports and geolocated visual evidence to identify and analyse incidents. Each incident includes location, time of reporting, time of incident (where known), number of people killed and injured, and information on families killed.

28 (2) For the period between 7 October 2023 to 6 July 2024, we use a **monthly** analysis to show the wider pattern of infrastructural damage and destruction. This uses datasets from the United Nations Satellite Centre (UNOSAT). Taken together, the overall analysis demonstrates repeated and cumulative destruction across both critical and public infrastructure, which resulted in the isolation of civilians from essential services such as shelter, healthcare, and aid, loss of civilian life, and loss of cultural heritage.

29 The use of munitions and the patterns of attacks on civil society professionals are outside the scope of this section. While acknowledging the impact on individuals providing critical infrastructure, the report does not make observations related to attacks on individuals or civil society organisations. Instead, the report focuses on the dismantling of the civilian infrastructure system.

E MATERIAL USED IN ANALYSIS

30 The following is a list of data sources we used in our analysis.

Dataset	Source	Link
Health infrastructure	OCHA	https://data.humdata.org/dataset/state-of-palestine-health-0?
Education facilities – Schools	UNICEF	https://gis.unicef.org/portal/apps/dashboards/c6e0bfd744164b2f84276071b1a83e78
Education facilities – Universities	OpenStreet Maps	https://data.humdata.org/dataset/hotosm_pse_buildings?
Power and fuel utilities	OpenStreet Maps	https://data.humdata.org/dataset/hotosm_pse_buildings?
Religious institutions	OpenStreet Maps	https://data.humdata.org/dataset/hotosm_pse_buildings?
Cultural heritage	UNESCO	https://www.unesco.org/en/gaza/assessment
Water utilities	Coastal Municipalities Water Utility	Coastal Municipalities Water Utility database
Building footprint	Microsoft	https://github.com/microsoft/GlobalMLBuildingFootprints
Damage analysis	UNOSAT	https://unosat.org/products/3904
Satellite imagery	Planet	https://drive.google.com/drive/folders/1f7Ywyjbzan-9BLjUZ-beSsiibByusOpwz
Street Network	OCHA	https://data.humdata.org/dataset/state-of-palestine-roads
Airwars Civilian Casualty database	Airwars	https://airwars.org/civilian-casualties
OSINT reports: Twitter and Telegram	Confirmed sources	

F METHODOLOGY

1 *Daily resolution analysis between 7–28 October*

31 From 7 October to 28 October 2023, our incident analysis is based on social media reports and geolocated visual evidence, providing a detailed daily log of airstrikes. For a given incident, key data points are documented, including location, time of report, time of incident (if available), type of building hit, number of casualties and injuries, identification of affected families and officials, munition type (if known), and geolocation. Geolocation accuracy is categorised as exact, approximate, neighbourhood, town/city, or Gaza level.

32 Our analysis includes data from the Airwars civilian casualty database.[4] In addition to civilian casualties, we have expanded our analysis to include attacks on infrastructure and what the Israeli military classifies as 'power targets'.[5] These include high-rise buildings, residential towers, and public institutions such as universities, banks, and government offices. According to the Israeli military spokesperson on 11 October, during the first five days of fighting, approximately half of the targets bombed – 1,329 out of a total of 2,687 – were classified as 'power targets'.[6]

33 We verified and used data from the al-Haq's geolocation database, research published by open-source researchers, and additional reports posted on Telegram by three key media outlets: Al Jazeera, Shehab News, and Al Arabiya.

34 To fill in gaps and validate visual reporting where it is incomplete or unavailable, we use satellite imagery from Planet and UNOSAT damage analysis. The integration of satellite data has been instrumental in confirming and geolocating incidents that Airwars has documented but was unable to geolocate. As a result, our database currently contains 998 incidents between 7 October and 28 October 2023, with 244 incidents geolocated to exact location accuracy, 264 incidents to approximate location accuracy, 209 incidents to neighbourhood accuracy, and 269 incidents to town/city accuracy and 12 incidents to Gaza accuracy.

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4 'Civilian Casualties' <https://airwars.org/civilian-casualties/> accessed 26 September 2024.

5 'תכירו: מטרות עוצם | Israel Defense' <https://www.israeldefense.co.il/node/37949> accessed 26 September 2024.

6 'מעריב מבזקים | 2,687 - סה"כ מטרות מתקיפה "חרבות ברזל": סיכום' <https://www.maariv.co.il/breaking-news/Article-1044157> accessed 26 September 2024.

35 We use this database of exact location airstrikes and match them to areas of destruction shown in the 15 October UNOSAT damage map. By applying a density clustering technique, we identify spatial concentrations of destruction that correspond to geolocated airstrikes. This allows us to study the patterns of damage of each reported airstrike.

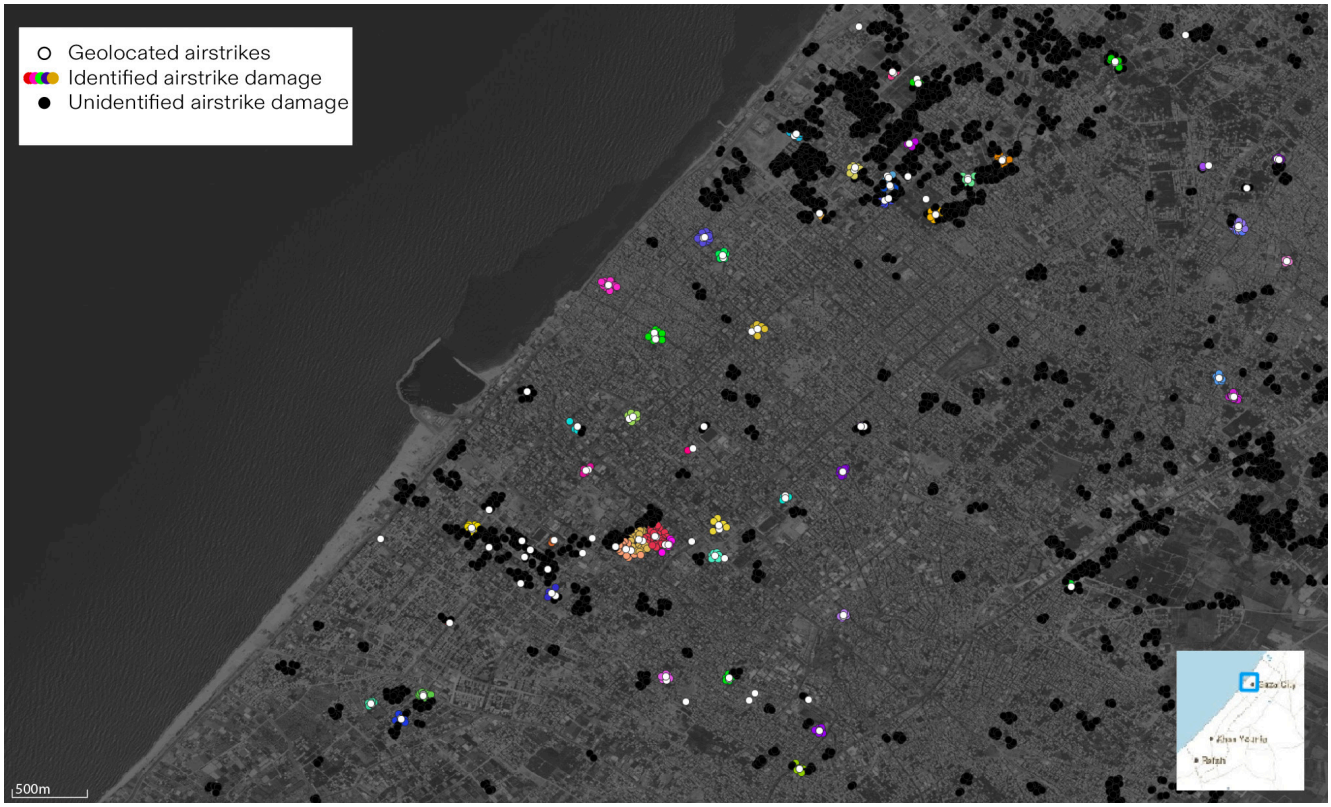

Figure 6.1 Density-based clustering of damage in relation to geolocated airstrikes in Gaza City by 15 October 2023.

36 By analysing spatial patterns from exactly geolocated airstrikes and their clustered damage in those areas, we can identify similar characteristics in the surrounding regions. In areas where no airstrikes were reported, or where strikes were only approximately geolocated but visible damage appears in the UNOSAT layer, we apply a density clustering technique to estimate likely damage from aerial bombing. This allows us to interpolate the locations of unreported or imprecisely located airstrikes, estimating their impact based on the spatial density of visible damage.

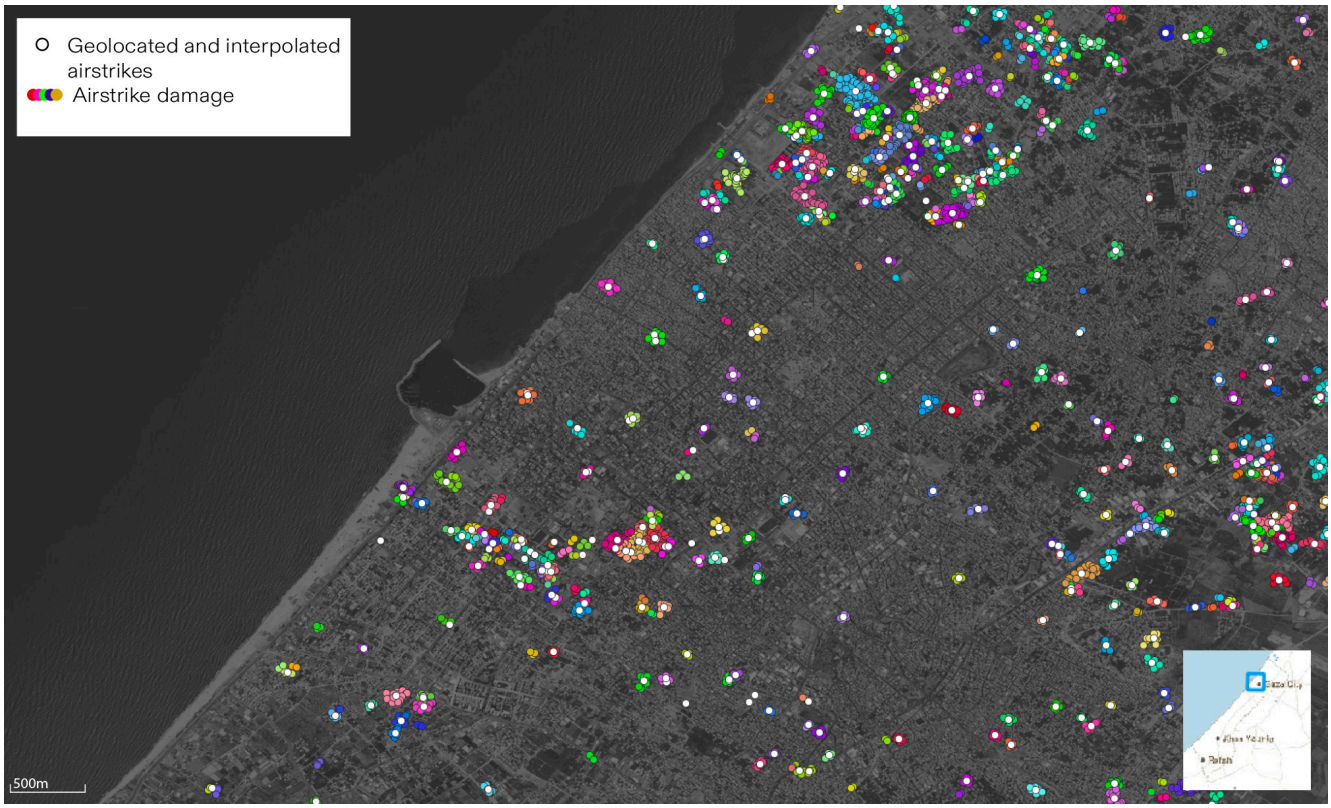

Figure 6.2 Interpolation of additional airstrikes with remaining density-based clusters of damage in Gaza City by 15 October.

37 We then repeat the process with remaining airstrikes from 15 October to 28 October, using the 7 November UNOSAT layer, to interpolate the spatial distribution of airstrikes. We obtain a final layer of airstrikes that includes the geolocated and the interpolated ones.

38 All sources and data points have been verified via the verification framework set out in the Introduction to this report.

2 *Monthly resolution analysis of patterns of destruction from 7 October 2023 to 6 July 2024*

39 Our analysis of infrastructural damage from 7 October 2023 to 6 July 2024 relies primarily on UNOSAT satellite analysis to identify and classify damage to buildings and facilities. The key dates covered by the UNOSAT dataset include 15 October 2023, 7 November 2023, 26 November 2023, 7 January 2024, 29 February 2024, 1 April 2024, 3 May 2024, and 6 July 2024. Our methodology starts with UNOSAT categorisation, which we subsequently cross-reference against our own verification methods, to arrive at a more textured understanding of infrastructural destruction.

40 Using UNOSAT analysis, we establish three possible states for infrastructure:

(a) Destroyed

(b) Damaged

(c) Unknown

41 We divide Gaza into an 80-metre hexagonal grid to standardise the analysis of spatial features.[7] Using building outlines from the Microsoft OpenStreetMap (OSM) dataset, we can systematically count the number of structures within each hexagon. Using the UNOSAT damage layer, we match geolocated damage points from UNOSAT with the building outlines from the Microsoft OSM dataset. This method enables us to identify the number of buildings damaged in each hexagon over specific periods. This method offers insights into which regions are more heavily impacted.

[7] 'Introduction (19 August 2024) <https://h3geo.org/docs> accessed 26 September 2024.

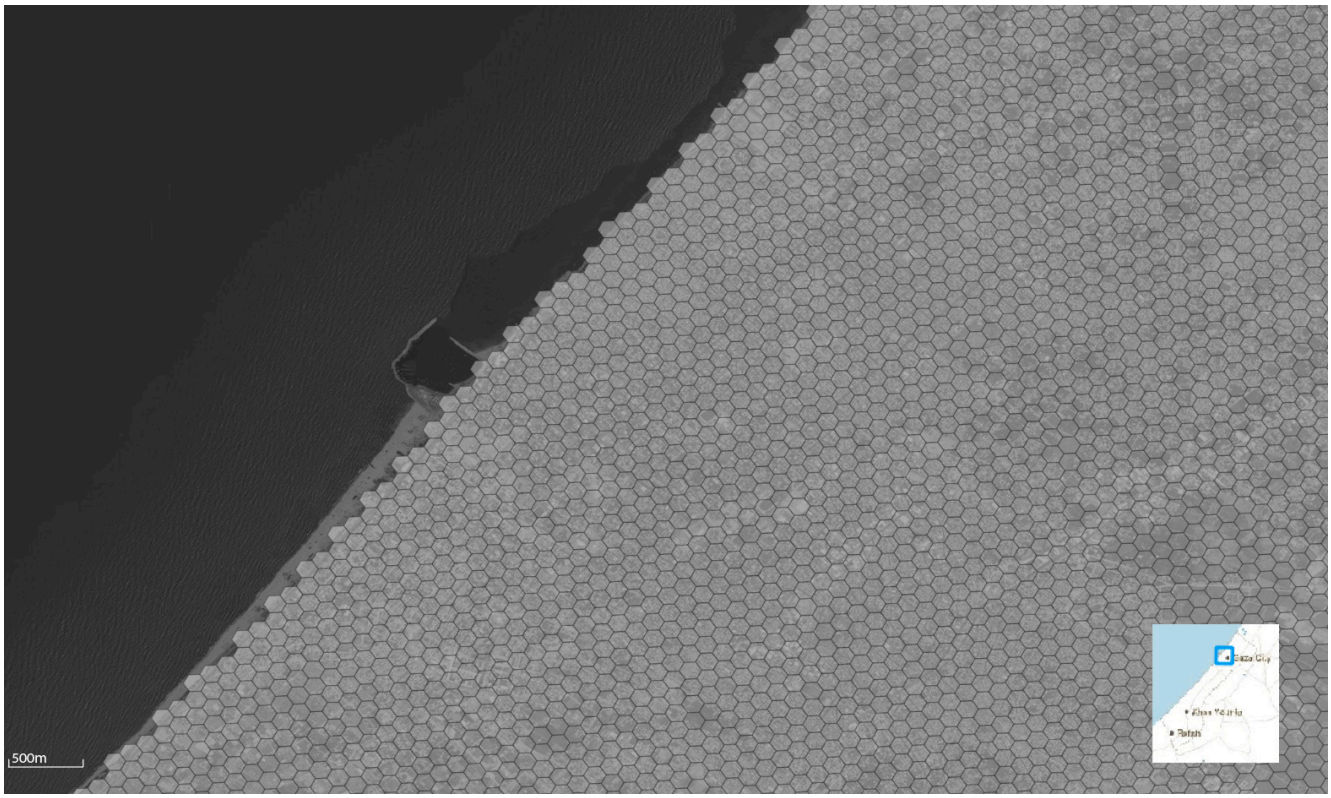

Figure 6.3 Territorial division using H3 80-metre grid hexagon.

42 To specifically identify damaged or destroyed buildings from critical and public infrastructure, we match geolocated damage points from UNOSAT with the building outlines from the Microsoft OSM dataset. UNOSAT provides point data for each damaged structure, which we align with our existing building infrastructure location data to ensure accuracy.

43 Once the locations of damaged and destroyed infrastructure are identified using UNOSAT data, we conduct a secondary verification process. This involves cross-referencing the locations of infrastructure with monthly Planet satellite imagery to visually confirm whether the buildings can be clearly identified as destroyed. See Figure 6.4. This process enables us to create an original, independent dataset of damaged and destroyed infrastructure, ensuring that our assessments are supported by multiple sources of evidence and improving the confidence in the data.

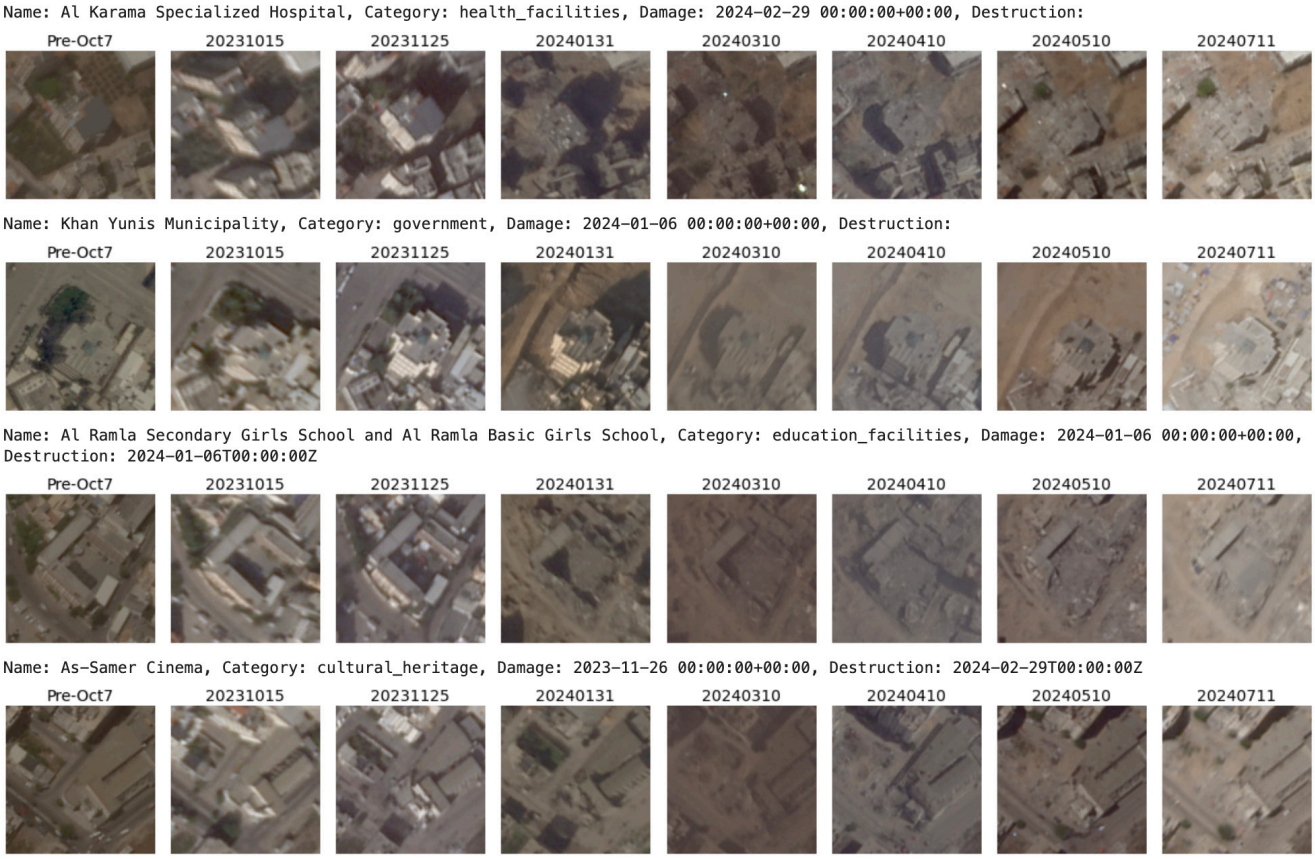

Figure 6.4 Satellite comparison tool to visually assess destruction of buildings categorised as damaged.

44 To study the pattern of destruction, we cross-reference our findings with open-source reports to track when the damage or destruction occurred and to distinguish the specific causes of destruction – whether from initial airstrikes, ground operations, or demolitions.

3 *Analysis of street network damage*

3.1 Local accessibility analysis

45 We use the incident database and the UNOSAT damage layer to assess the impact of craters and debris on road accessibility near critical infrastructure. Critical sites such as hospitals or shelters were identified, and road networks adjacent to these locations were evaluated for damage that impeded vehicle access. Using satellite imagery, we identified repeated incidents where streets were cut off, blocking critical infrastructure such as ambulances and other vehicles.

46 The analysis maps areas where road damage delayed or prevented access. GIS tools are used to create visualisations of inaccessible areas, showing the proximity of road damage to critical infrastructure. Some case studies further illustrate the recurring road damage and its impact on emergency services and daily access to critical infrastructure.

3.2 Road network analysis

47 For the road network analysis, we used driving routes from OpenStreetMap for Gaza and identified road segments within 25 metres of damaged areas, as recorded in various UNOSAT damage layers. The 25-metre buffer is based on the lethal radius of the explosive weapons commonly used by the Israeli military in Gaza.[8] This distance is the most conservative estimate, supported by previous peer-reviewed studies on infrastructure damage in Gaza.[9] We focus specifically on driving routes, as these are the most critical for ambulances and for evacuations during displacement.

48 We estimated the percentage of damaged roads in north and south Gaza separately based on UNOSAT damage data from 15 October, 7 November, and 7 January (the latter only for the south), and visualised the damaged road networks. These dates were selected because damage after 7 November in the north, and after 7 January in the south, becomes so extensive that it significantly alters the street network. Finally, we visualise the damaged road networks based on this temporal data to highlight the extent of destruction across the regions.

49 We use damage to the street network to estimate the accessibility of hospitals and the evacuation corridor in north Gaza and of hospitals and the al-Mawasi 'humanitarian zone' in south Gaza at the different levels of damage.

50 The first step focuses on defining which road segments are adjacent to critical infrastructure by creating a 25-metre buffer zone around these facilities. Road segments within this buffer are considered 'adjacent' to the hospitals or evacuation corridor, and from these points, the shortest path distance is calculated along the road network. This initial step establishes the baseline accessibility, showing how far one can travel through the remaining undamaged roads.

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8 'Kill Radius Compared' <https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/ColGaza/Kill_Radius_Compared.pdf> accessed 26 September 2024; GICHD, 'EXPLOSIVE WEAPON EFFECTS' (2017) <https://www.gichd.org/fileadmin/uploads/gichd/Publications/Explosive_weapon_effects_web.pdf> accessed 26 September 2024.

9 Yara Asi and others, '"Nowhere and No One Is Safe": Spatial Analysis of Damage to Critical Civilian Infrastructure in the Gaza Strip during the First Phase of the Israeli Military Campaign, 7 October to 22 November 2023' (2024) 18 Conflict and Health 24 <https://doi.org/10.1186/s13031-024-00580-x> accessed 26 September 2024.

51 In the second step, the analysis shifts to a hexagonal grid system. Each hexagon in this grid is assigned the shortest path distance to the nearest hospital, corridor, or safe zone. Aggregating the data at the hexagonal level helps to simplify the spatial analysis and provides a consistent metric for comparing accessibility across different areas of Gaza. This grid-based approach offers an organised way to visualise how far each hexagon is from key facilities, allowing for comparison of distances before and after road damage.

52 The third step involves calculating how road damage affects these shortest path distances over time, at three key dates: 15 October, 7 November, and 7 January. By comparing these distances with the undamaged road network, the analysis identifies areas where accessibility worsens. If the roads connecting a hexagon to hospitals, corridors, or the safe zone are entirely damaged, the hexagon is considered 'disconnected' from critical infrastructure. This distinction between distance increases and total disconnection is important for understanding the varying degrees of accessibility loss, and isolation.

53 Finally, the results are visualised through a heat map, where colour variations represent the increase in travel distance due to road damage. A quantile classification scheme is used, meaning the map colours represent equal numbers of hexagons, even if the distance increases themselves differ widely. This technique highlights areas with significant access issues while maintaining balance across the map's colour scale. Hexagons that have become fully disconnected from the road network are marked in grey, making them stand out as areas where road damage has completely isolated the population from key infrastructure.

G TIMELINE

54 **First three weeks (bombing campaign): 7–28 October 2023**

55 The first three weeks of the bombing campaign saw intense infrastructural damage and destruction across Gaza, with the majority caused to residential infrastructure. Damage was concentrated mainly in Gaza City in the north. The distribution of airstrikes also varied throughout the day: residential buildings were more likely to be struck at night, whereas commercial buildings were more likely to be struck during operational hours. After the 13 October evacuation order was issued, civilians started moving from the north to south. During this time, the number of airstrikes in the south increased from 85 interpolated airstrikes between 7 October 2024 and 10 October 2024, to 151 interpolated airstrikes between 11 October 2024 and 15 October 2024. During this time, the Rafah crossing was damaged by repeated airstrikes (9, 10, 16 October).

56 **Ground invasion of north of Gaza: from 27 October 2023**

57 The ground invasion proceeded in two directions simultaneously. First, the Israeli military entered from the north, advancing south towards Gaza City. Second, entering from the east moving west roughly along Wadi Gaza to the Mediterranean Sea (the area that would later become the Netzarim corridor, see Chapter 2: Spatial Control) redirecting north to Gaza City. Infrastructural damage and destruction during this time continued, sometimes proximate to the ground invasion (see factor of distance increase section), and sometimes with no direct correlation to the ground invasion (see disruption of road access). As civilians began to relocate through the Salah al-Din evacuation corridor following the 13 October evacuation order, infrastructural damage and destruction leading to accumulation of debris on the path can be observed. This hindered effective use of the corridor itself, but also rendered it increasingly difficult for civilians to access (see factor of distance increase).

58 **Ground invasion of south of Gaza: from 4 December 2023**

59 Following the ground invasion in the south, attacks on cultural and religious sites, such as the Palace of Justice, al-Houda Mosque, and al-Saqqa Mosque, continued. Additionally, repeat damage to al-Israa University, University of Palestine, and al-Uma University in January 2024, March 2024, and April 2024 respectively, suggests that university buildings were targeted. Destruction of this kind was repeated after buildings were rendered unusable, and to the point of total collapse.

60 ICJ Provisional Measures Order 1: 26 January 2024

61 ICJ Provisional Measure Order 2: 28 March 2024

62 **Ground invasion of Rafah: from 6 May 2024**

63 Further destruction to the Rafah crossing occurred after the ground invasion. On 6 May, the Israeli military replaced a Palestinian flag at the crossing with an Israeli flag, and the following week a nearby mosque was defaced with graffiti (13 May). By 19 June, reports state that the Rafah crossing was 'completely destroyed and unfit for use'.[10]

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[10] 'Israeli Army Destroys Entire Palestinian Side of Rafah Border Crossing, Renders It Unusable' <https://www.aa.com.tr/en/middle-east/israeli-army-destroys-entire-palestinian-side-of-rafah-border-crossing-renders-it-unusable/3253481> accessed 14 October 2024.

64 ICJ Provisional Measures Order 3: 24 May 2024

65 **Continuation of patterns: 5 May to 6 July 2024**

66 Repeated destruction of key infrastructure continued after the third order for Provisional Measures dated 24 May 2024.

67 During the two-month period from 5 May to 6 July 2024, a total of 9,524 structures were destroyed. This is more than double the number of structures destroyed in the previous two months (29 February to 5 May), when 4,225 structures were destroyed. It also surpasses the earlier two-month period from 7 January to 29 February, when 8,899 structures were destroyed.

68 Between 5 May and 6 July, a total of 10,308 structures were damaged, which is three times higher than the number of damaged structures in the previous period from 29 February to 5 May, which was 3,213.

69 By 6 July, 54% of critical infrastructure and 78% of public infrastructure had been damaged or destroyed.

H PATTERN FINDINGS

1 *Analysis of the first three weeks of the aerial bombing campaign in Gaza (7–28 October)*

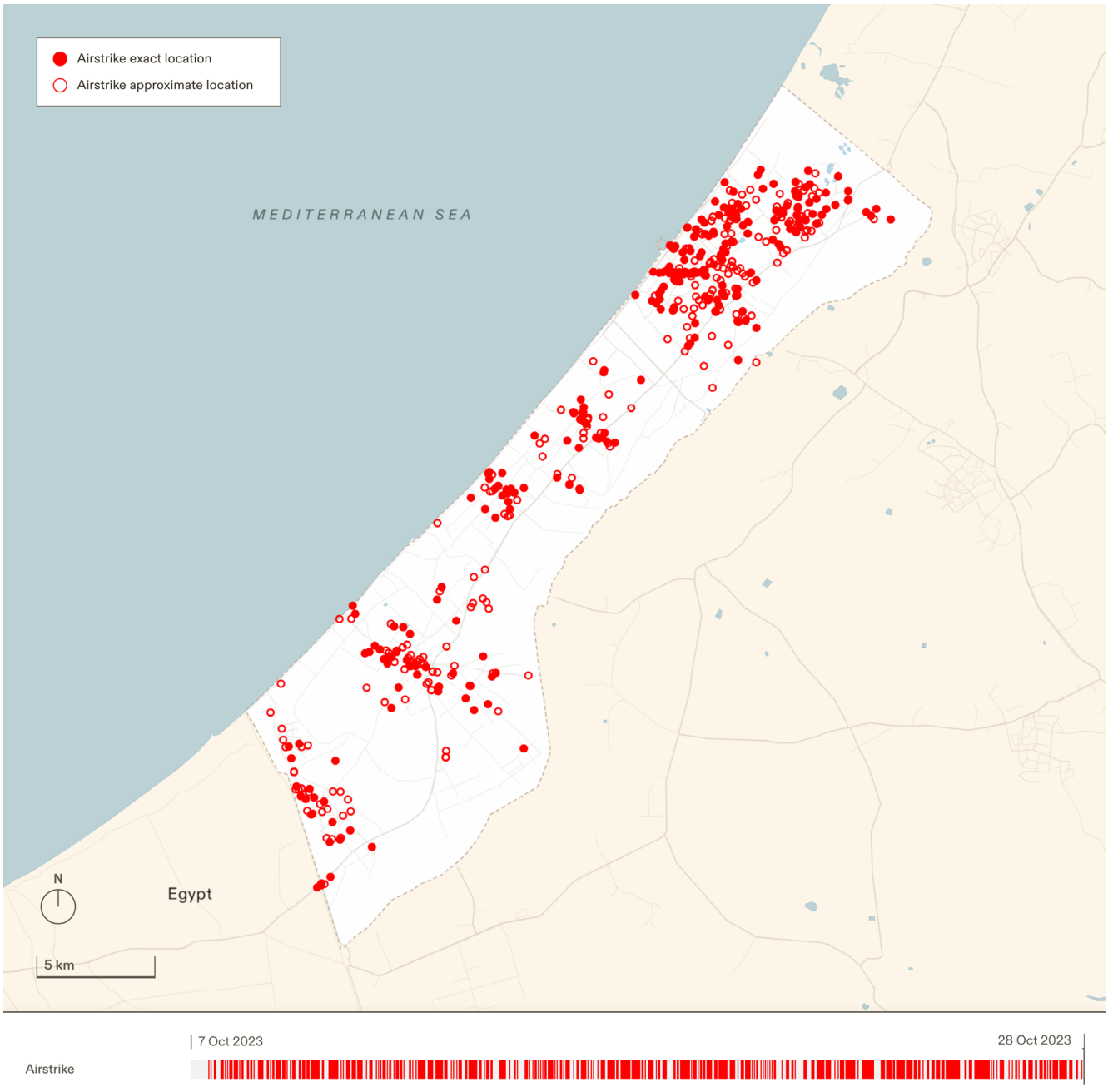

Figure 6.5 Distribution of geolocated airstrikes between 7–28 October in Gaza.

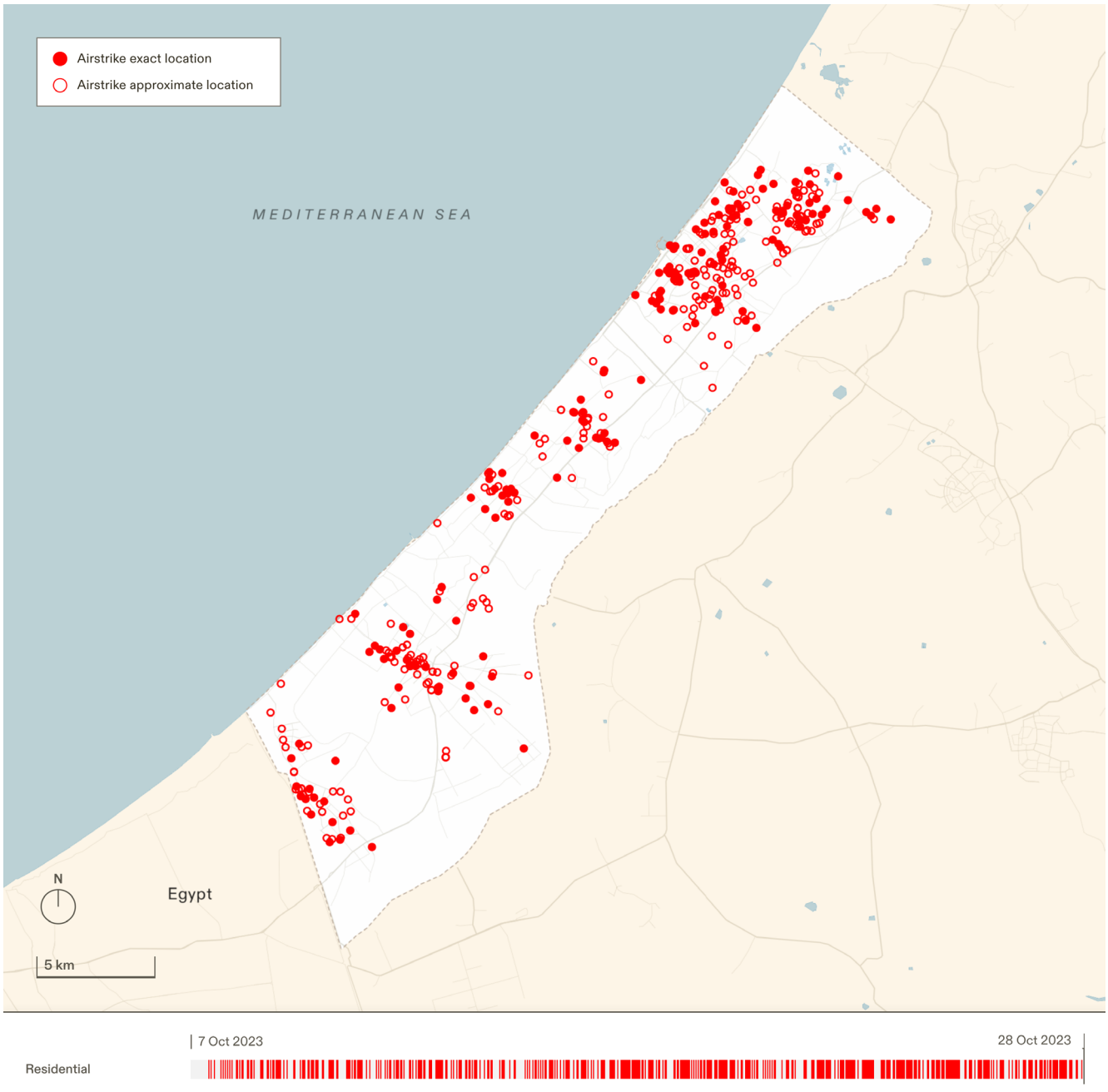

Figure 6.6 Distribution of geolocated airstrikes on residential buildings between 7–28 October in Gaza.

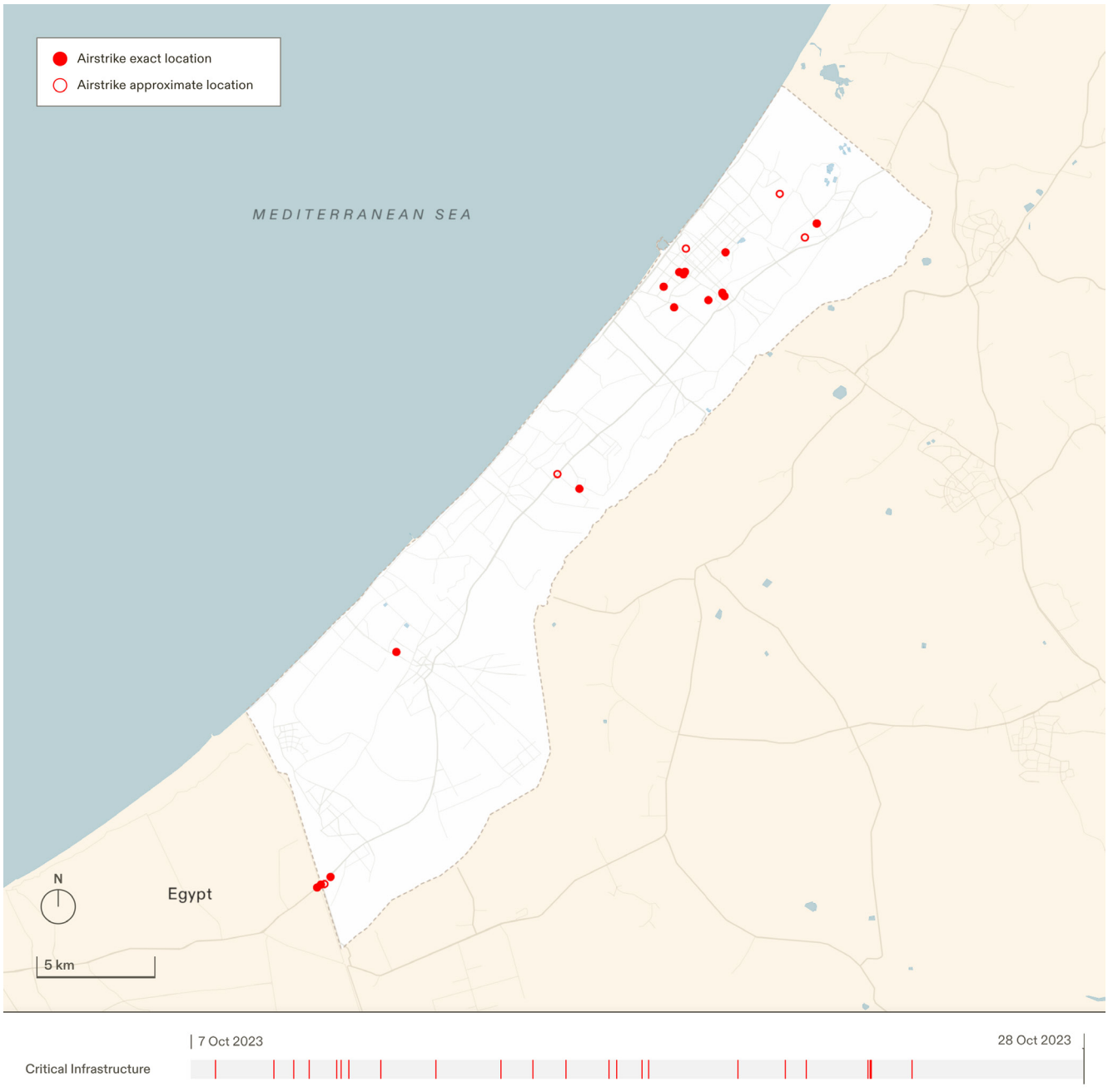

Figure 6.7 Distribution of geolocated airstrikes on critical infrastructure between 7–28 October in Gaza.

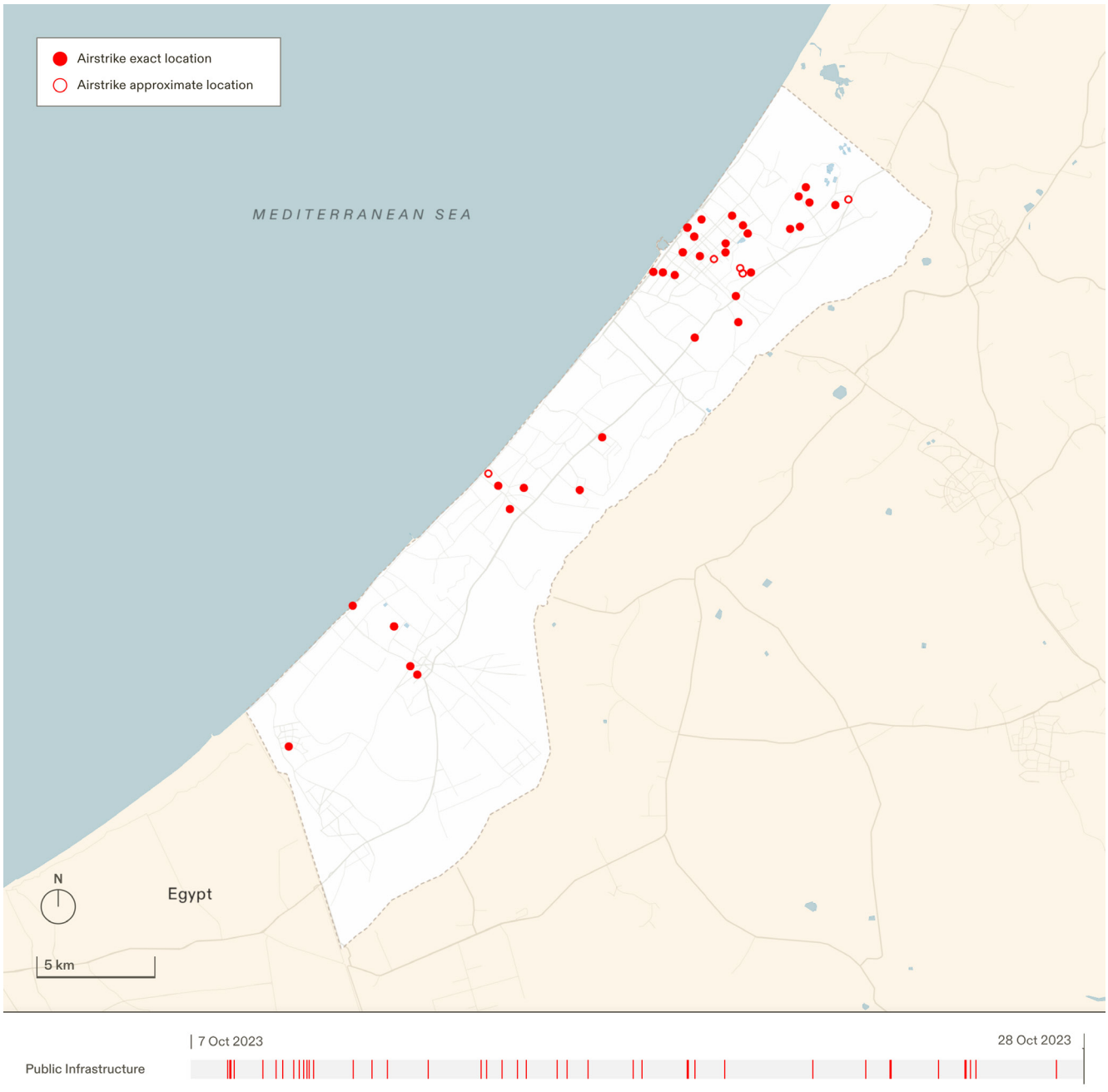

Figure 6.8 Distribution of geolocated airstrikes on public infrastructure between 7–28 October in Gaza.

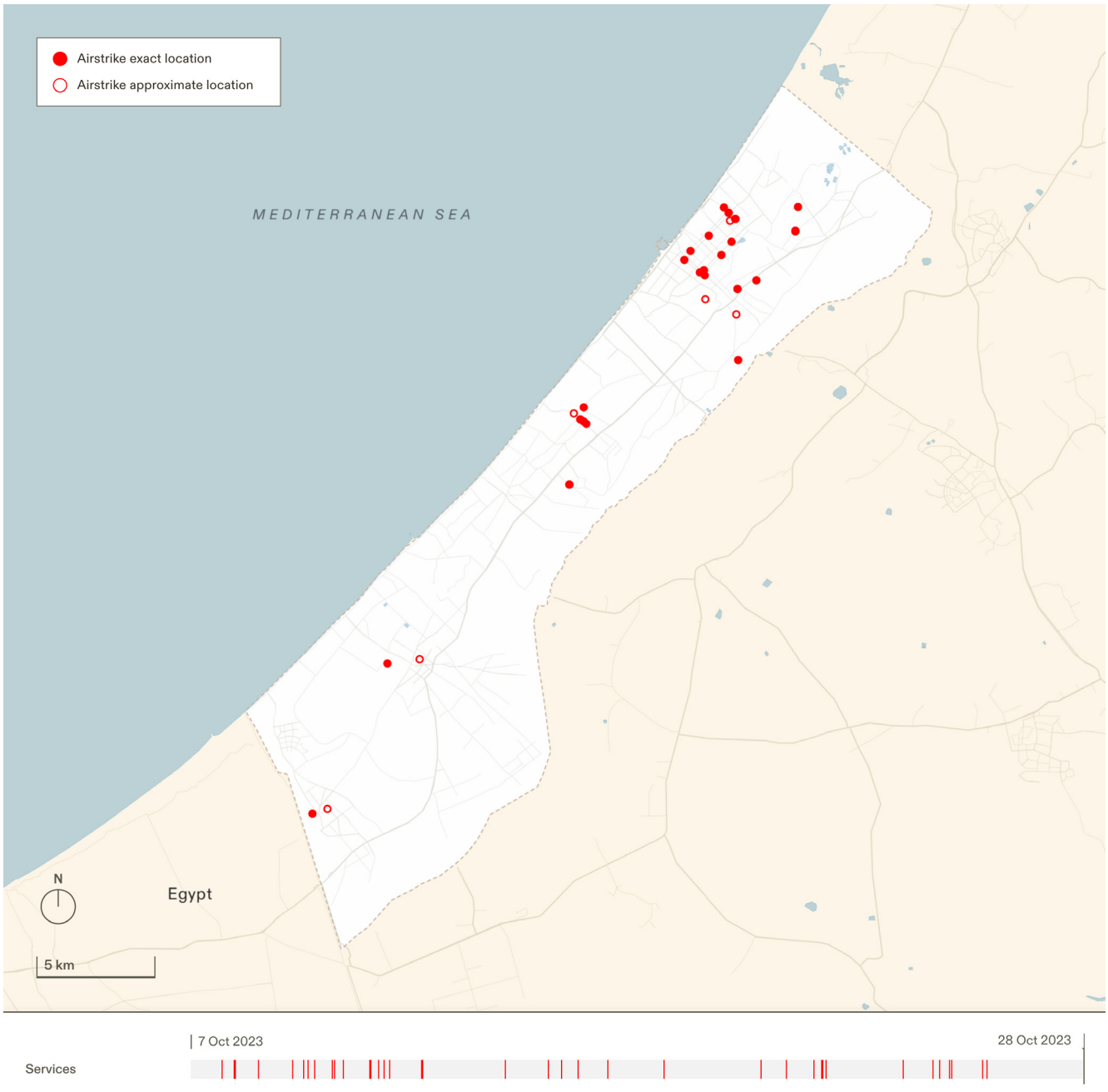

Figure 6.9 Distribution of geolocated airstrikes on services between 7–28 October in Gaza.

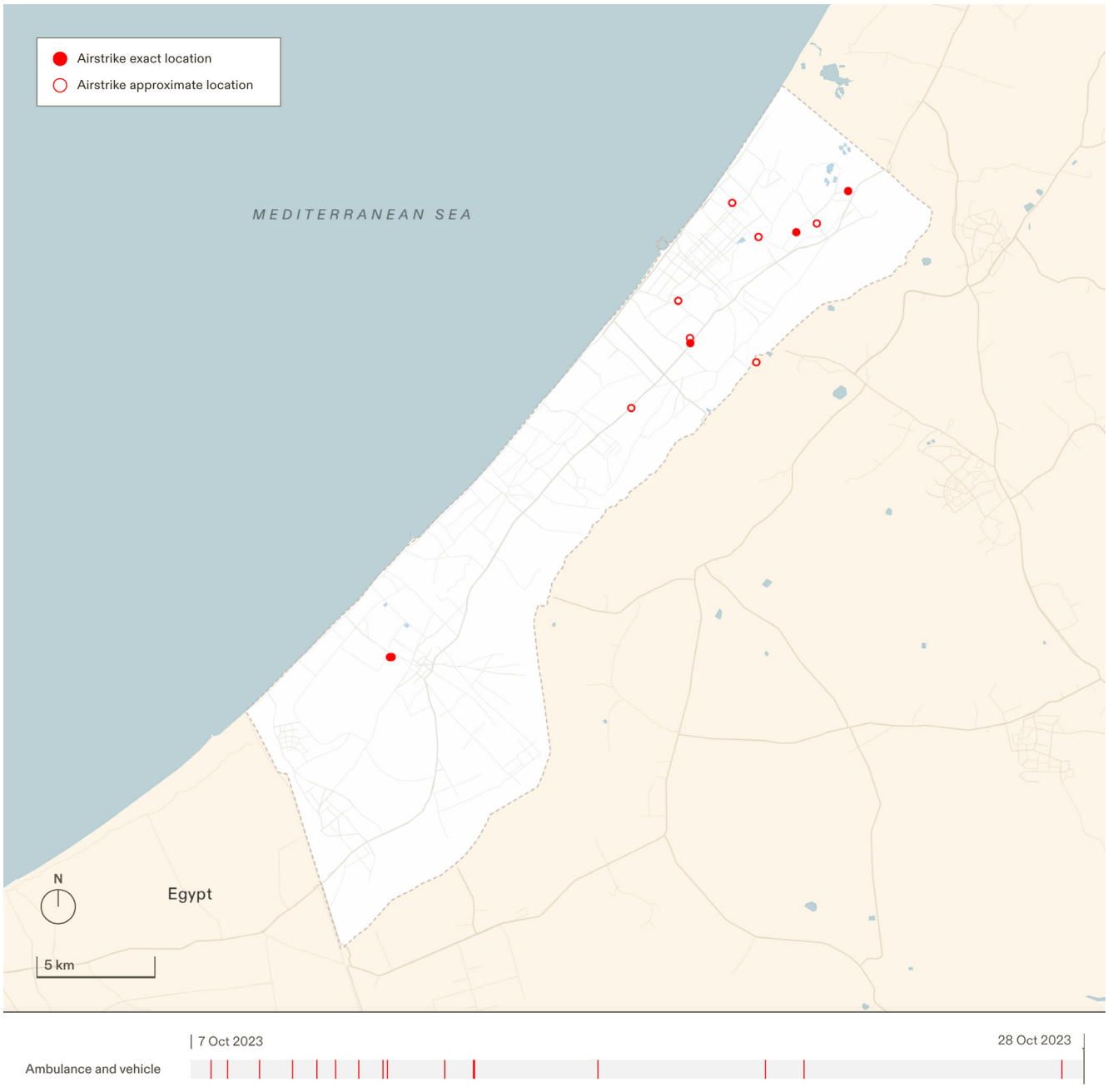

Figure 6.10 Distribution of geolocated airstrikes on ambulances and vehicles between 7–28 October in Gaza.

1.1 The timing of the Israeli military's airstrikes on infrastructure correlates with the time at which a higher density of civilians would be expected to be present.

70 We analysed the times at which residential and commercial services were struck in the first three weeks of Israel's bombing campaign, and found that:

(A) Strikes on residential buildings happened more at night than during the day

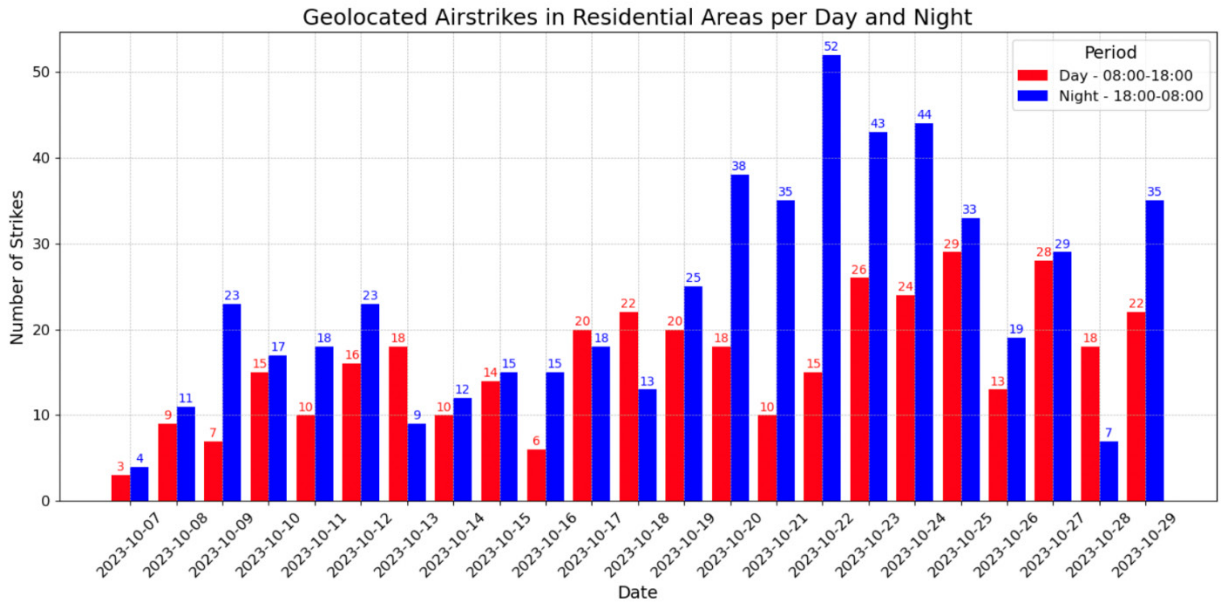

Figure 6.11 The timing of airstrikes in residential areas between 7 October and 28 October.

(B) Strikes on commercial spaces, including bakeries and markets happened more during operational hours than outside of operational hours

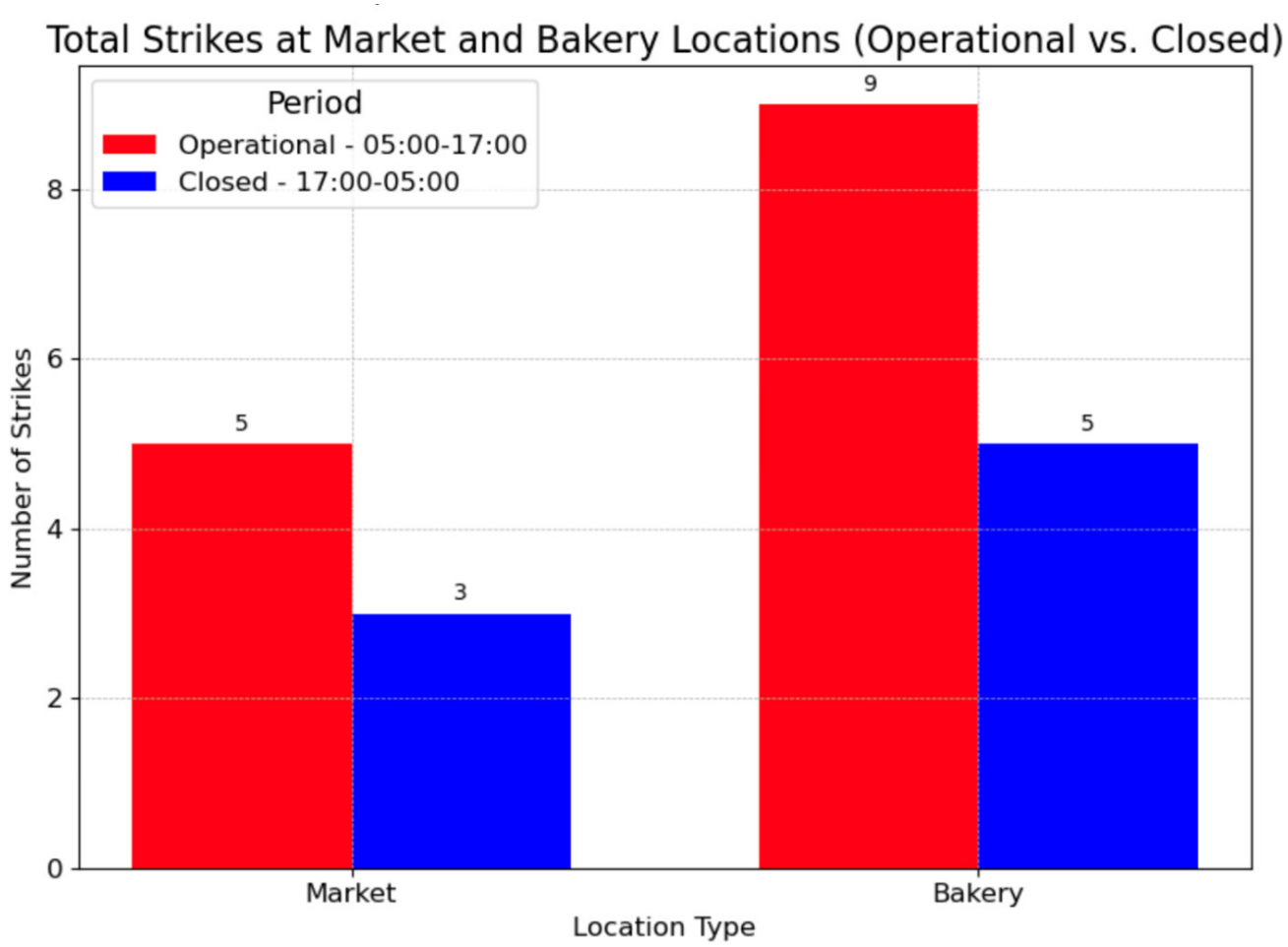

Figure 6.12 The timing of airstrikes in markets and bakeries between 7 October and 28 October.

1.2 Israel's attacks south of Wadi Gaza increased after it ordered civilians from the north to evacuate to the south.

71 Our analysis of the spatial distribution of Israeli airstrikes over time suggests a pattern by which Israel increasingly attacked areas after it instructed civilians to evacuate to them. After the 13 October evacuation order instructing civilians to move from the north to the south of Wadi Gaza, the average of airstrikes in the south increased.[11] This resulted in an overall increase in civilian deaths in comparison to the average number of civilians killed per day before 13 October. Among those killed in the south after the 13 October evacuation order included families who had followed the evacuation orders and evacuated to the southern areas [Incident ID: 31014-47375].[12]

Date	Air strikes south	Air strikes north	south/Total
2023-10-07 to 2023-10-10	34	85	27%
2023-10-11 to 2023-10-15	89	151	37%
2023-10-16 to 2023-11-07	385	535	42%

Table 6.1. Number of interpolated airstrikes north and south between 7 October and 7 November. Number of strikes south over total.

[11] افيخاي ادرعي [@AvichayAdraee], 'عاجل سكان مدينة غزة, قمنا بمناشدتكم صباحاً لمغادرة مدينة غزة إلى منطقة جنوب وادي غزة، حفاظاً# على سلامتكم. أود أن أبلغكم أن جيش الدفاع الإسرائيلي سيمتنع عن المس بالمسار المحدد في الخارطة حتى الساعة حرصاً على سلامتكم استغلوا الوقت القادم للتحرك جنوباً من بيت حانون إلى' <https://x.com/AvichayAdraee/status/1712846493747495223> accessed 26 September 2024.

[12] Other similar incidents: 31014-26312, 31015-79917, 31015-60690, 31016-74899, 31016-40407, 31016-53703, 31016-52192, 31017-32111, 31017-73449, 31017-96266, 31017-91074, 31017-43747, 31017-88184, 31017-10271, 31017-27422, 31017-74600, 31018-96453, 31019-20073, 31019-42173, 31020-77850, 31020-87068, 31021-94605, 31021-43810, 31022-14885

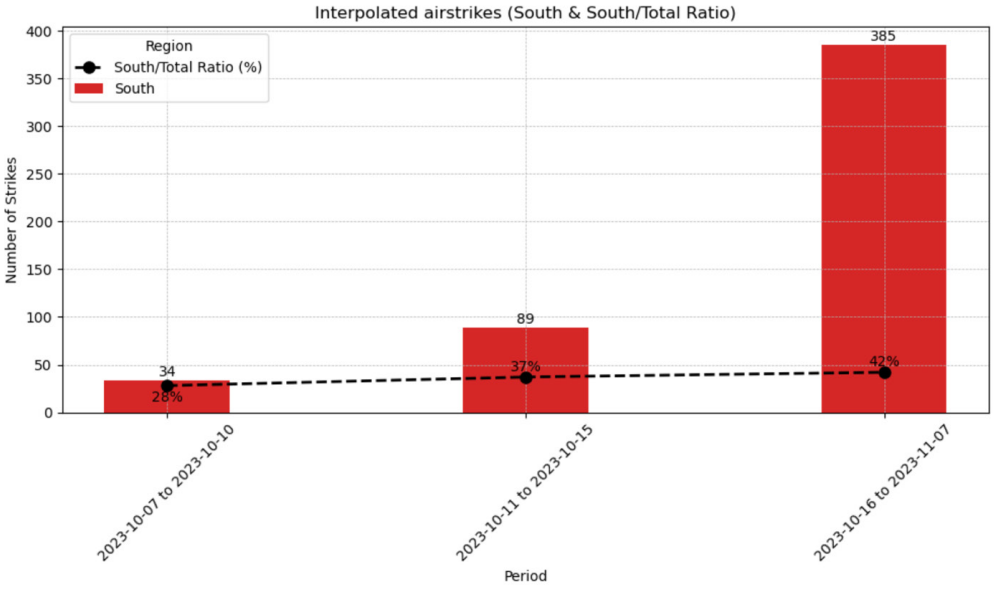

Figure 6.13. The distribution of interpolated airstrikes between 7 October and 7 November.

2 Analysis of the first ten months of Israel's military campaign in Gaza (7 October–6 July)

2.1 Public infrastructure was destroyed even after it had been previously damaged, and when it was unlikely to be occupied.

72 The following section details the destruction of sites of public infrastructure after those sites had been previously damaged. This pattern of recurrent attack to specific buildings suggests that they were singled out by military strikes, and that consequently destruction of such infrastructure was more likely to be deliberate than random.

73 We used geolocation techniques and drew from open-source intelligence to identify this condition. Each key site was observed through initial and subsequent damage, in order to ascertain the chronology of attacks and observe how these attacks might constitute a pattern.

74 In addition to tracking individual sites, we also observed that buildings situated near military routes were often at greater risk of being destroyed. This correlation between proximity to military movement and increased infrastructural vulnerability suggests that infrastructure near these routes was more likely to be targeted.

75 Through this analysis, we show how the destruction of civilian infrastructure appears to be part of a broader military strategy, rather than a series of isolated incidents.

76 The case studies below are organised as follows:

(a) Repeat damage to the Rafah crossing (9–17 October 2023; 5 May–19 June 2024)

(b) Repeat damage to buildings in Al Zahra area: Palace of Justice, al-Israa University, University of Palestine, and al-Uma University (20 November–24 June)

(c) Repeat damage to the University College of Applied Sciences (24 May–12 August 2024)

(d) Repeat damage to al-Huda Mosque (12 February–2 September 2024)

(e) Repeat damage al-Saqqa Mosque (14 November–4 April 2024)

(f) Repeat damage to the Rafah municipality building (15 July–22 August 2024)

(A) Rafah crossing (9 October–17 October 2023; 5 May–19 June 2024)

77 This analysis shows the repeated disruption of the Rafah crossing by the Israeli military (and limiting the entrance of aid). Rafah crossing was the sole entry point for humanitarian aid into Gaza after 7 October and became a critical lifeline as all other crossings were controlled by Israel and closed (see Chapter 7: Targeting of Aid).

78 Strikes on Rafah crossing began as early as 9 October, followed by two more on 10 October.[13] [Incident ID: 31009-21939] On 14 October, a photograph was obtained by a news site showing that Egyptian authorities had placed concrete wall sections at the Rafah border crossing, preventing the movement of Palestinians into Egypt.[14] [Incident ID: 31014-97213]

[13] Mostafa [@m_osint], '48.70'١٤°٣١ :جيولوكيشن التصوير"N 34°15'18.78"E 53.34'١٤°٣١ : موقع الاستهداف"N 34°15'25.74"E بالضبط بعد البوابة المصرية بامتار قليلة Rafah airstrike is just few meters away from Egyptian borders https://t.co/uAFSuMwx4x' <https://x.com/m_osint/status/1711428379675631764> accessed 26 September 2024; 'צבא ההגנה לישראל [@idfonline], 'Dozens of warplanes recently attacked over 100 targets throughout the Al Furkan neighborhood. In the last day, the IDF attacked over 250 targets in the area of the neighborhood.' <https://x.com/idfonline/status/1711721465194680554> accessed 26 September 2024; Similar incidents' IDs: 31010-25053; 31010-42259.

[14] د إسمنتي' الجيش المصري يغلق معبر رفح مع غزة نهائياً بتركيب جدار, سيناء ـ (العربي الجديد <https://tinyurl.com/2mn8p7e8> accessed 26 September 2024.



Figure 6.14 Left: video published by the Israeli military of an airstrike on Rafah crossing on 10 October.[15] Right: concrete wall placed by Egypt shut down civilian passage from the Rafah crossing by 14 October.[16]

[15] צבא ההגנה לישראל [@idfonline], 'עשרות מטוסי קרב תקפו לפני זמן קצר מעל ١٠٠ מטרות ברחבי שכונת אל פורקן. ביממה האחרונה צה»ל תקף מעל ٢٥٠ מטרות במרחב השכונה. כמו כן, צה»ל תקף במרחב רפיח, בין המטרות נתקפה מנהרה תת קרקעית שיועדה להברחת ציוד ואמל»ח' <https://x.com/idfonline/status/1711721465194680554> accessed 26 September 2024. (0:10-0:16)

[16] OSINTtechnical [@Osinttechnical], 'Egyptian Forces Have Emplaced Concrete Wall Sections at the Rafah Border Crossing Gate in Southern Gaza, Completely Shutting It down.' <https://x.com/Osinttechnical/status/1713107080712782170> accessed 26 September 2024.

79 Further airstrikes occurred on 16 October, with footage from the area showing the destruction of the newly erected wall. [Incident ID: 31016-68401] Satellite images, Figure 6.16, from 17 October revealed the extent of the damage. While most of the structures at the crossing remained physically intact, the escalating attacks led Egypt to severely restrict the entrance of aid.[17]



Figure 6.15. Left: video published by Israeli military striking Rafah crossing on 16 October.[18] Right: a screenshot of CCTV footage of the strike's impact on the concrete wall.[19]

17 'What Is the Rafah Crossing and Why Is It Gaza's Lifeline? - BBC News' <https://www.bbc.co.uk/news/world-middle-east-67121372> accessed 26 September 2024; Julian Borger, 'Gaza Crossing Still Closed despite Pressure from UN and US Leaders' *The Guardian* (20 October 2023) <https://www.theguardian.com/world/2023/oct/20/un-chief-visits-rafah-crossing-to-push-for-aid-to-be-let-into-gaza> accessed 26 September 2024.

18 Emanuel (Mannie) Fabian [@manniefabian], 'IDF Publishes Footage of Airstrikes in the Gaza Strip over the Past Day.' <https://x.com/manniefabian/status/1713780738623955271> accessed 26 September 2024. (0:37 – 0:41)

19 Sinai for Human Rights [@Sinaifhr], 'فيديو بثته قناة "القاهرة الإخبارية" لحظة الهجوم يظهر تدمير الجدار الخرساني الذي شيده الجيش أمام البوابة المصرية.' <https://x.com/Sinaifhr/status/1713964959942557781> accessed 26 September 2024.



Figure 6.16. 17 October satellite image evidence of craters in the Rafah crossing. SATIM satellite images below taken on 17 October showing craters in crossing and additional destruction after Israeli airstrikes (right).[20]

[20] 渡邉英徳 wtnv [@hwtnv], '検問所の北東部の建物群にも，クレーターができていました。 https://t.co/2AMB5F1xqp' <https://x.com/hwtnv/status/1714870202096402503> accessed 26 September 2024; 渡邉英徳 wtnv [@hwtnv], '10月17日，ガザ地区・エジプト境界のラファ検問所。中心部には，多数のクレーターがみられます。20日に検問所が再開されると報じられています。（訂正して再投稿）' <https://x.com/hwtnv/status/1714869741104603432> accessed 26 September 2024.

80 On 5 May, one day before the full-scale Israeli invasion of Rafah began, satellite images showed trucks still parked at the Rafah crossing. By 7 May, most of these trucks had disappeared, and Israeli military replaced a Palestinian flag with an Israeli flag at the crossing. [Incident ID: 40507-82991]



Figure 6.17. 5 May (top): evidence of trucks halted in the Rafah crossing. 7 May (bottom): evidence of trucks mostly gone from the Rafah crossing. White square marks where Israeli military raised Israel's flag, taking down the Gaza sign and the Palestinian flag.[21]

[21] Fahrettin Altay [@FahrettinAltay_], 'IDF dün gece başlattığı saldırı ile Refah sınır kapısını ele geçirdi ve 2.5 içeri girerek Al Bayuk mahallesine konuşlandı. Tank 31,24795, 34,25972 Bayrak 31,24835, 34,25986 Zırhlı 31,25519, 34,28019 @GeoConfirmed #Geolocation' <https://x.com/FahrettinAltay_/status/1787833063184953505> accessed 26 September 2024.

81 On 12 June, further incidents included defacing a nearby mosque with graffiti, including vandalising its walls with offensive phrases about the Islamic prophet Muhammad. These images were posted on Instagram by an Israeli soldier. [Incident ID: 40612-92910]

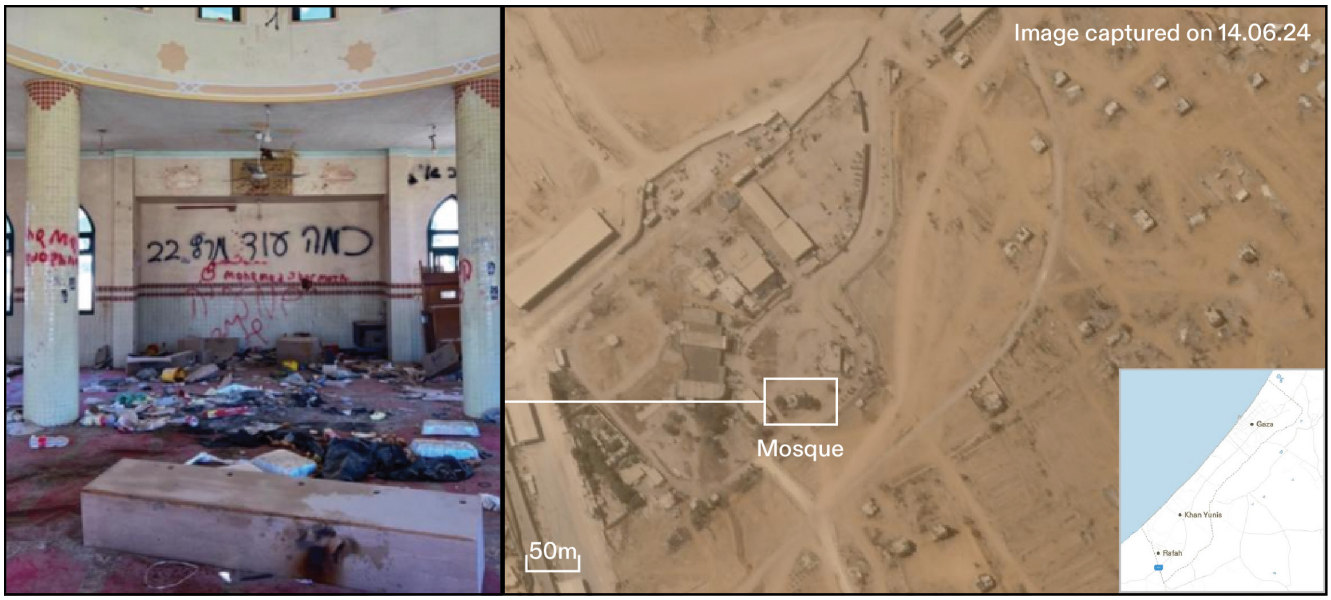

Figure 6.18. Image of desecrated mosque (left) near Rafah crossing.[22] 14 June satellite image showing mosque (right).

22 Younis Tirawi, يونس [@ytirawi], 'Rafah | Israeli Soldiers Wrote "Mohammed Sharmouta" and "Mohammed Is a Pedophile" along with Other Disgusting Things on the Walls of the Mosque at the Rafah Crossing.' <https://x.com/ytirawi/status/1800841913349894346> accessed 26 September 2024; Tamer, تامر [@tamerqdh], 'جيش الارهاب الاسرائيلي حول مسجد معبر رفح إلى ثكنة عسكرية ومركز لتوزيع الطعام ويحتمي داخله . المسجد مليئ بعبارات مسيئة للاسلام ورسولنا محمد صلي الله عليه وسلم ، الذي كتبها الجنود للسخرية من المسلمين .' <https://x.com/tamerqdh/status/1801187580018364771> accessed 26 September 2024.

82 By 19 June, videos revealed the burned-out remains of the Rafah crossing, which was declared 'completely destroyed and unfit for reuse' by an Israeli soldier from the 401st Brigade on social media. [Incident ID: 40617-85007, 40619-24142]. In a celebratory post, smiling Israeli soldiers marked the crossing's capture.



Figure 6.19. Top: 19 June satellite image of Rafah crossing with geolocated burned departure hall and images of Israel military. Bottom left: Image of the burned Rafah crossing departure hall. Bottom right: Israeli soldiers smiling next to the burned hall.[23]

83 This sequence of events highlights how strategic aid points like Rafah have been repeatedly impacted, limiting their ability to serve humanitarian purposes.

[23] Anno Nemo [@NemoAnno], 'Geolocation| (Photo 2 & 3) Using a Previously Geolocated Photo (h/t @evanhill) It Is Also Possible to Pinpoint the Location of 2 Other Photos Shared by Israeli Journalist @Doron_Kadosh 31.247893, 34.259805' <https://x.com/NemoAnno/status/1803372913313071536> accessed 26 September 2024.

(B) Al-Zahra: Palace of Justice, al-Israa University, University of Palestine, and al-Uma University (20 November 2023–24 June 2024)

84 This analysis shows widespread and repeat destruction of government buildings and universities in the al-Zahra area.

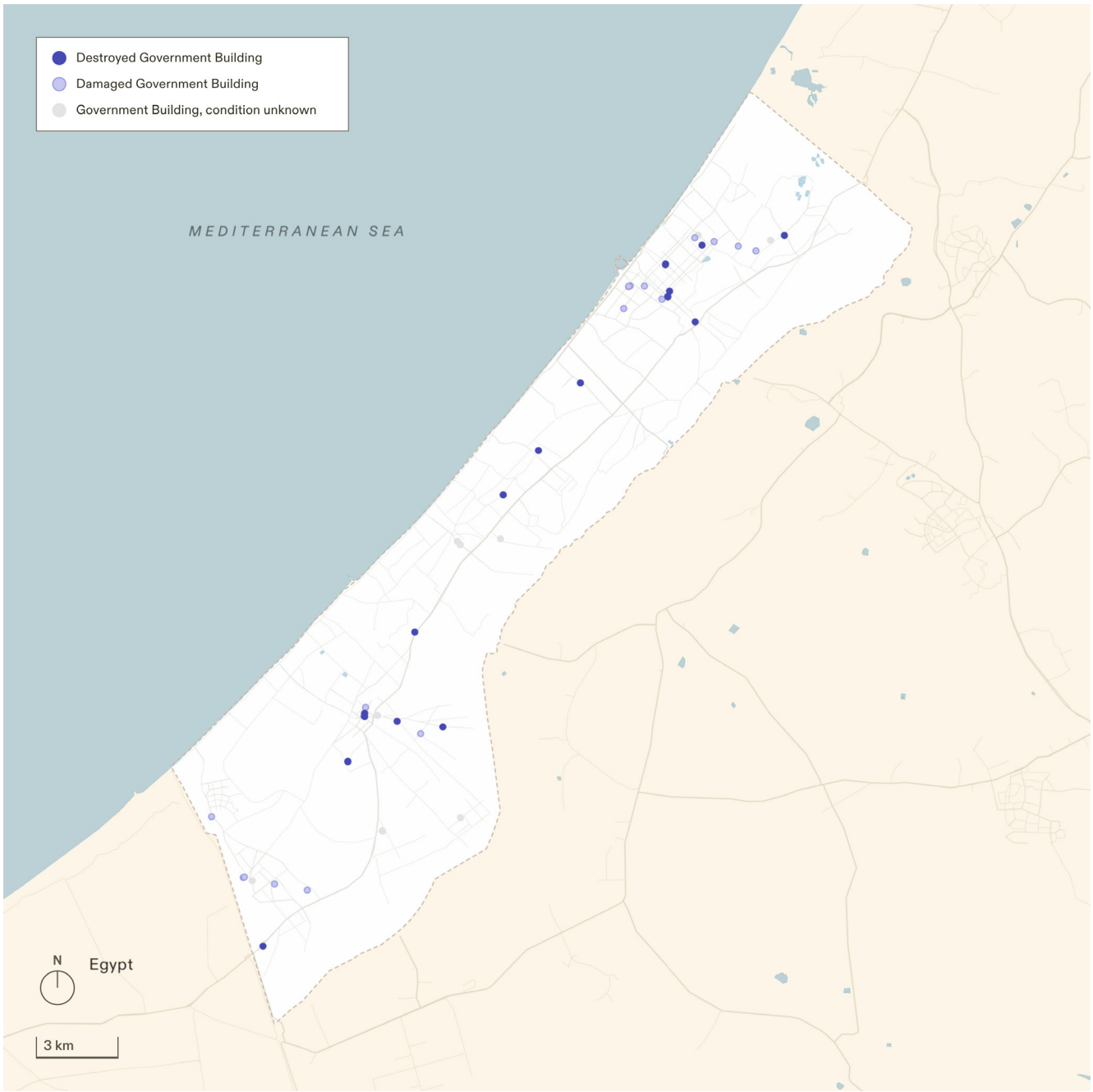

Figure 6.20. Damage and destruction of government buildings by 6 July 2024.

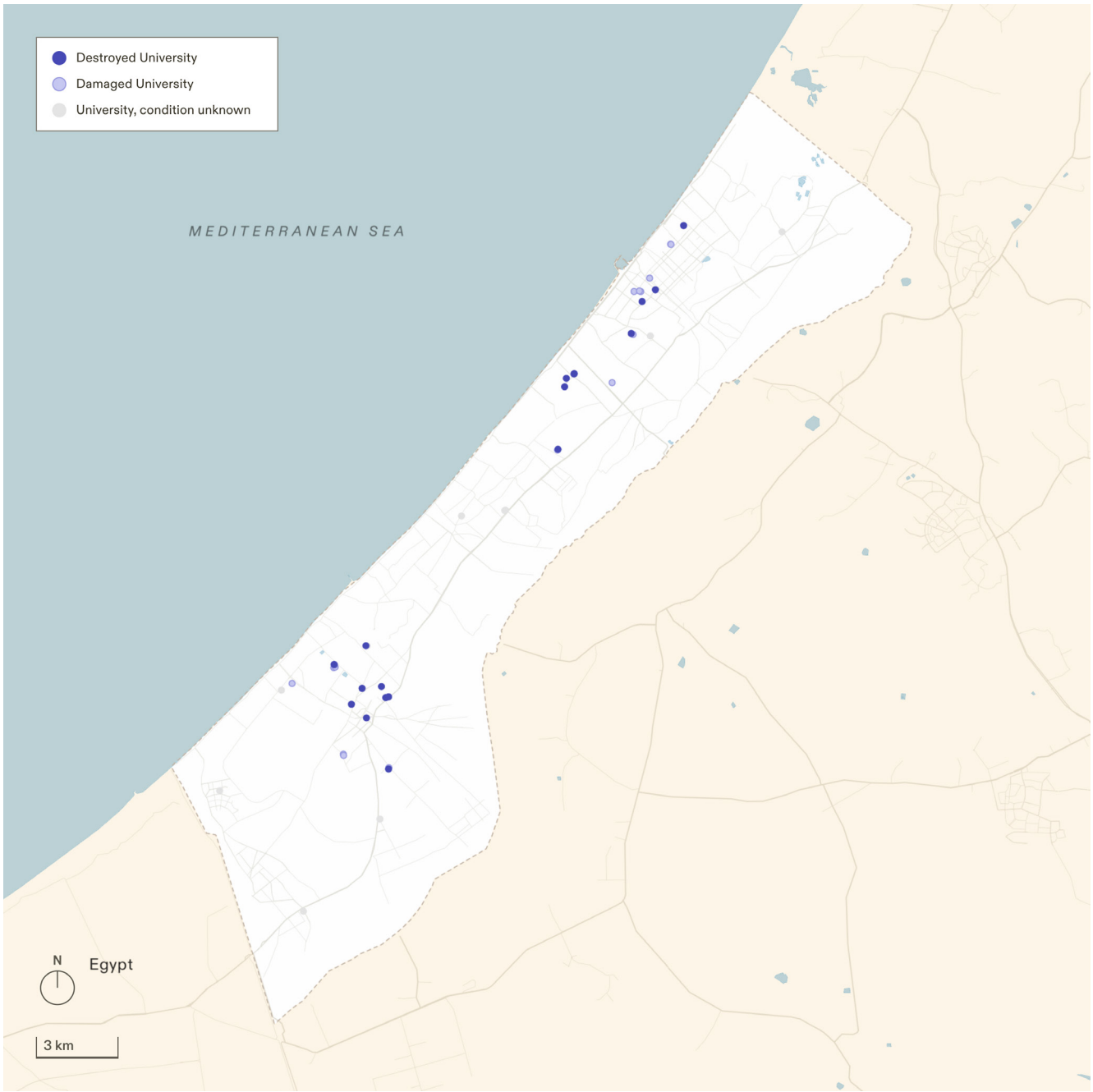

Figure 6.21. Damage and destruction of university buildings by 6 July 2024.

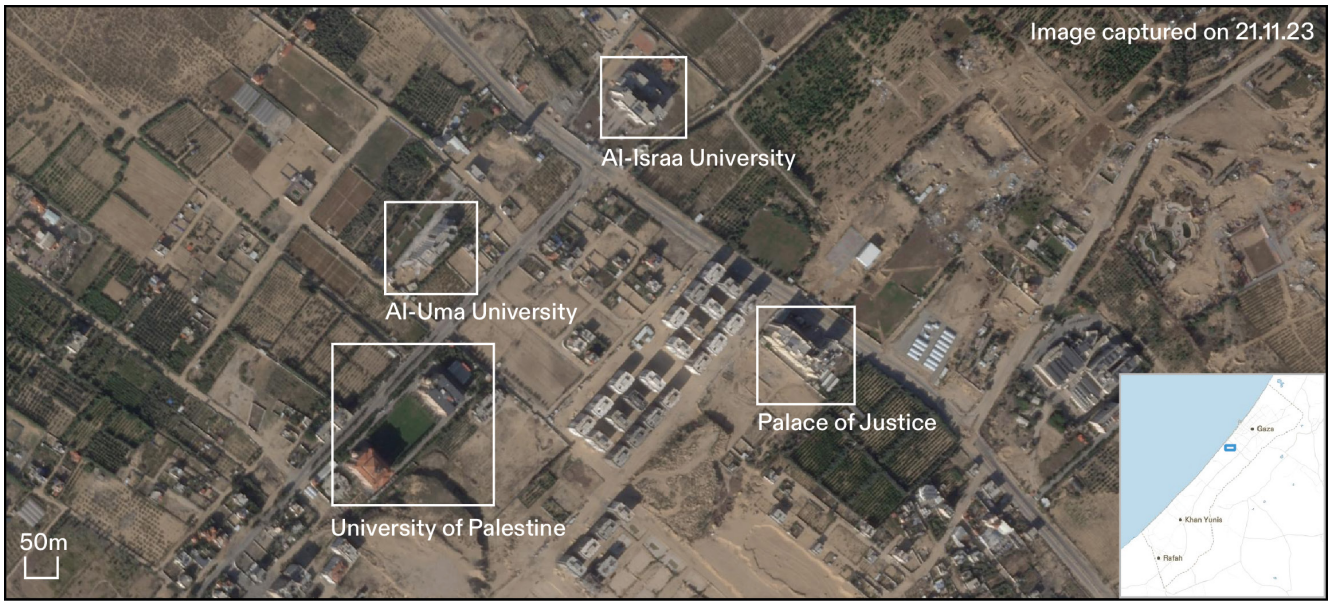

Figure 6.22. Distribution of case study sites.

85 On 20 November 2023, Israeli soldiers posed in front of the Palace of Justice, as seen in footage shared on social media from 20 November and 21 November [Incident ID: 31121-49949]. While shattered windows indicate some damage, the overall structure remains largely intact.



Figure 6.23. Top: Satellite image from Planet, 21 November. Bottom: Images from Israeli military videos.[24]

24 איתי בלומנטל IL Itay Blumental [@ItayBlumental], 'לוחמי חטיבת הנח□ל כבשו את בית המשפט של חמאס בעזה https://t.co/oU0pCUM8u2' <https://x.com/ItayBlumental/status/1726568335008260165> accessed 26 September 2024; Restitutor Orientis CH [@restitutorII], 'Gaza: L'armée israélienne prend le contrôle du bâtiment de la Cour suprême de Gaza. 31.5261045, 34.4520012' <https://x.com/restitutorII/status/1727092425485914510> accessed 26 September 2024.

86 Satellite imagery from 21 November to 29 November shows the clearing of vegetation around the court (see Chapter 4: Destruction of Agriculture and Water Resources). Visual evidence of Israeli military presence and vegetation clearing suggest that civilians were not present in the area.



Figure 6.24. Satellite images from Planet 21 November, Planet 24 November and Planet 29 November. Visible clearing of vegetation on 24 November and further clearing on 29 November.

87 On 4 December, videos published by Israeli military social media accounts show the detonation of explosions in the Palace of Justice resulting in parts of the courthouse collapsing. [Incident ID: 31204-19472]



Figure 6.25. Top: Video shared on X/Twitter by account @no_itsmyturn on 4 December 2023 showing the detonated explosion of the Palace of Justice. Bottom: Video showing the same detonated explosion of the courthouse from another angle, as shared by @psyko_ivan account on X/Twitter the same day.[25]

[25] Aleph⁋ [@no_itsmyturn], 'Adel Palace Has Been Levelled in Al Zahra City, Central #Gaza' <https://x.com/no_itsmyturn/status/1731671802705826208> accessed 26 September 2024 ; Iván Psyko EA UA [@psyko_ivan], 'IL PS Israel hizo estallar el edificio de la Corte Suprema y el Ministerio de Justicia en Gaza. Es uno de los símbolos del régimen de Hamás. https://t.co/kwlVer88G5' <https://x.com/psyko_ivan/status/1731669651531153780> accessed 26 September 2024.

88 Satellite imagery from 4 December shows that parts of the courthouse have collapsed. Satellite imagery from 6 December shows the entire structure has been demolished.



Figure 6.26. Top: Satellite image from Planet on 4 December shows parts of the Palace of Justice have collapsed. Bottom: Satellite image from Planet on 6 December shows the building demolished to the ground.

89 On 14 January 2024, the demolition of al-Israa University took place within 385 metres of the Palace of Justice, as seen in footage shared on 18 January. [Incident ID: 40114-78720]

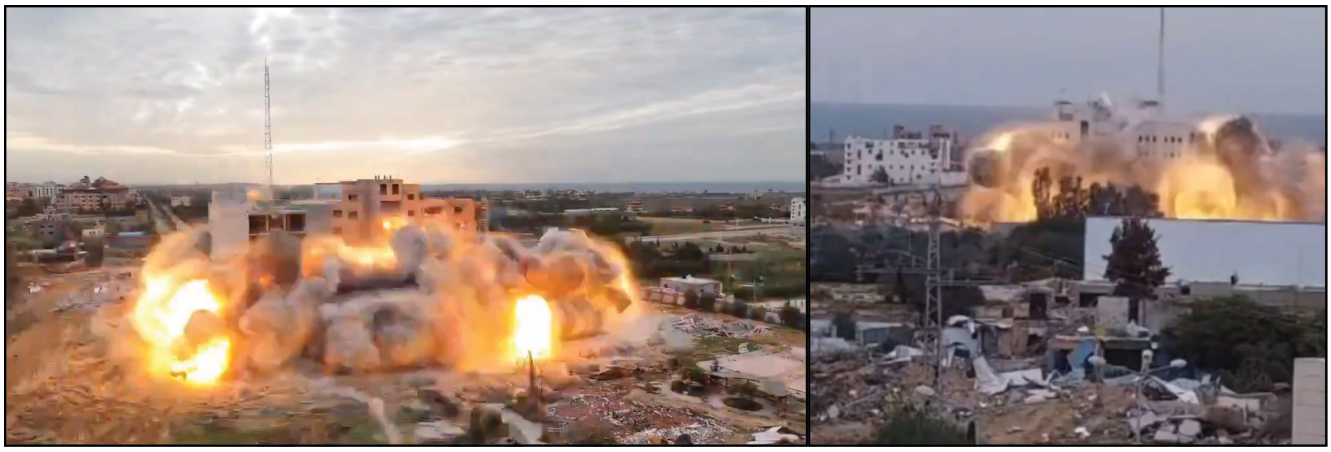

Figure 6.27 Left: Image of the controlled demolition of the al-Israa University in Al Zahra taking place in a video uploaded by Birzeit University on 18 January 2024. Right: Image of the same explosion being detonated on the university, shared by Younis Tirawi on X/Twitter on 5 April 2024.[26]



Figure 6.28. Left: View of al-Israa University before it was demolished with a plume of smoke erupting into the air, taken from a video shared by Younis Tirawi on X on 17 March 2024. Right: Satellite image captured on 14 January 2024 with the location of al-Israa University.[27]

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26 Younis Tirawi, يونس [@ytirawi], '@TalulaSha More Blowing up of Homes and Residential Buildings (19/19)' <https://x.com/ytirawi/status/1776047020811141402> accessed 26 September 2024; Birzeit University [@BirzeitU], 'Birzeit University Condemns the Brutal Assault and Bombing of @Al-Israa University Campus by the Israeli Occupation South of #Gaza City, This Occurred after Seventy Days of the Occupation Occupying the Campus; Turning It into Their Base, and Military Barracks for Their Forces' <https://x.com/BirzeitU/status/1747919397497319781> accessed 26 September 2024.

27 Younis Tirawi, يونس [@ytirawi], 'Palestine University. Israeli Soldiers Firing Missiles at the University, Blowing up Parts of Another Uni. Laughing and Enjoying the Blowing up of Other Buildings in the Netzarim Area (4/10)' <https://x.com/ytirawi/status/1769360574574461276> accessed 26 September 2024.

90 In a video posted on 20 March by the X/Twitter account @war_noir, the University of Palestine appears with visible damage on its solar panels and some parts of the structure.



Figure 6.29. Screenshot of a video shared by the X/Twitter account @war_noir on 20 March 2024 showing the University of Palestine building that sustained damage.[28]

[28] War Noir [@war_noir], '#Palestine / #Israel PS IL: Al-Qassam Brigades (#HAMAS) Ambushed an Israeli Armored Vehicle Belonging to #IDF in #Gaza. The Group Seemingly Used an RPG-7 with Locally-Made "Tandem 85" Anti-Armor Rocket (Which Is Incorrectly Identified as "Al-Yassin 105" in the Description)' <https://x.com/war_noir/status/1770527837826494763> accessed 26 September 2024.

91 The building belonging to the University of Palestine which had already shown damage has been reduced to rubble on satellite imagery from Planet Labs taken on 20 March 2024.



Figure 6.30. Top: Satellite imagery from Planet Labs on 14 March 2024 shows the University of Palestine building with solar panels on top of its roof still standing. Bottom: Satellite imagery from Planet Labs on 20 March 2024 shows the same building having been reduced to rubble.

92 User-generated content on social media shared on 22 June 2024 reveals the entire University of Palestine to have been completely destroyed. Using satellite imagery from Planet Labs from 24 June 2024 reveals that both the University of Palestine and al-Uma University are no longer standing, with only debris visible.



Figure 6.31. Top: Satellite imagery from Planet Labs on 3 April 2024 shows second building of University of Palestine damaged and al-Uma University still standing. Bottom: Satellite imagery from Planet Labs on 24 June 2024 shows University of Palestine second building having been reduced to rubble and al-Uma University demolished.

(C) University College of Applied Sciences – Zeitoun/Tel al-Hawa (24 May–12 August)

93 On 4 June 2024, an X/Twitter post reported renewed shelling by the Israeli military as Palestinian civilians attempted to return to inspect their homes near the University College of Applied Sciences after the Israeli military's withdrawal. Civilians were reportedly also recovering the bodies of those crushed by Israeli tanks.[29] [Incident ID: 40604-83642]



Figure 6.32. Bodies crushed by tanks.[30]

94 By 12 June 2024, satellite imagery reveals widespread damage to the university, and the demolition of its courtyard. A video posted on Facebook on 16 July 2024 confirms widespread destruction in the area, with several buildings struck. [Incident ID: 40612-28497] By 3 August 2024, reports mention the bombing of the remaining structures of the university. [Incident ID: 40803-09322]. Satellite imagery on 12 August 2024 shows not only the destruction of the building, but the construction of a new road for military purposes. [31]

[29] Ramy Abdu, رامي عبده [@RamAbdu], 'The Israeli Army Has Resumed Shelling Palestinian Civilians as They Attempt to Inspect Their Homes after the Army's Withdrawal from the Vicinity of the @UCASGaza College. Civilians Were Also Recovering the Bodies of Those Who Had Been Crushed by Israeli Tanks. #GazaGenocide' <https://x.com/RamAbdu/status/1797953926857392305> accessed 26 September 2024.

[30] Ramy Abdu, رامي عبده [@RamAbdu], 'The Israeli Army Has Resumed Shelling Palestinian Civilians as They Attempt to Inspect Their Homes after the Army's Withdrawal from the Vicinity of the @UCASGaza College. Civilians Were Also Recovering the Bodies of Those Who Had Been Crushed by Israeli Tanks. #GazaGenocide' <https://x.com/RamAbdu/status/1797953926857392305> accessed 26 September 2024.

[31] Quds News Network [@QudsNen], 'The Israeli Occupation Army Has Destroyed the Remaining Structures of the University College of Applied Sciences in Gaza' <https://x.com/QudsNen/status/1819674320391553125> accessed 26 September 2024.



Figure 6.33 Top: Satellite imagery of 21 November showing demolition of the university courtyard. Bottom: Satellite imagery of 12 August shows the airstrikes on the university and the construction of a military road.

95 The Palace of Justice, al-Israa University, al-Uma university, and the University of Palestine are in the clearing zone of the Netzarim corridor, which was constructed through the destruction of critical and public infrastructure as well as agricultural lands and systems (see Chapter 2: Spatial Control). Similarly, the University College of Applied Sciences lies adjacent to a newly constructed military corridor, as illustrated in Figure 6.34. Throughout these cases, the presence of Israeli military in an area seems to increase the vulnerability of nearby cultural and governmental buildings. The correlation between military activity and the repeated airstrikes on civilian infrastructure points to a calculated strategy of spatial control through destruction.

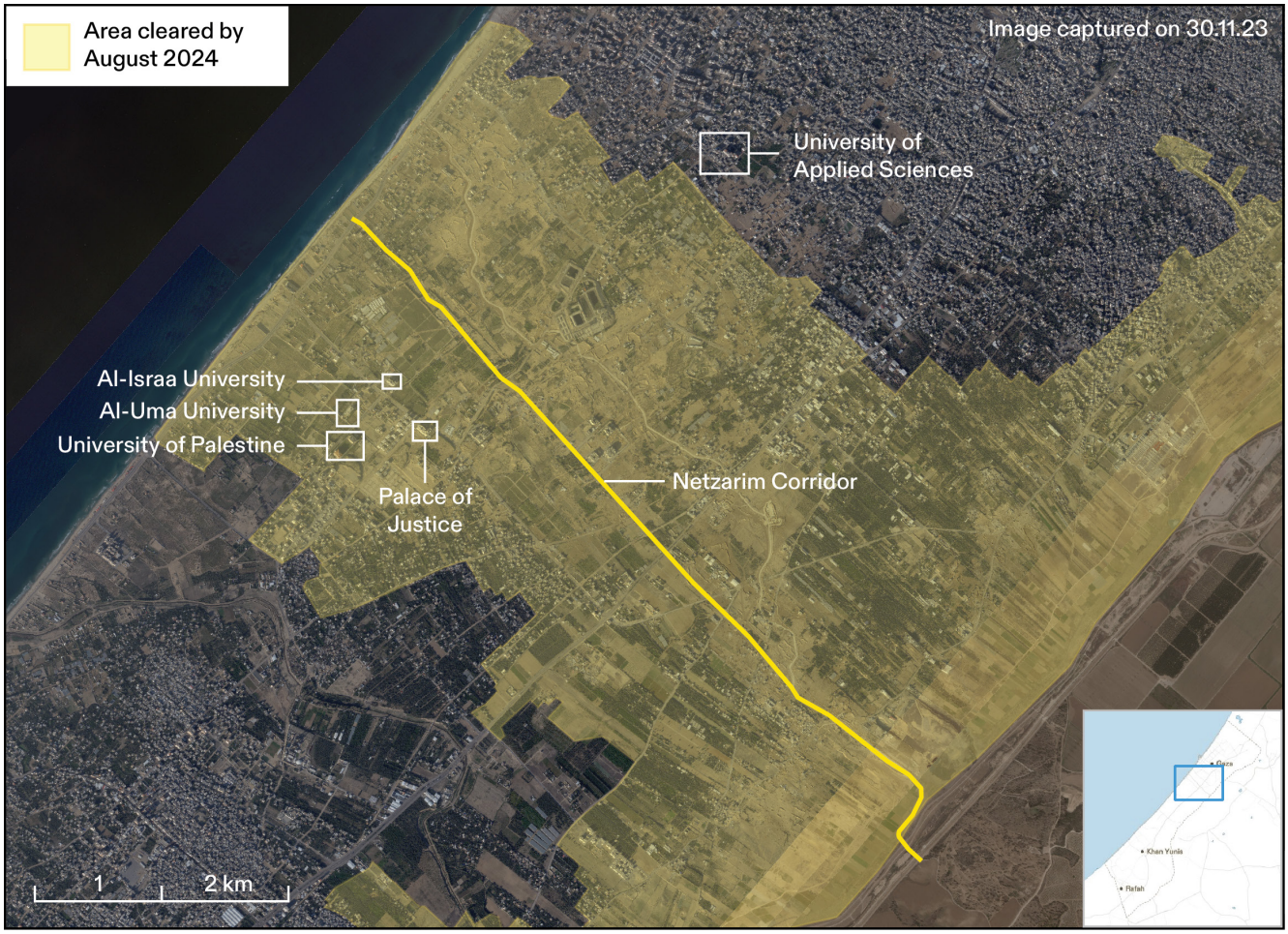

Figure 6.34. Locations of Palace of Justice and universities in relation to the Netzarim corridor.

(D) Al-Huda Mosque (Rafah) (12 February–2 September 2024)

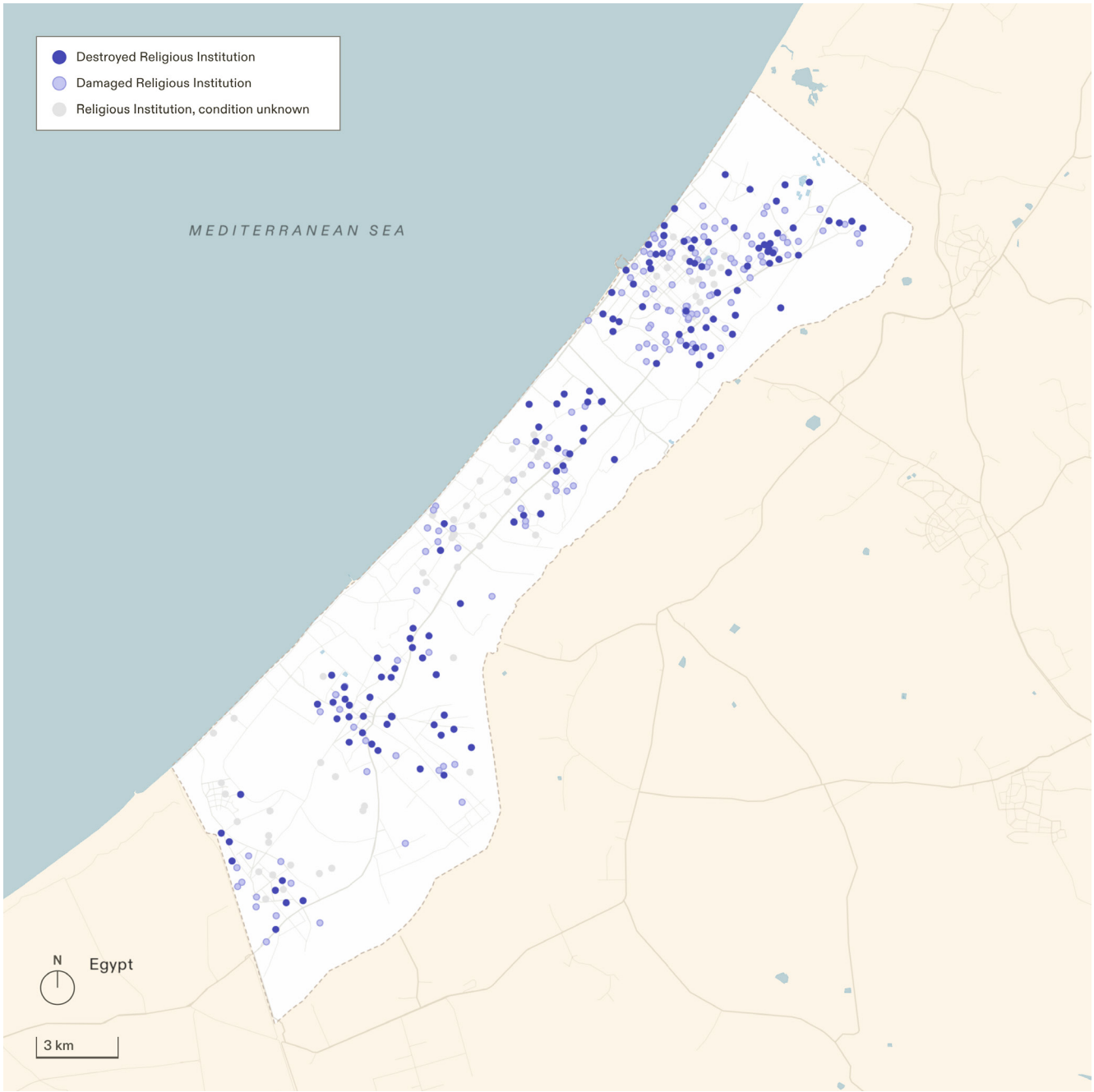

Figure 6.35. Damage and destruction of religious infrastructure between 7 October 2023 and 6 July 2024.

96 The al-Huda Mosque in Rafah was damaged by an Israeli airstrike on 12 February 2024. At the time, approximately 1.4 million people had been internally displaced to Rafah.[32] It is one of 278 religious buildings damaged or destroyed during the Israeli military campaign.



Figure 6.36. Left: Fire engulfed al-Huda Mosque on the morning of 12 February (05:34 local time). Right: People inside al-Huda Mosque around noon the same day.[33]

97 According to Wafa, a local news agency, in the early hours of 12 February: 'Israeli warplanes launched approximately 40 airstrikes, targeting numerous homes and mosques sheltering displaced individuals across the city'.[34] The Al-Rahma mosque in Shaboura and the Al-Huda mosque in the Yibna refugee

32 'Underlining "Desperation and Scarcity" in Gaza, Special Coordinator Appeals for Ceasefire as Possible Israeli Military Operation Looms Over Rafah | Meetings Coverage and Press Releases' <https://press.un.org/en/2024/sc15600.doc.htm> accessed 26 September 2024.

33 Hind Khoudary [@Hind_Gaza], 'Israeli Warplanes Targeted the Al-Huda Mosque in Rafah, Dozens of Displaced Palestinians Were Sheltering inside.' <https://x.com/Hind_Gaza/status/1756869279385788851> accessed 26 September 2024.

34 'Hundreds of Civilian Casualties as Israel Launches a Bloodbath in Rafah' (WAFA Agency) <https://english.wafa.ps/Pages/Details/141555> accessed 26 September 2024.

camp were reported to be sheltering dozens of displaced families. The Palestinian Health Ministry and the Palestinian Red Crescent Society estimated 100 civilians were killed during the raid, although specific casualties at al-Huda Mosque were not reported.[35] [Incident ID 40212-67287]

[35] 'Rafah: Israeli Airstrikes Kill More than 100 as International Alarm Mounts over Anticipated Ground Offensive | CNN' <https://edition.cnn.com/2024/02/12/middleeast/israel-airstrikes-rafah-ground-offensive-looms-in-tl-hnk/index.html> accessed 26 September 2024.



Figure 6.37. Top: Satellite image from Planet 4 February, shows the al-Huda Mosque without any apparent damage. Bottom: Satellite image from Planet 14 February, shows the collapse of the roof the al-Huda Mosque.

98 On 3 September, a Caterpillar D9 bulldozer demolished the mosque's minaret. An Israeli soldier posted two photos on his social media account, showing the flattened minarets and captioned them with the words: 'and continue to rule and to bury'. [Incident ID: 40903-59006]



Figure 6.38. The demolition of al-Huda Mosque minaret on 3 September.[36]

99 The al-Huda Mosque minaret in Rafah was demolished after the city had been largely evacuated of civilians, and after it had already been damaged. This suggests that already damaged cultural and governmental buildings often face further destruction when military presence is established in an area [Incident ID: 40903-59006].

[36] Quds News Network [@QudsNen], 'An IOF Soldier Posts These Two Pictures on His Social Media Account, Showing Mosque Minarets in Rafah Being Flattened. The Soldier Comments, "And Continue to Crown and to Bury."' <https://x.com/QudsNen/status/1830749635448606934> accessed 26 September 2024.

(E) Al-Saqqa Mosque (14 November–4 April]

100 The sequence of events shows how the Israeli military targeted Khan Younis with airstrikes in November and took control of the area in February with a ground operation. In February, the Israeli military initiated a controlled demolition of the al-Saqqa Mosque, which was visibly destroyed on open-source evidence and satellite imagery.

101 In Khan Younis, open-source evidence shows that the al-Saqqa Mosque had been heavily damaged by 14 and 15 November, with its facade missing and debris visible on the ground in front of the religious site. [Incident ID: 31114-74766; 31115-47485]

102 Satellite imagery from Planet Labs from 24 February shows the golden dome of the al-Saqqa Mosque missing, which aligns with footage posted on social media on 4 April of the controlled demolition of the mosque. [Incident ID: 40224-39086] The golden dome appears to have collapsed onto the ground, as well as the remaining structures of the mosque having been reduced to rubble.



Figure 6.39. Top left: Image of the al-Saqqa Mosque on elagha.net with a written text about the inauguration of the mosque on 8 March 2023.[37] Top right: Satellite imagery by Planet Labs from 20 October 2023 showing the mosque still standing. Middle left: Video shared on Instagram by @adil_hamdan account on 15 November 2023 after the mosque was impacted.[38] Middle right: Satellite imagery by Planet Labs from 24 November 2023. Bottom left: Images shared by Younis Tirawi on X/Twitter on 4 April 2024 showing an explosion being detonated on the al-Saqqa Mosque, resulting in the golden dome collapsing to the ground and the remaining structures reduced to rubble.[39] Bottom right: Satellite imagery by Planet Labs from 24 February 2024 showing the mosque collapsed to rubble.

[37] '20130308_16_4051_0.Jpg (600×662)' <https://elagha.net/files/pictures/20130308_16_4051_0.jpg> accessed 26 September 2024.

[38] '@adli_hamdan on Instagram: "#أنقذوا_غزة #فلسطين #قطاع_غزة #البلد_وسط #خانيونس #مسجد_السقا"' (*Instagram*, 15 November 2023) <https://www.instagram.com/adli_hamdan/reel/CzqilwustP6/> accessed 26 September 2024.

[39] Younis Tirawi, يونس [@ytirawi], 'Israeli Soldier from Bismalach Brigade Blowing up an Already Destroyed Mosque in Khan Younis and Showing the Aftermath of the Blowing up. The Caption: "Khan Yunis» (4/X)' <https://x.com/ytirawi/status/1775998678521495867> accessed 26 September 2024.

(F) Rafah municipality building (15 July–22 August)

103 On 7 May, open-source footage shows that the Rafah municipality building already has sustained damage with active flames inside the building, resulting in plumes of black smoke erupting from its windows. [Incident ID: 40507-91680]



Figure 6.40. A video shared on social media by AlQastalps which shows the damaged Rafah municipality building with active flames inside.[40]

[40] القسطل الإخباري [@AlQastalps], 'تغطية صحفية| اندلاع النيران إثر قصف مدفعي إسرائيلي استهدف مبني بلدية رفح وسط المدينة https://t.co/eK1cN5uPpy' <https://x.com/AlQastalps/status/1787927921077674323> accessed 26 September 2024.

104 An image posted on Telegram on 7 August 2024 showed Israeli soldiers posing in front of the Rafah municipality and holding up a sign apparently ripped from the facade with the words: 'Palestinian National Authority Ministry of Local Government Rafah Municipality'. [Incident ID: 40807-70569]



Figure 6.41. Left: Image shared by Amit Segal on Telegram on 7 August 2024 that shows the Israeli military posing in front of the entrance of the Rafah municipality building. Right: Satellite imagery by Google.[41]

105 Analysis of satellite imagery indicates that the Rafah municipality building appeared to be still standing on 7 August 2024, corroborating the view that the entrance was still clearly visible behind the soldiers in the social media post shared on Telegram that day. However, satellite imagery on 12 August and 22 August shows the municipality building has been reduced to rubble. [Incident ID: 40822-95472]

41 'Telegram: Contact @amitsegal' <https://t.me/amitsegal/36987> accessed 26 September 2024.

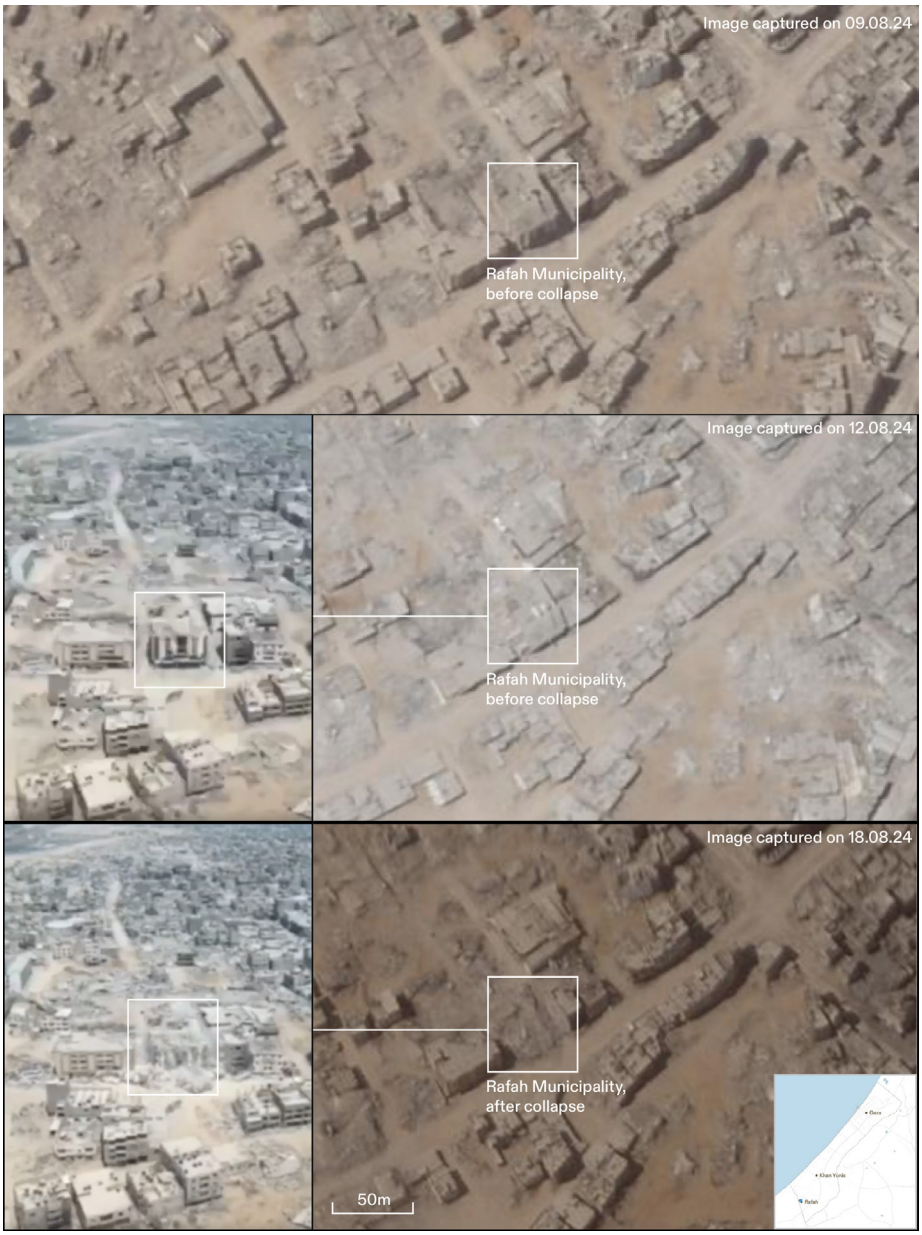

Figure 6.42. Top: Satellite imagery by Planet Labs from 9 August 2024 showing the Rafah municipality building still standing. Middle left: Aerial footage posted on Rafah municipality's Facebook page on 22 August 2024.[42] Middle right: Satellite imagery by Planet Labs from 12 August 2024 showing the Rafah municipality building still standing. Bottom left: Aerial footage shared on 22 August 2024 by Rafah municipality's Facebook page shows an explosion being detonated, resulting in the municipality building's collapse.[43] Bottom right: Satellite imagery by Planet Labs from 18 August 2024 showing the Rafah municipality building after collapse.

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42 | بيان استنكار في ظل استمرار العدوان الصهيوني الهمجي وحرب الإبادة الجماعية التي تنفذها قوات الاحتلال ضد كلما هو فلسطيني، أقدم جنود الاحتلال على تفخيخ... | By بلدية رفح | Facebook <https://www.facebook.com/watch/?v=8310824809004769> accessed 26 September 2024.

43 | بيان استنكار في ظل استمرار العدوان الصهيوني الهمجي وحرب الإبادة الجماعية التي تنفذها قوات الاحتلال ضد كلما هو فلسطيني، أقدم جنود الاحتلال على تفخيخ... | By بلدية رفح | Facebook <https://www.facebook.com/watch/?v=8310824809004769> accessed 26 September 2024.

2.2 Areas in proximity to critical infrastructure were targeted:

(A) Repeated disruption of service roads immediately surrounding critical infrastructure

(B) Repeated destruction of buildings, leading to the accumulation of debris on the roads surrounding critical infrastructure

106 During October and early November, critical infrastructure became increasingly isolated. Airstrikes impacted access roads around critical infrastructure, either through direct attacks or through the accumulation of debris from nearby damaged or destroyed buildings. This is particularly evident in areas around hospitals where satellite imagery shows roads rendered impassable. In such conditions, ambulances and emergency vehicles are unable to reach these facilities. In addition, our findings show the repeated destruction of access roads around shelters, which restricts the movement of civilians to safe areas, and the destruction of sites proximate to the Salah al-Din Road evacuation corridor, restricting the movement of civilians following evacuation orders.

107 This is illustrated through the following examples:

(a) Access to al-Quds Hospital

(b) Access to Kamal Adwan Hospital

(c) Access to al-Amal Hospital

(d) Access to al-Shifa Medical Complex Hospital

(e) Access to Turkish-Palestinian Friendship Hospital

(f) Access to Ahmad Shawqi Secondary Girls School (which received IDPs according to UNICEF)[44]

(g) Access to Khalil Uweida Elementary Co-ed and Khalil Uweida Prep Girls School (which received IDPs according to UNICEF)[45]

(h) Salah al-Din Road evacuation corridor

[44] 'oPt Education Cluster - Schools Dashboard - Gaza 2023' <https://gis.unicef.org/portal/apps/dashboards/c6e0bfd744164b2f84276071b1a83e78> accessed 26 September 2024.

[45] 'oPt Education Cluster - Schools Dashboard - Gaza 2023' <https://gis.unicef.org/portal/apps/dashboards/c6e0bfd744164b2f84276071b1a83e78> accessed 26 September 2024.

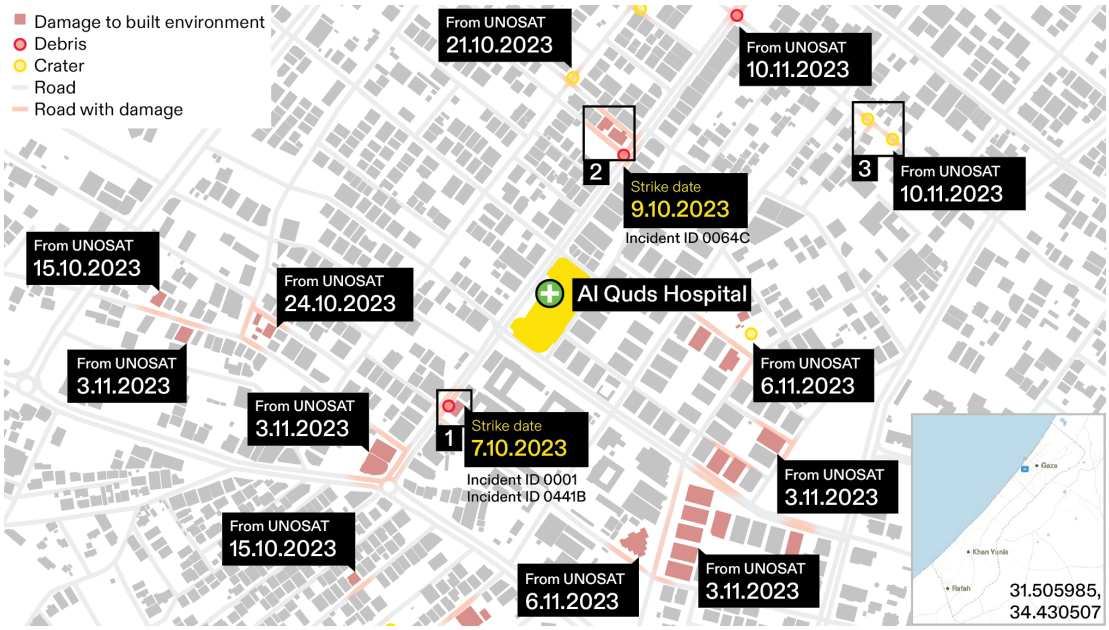

Figure 6.43. Loss of access to al-Quds Hospital due to the repeated targeting of surroundings and the appearance of craters and debris blocking the road (15 October–10 November 2024).



Figure 6.44. Grid of satellite imagery showing damage in the vicinity of al-Quds Hospital.

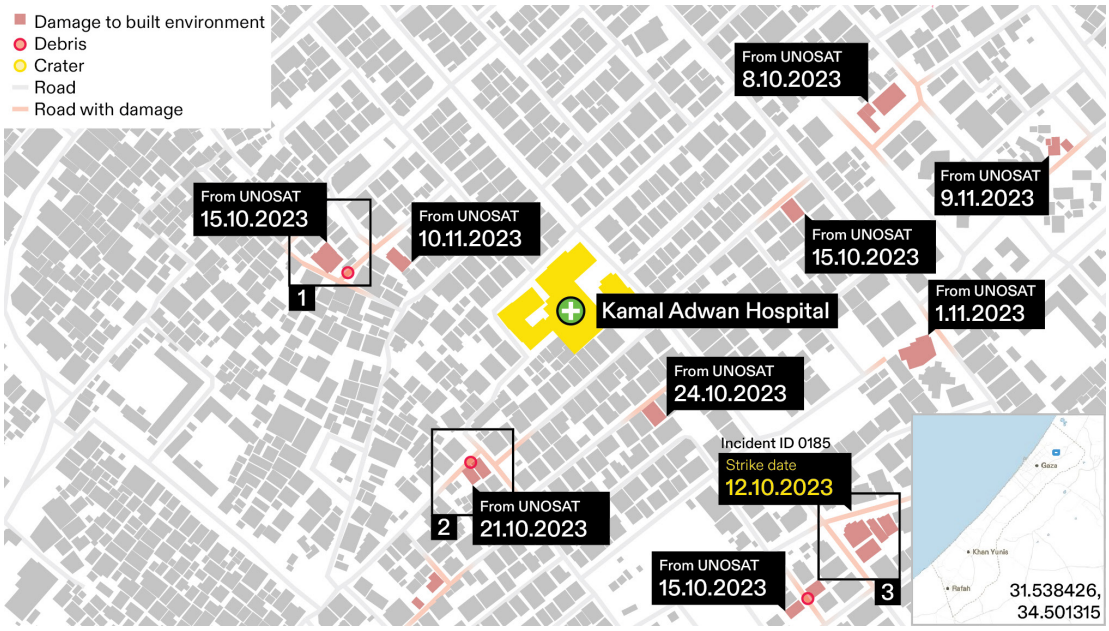

Figure 6.45. Loss of access to Kamal Adwan Hospital due to the repeated targeting of surroundings and the appearance of debris blocking the road (15 October–10 November 2024).



Figure 6.46. Grid of satellite imagery showing damage in the vicinity of Kamal Adwan Hospital.

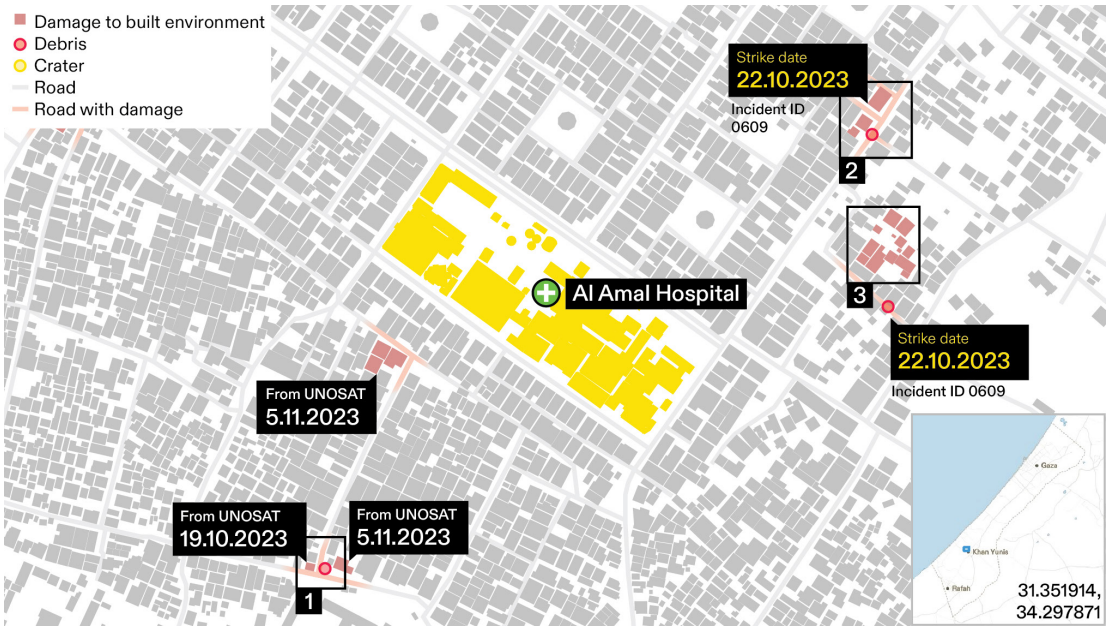

Figure 6.47. Loss of access to al-Amal Hospital due to the repeated targeting of surroundings and the appearance of debris blocking the road (15 October–5 November 2024).



Figure 6.48. Grid of satellite imagery showing damage in the vicinity of al-Amal Hospital.

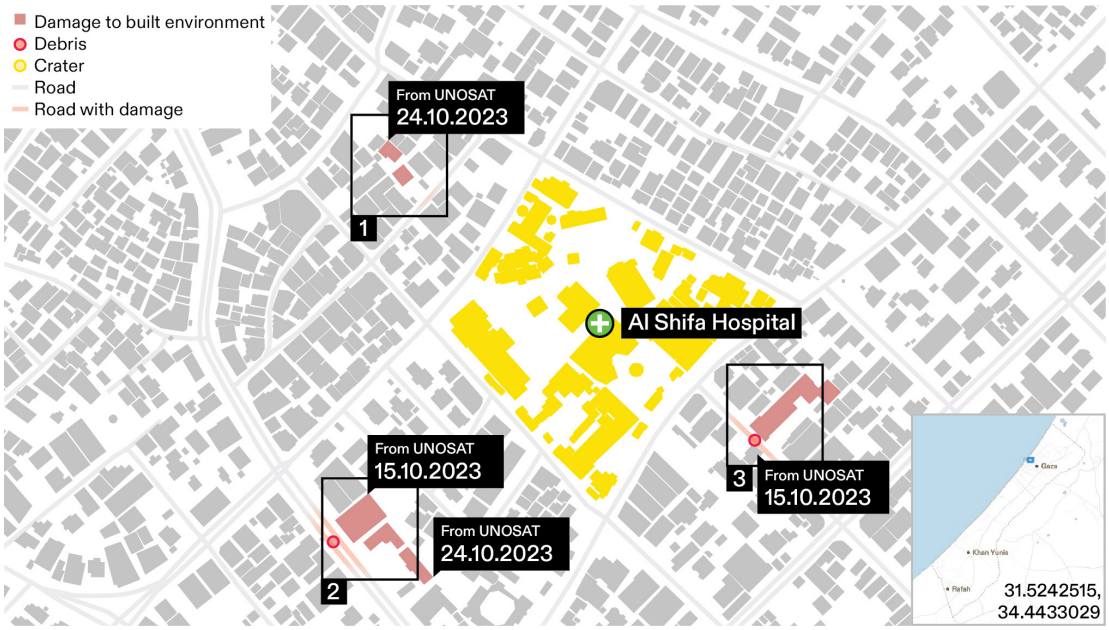

Figure 6.49. Loss of access to al-Shifa Hospital due to the repeated targeting of surroundings and the appearance of debris blocking the road (15 October–24 October 2024).



Figure 6.50. Grid of satellite imagery showing damage in the vicinity of al-Shifa Hospital.

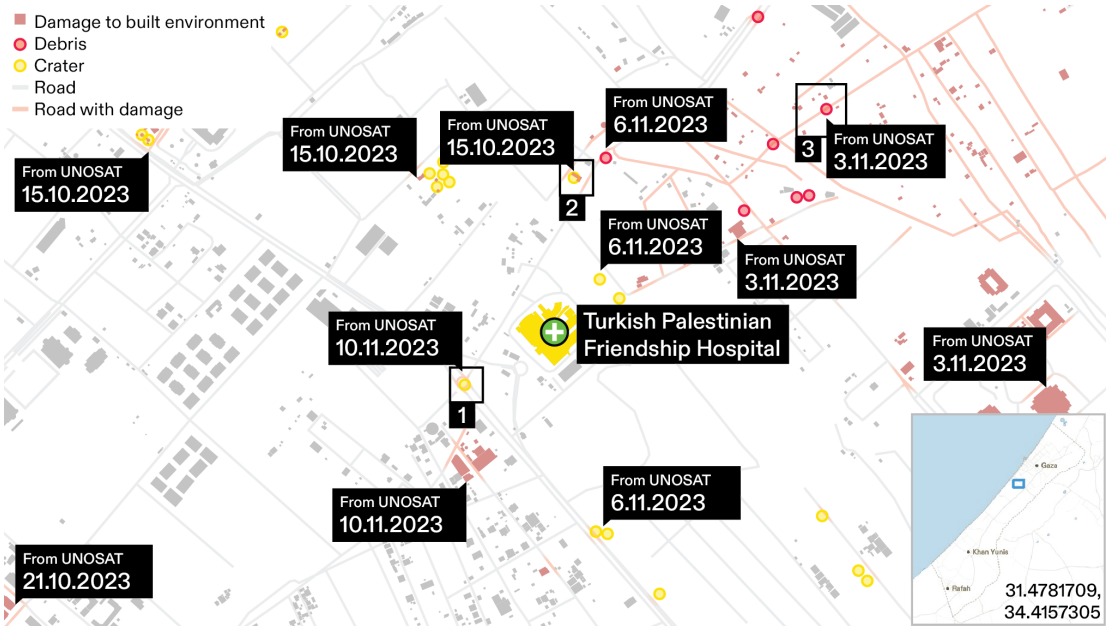

Figure 6.51. Loss of access to Turkish-Palestinian Friendship Hospital due to the repeated targeting of surroundings and the appearance of craters and debris blocking the road (15 October–10 November 2024).

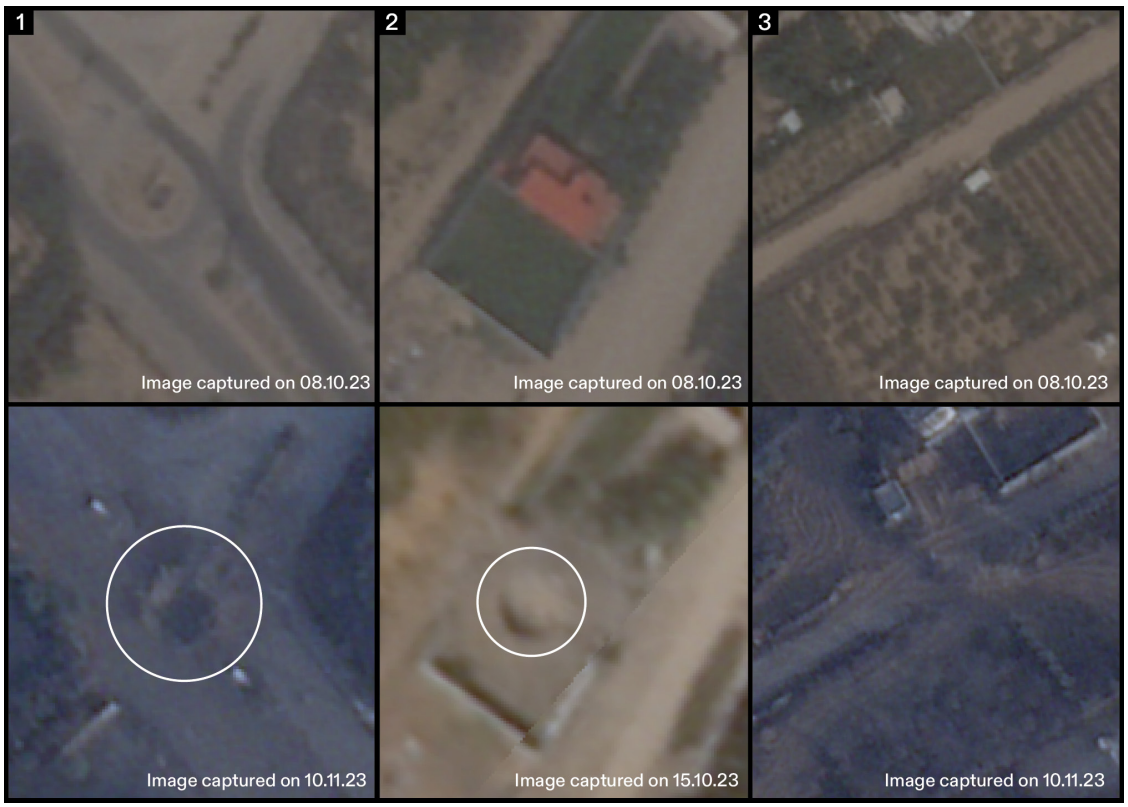

Figure 6.52. Grid of satellite imagery showing damage in the vicinity of Turkish-Palestinian Friendship Hospital.

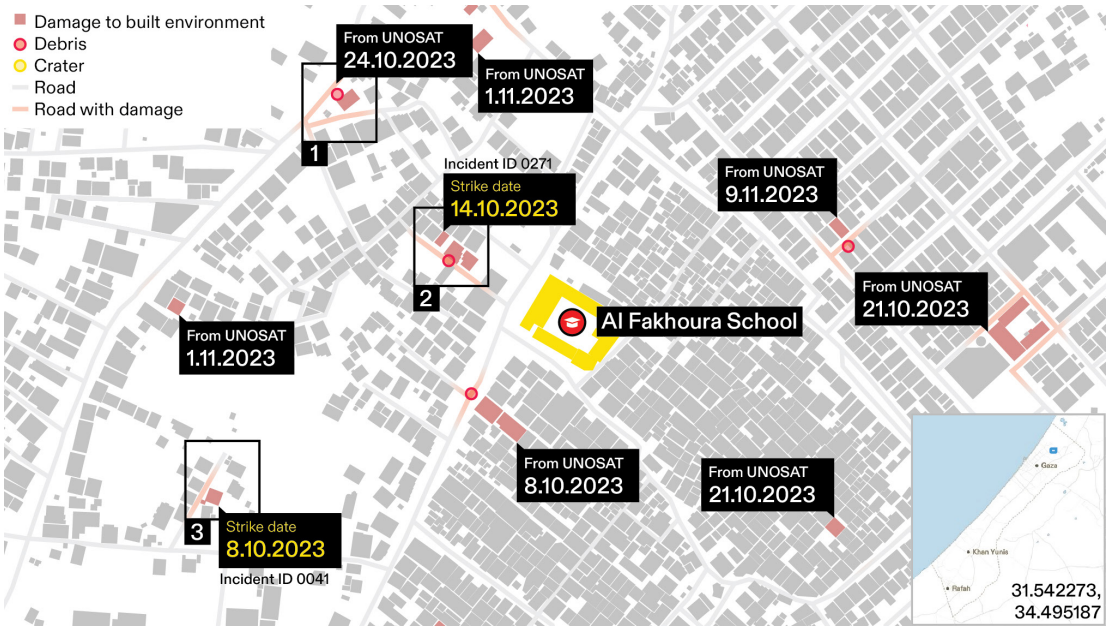

Figure 6.53. Loss of access to al-Fakhoura shelter due to the repeated targeting of surroundings and the appearance of debris blocking the road (15 October–10 November 2024).



Figure 6.54. Grid of satellite imagery showing damage in the vicinity of the shelter.

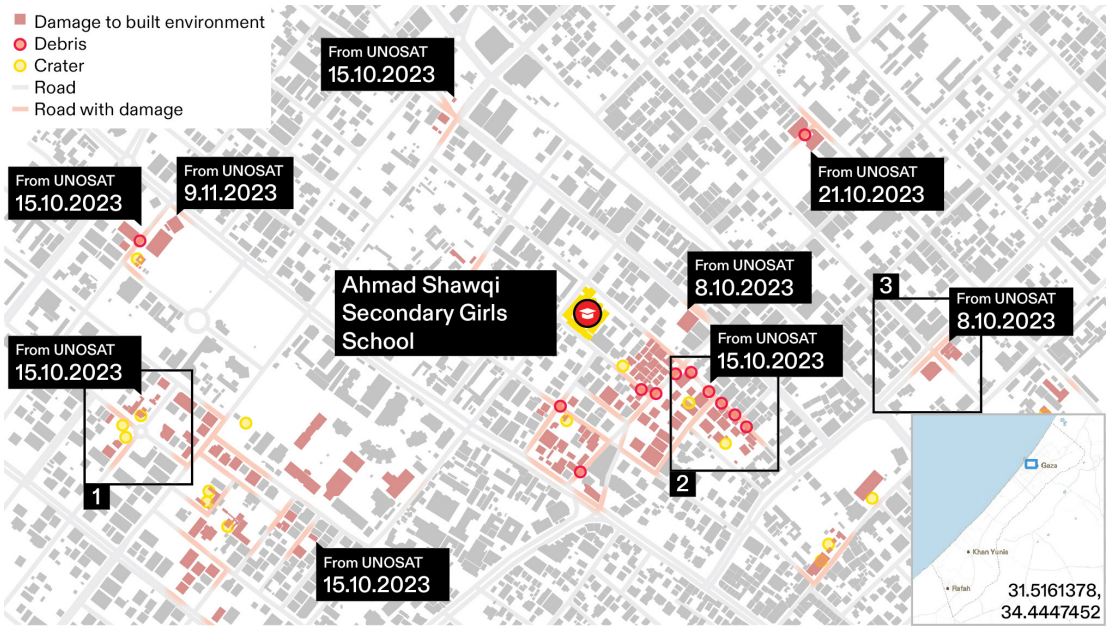

Figure 6.55. Loss of access to Ahmad Shawqi Secondary Girls School shelter due to the repeated targeting of surroundings and the appearance of craters and debris blocking the road (15 October–8 November 2024).



Figure 6.56. Grid of satellite imagery showing damage in the vicinity of the shelter.

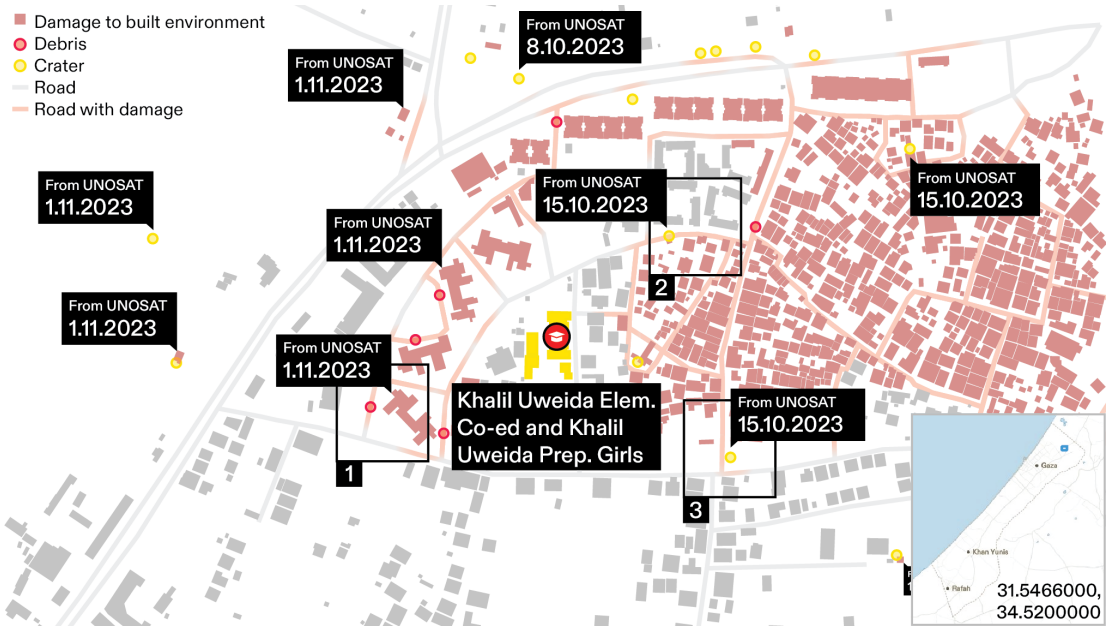

Figure 6.57. Loss of access to Khalil Uweida Elementary Co-ed and Khalil Uweida Preparatory Girls School due to the repeated targeting of surroundings and the appearance of craters and debris blocking the road (15 October–1 November 2024).



Figure 6.58. Grid of satellite imagery showing damage in the vicinity of the shelter.



Figure 6.59. Plan view of the Salah al-Din evacuation corridor north of Wadi Gaza. Five areas along the route have been highlighted to show examples of damage to the route between 7 October and 10 November 2023.



Figure 6.60. Before-and-after satellite images of Salah al-Din Road evacuation corridor show damage by debris.



Figure 6.61. Plan view of the Salah al-Din evacuation corridor north of Wadi Gaza. Five areas along the route have been highlighted to show examples of damage to the route between 7 October and 10 November 2023.



Figure 6.62. Satellite images showing before and after the Salah al-Din evacuation corridor was damaged by debris.



Figure 6.63. Plan view of the Salah al-Din evacuation corridor north of Wadi Gaza. Five areas along the route have been highlighted to show examples of damage to the route between 7 October and 10 November 2023.



Figure 6.64. Satellite images showing before and after the Salah al-Din evacuation corridor was damaged by debris.



Figure 6.65. Plan view of the Salah al-Din evacuation corridor north of Wadi Gaza. Five areas along the route have been highlighted to show examples of damage to the route between 7 October and 10 November 2023.



Figure 6.66. Satellite images showing before and after the Salah al-Din evacuation corridor was damaged by debris.



Figure 6.67. Plan view of the Salah al-Din evacuation corridor north of Wadi Gaza. Five areas along the route have been highlighted to show examples of damage to the route between 7 October and 10 November 2023.



Figure 6.68. Satellite images showing before and after the Salah al-Din evacuation corridor was damaged by debris.

2.3 Repeated disruption of road networks isolated civilians in two ways:

(A) It was more difficult for civilians to leave areas in which infrastructure had been destroyed

(B) It was more difficult for aid to reach civilians in those areas

108 The destruction of roads not only limits access to critical infrastructure like hospitals, shelters, and evacuation routes but also blocks the delivery of essential supplies, including humanitarian aid, to densely populated urban areas where they are often most urgently needed. Consequently, this collapse of transport infrastructure further exacerbates the conditions produced through military destruction and damage, leaving civilians with little or no access to resources needed to sustain conditions of life.

109 We estimated the percentage of damaged roads in north and south Gaza separately based on UNOSAT damage data from 15 October, 7 November, and 7 January (the latter only for south). These dates were selected because damage after 7 November in the north, and after 7 January in the south, becomes so extensive that it significantly alters the street network.

110 At the same time, the destruction of roads complicated evacuation efforts. Despite repeated instructions for civilians to evacuate from the north to the south, these evacuations were hindered by damaged roads.[46] From December onwards, civilians in the south were also told to evacuate from the east to the west, but unsafe and unstable roads made it more difficult for many to follow these orders.[47] In some instances, civilians were forced to flee on foot, though many could not walk.[48] Overall, pedestrian movement was more precarious.

111 This analysis shows that while the eventual destruction of infrastructure pressured people to leave certain areas, the very means of ensuring their safe evacuation were also disrupted, leaving civilians stranded in zones most vulnerable to ongoing military operations and humanitarian collapse.

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46 'Trapped Palestinians Say Israeli Order to Evacuate Gaza Hospital Is Impossible under Bombardment' (*NBC News*, 31 October 2023) <https://www.nbcnews.com/news/world/trapped-palestinians-refusing-israeli-orders-evacuate-gaza-hospital-rcna122785> accessed 30 September 2024.

47 'Israel Orders Evacuations as It Widens Offensive, but Palestinians Are Running out of Places to Go' (*AP News*, 4 December 2023) <https://apnews.com/article/israel-hamas-war-news-12-04-2023-ece85568ce36cb-2315f26b10adda30fa> accessed 30 September 2024.

48 'Civilians Fleeing Northern Gaza's Combat Zone Report a Terrifying Journey on Foot Past Israeli Tanks' (*AP News*, 7 November 2023) <https://apnews.com/article/civilians-fleeing-gaza-combat-israel-ground-operation-656545c0bd132d5dc2b6d108687ff13e> accessed 26 September 2024.

112 **Factor of distance increase to the nearest hospital in northern Gaza**

113 As early as 15 October, data shows that the shortest distance to the nearest hospital for many civilians increased up to 8.55 km (see Figure 6.69). Additionally, three areas were completely disconnected due to bombing, cutting them off from access to critical infrastructure, including evacuation corridors (see Figure 6.69). Our analysis shows that these areas later became entry points for the ground invasion on 27 October. This left already isolated civilians vulnerable to the military campaign.

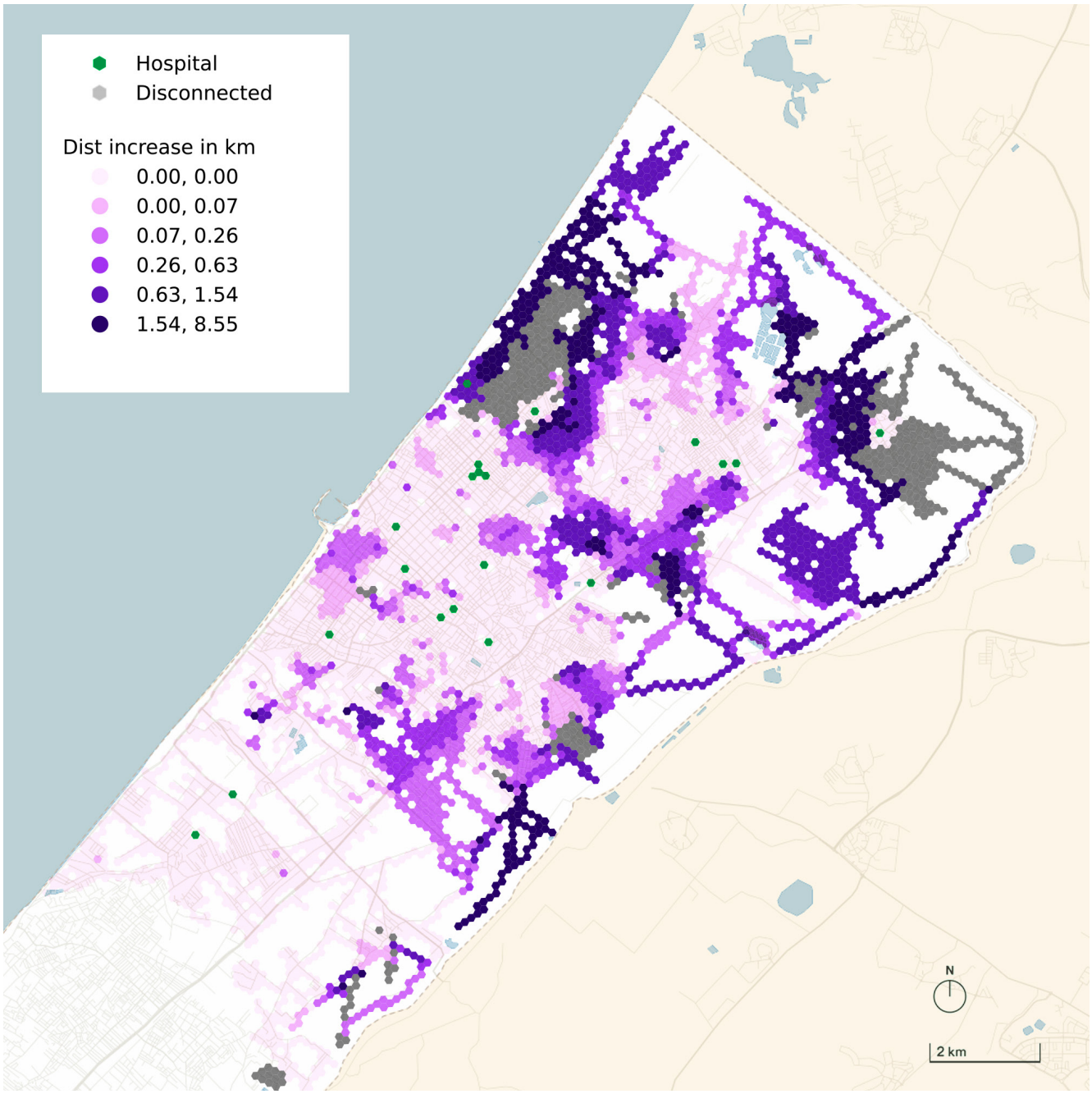

Figure 6.69. Map illustrating the factor by which distance increased for civilians to travel to the nearest hospital in northern Gaza as of 15 October 2023.

114 By 7 November, the level of disconnection intensified, isolating entire areas such as Beit Hanoun, Beit Lahia, and parts of Gaza City, including al-Zaytoun (see Figure 6.70). Civilians in these regions were cut off from essential resources, evacuation routes, and aid deliveries.

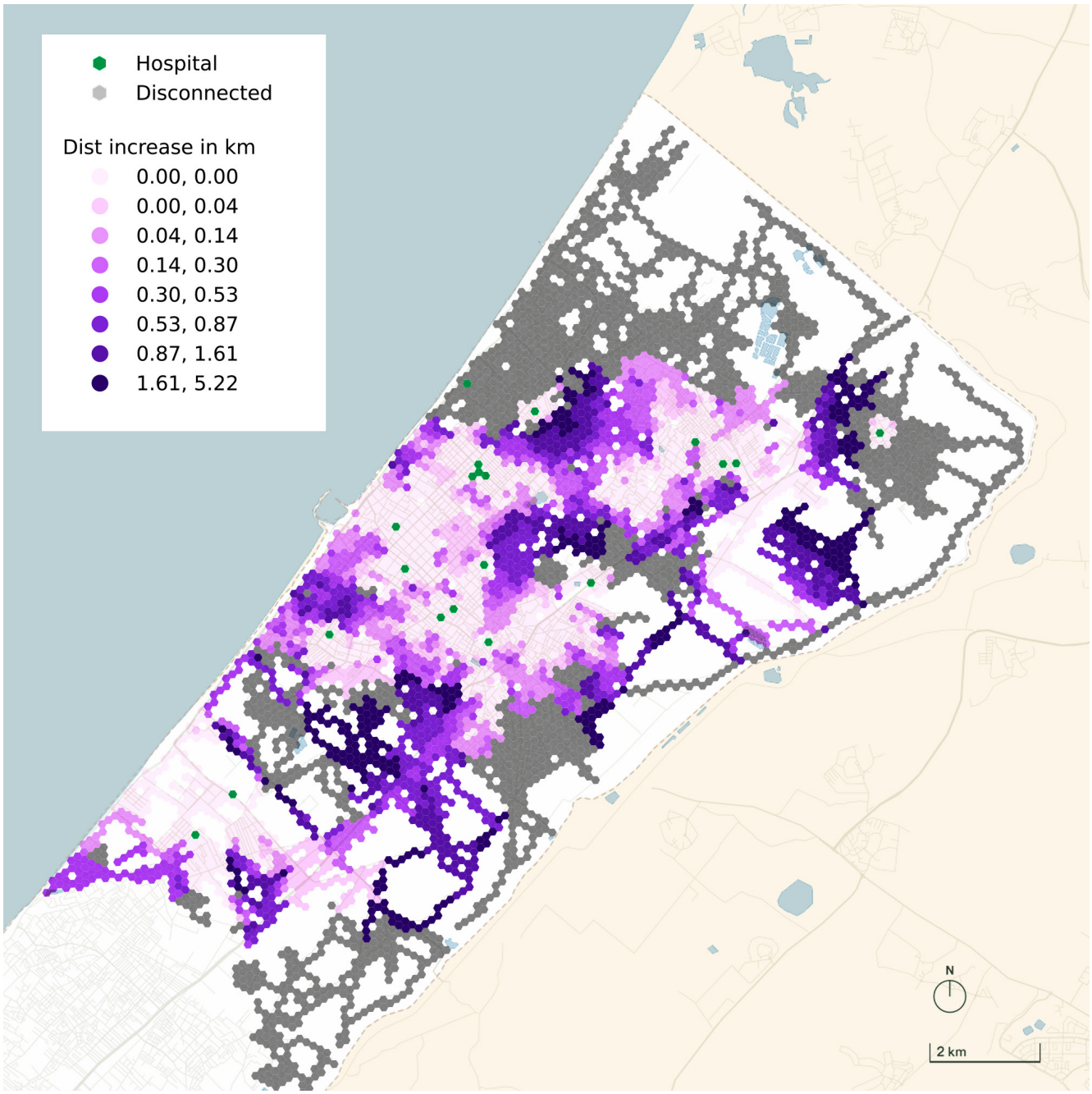

Figure 6.70. Map illustrating the factor by which distance increased for civilians to travel to the nearest hospital in northern Gaza as of 7 November 2023.

115 Factor of distance increase to the nearest hospital in southern Gaza

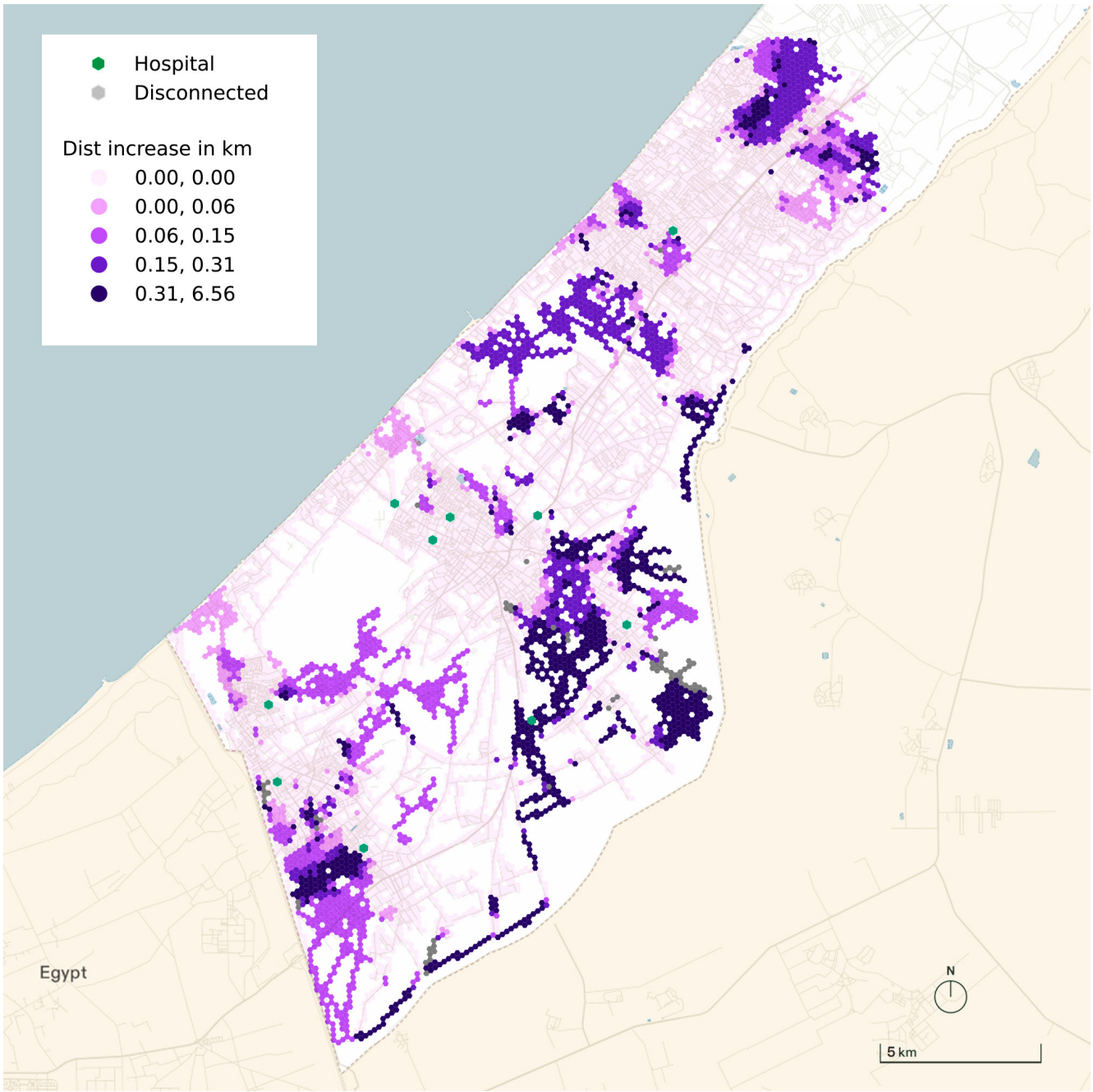

Figure 6.71. Map illustrating the factor by which distance increased for civilians to travel to the nearest hospital in southern Gaza as of 15 October 2023.

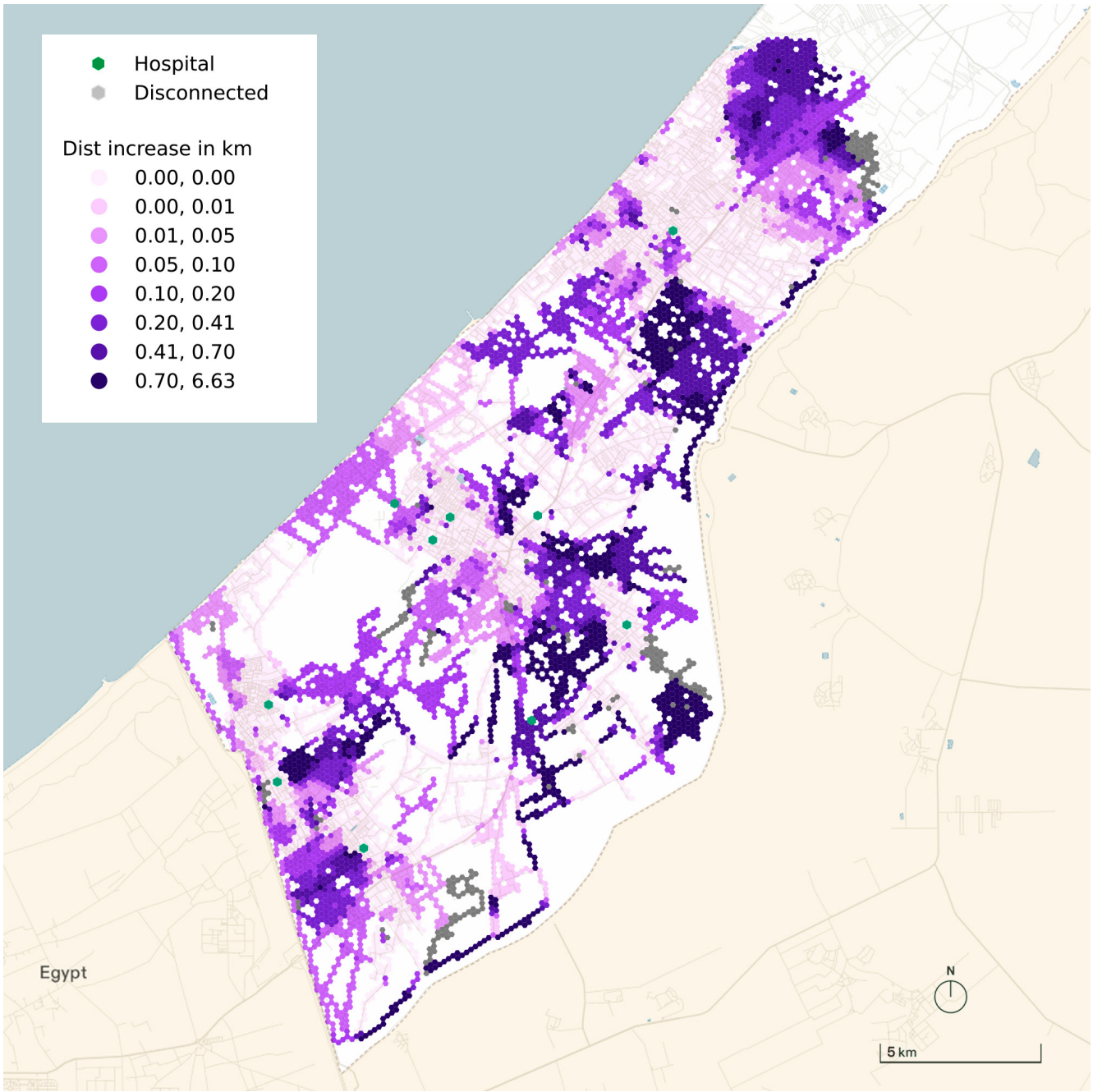

Figure 6.72. Map illustrating the factor by which distance increased for civilians to travel to the nearest hospital in southern Gaza as of 7 November 2023.

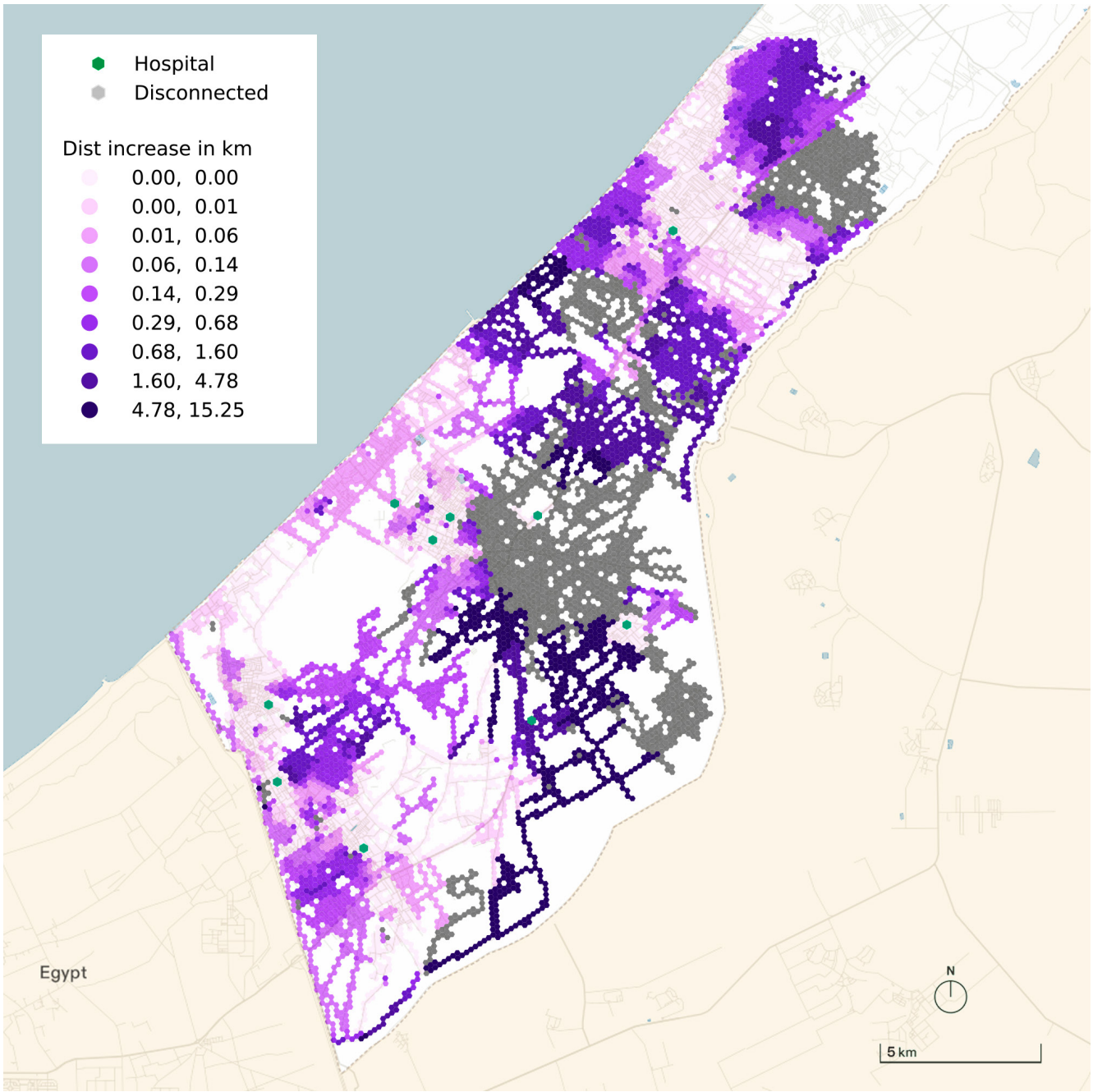

Figure 6.73. Map illustrating the factor by which distance increased for civilians to travel to the nearest hospital in southern Gaza as of 7 January 2024.

116 Factor of distance increase to the evacuation corridor in northern Gaza

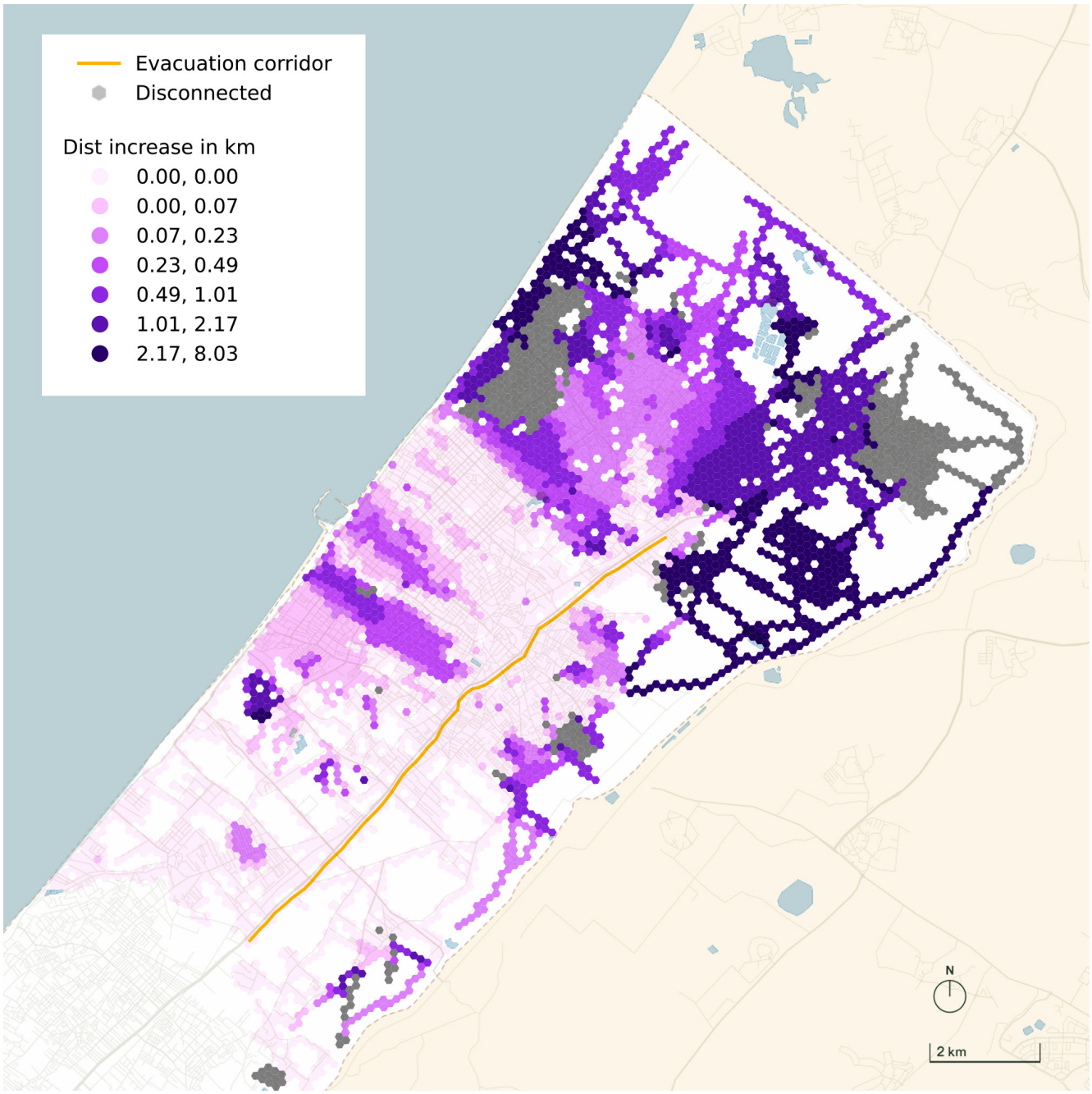

Figure 6.74. Map illustrating the factor by which distance increased for civilians to travel to the evacuation corridor in northern Gaza as of 15 October 2023.

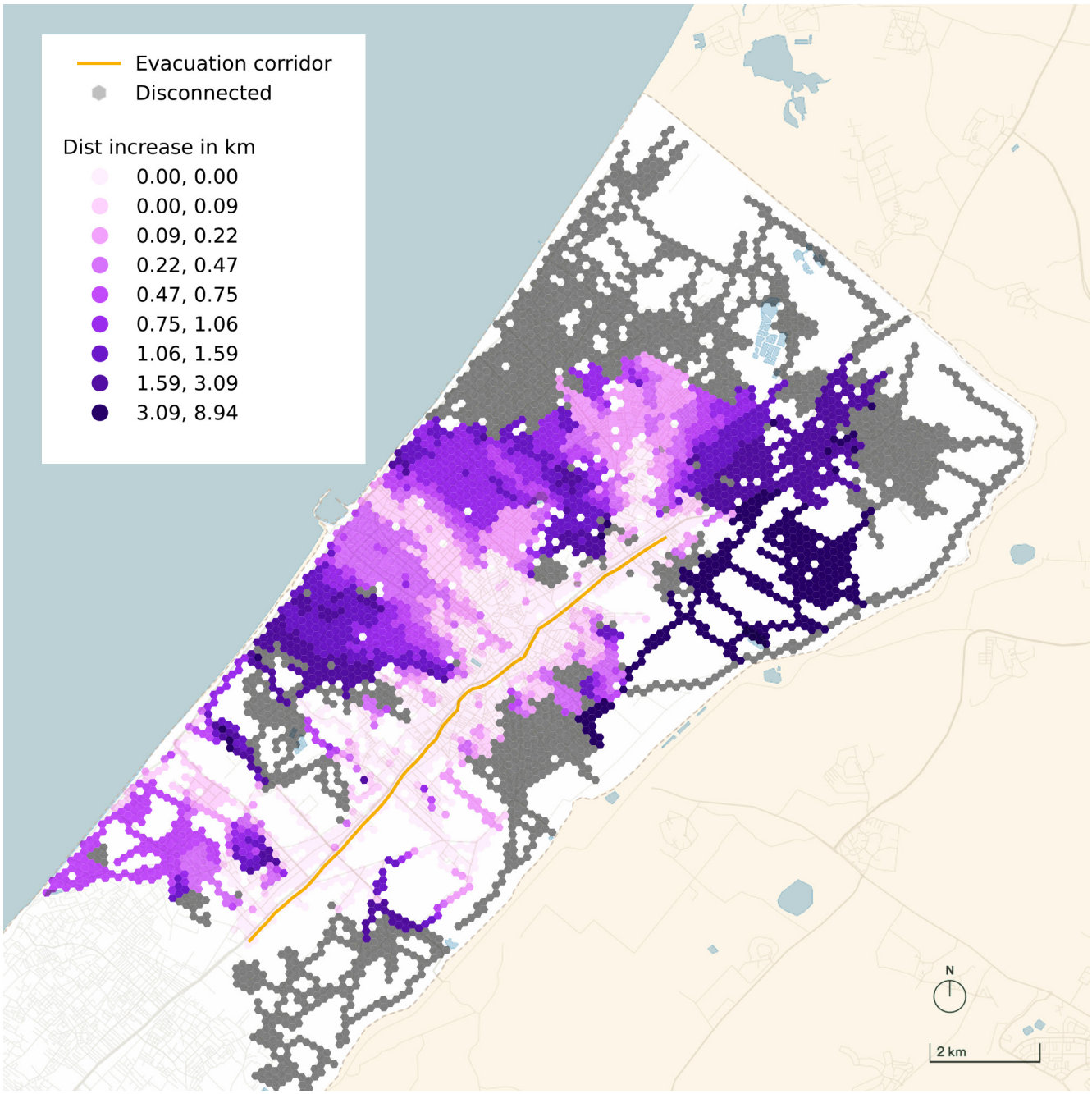

Figure 6.75. Map illustrating the factor by which distance increased for civilians to travel to the evacuation corridor in northern Gaza as of 7 November 2023.

117 Factor of distance increase to the 'humanitarian zone' in southern Gaza

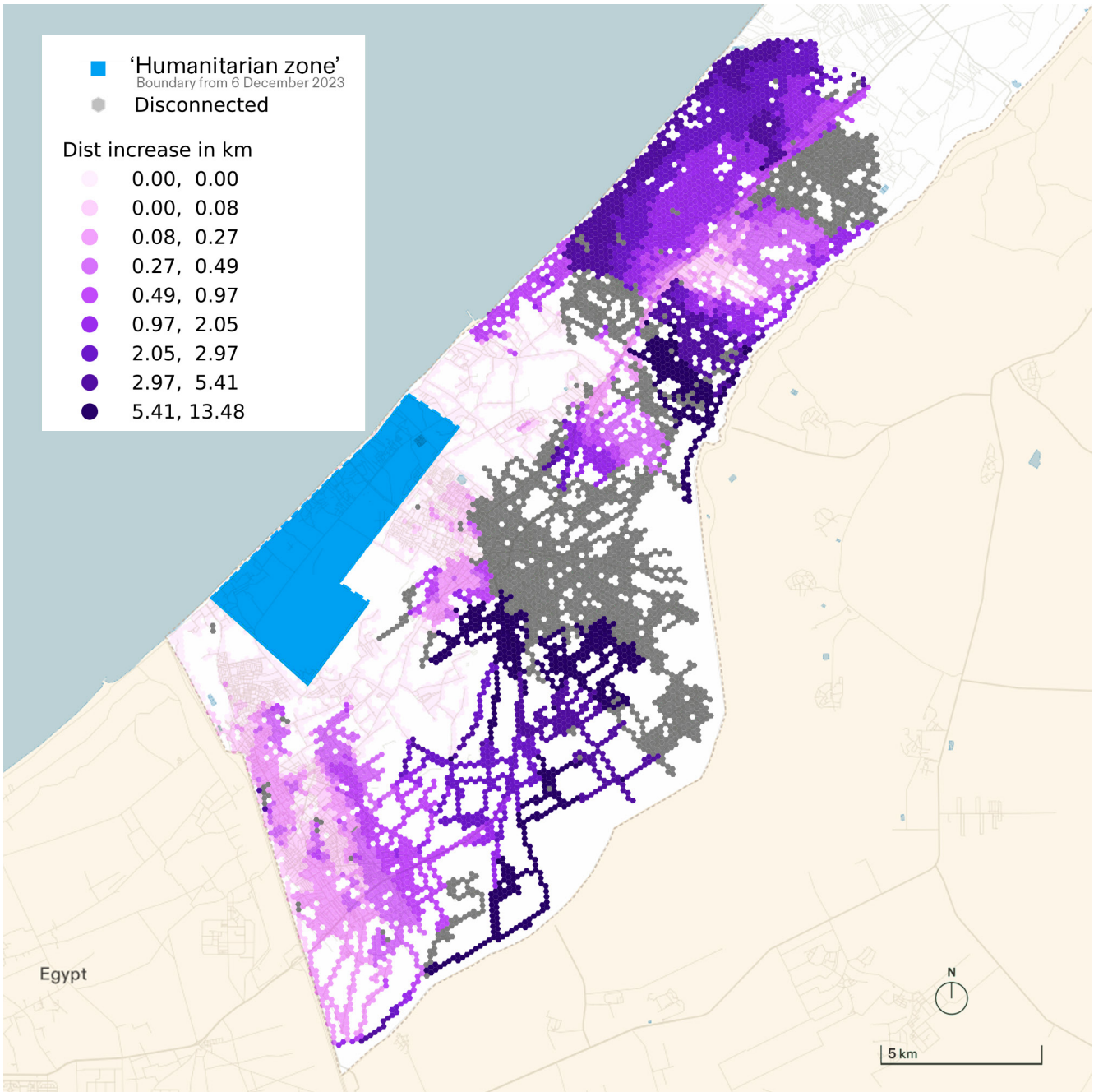

Figure 6.76. Map illustrating the factor by which distance increased for civilians to travel to the humanitarian zone in southern Gaza as of 6 December 2023.

CONCLUSION

118 Aggregated data across both scales demonstrates large-scale damage and destruction to infrastructure that contributed to displacement.

119 This report shows a pattern of physical destruction in Gaza, disproportionately affecting civilians and the conditions required to sustain life. The repeat attacks on key sites such as universities, mosques, and government offices suggest that these were not incidental strikes, but a coordinated effort to dismantle public infrastructure.

120 The construction of the Israeli military's Netzarim corridor further increased the vulnerability of civilian infrastructure. Buildings such as the Palace of Justice and al-Israa University, situated near or within military zones, were more frequently attacked, suggesting a correlation between military operations and the repeated destruction of public facilities.

121 The destruction of roads has hindered access to critical infrastructure such as hospitals or evacuation corridors, while also obstructing the delivery of humanitarian aid. This fragmentation of the transportation network has isolated densely populated areas, leaving civilians cut off from essential services and increasing the challenges for delivering humanitarian aid. Additionally, the breakdown of these networks has forced many people to relocate.

122 This has had a twofold effect: while infrastructural destruction was one means by which civilians were forced to relocate from one part of Gaza to another – for example, from the north, through Wadi Gaza, to the south – destruction of roads has made this more difficult, requiring many to make this journey by foot, which left vulnerable groups such as the elderly and the wounded unable to evacuate safely.

J APPENDIX – DESTRUCTION OF CIVILIAN INFRASTRUCTURE

1 *Monthly mapping documentation of the damage and destruction of infrastructure by type*

1.1 Global map of damage and destruction

123 Damage and destruction in Gaza 7 October–15 October 2023

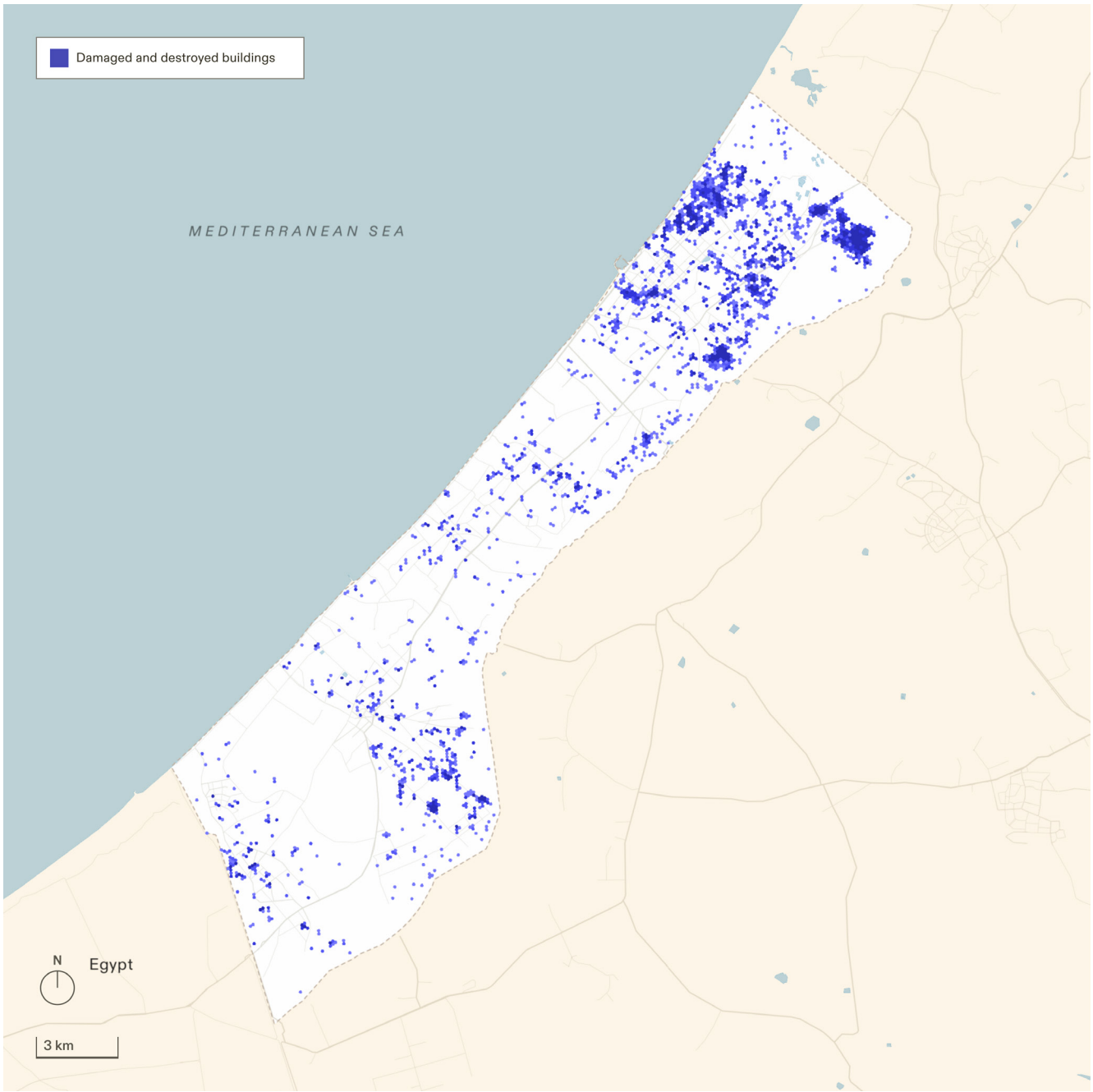

Figure 6.77. Damage and destruction in Gaza 7 October–15 October 2023.

124 Damage and destruction in Gaza 15 October–7 November 2023

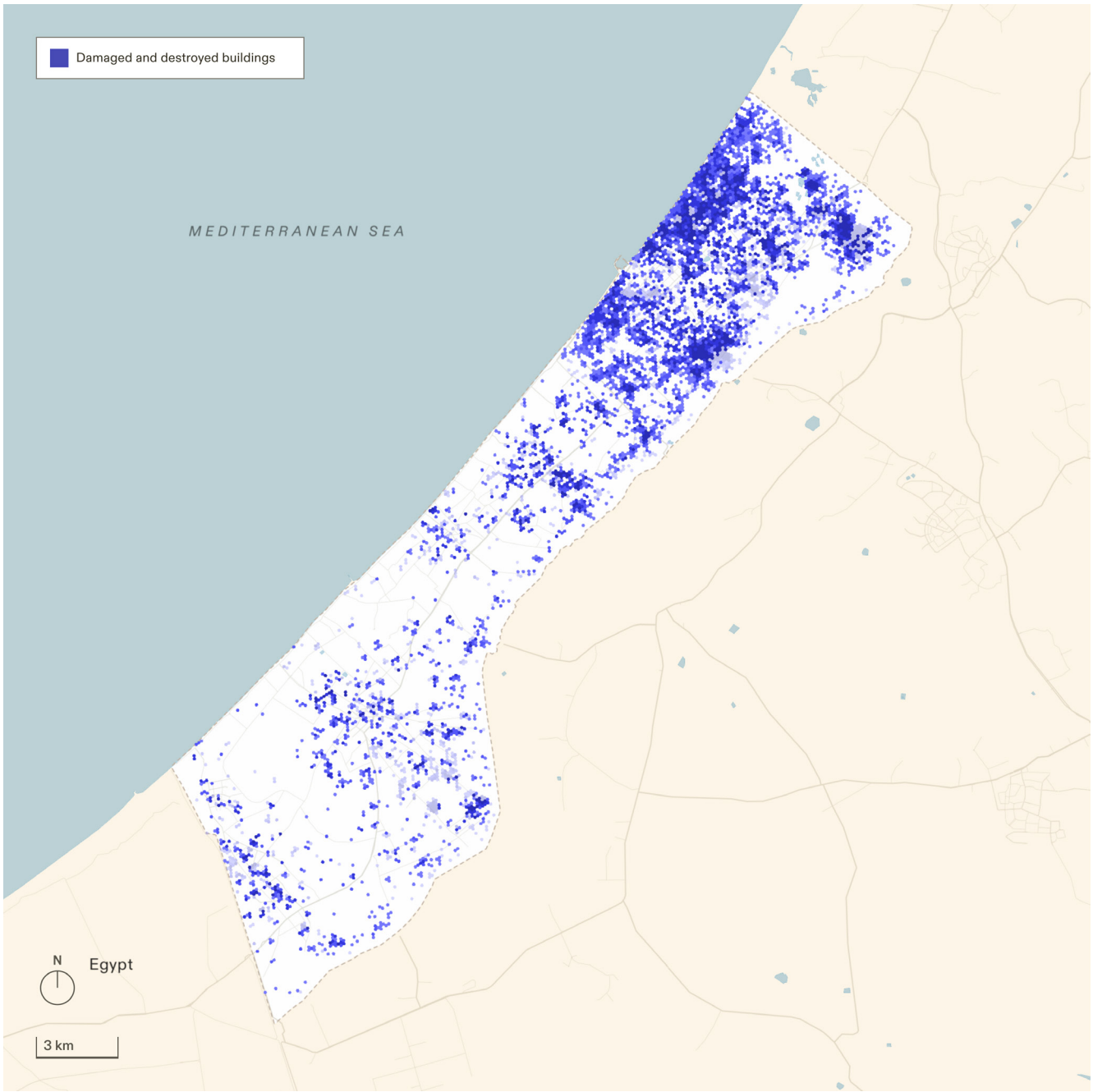

Figure 6.78. Damage and destruction in Gaza 15 October–7 November 2023.

125 Damage and destruction in Gaza 7 November–26 November 2023

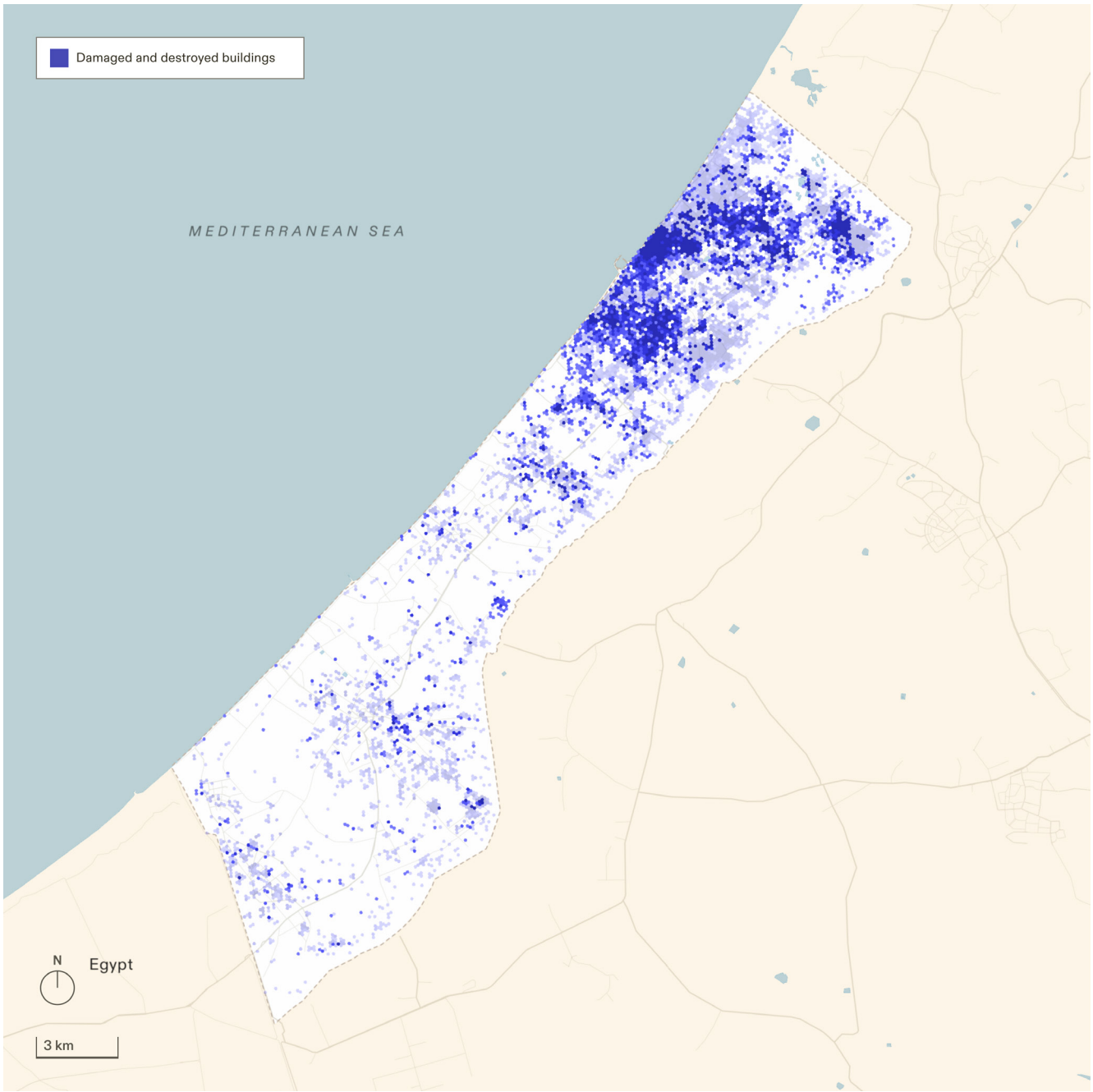

Figure 6.79. Damage and destruction in Gaza 7 November–26 November 2023.

126 Damage and destruction in Gaza 26 November2023–7 January 2024

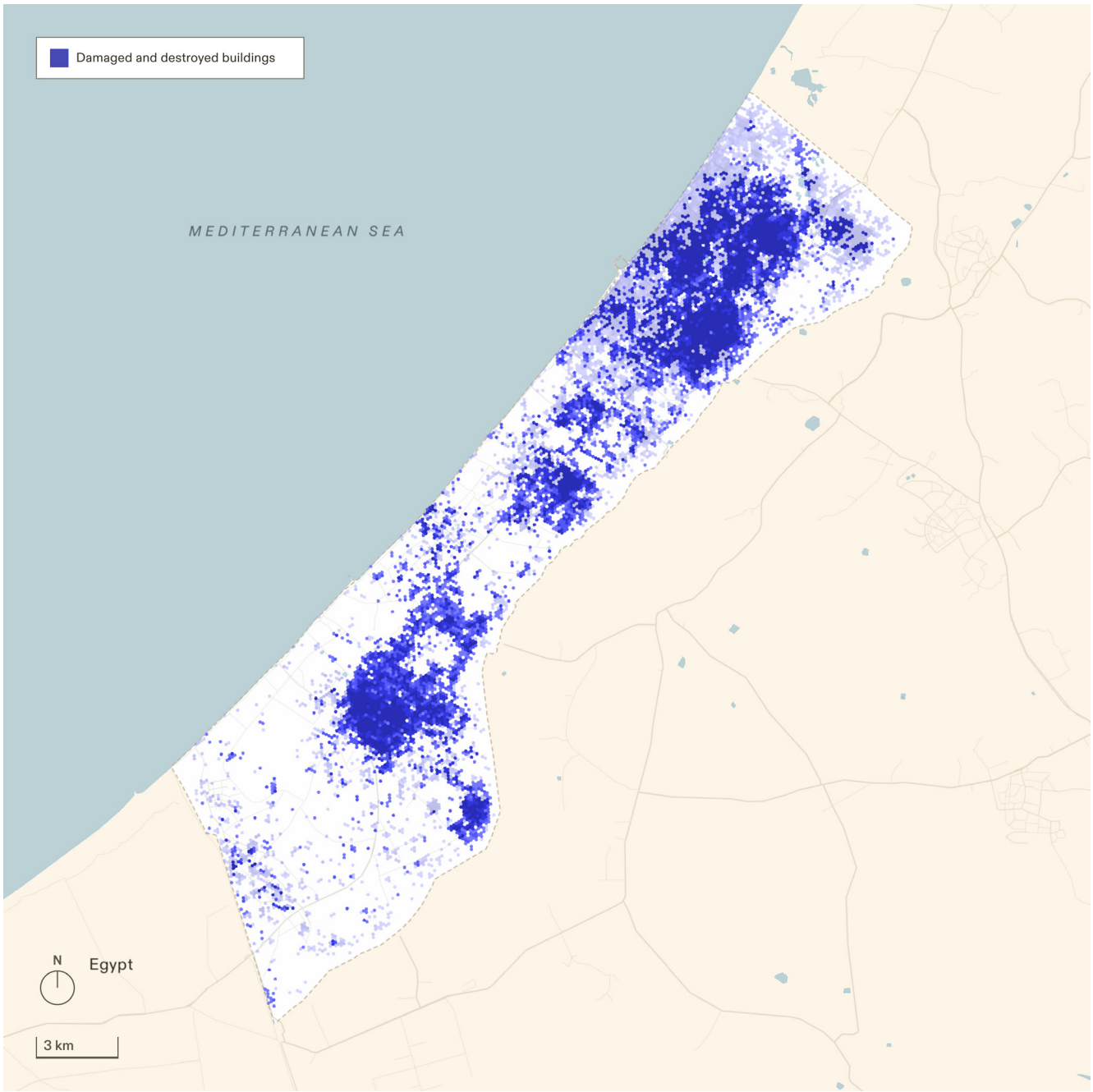

Figure 6.80. Damage and destruction in Gaza 26 November 2023–7 January 2024.

127 Damage and destruction in Gaza 7 January–29 February 2024

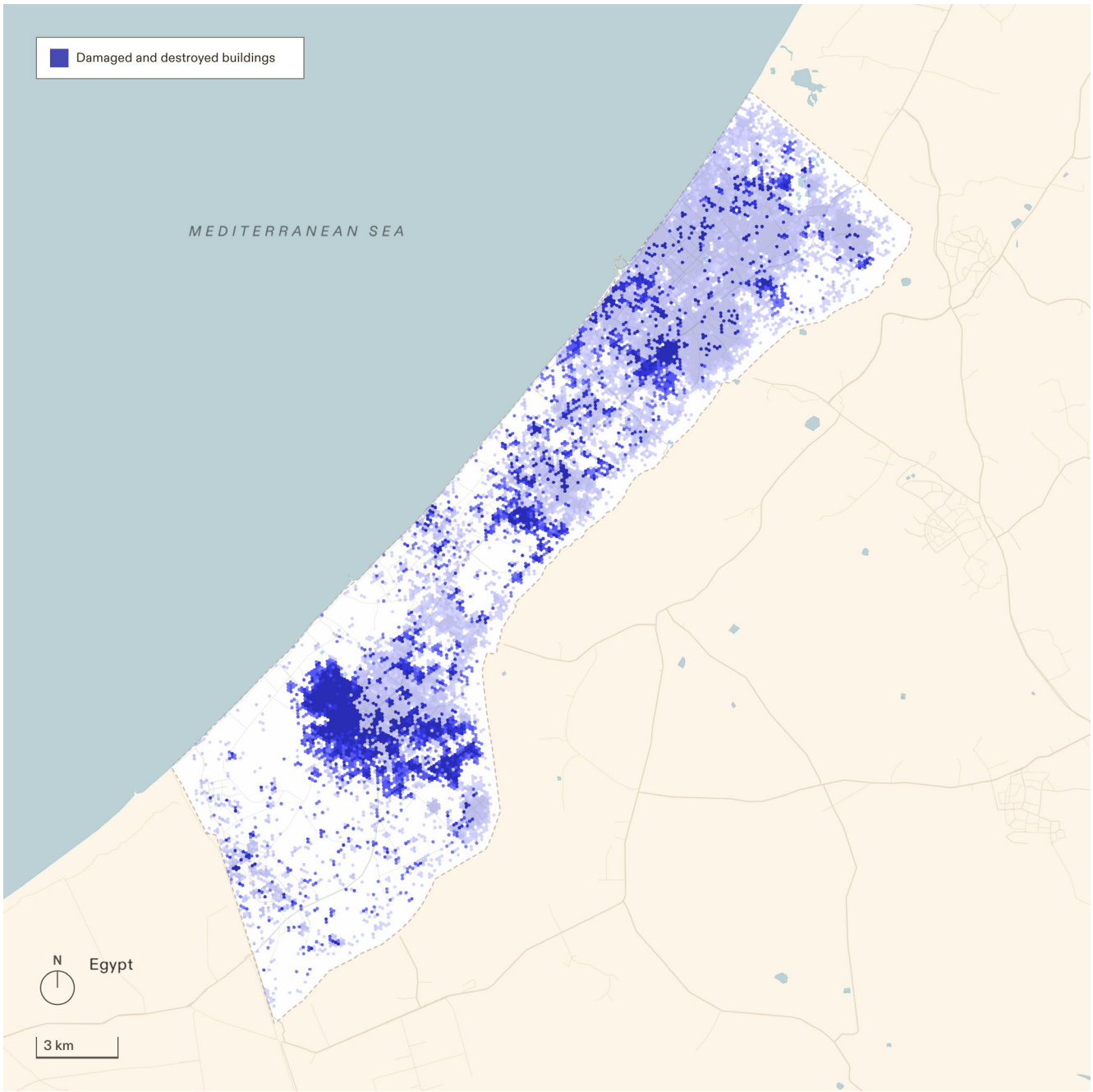

Figure 6.81. Damage and destruction in Gaza 7 January–29 February 2024.

128 Damage and destruction in Gaza 29 February–1 April 2024

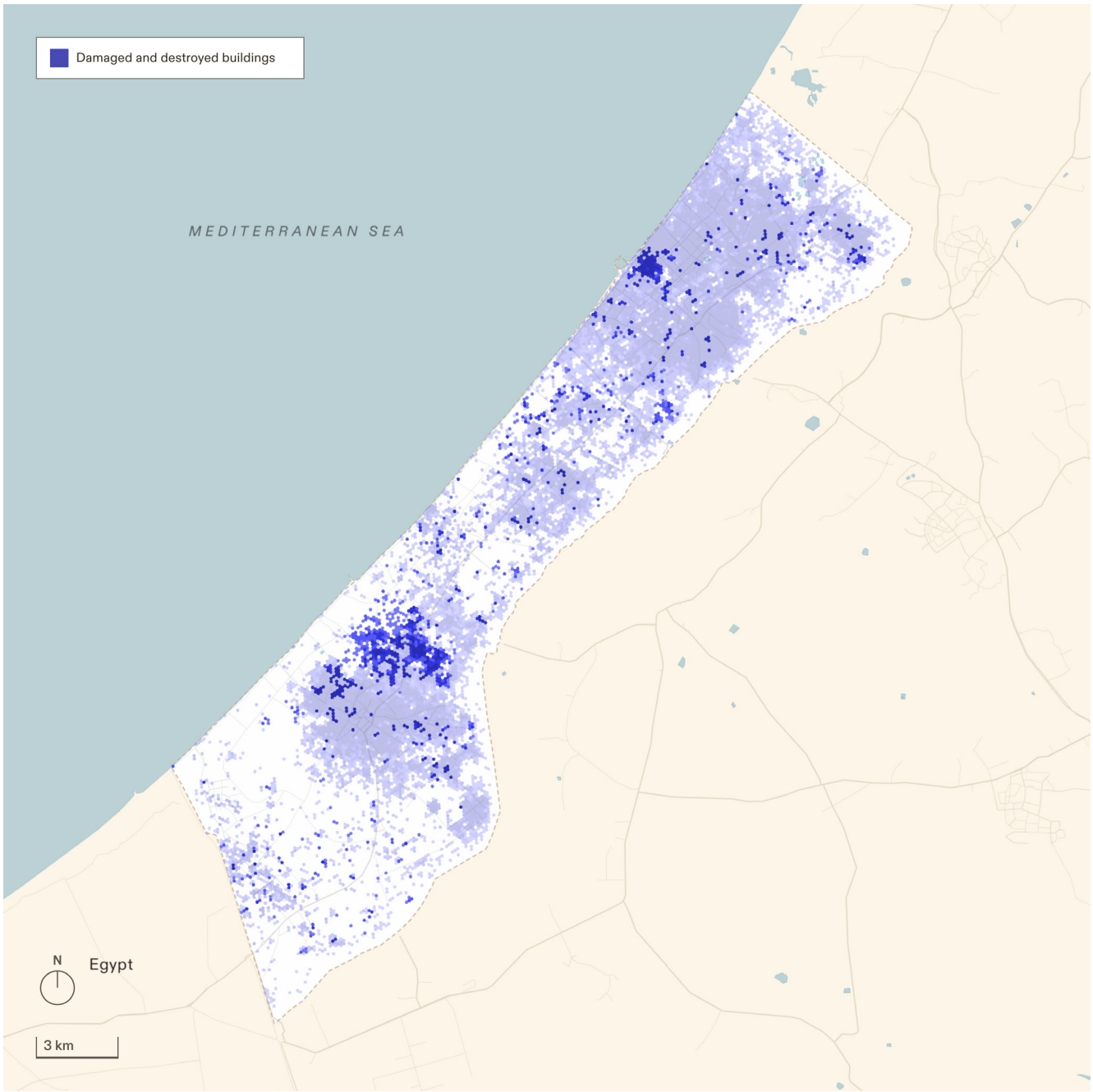

Figure 6.82. Damage and destruction in Gaza 29 February–1 April 2024.

129 Damage and destruction in Gaza 1 April–3 May 2024

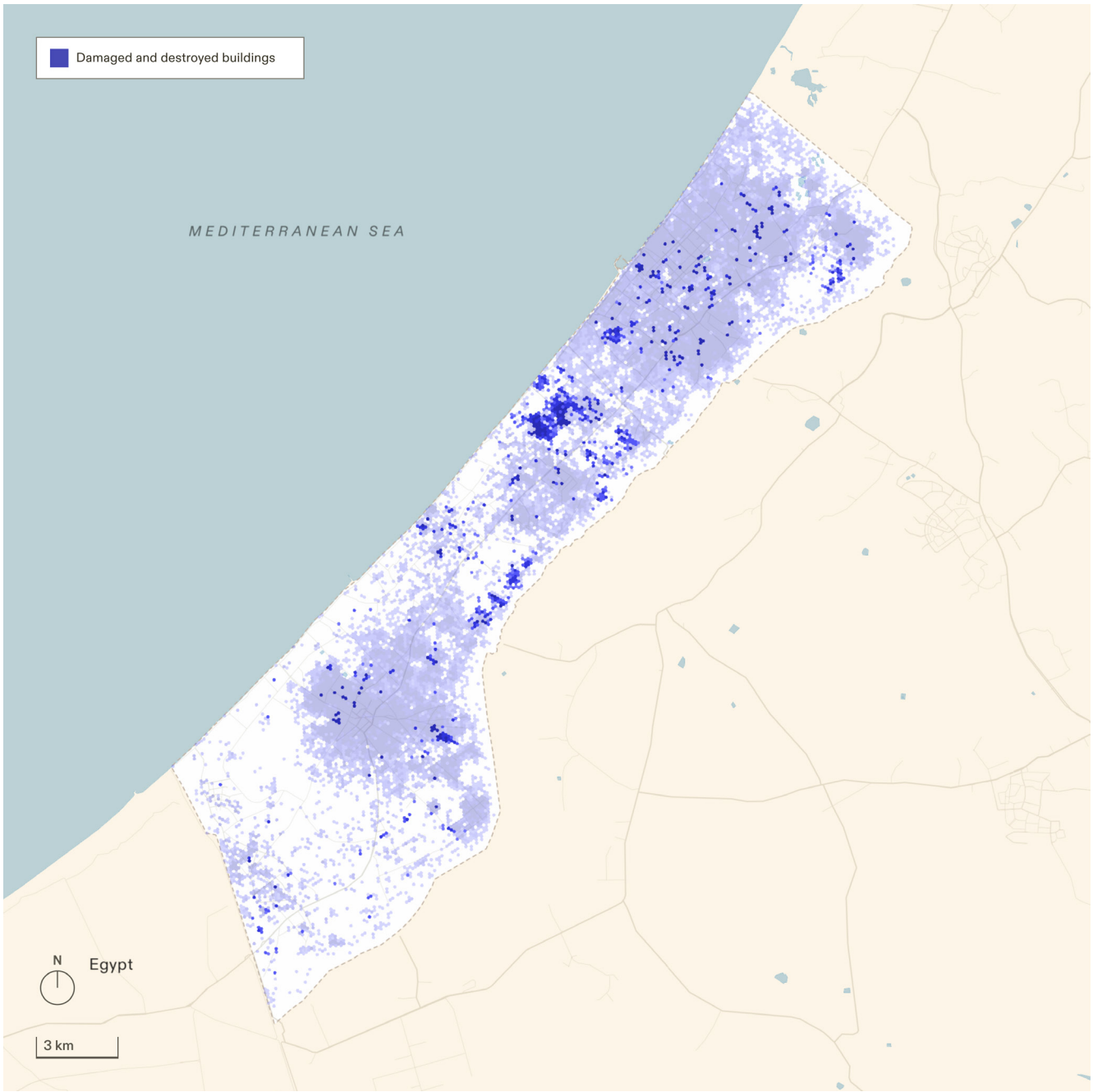

Figure 6.83. Damage and destruction in Gaza 1 April–3 May 2024.

130 Damage and destruction in Gaza 3 May–6 July 2024

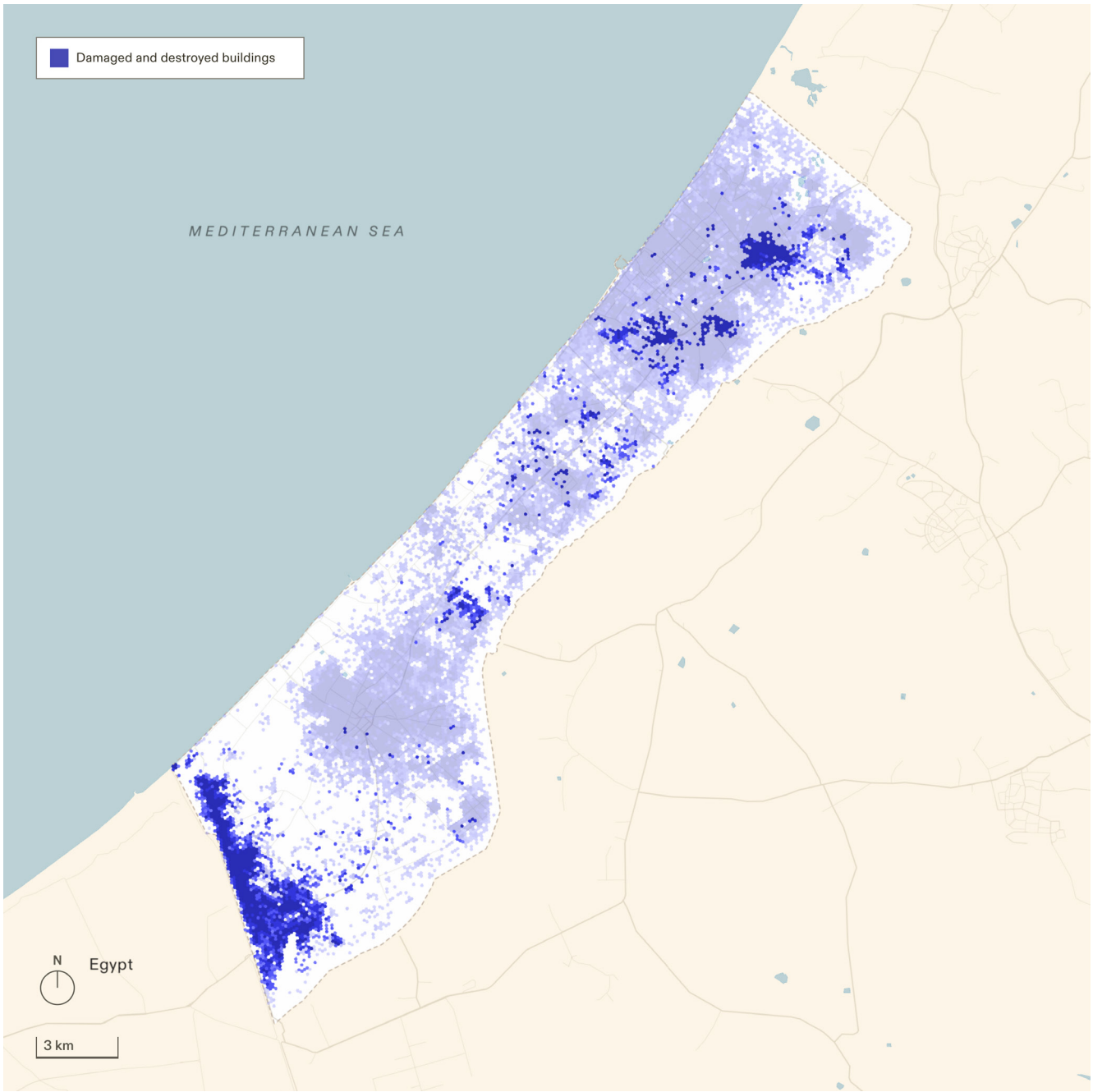

Figure 6.84. Damage and destruction in Gaza 3 May–6 July 2024.

131 Cumulative damage and destruction in Gaza 15 October 2023–6 July 2024

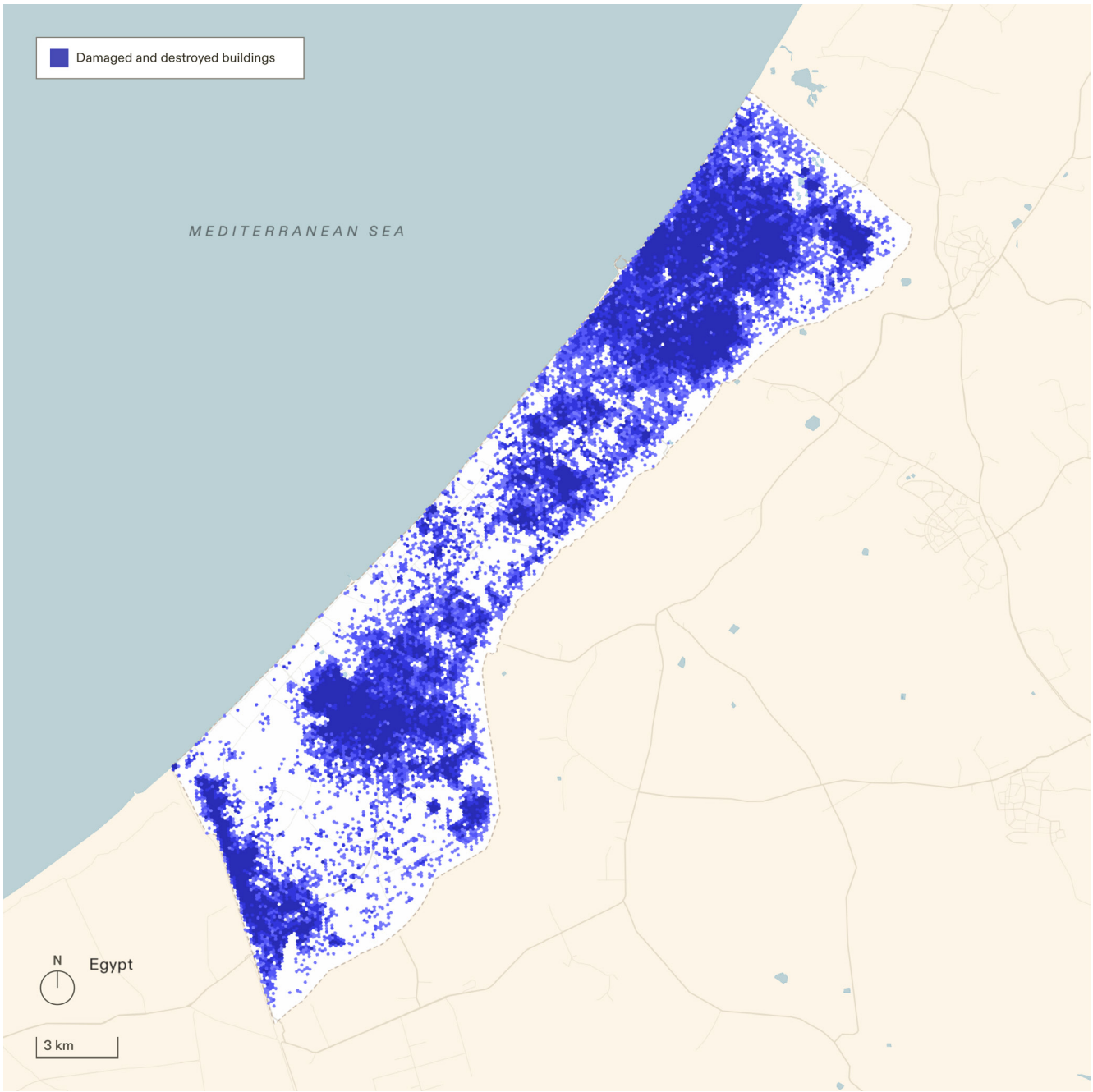

Figure 6.85. Damage and destruction in Gaza 15 October 2023–6 July 2024.

1.2 Health infrastructure

132 Damage and destruction of health facilities 7 October 2023–15 October 2023. 1% of health facilities attacked.

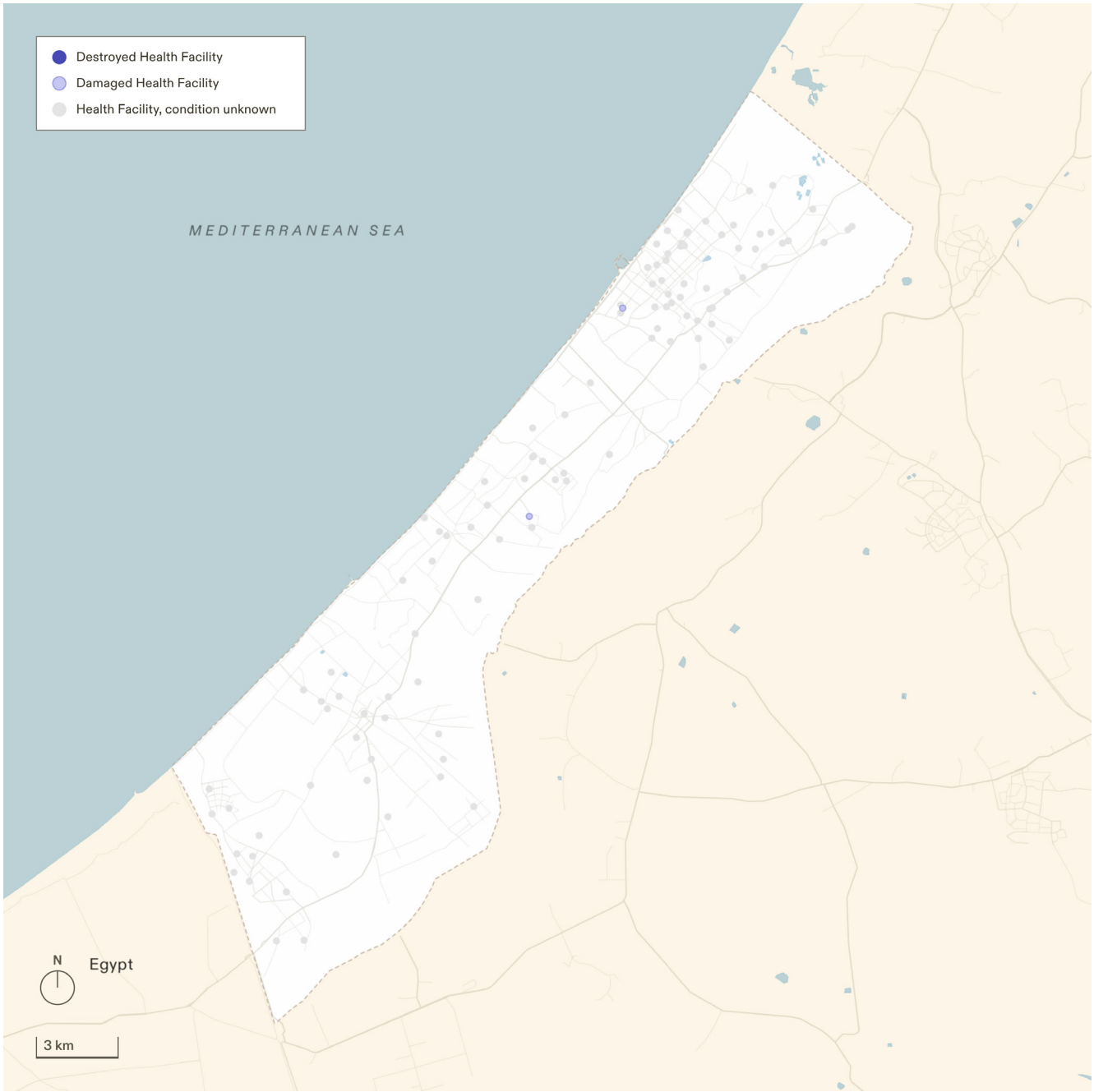

Figure 6.86. Damage and destruction of health facilities 7 October–15 October 2023. 1% of health facilities attacked

133 Damage and destruction of health facilities 7 October–7 November 2023. 6% of health facilities attacked

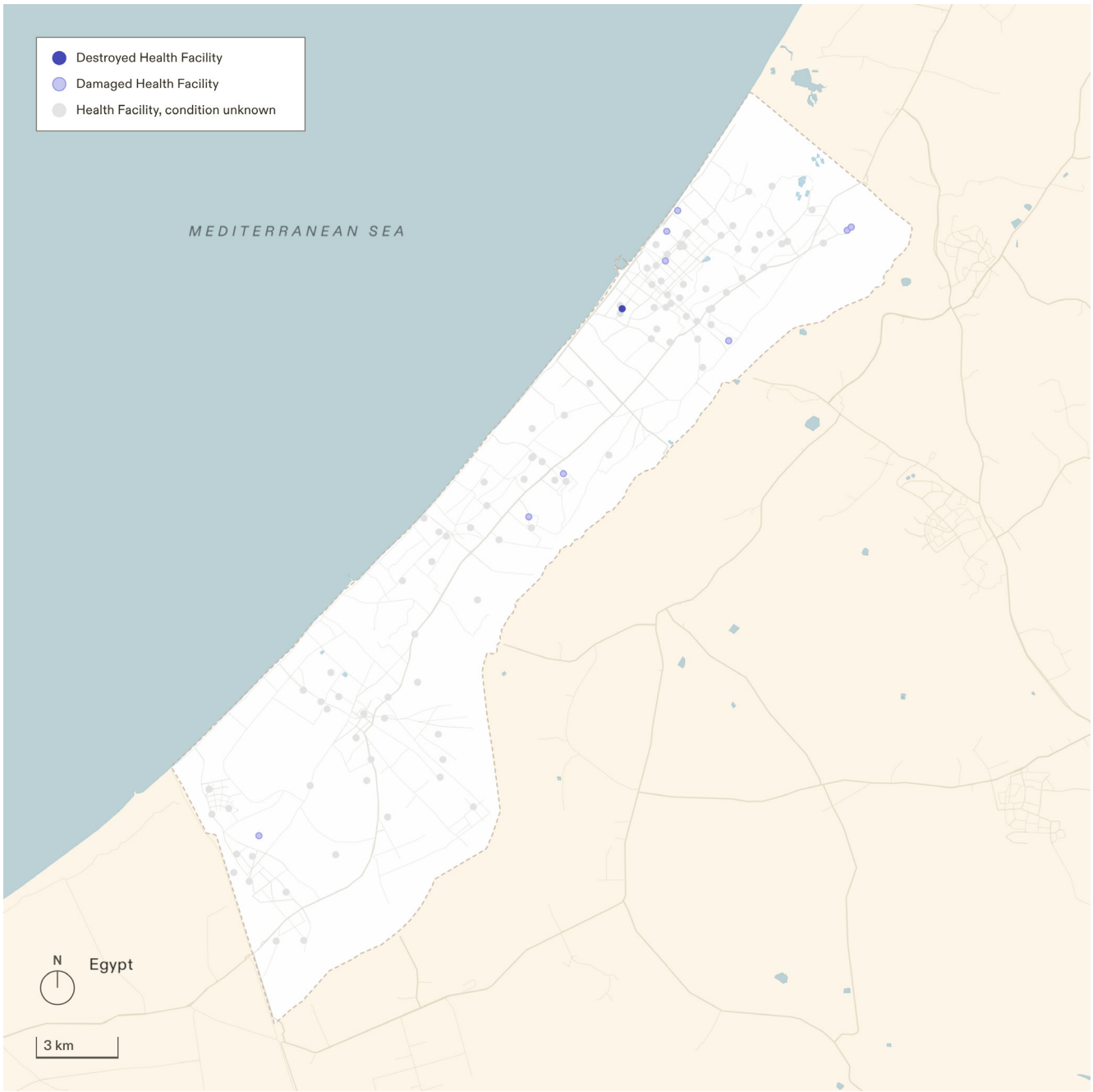

Figure 6.87. Damage and destruction of health facilities 7 October–7 November 2023. 6% of health facilities attacked

134 Damage and destruction of health facilities 7 October 2023–26 November 2023. 18% of health facilities attacked

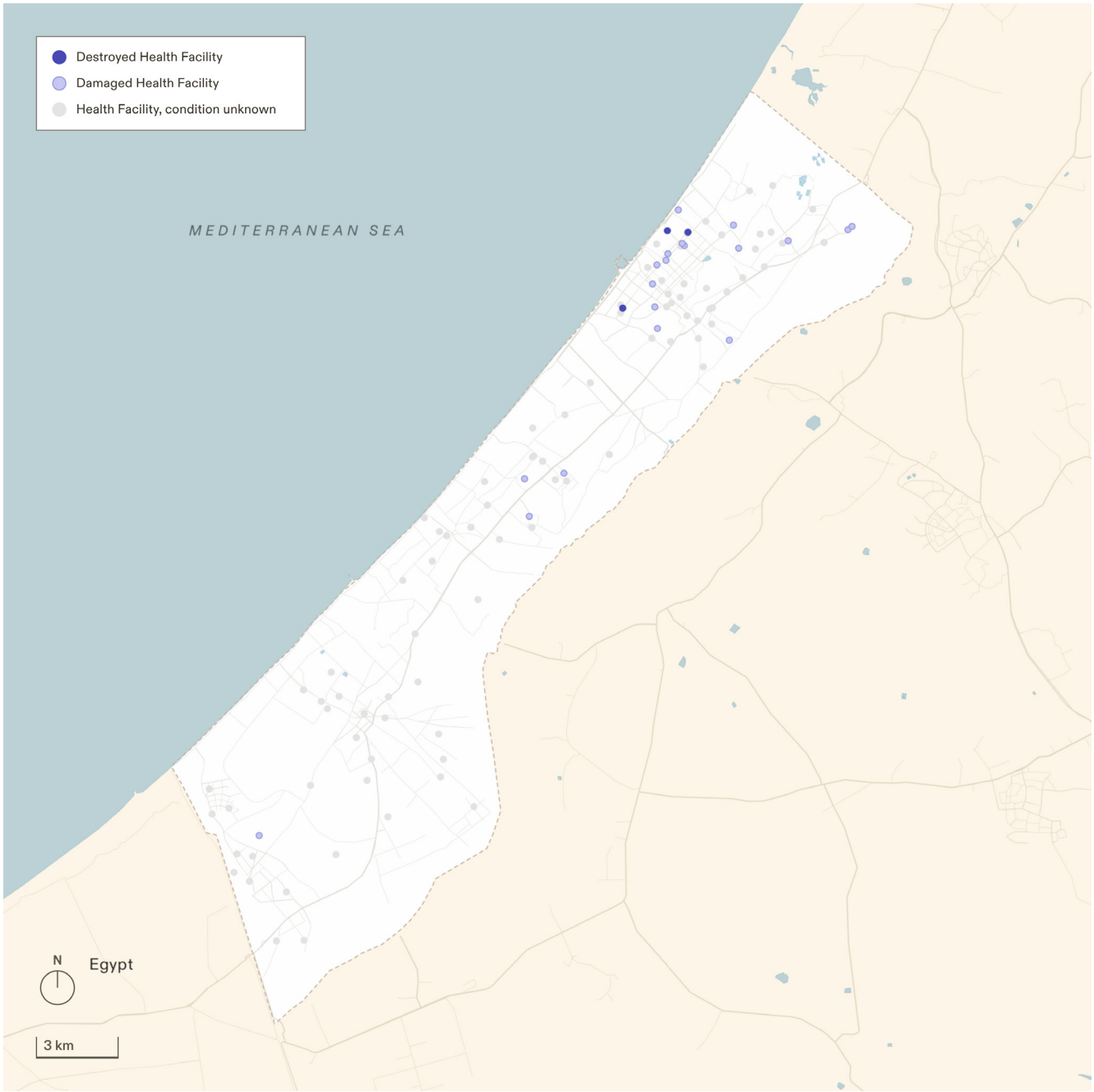

Figure 6.88. Damage and destruction of health facilities 7 October 2023–26 November 2023. 18% of health facilities attacked

135 Damage and destruction of health facilities 7 October 2023–7 January 2024. 35% of health facilities attacked

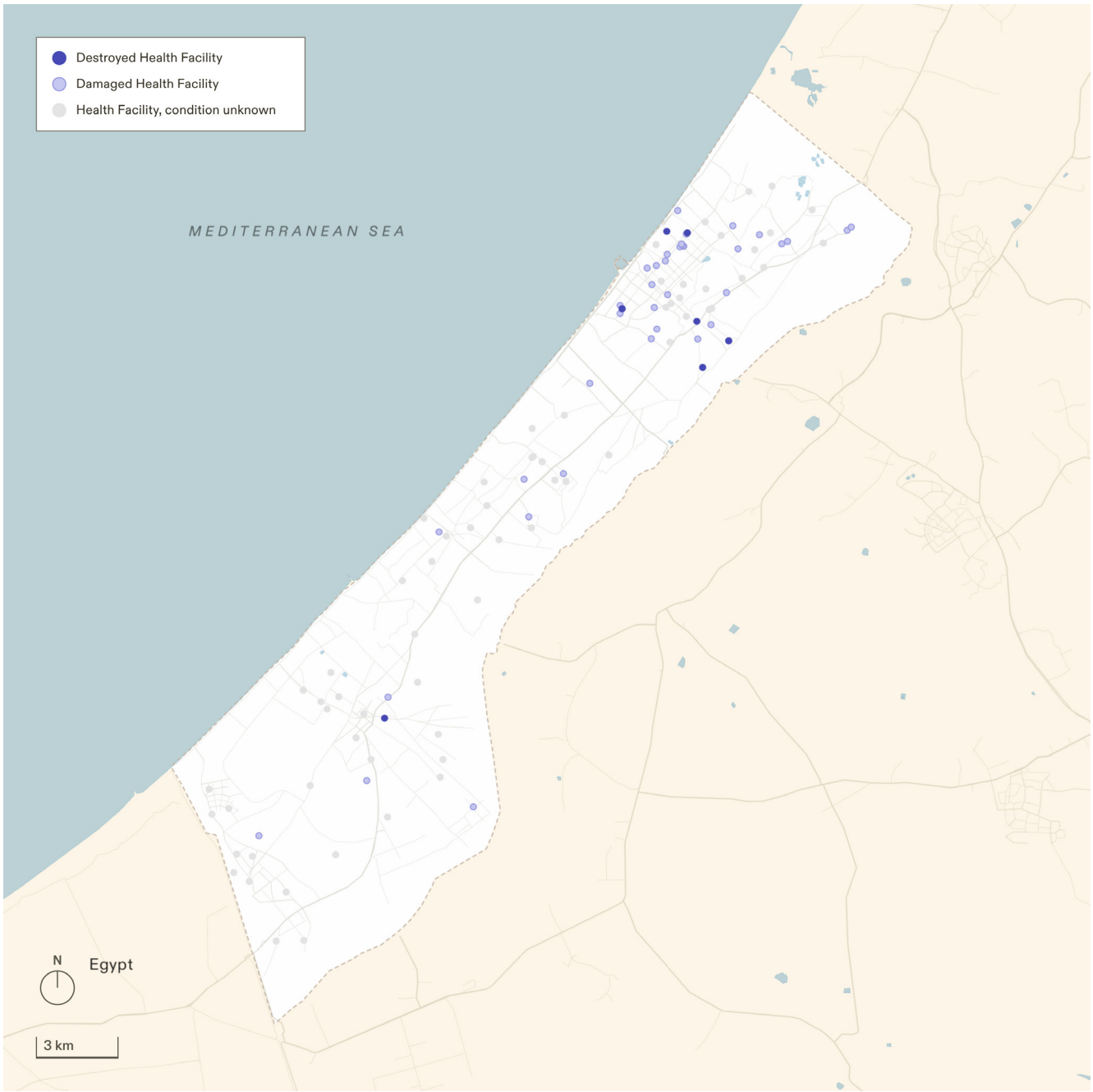

Figure 6.89. Damage and destruction of health facilities 7 October 2023–7 January 2024. 35% of health facilities attacked

136 Damage and destruction of health facilities 7 October 2023–29 February 2024. 47% of health facilities attacked

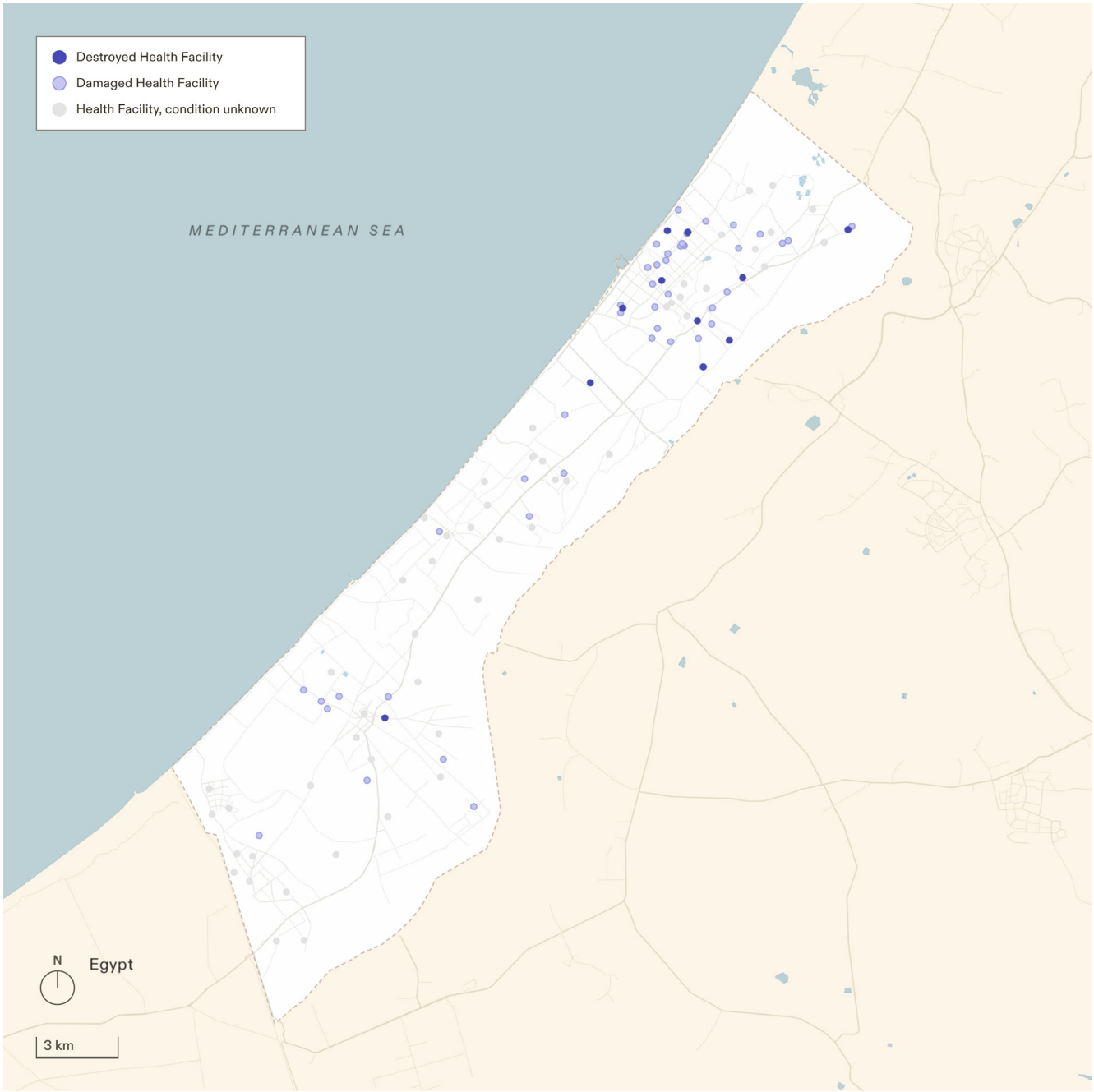

Figure 6.90. Damage and destruction of health facilities 7 October 2023–29 February 2024. 47% of health facilities attacked

137 Damage and destruction of health facilities 7 October 2023–1 April 2024. 48% of health facilities attacked

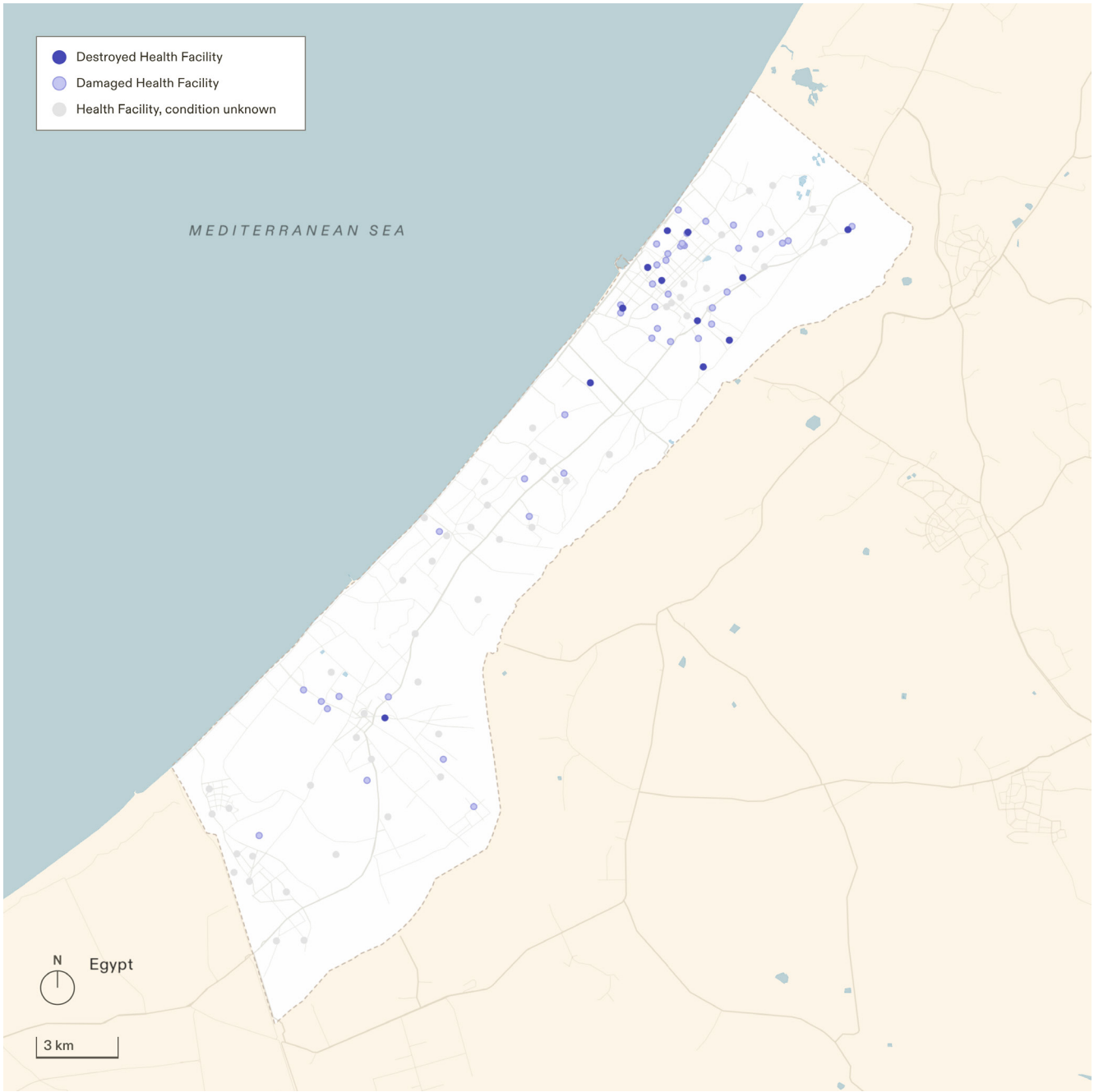

Figure 6.91. Damage and destruction of health facilities 7 October 2023–1 April 2024. 48% of health facilities attacked

138 Damage and destruction of health facilities 7 October 2023–3 May 2024. 48% of health facilities attacked

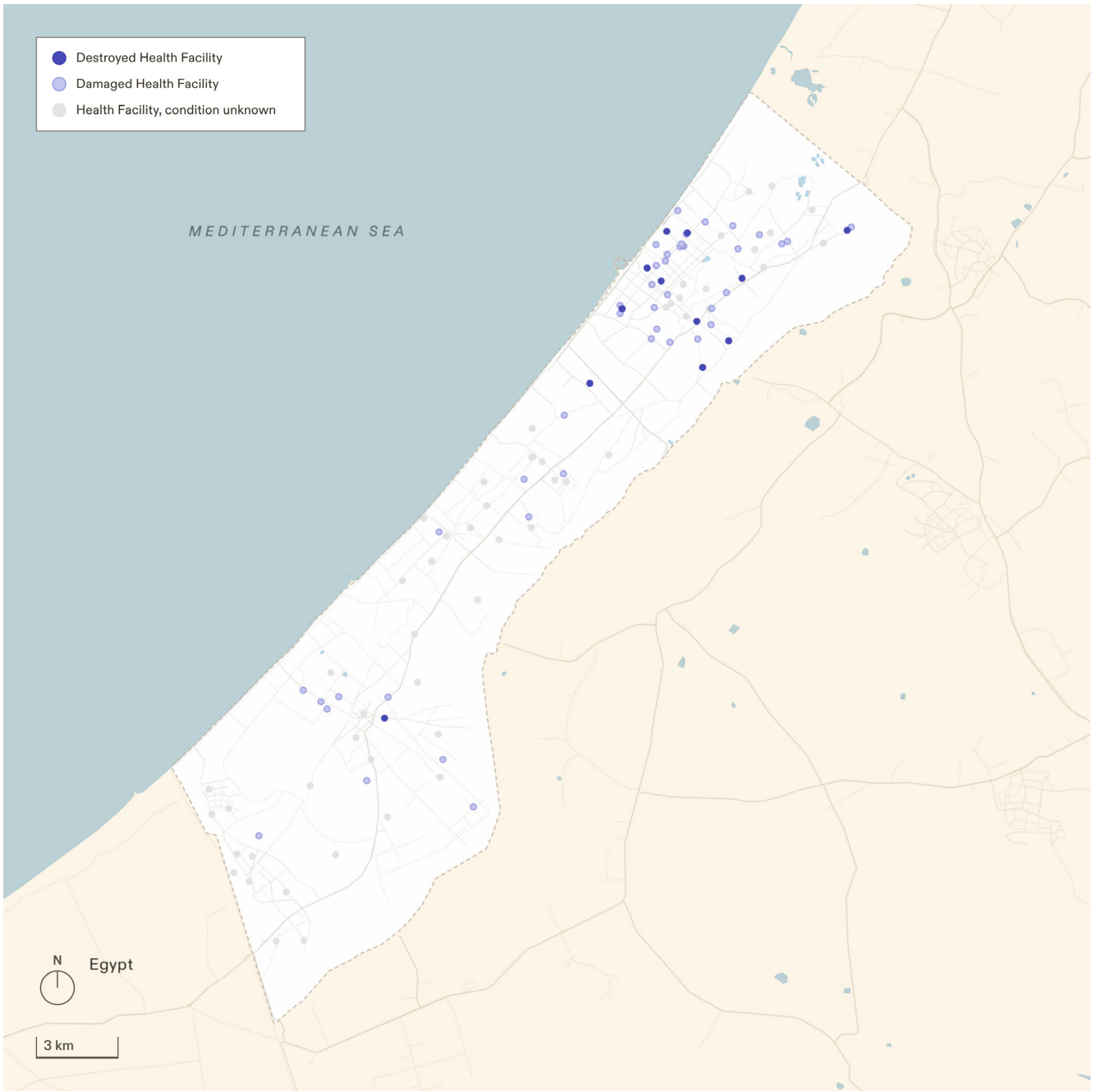

Figure 6.92. Damage and destruction of health facilities 7 October 2023–3 May 2024. 48% of health facilities attacked

139 Damage and destruction of health facilities 7 October 2023–6 July 2024. 55% of health facilities attacked

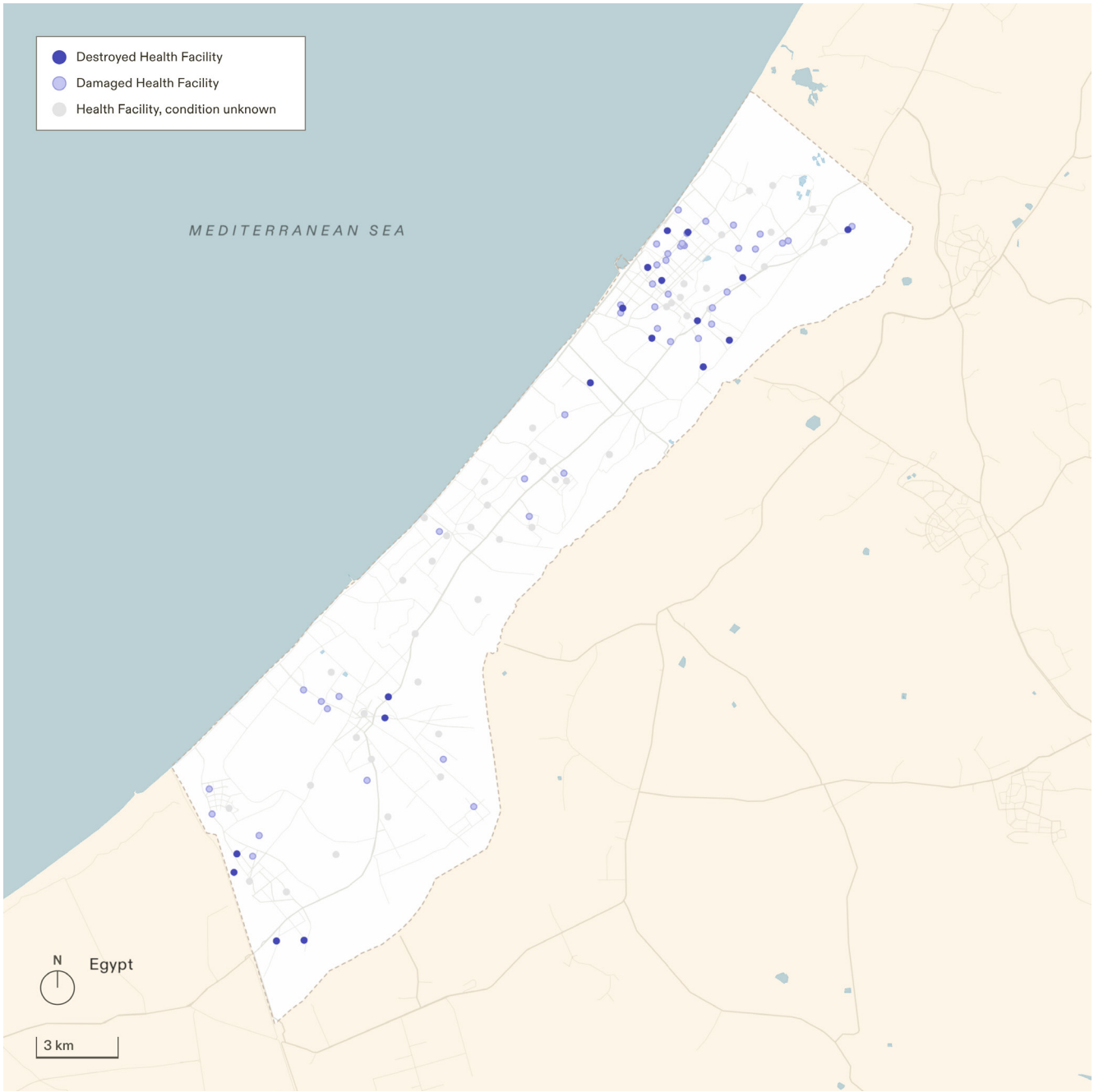

Figure 6.93. Damage and destruction of health facilities 7 October 2023–6 July 2024. 55% of health facilities attacked

1.3 Shelters (including education facilities and hospitals receiving IDPs)

140 Damage and destruction of shelters 7 October–15 October 2023. 0.3 percent of shelters attacked

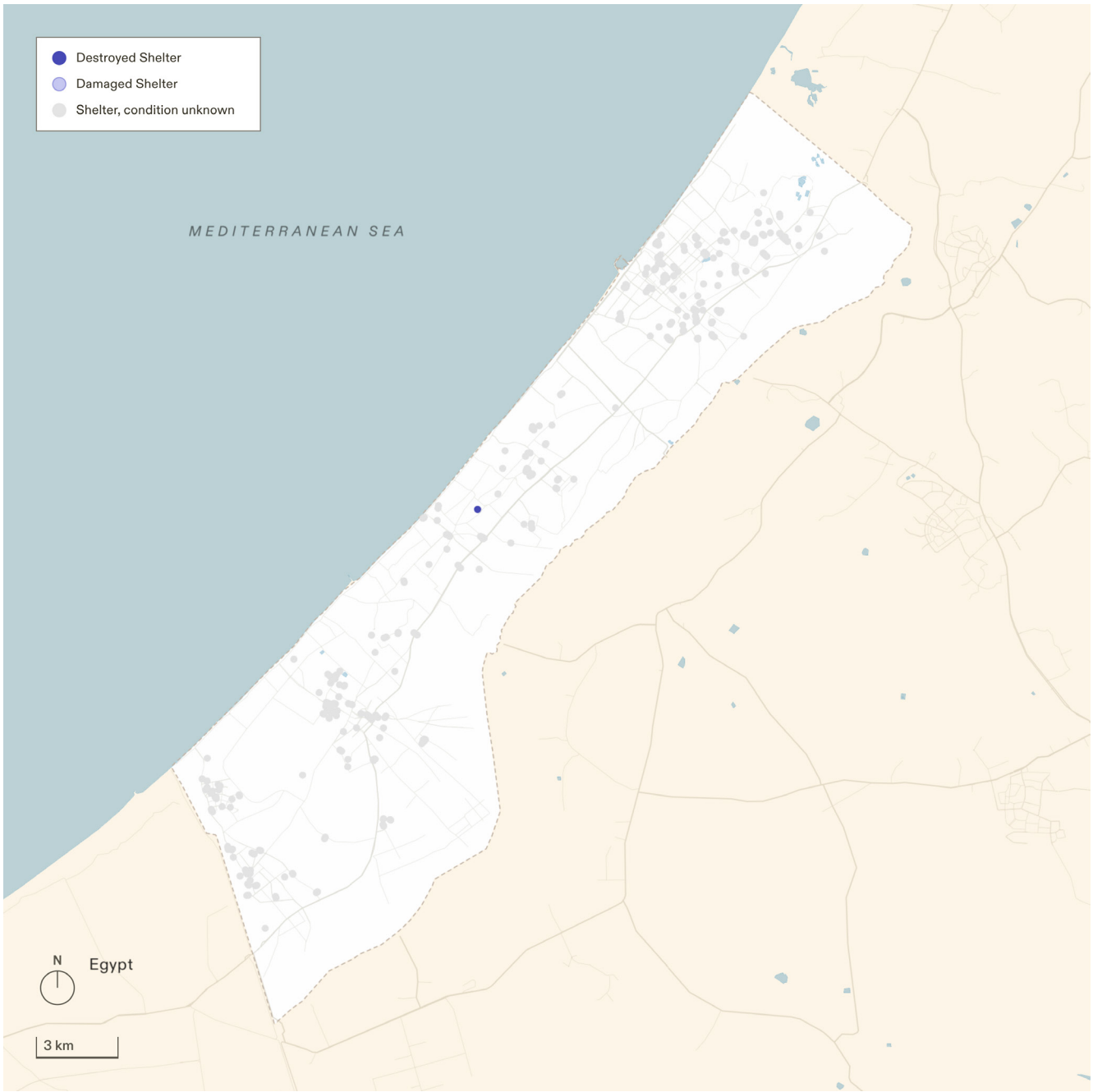

Figure 6.94. Damage and destruction of shelters 7 October–15 October 2023.

141 Damage and destruction of shelters 7 October–7 November 2023. 12% of shelters attacked

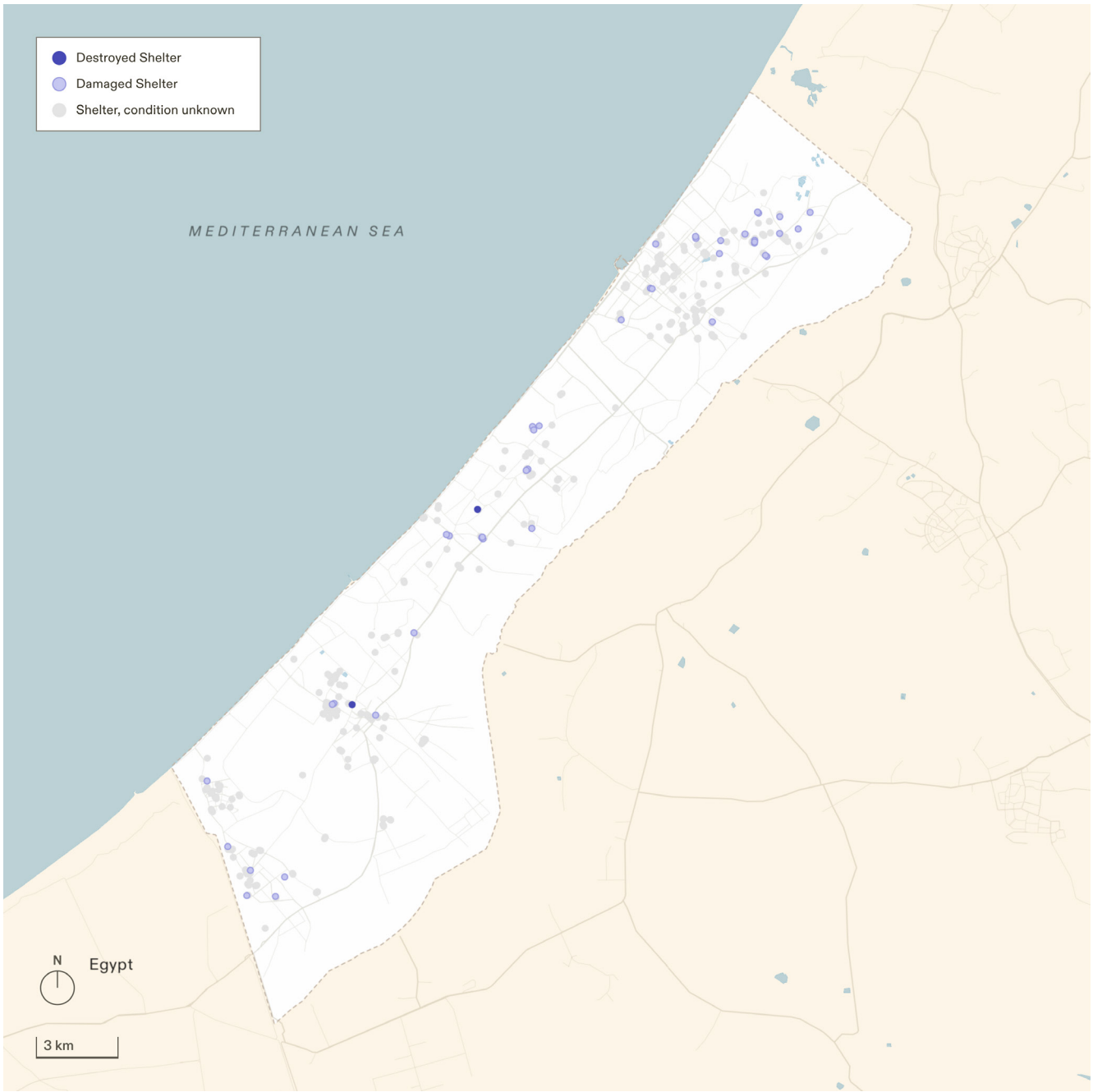

Figure 6.95. Damage and destruction of shelters 7 October–7 November 2023.

142 Damage and destruction of shelters 7 October–26 November 2023. 22% of shelters attacked

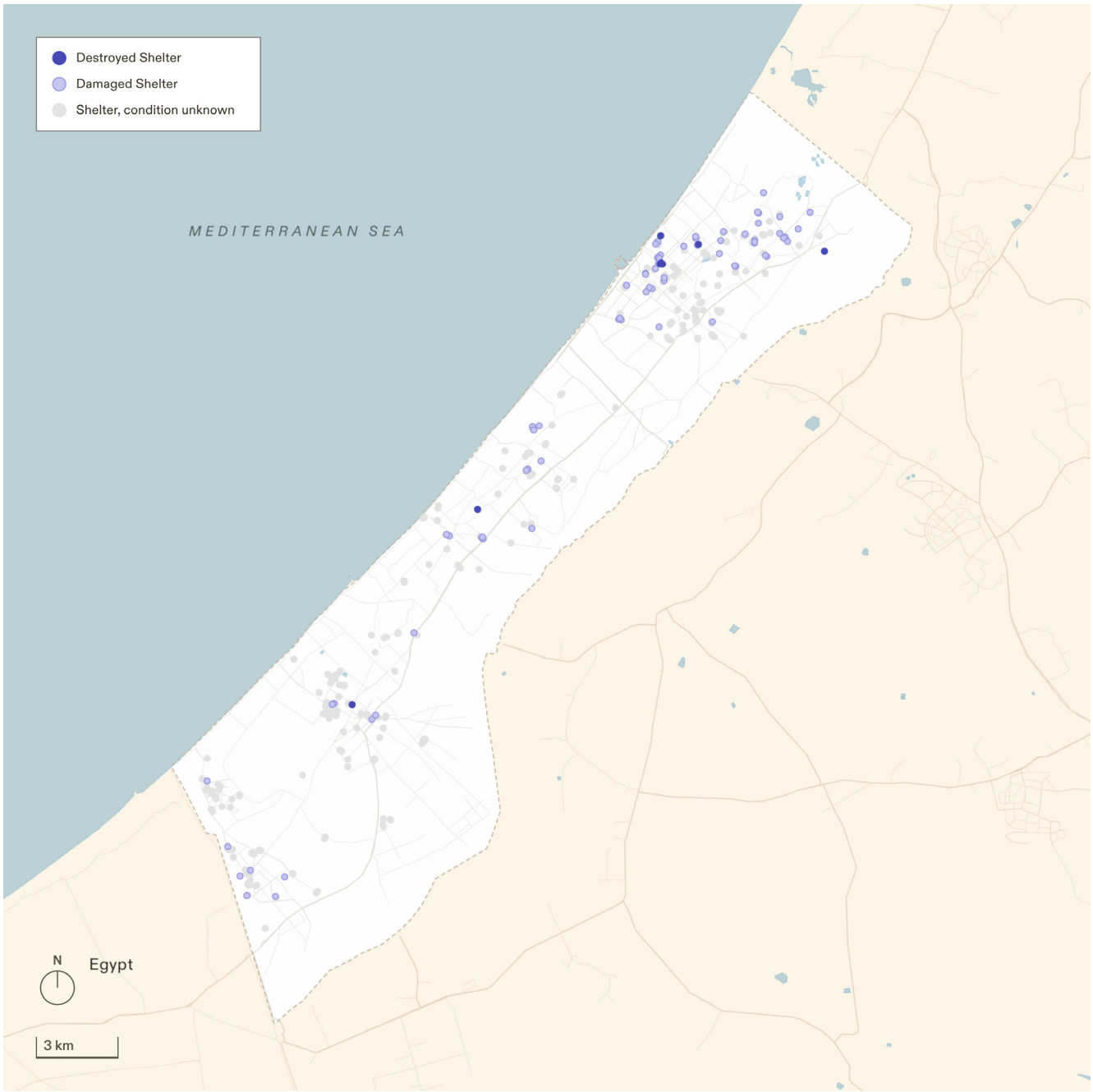

Figure 6.96. Damage and destruction of shelters 7 October–26 November 2023. 22% of shelters attacked

143 Damage and destruction of shelters 7 October 2023–7 January 2024. 41% of shelters attacked

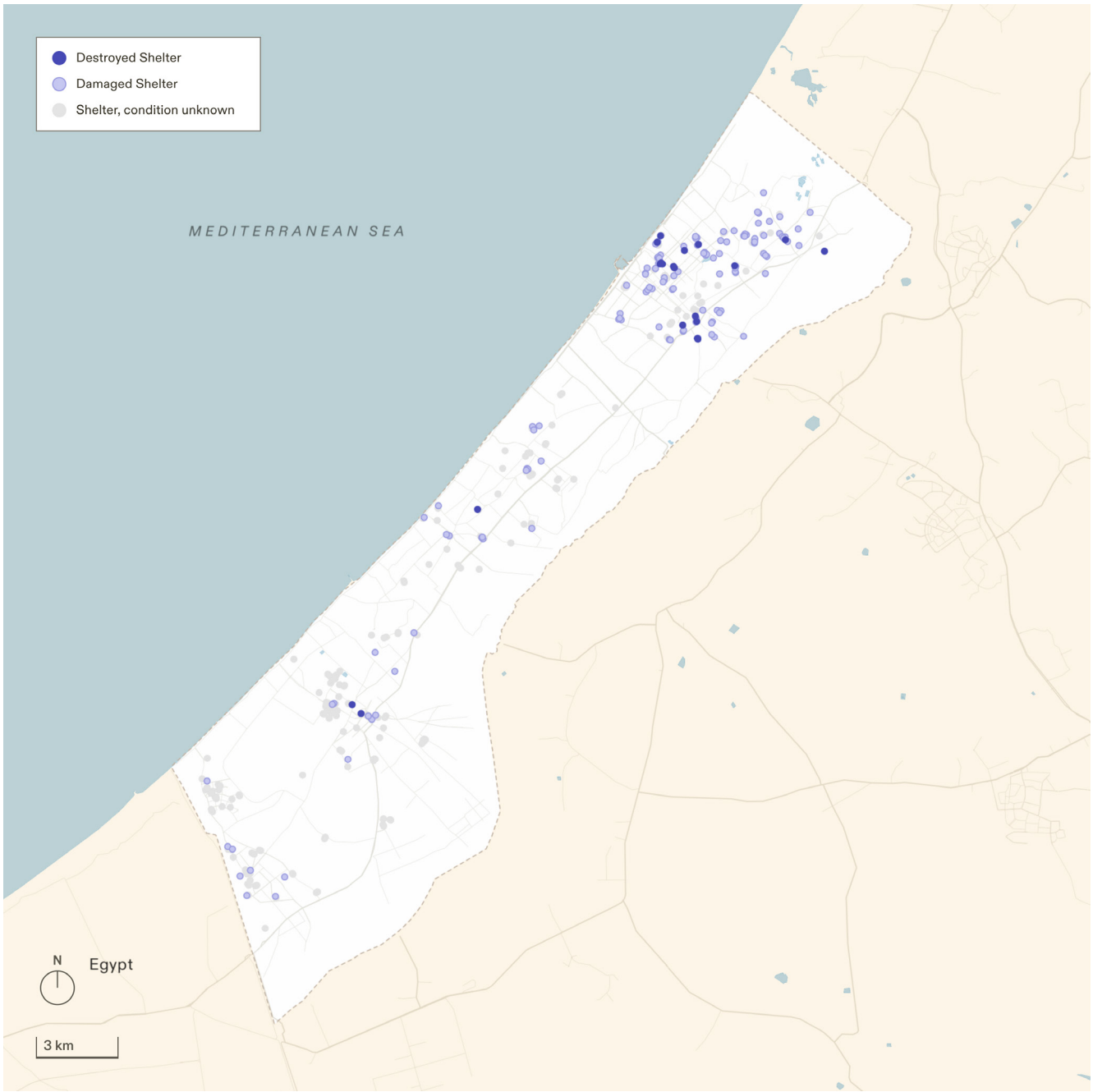

Figure 6.97. Damage and destruction of shelters 7 October 2023–7 January 2024. 41% of shelters attacked

144 Damage and destruction of shelters 7 October 2023–29 February 2024. 53% of shelters attacked

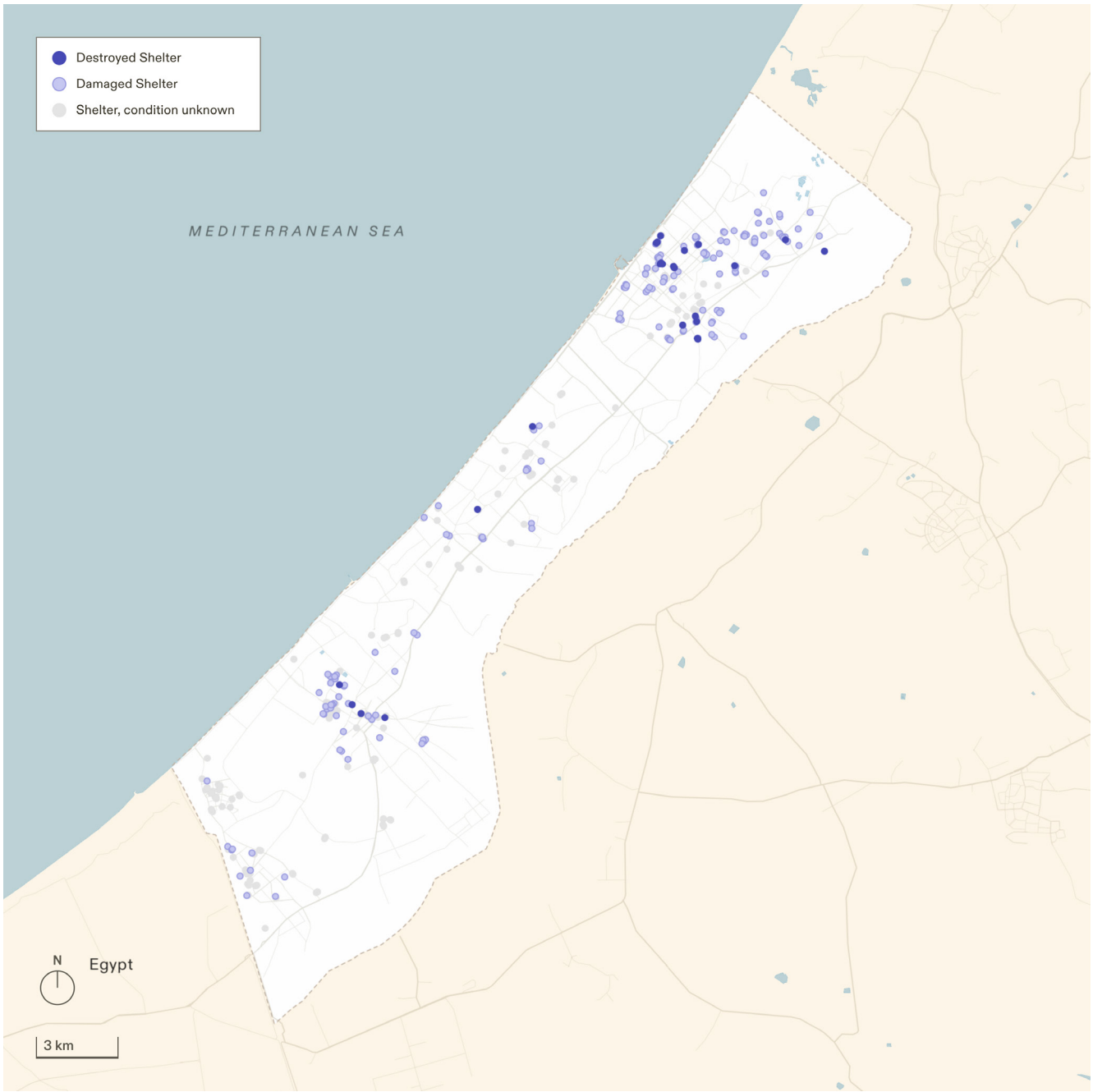

Figure 6.98. Damage and destruction of shelters 7 October 2023–29 February 2024. 53% of shelters attacked

145 Damage and destruction of shelters 7 October 2023–1 April 2024. 60% of shelters attacked

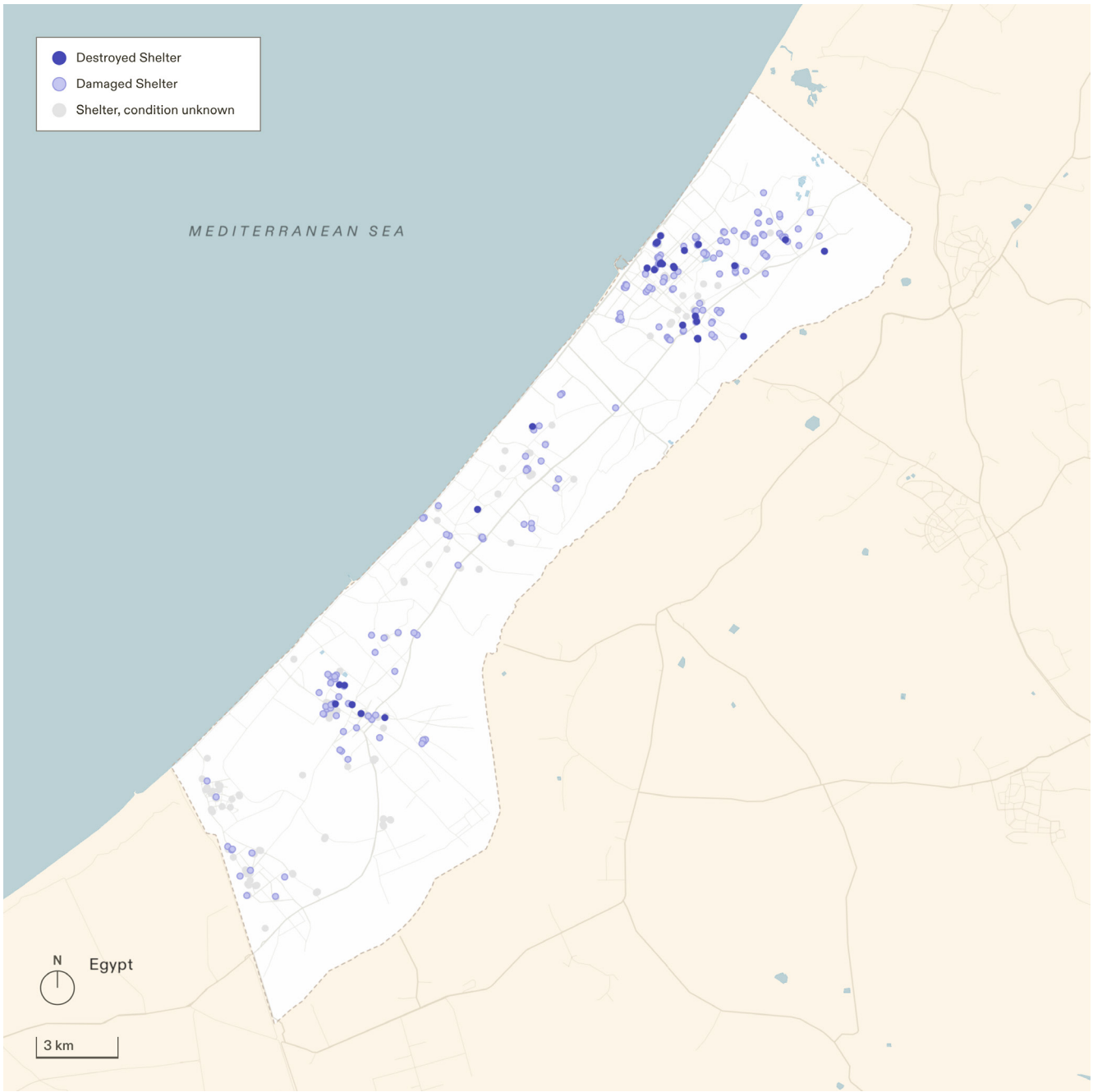

Figure 6.99. Damage and destruction of shelters 7 October 2023–1 April 2024. 60% of shelters attacked

146 Damage and destruction of shelters 7 October 2023–3 May 2024. 62% of shelters attacked

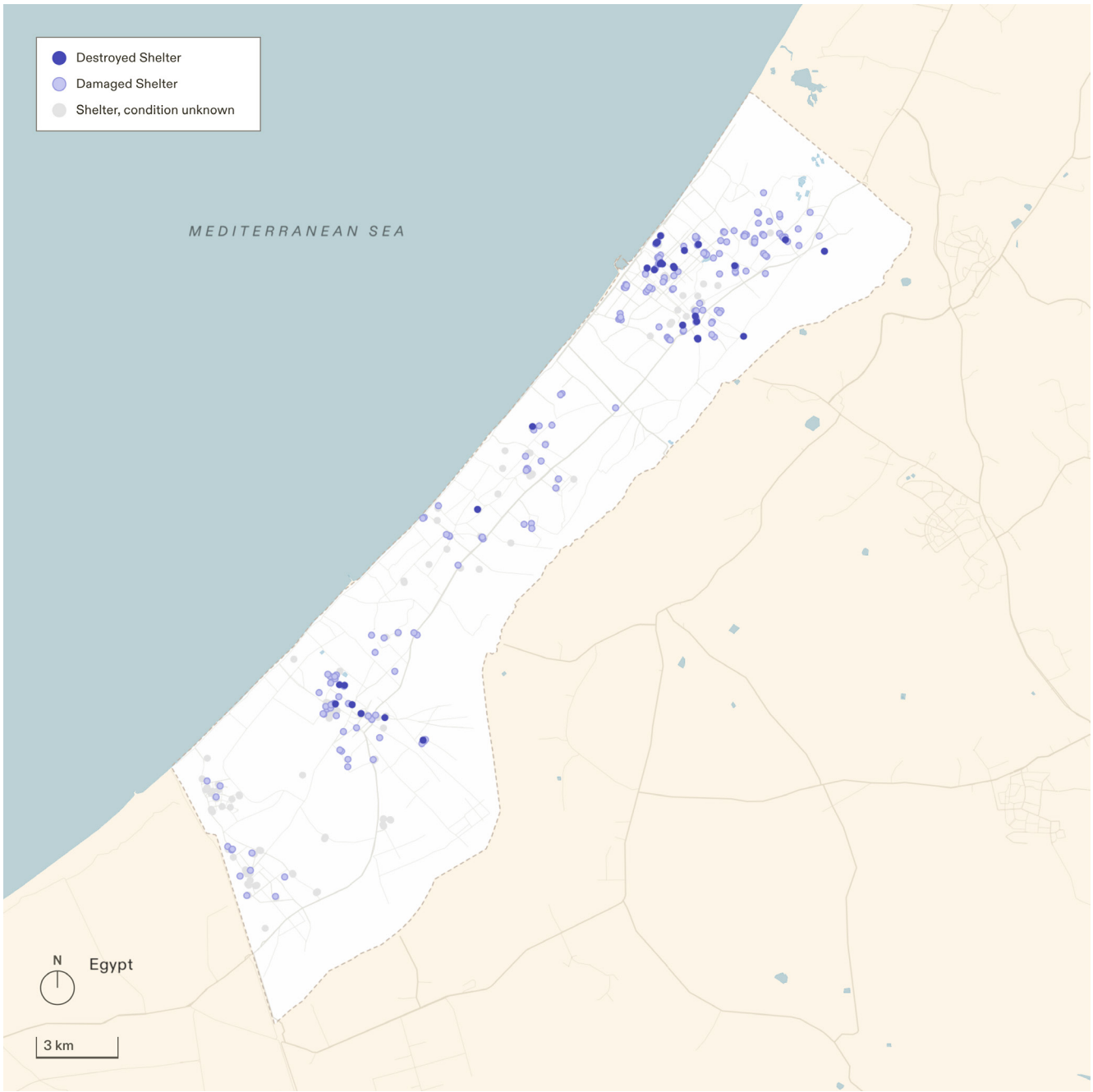

Figure 6.100. Damage and destruction of shelters 7 October 2023–3 May 2024. 62% of shelters attacked

147 Damage and destruction of shelters 7 October 2023–6 July 2024. 70% of shelters attacked

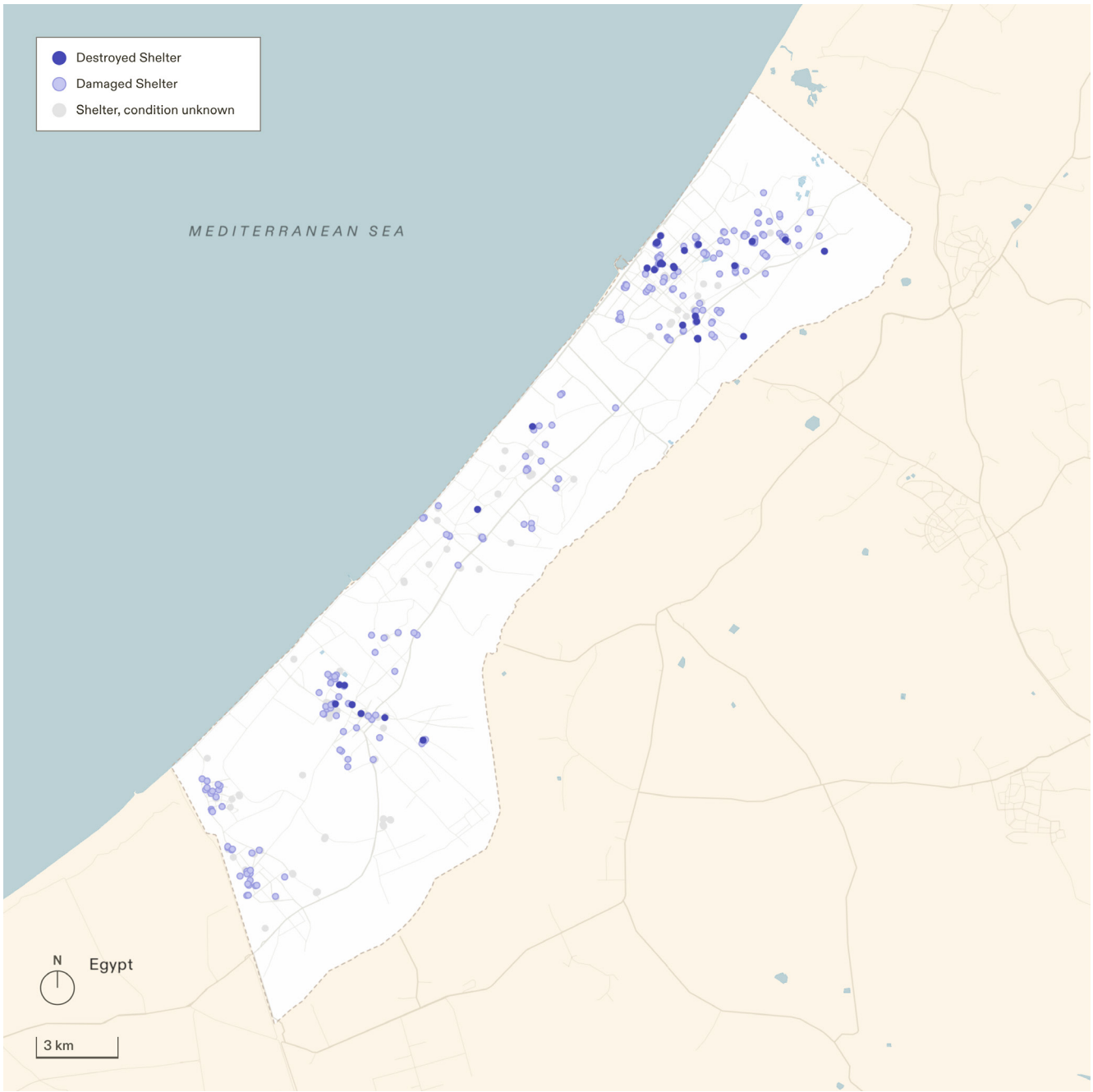

Figure 6.101. Damage and destruction of shelters 7 October 2023–6 July 2024. 70% of shelters attacked

1.4 Utilities

148 Damage and destruction of utilities 7 October–15 October 2023. 2% of utilities attacked

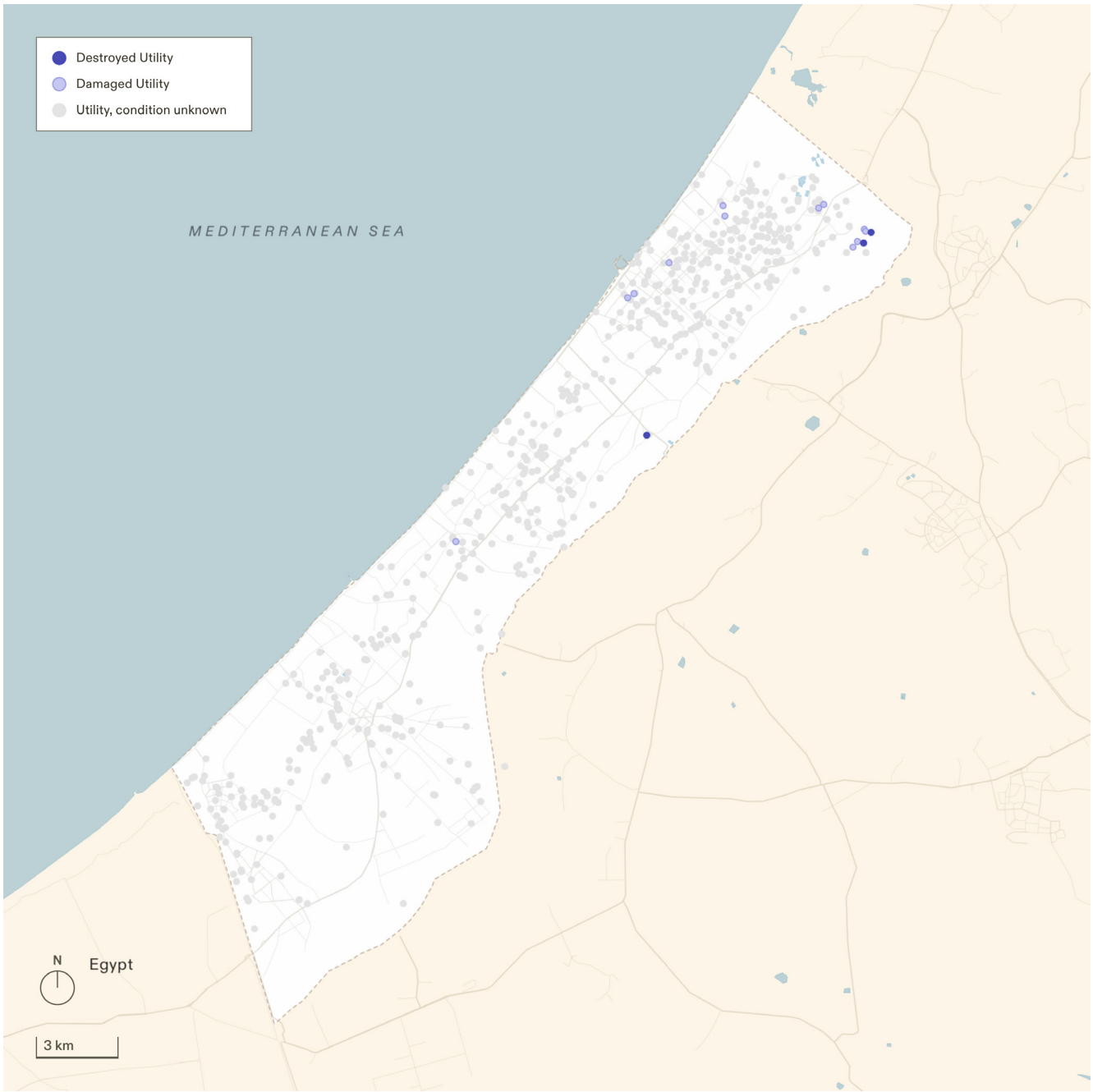

Figure 6.102. Damage and destruction of shelters 7 October–15 October 2023. 2% of utilities attacked

149 Damage and destruction of utilities 7 October–7 November 2023. 6% of utilities attacked

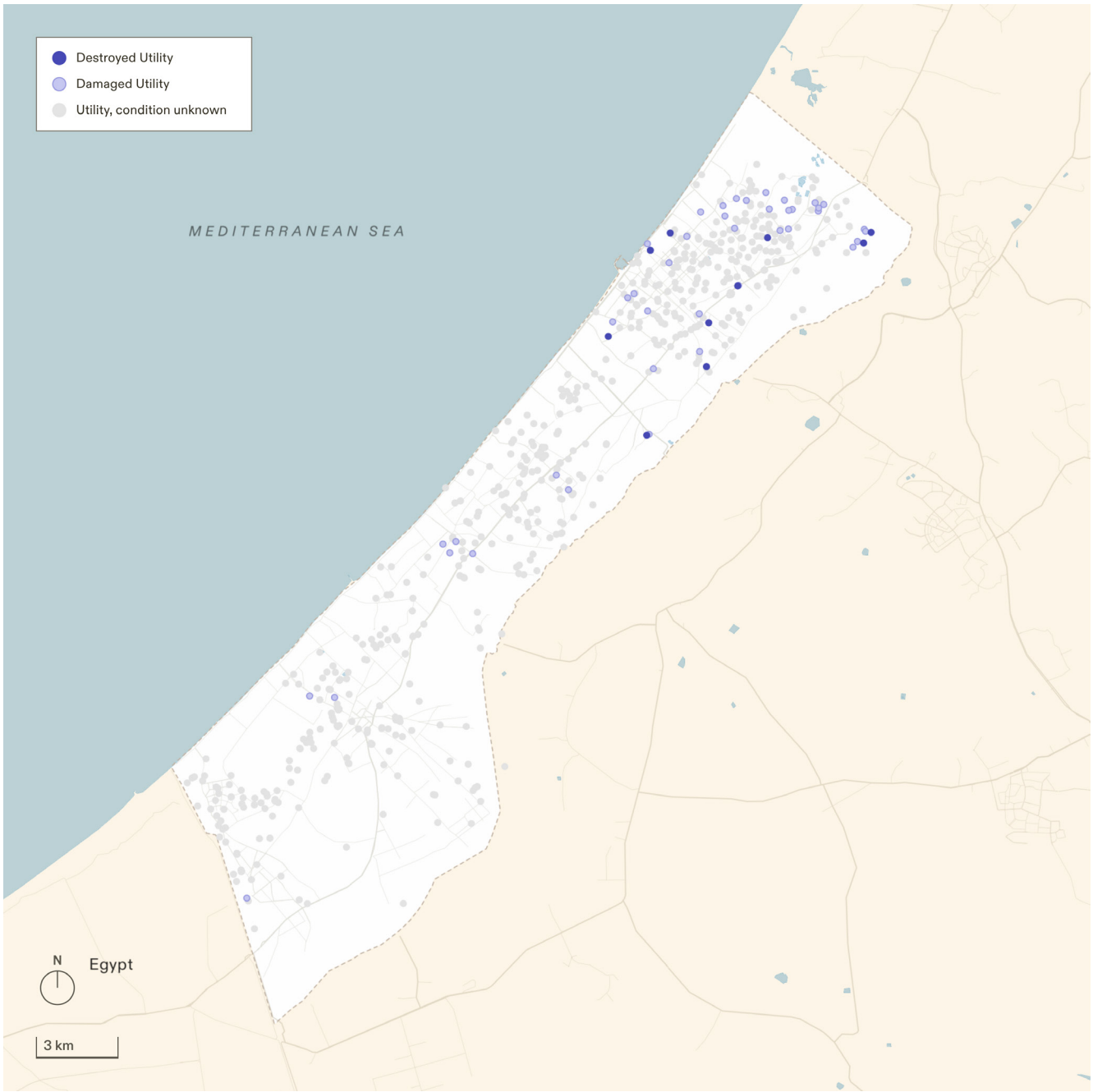

Figure 6.103. Damage and destruction of utilities 7 October–7 November 2023. 6% of utilities attacked

150 Damage and destruction of utilities 7 October 2023–26 November 2023. 11% of utilities attacked

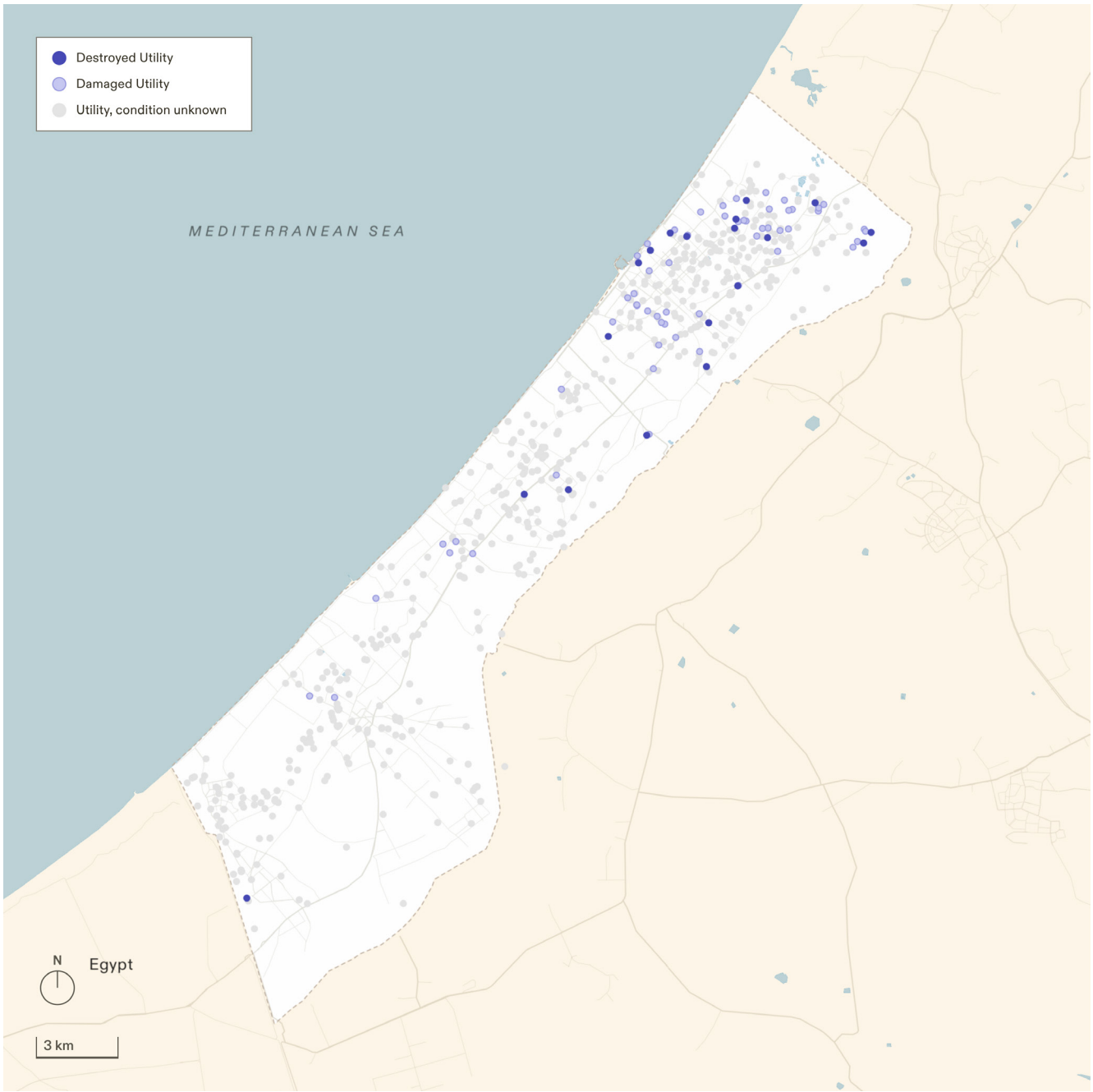

Figure 6.104. Damage and destruction of utilities 7 October–26 November 2023. 11% of utilities attacked

151 Damage and destruction of utilities 7 October 2023–7 January 2024. 29% of utilities attacked

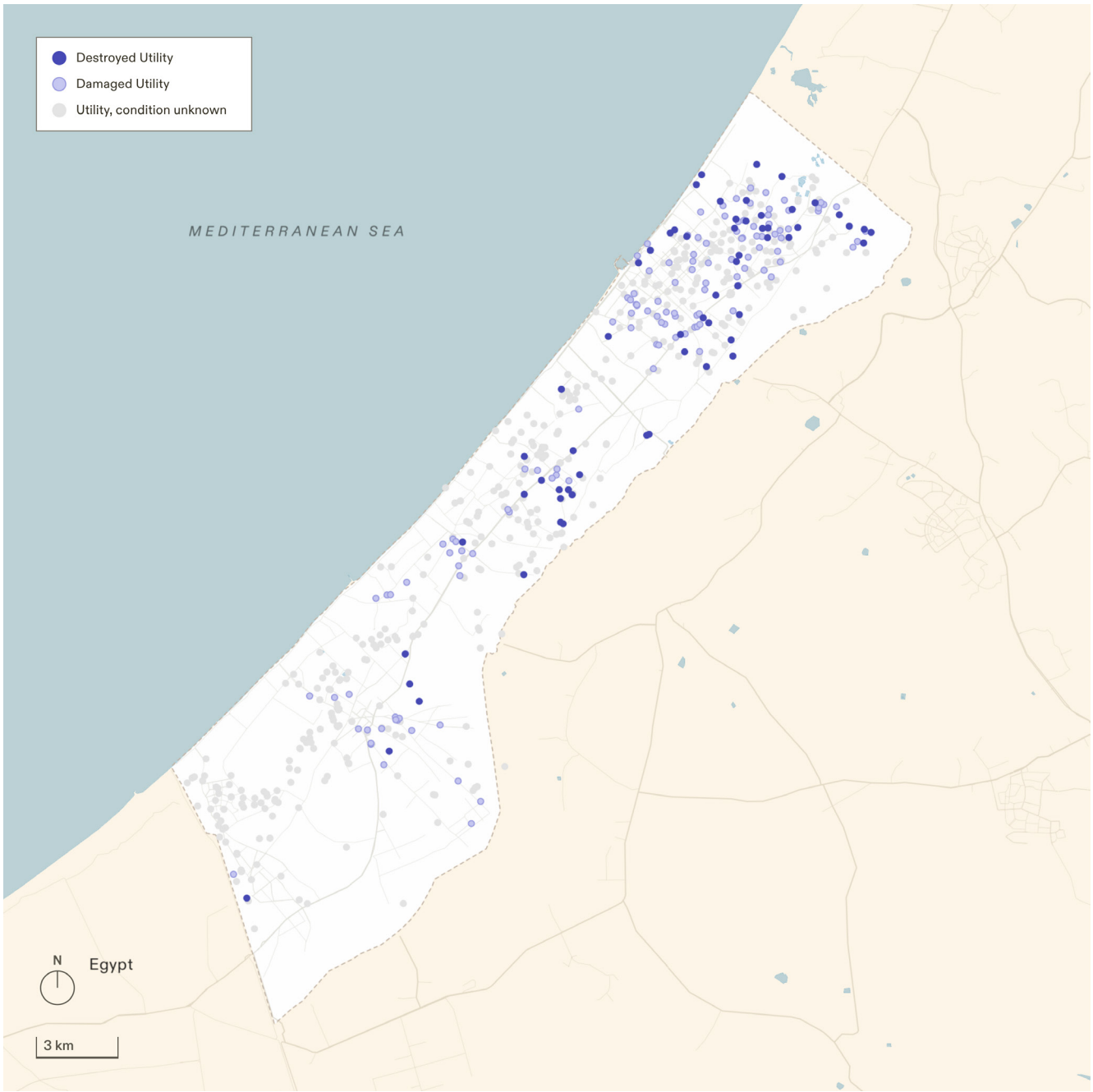

Figure 6.105. Damage and destruction of utilities 7 October 2023–7 January 2024. 29% of utilities attacked

152 Damage and destruction of utilities 7 October 2023–29 February 2024. 41% of utilities attacked

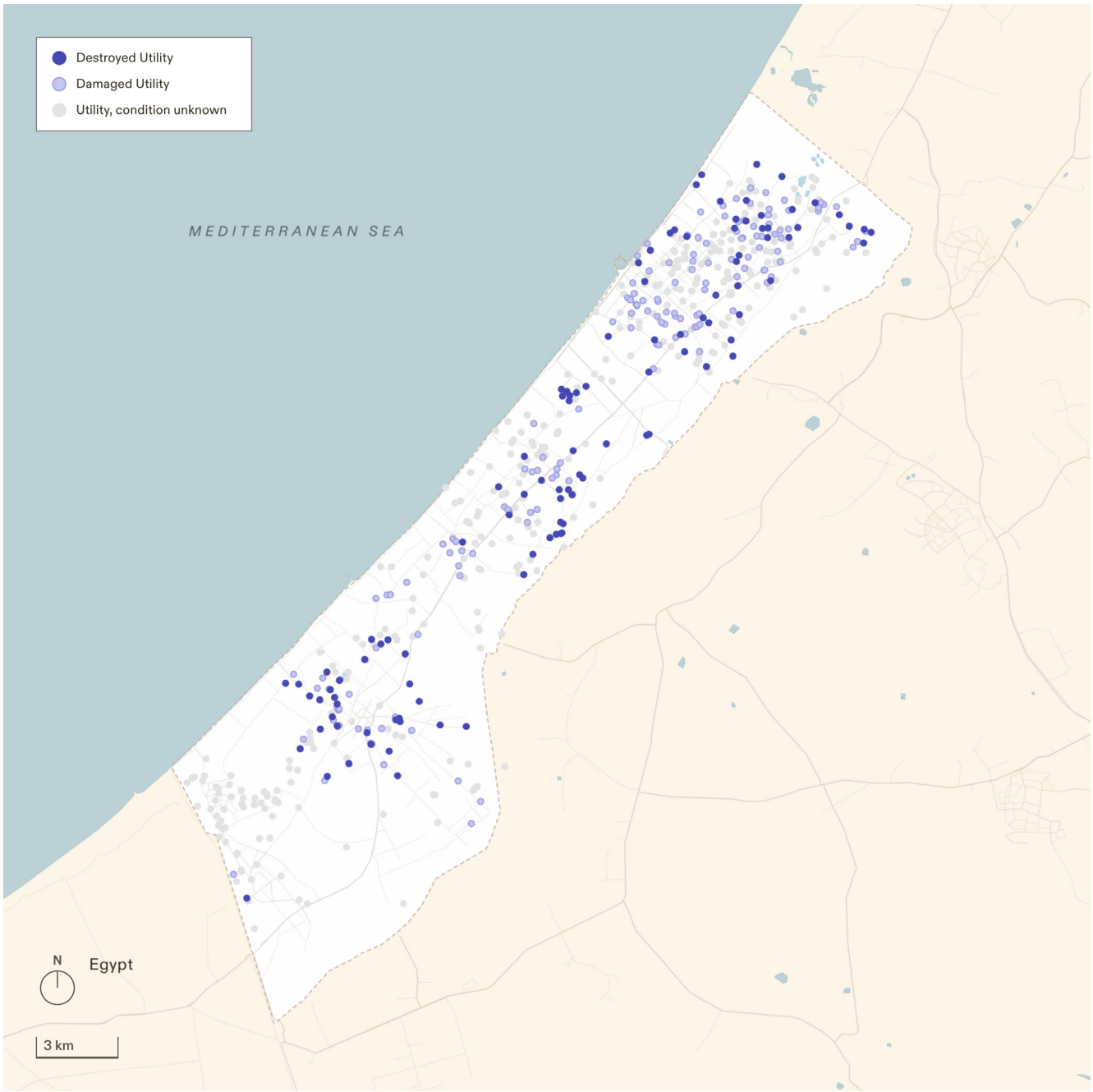

Figure 6.106. Damage and destruction of utilities 7 October 2023–29 February 2024. 41% of utilities attacked

153 Damage and destruction of utilities – 7 October 2023–1 April 2024. 46% of utilities attacked

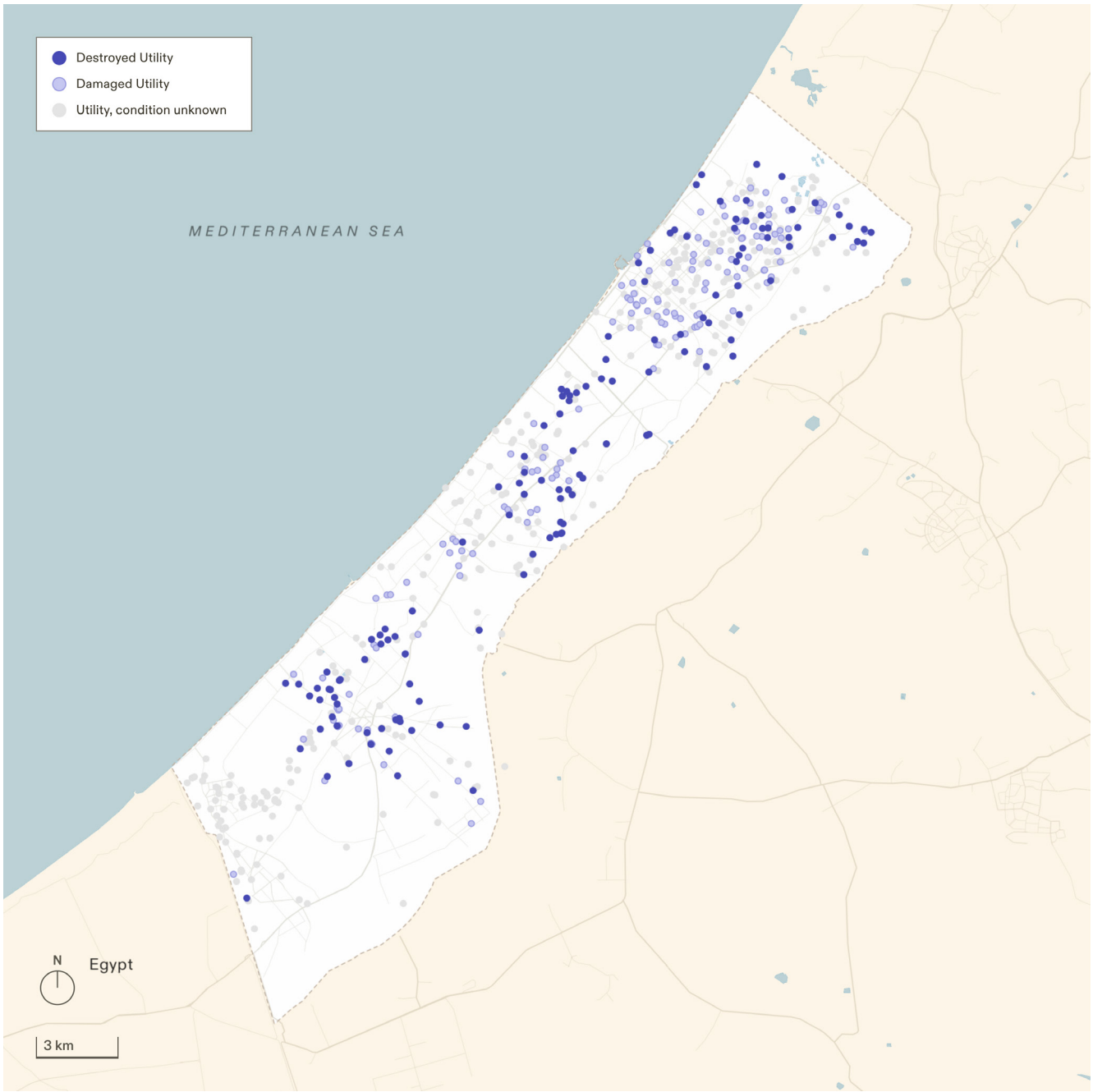

Figure 6.107. Damage and destruction of utilities 7 October 2023–1 April 2024. 46% of utilities attacked

154 Damage and destruction of utilities – 7 October 2023–3 May 2024. 48% of utilities attacked

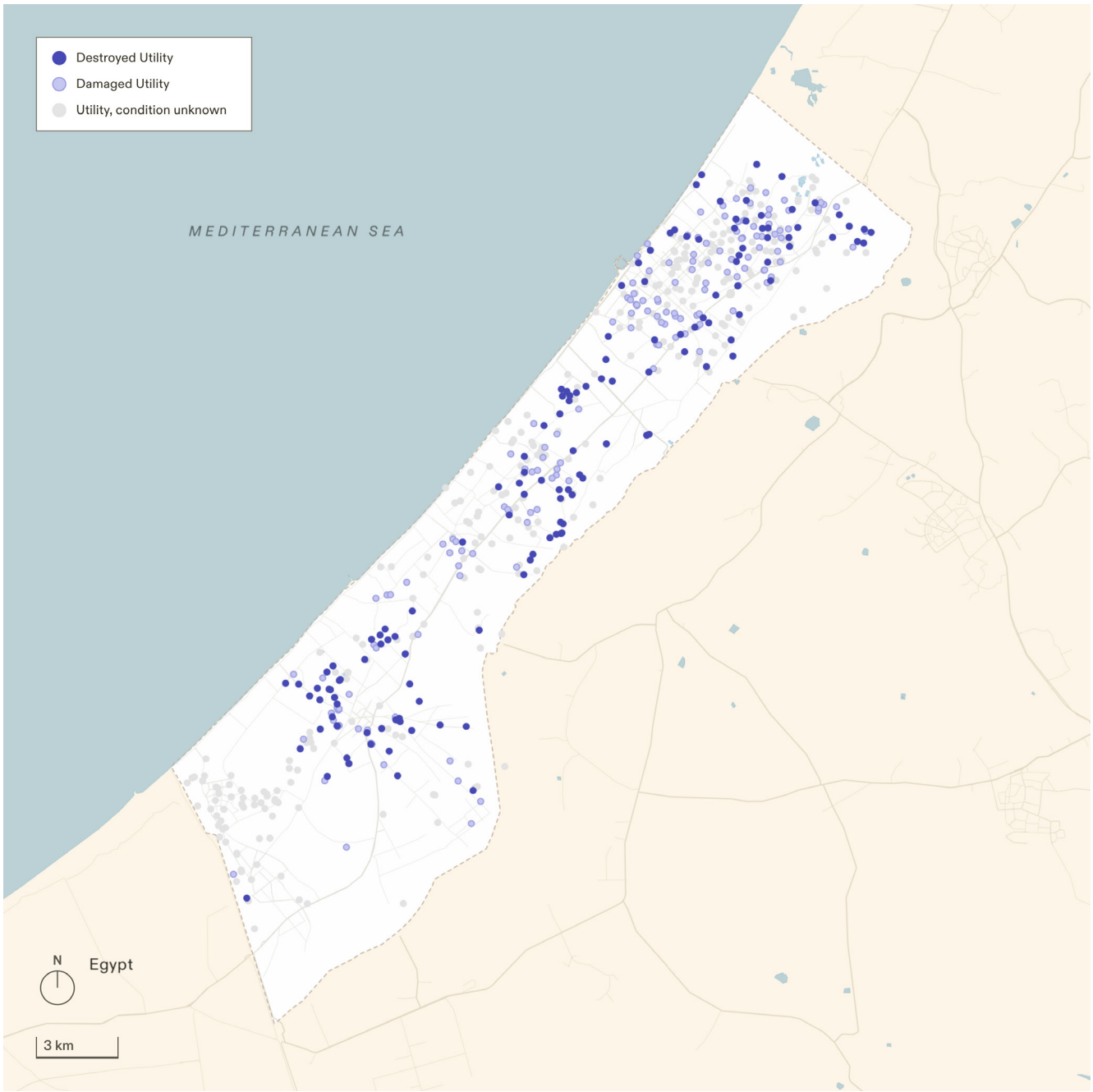

Figure 6.108. Damage and destruction of utilities 7 October 2023–3 May 2024. 48% of utilities attacked

155 Damage and destruction of utilities – 7 October 2023–6 July 2024. 53% of utilities attacked

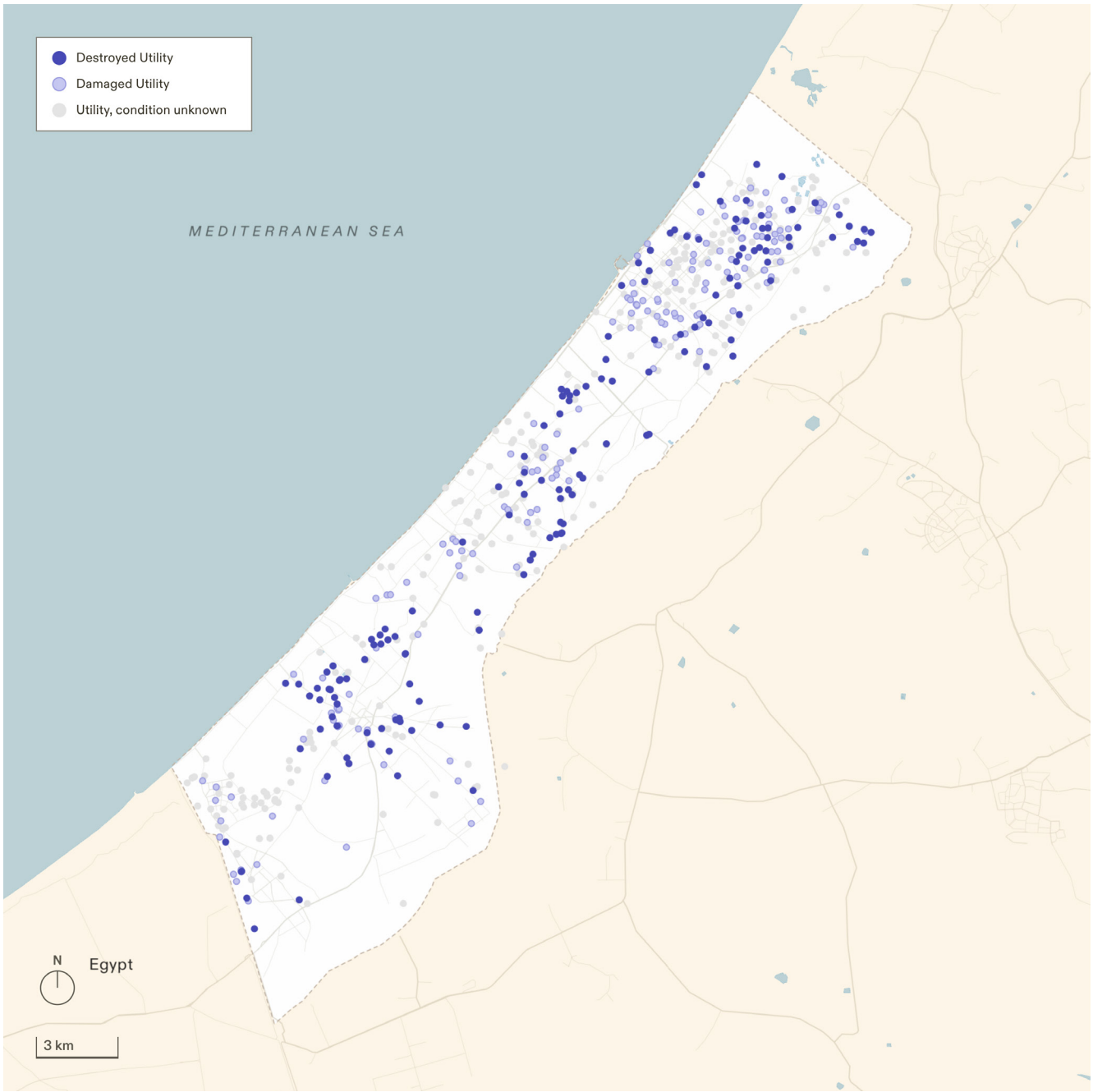

Figure 6.109. Damage and destruction of utilities 7 October 2023–6 July 2024. 53% of utilities attacked

1.5 Education facilities – schools

156 Damage and destruction of schools 7 October–15 October 2023. 1% of schools attacked

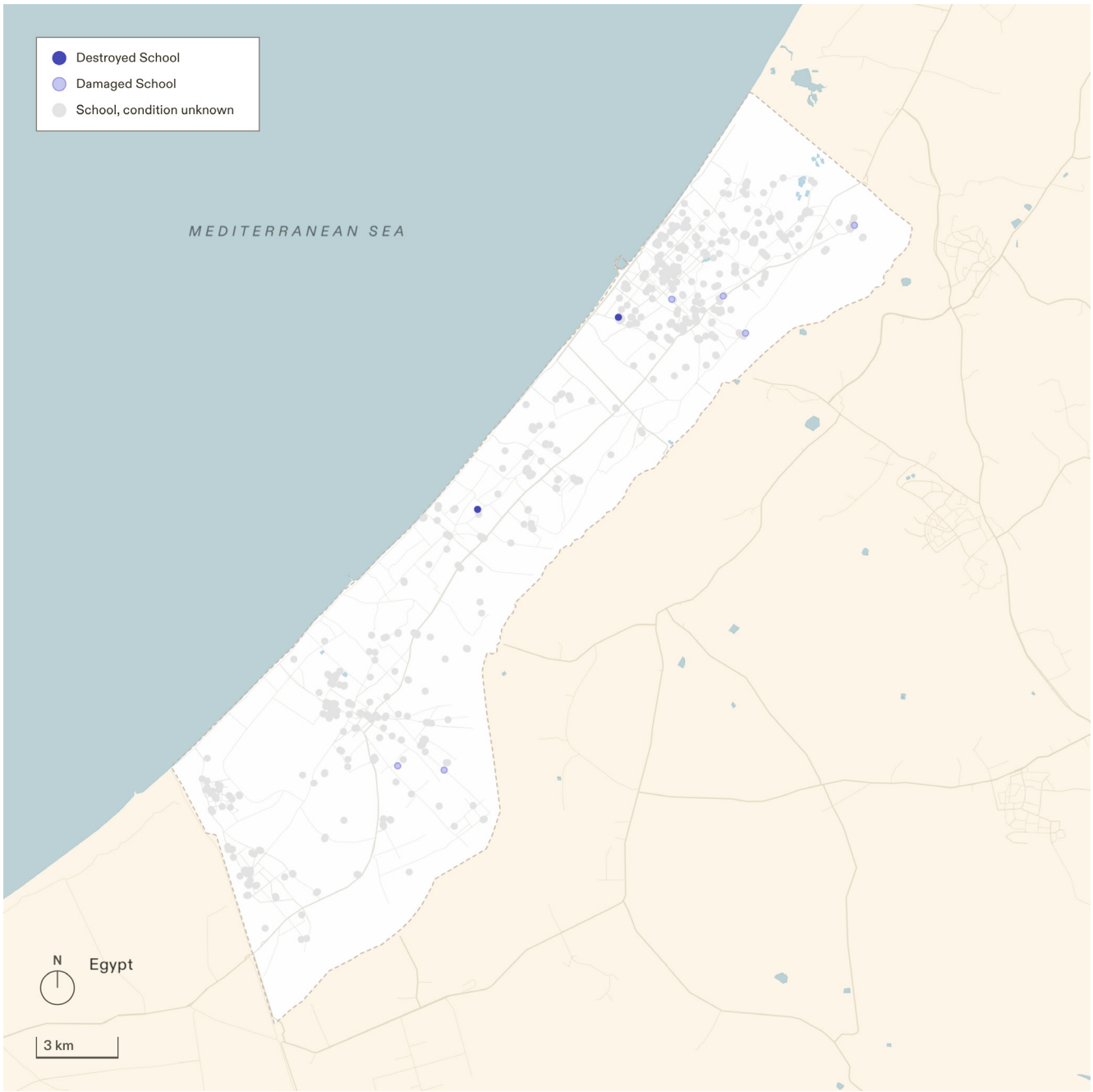

Figure 6.110. Damage and destruction of shelters 7 October–15 October 2023. 1% of schools attacked

157 Damage and destruction of schools 7 October 2023–7 November 2023. 17% of schools attacked

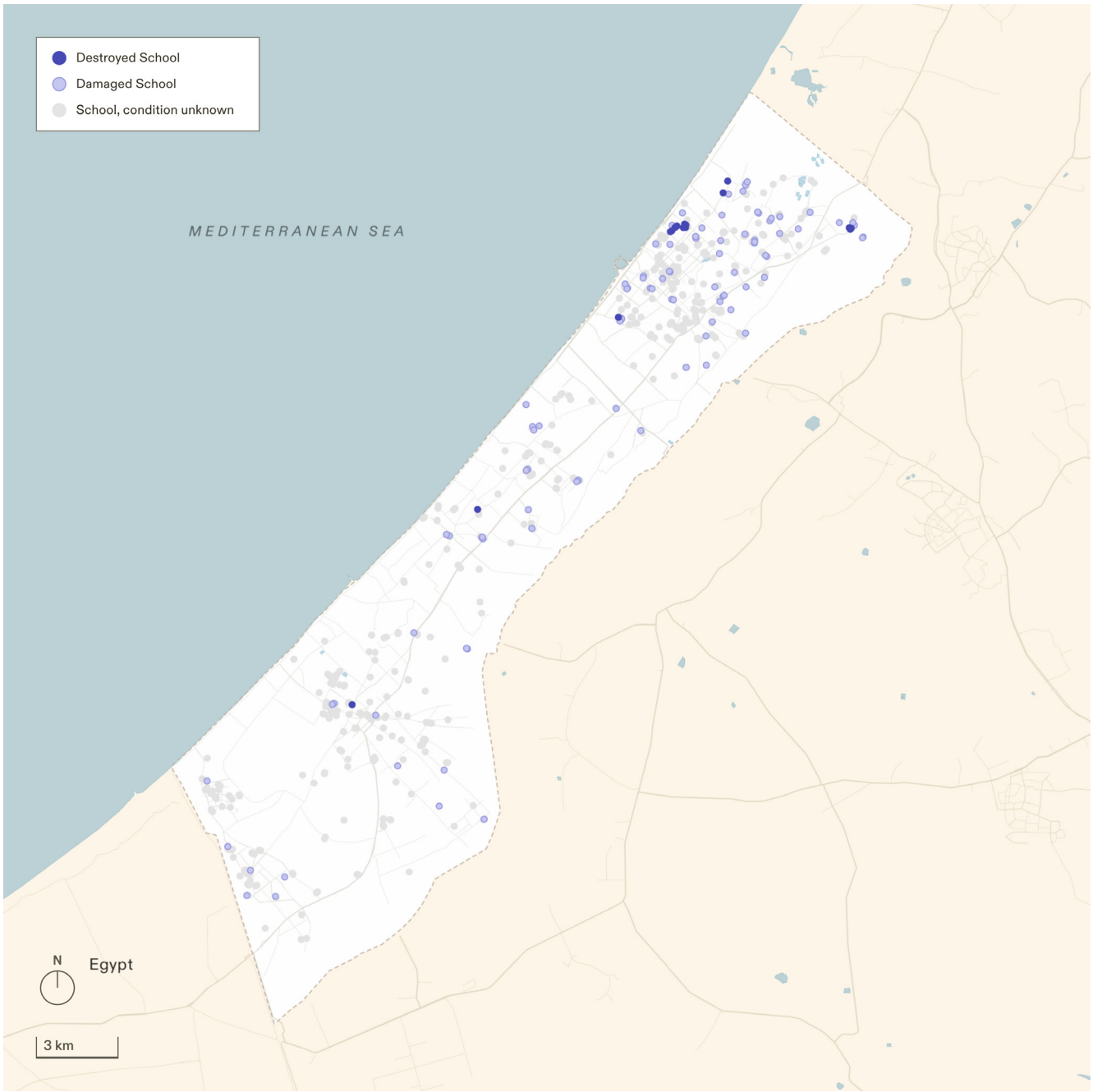

Figure 6.111. Damage and destruction of education facilities 7 October–7 November 2023. 17% of schools attacked

158 Damage and destruction of schools 7 October–26 November 2023. 28% of schools attacked

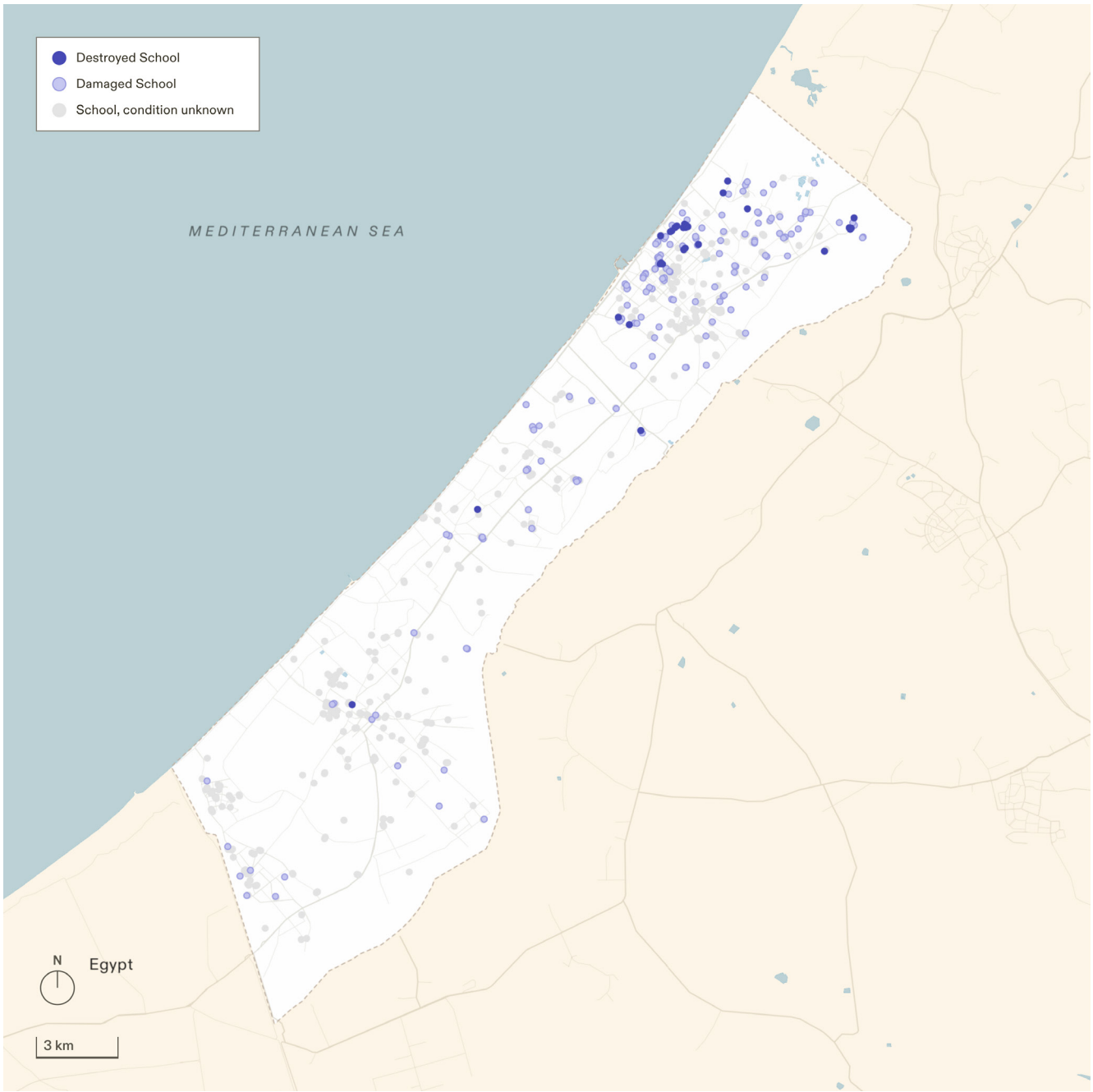

Figure 6.112. Damage and destruction of education facilities 7 October–26 November 2023. 28% of schools attacked

159 Damage and destruction of schools 7 October 2023–7 January 2024. 47% of schools attacked

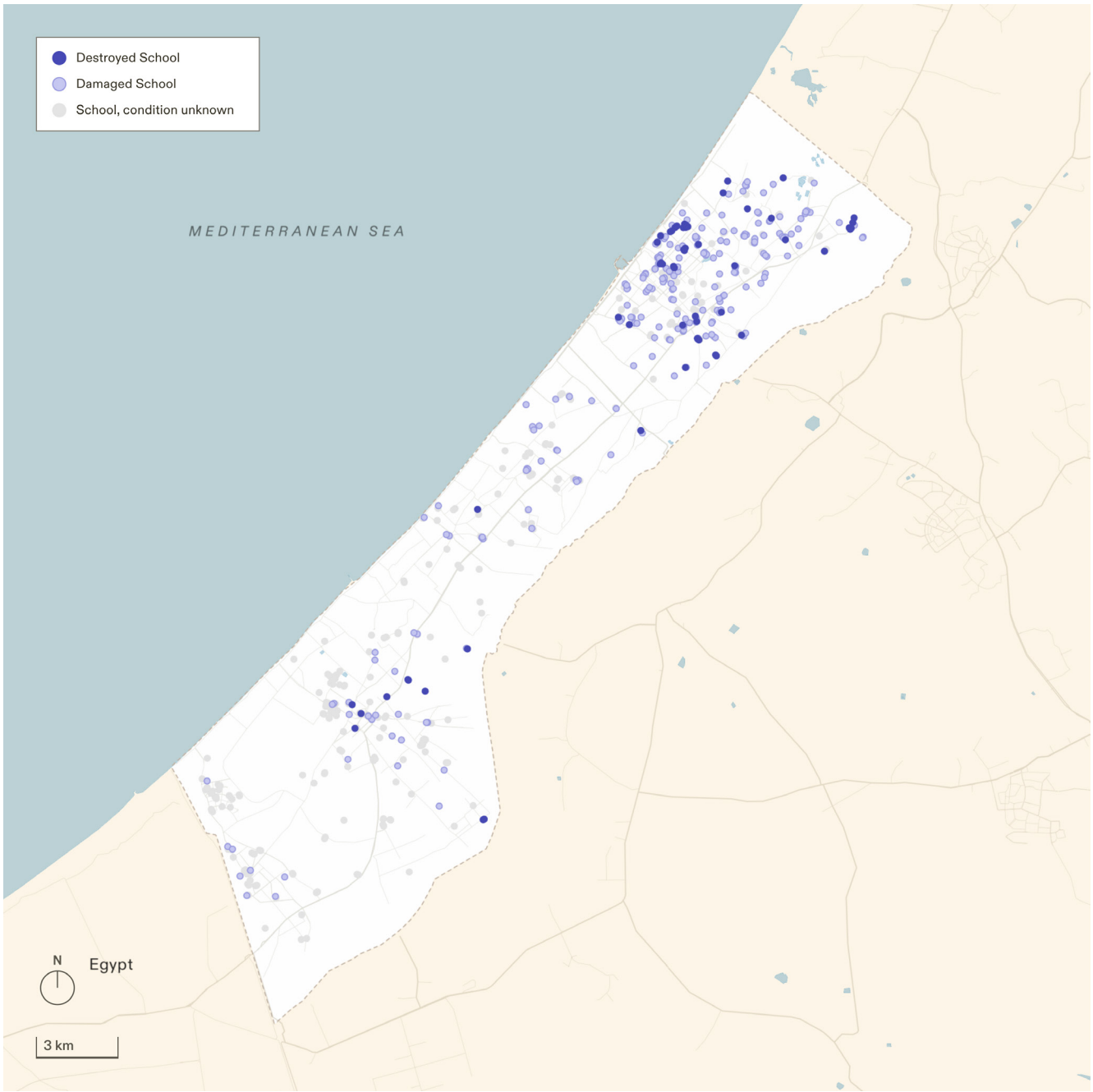

Figure 6.113. Damage and destruction of education facilities 7 October 2023–7 January 2024. 47% of schools attacked

160 Damage and destruction of schools 7 October 2023–29 February 2024. 59% of schools attacked

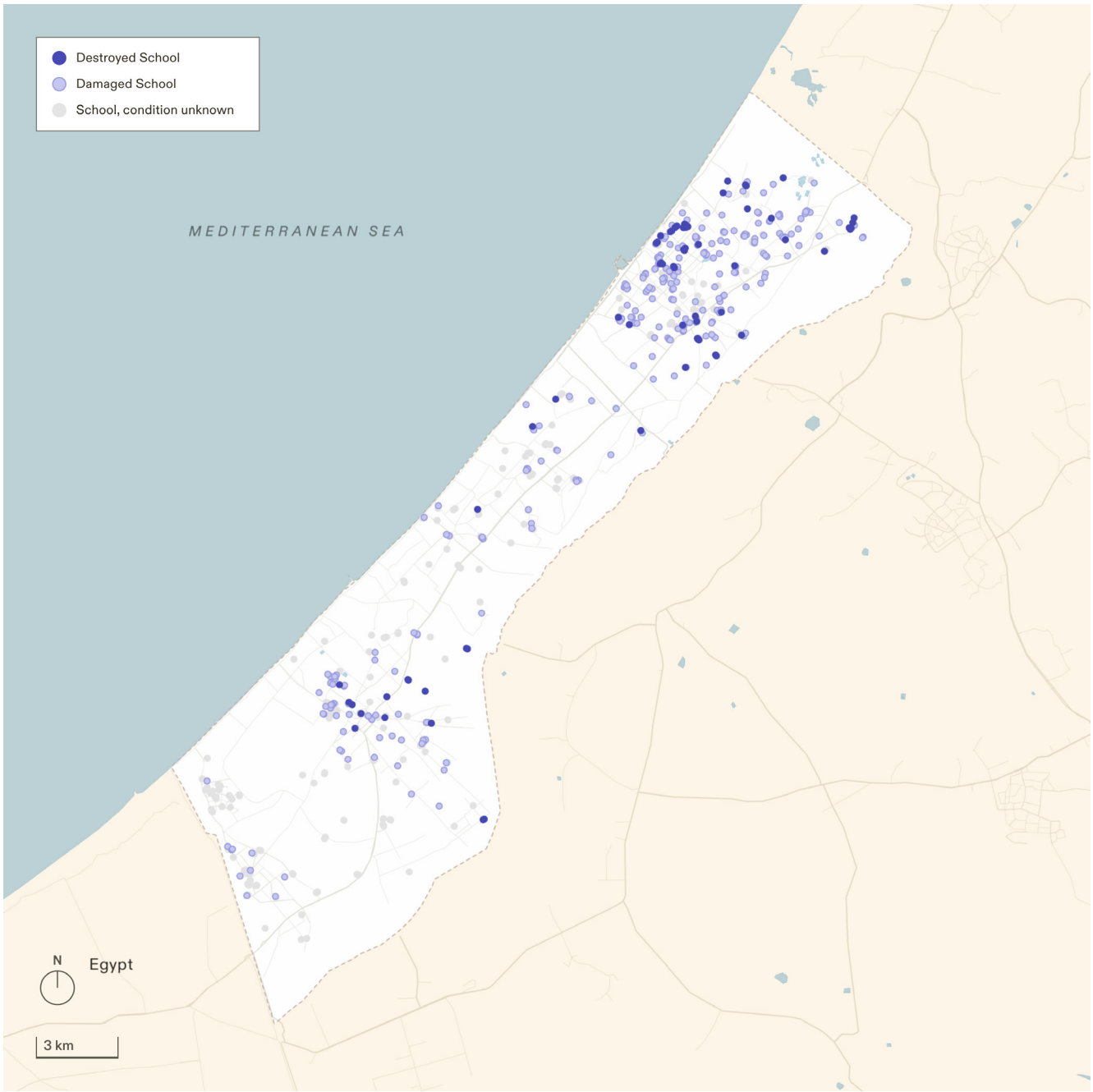

Figure 6.114. Damage and destruction of education facilities 7 October 2023–29 February 2024. 59% of schools attacked

161 Damage and destruction of schools 7 October 2023–1 April 2024. 65% of schools attacked

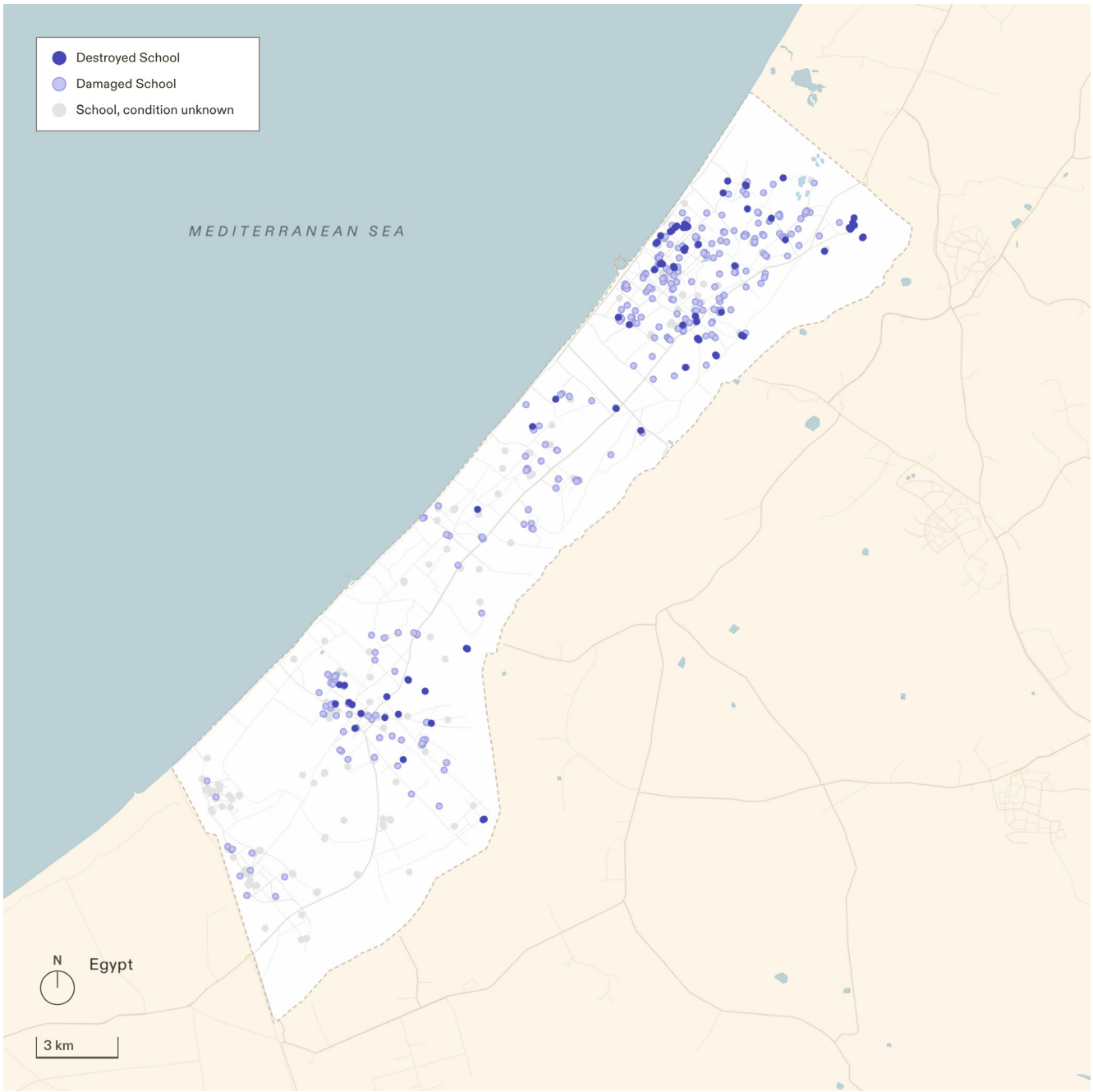

Figure 6.115. Damage and destruction of education facilities 7 October 2023–1 April 2024. 65% of schools attacked

162 Damage and destruction of schools 7 October 2023–3 May 2024. 68% of schools attacked

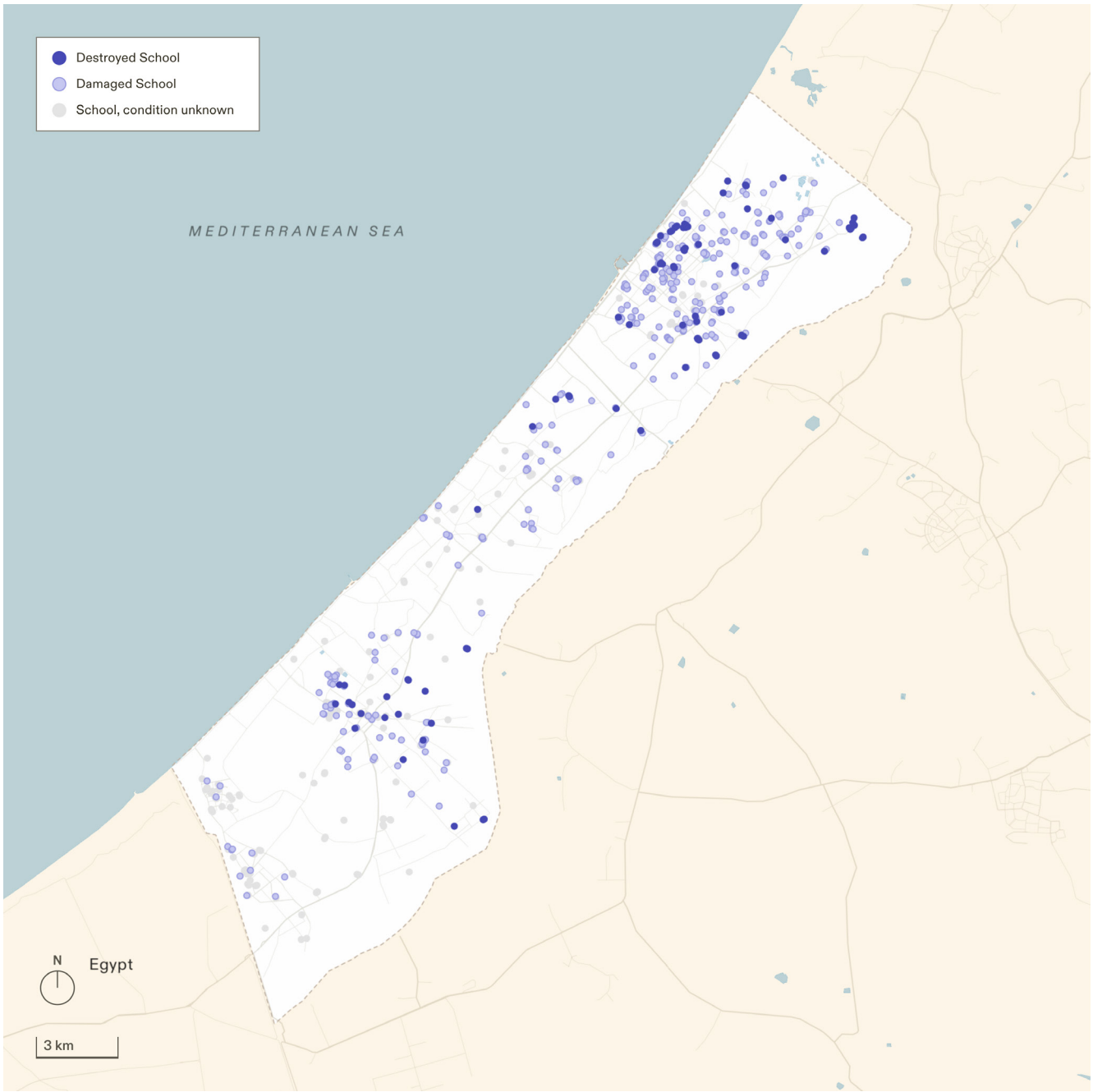

Figure 6.116. Damage and destruction of education facilities 7 October 2023–3 May 2024. 68% of schools attacked

163 Damage and destruction of schools 7 October 2023–6 July 2024. 76% of schools attacked

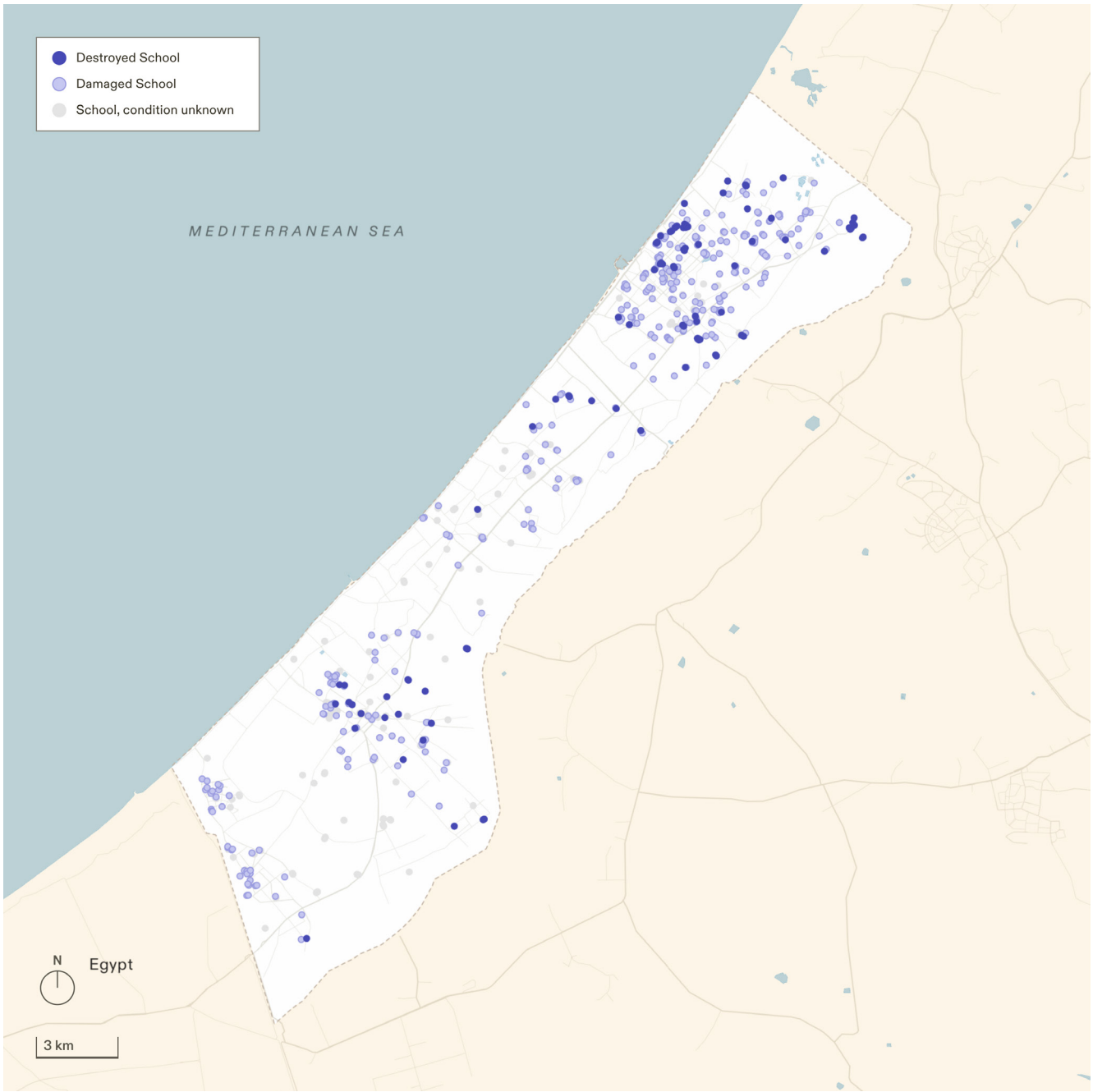

Figure 6.117. Damage and destruction of education facilities 7 October 2023–6 July 2024. 76% of schools attacked

1.6 Education facilities – universities

164 Damage and destruction of universities 7 October–15 October 2023. 2% of universities attacked



Figure 6.118 Damage and destruction of universities 7 October–15 October 2023. 2% of universities attacked

165 Damage and destruction of universities 7 October–7 November 2023. 9% of universities attacked

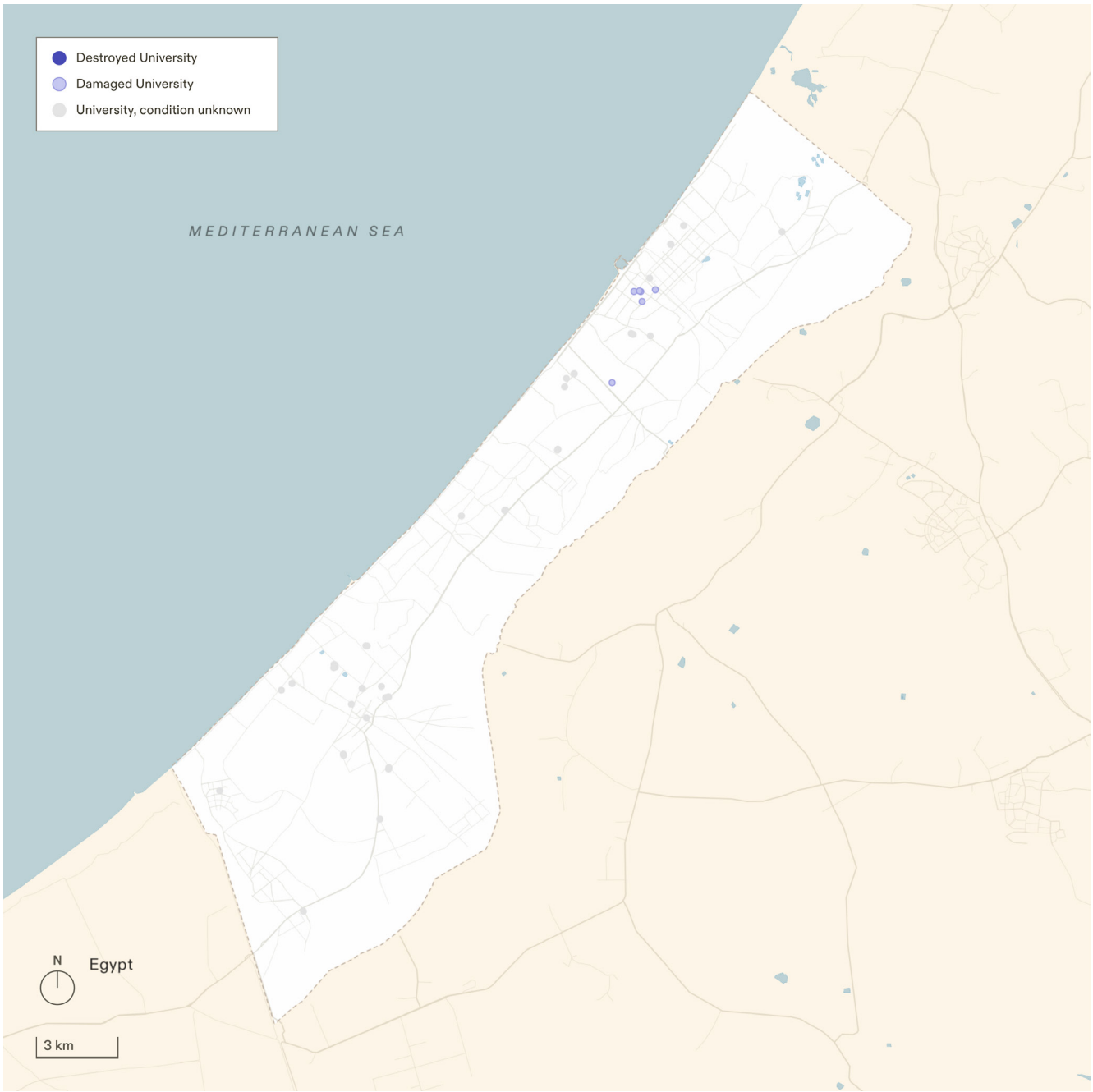

Figure 6.119 Damage and destruction of universities 7 October–7 November 2023. 9% of universities attacked

166 Damage and destruction of universities 7 October–26 November 2023. 13% of universities attacked

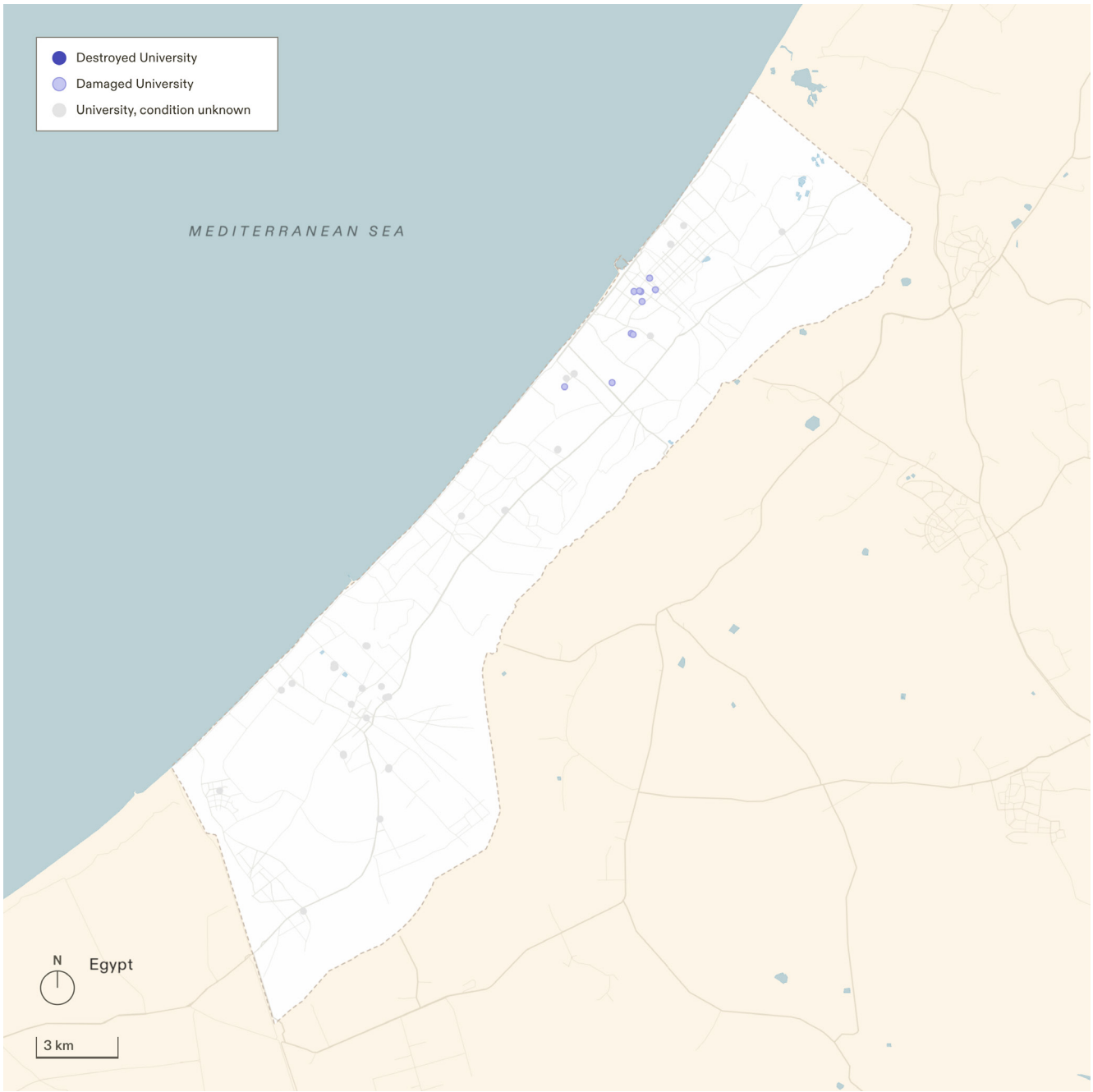

Figure 6.120 Damage and destruction of universities 7 October–26 November 2023. 13% of universities attacked

167 Damage and destruction of universities 7 October 2023–7 January 2024. 34% of universities attacked

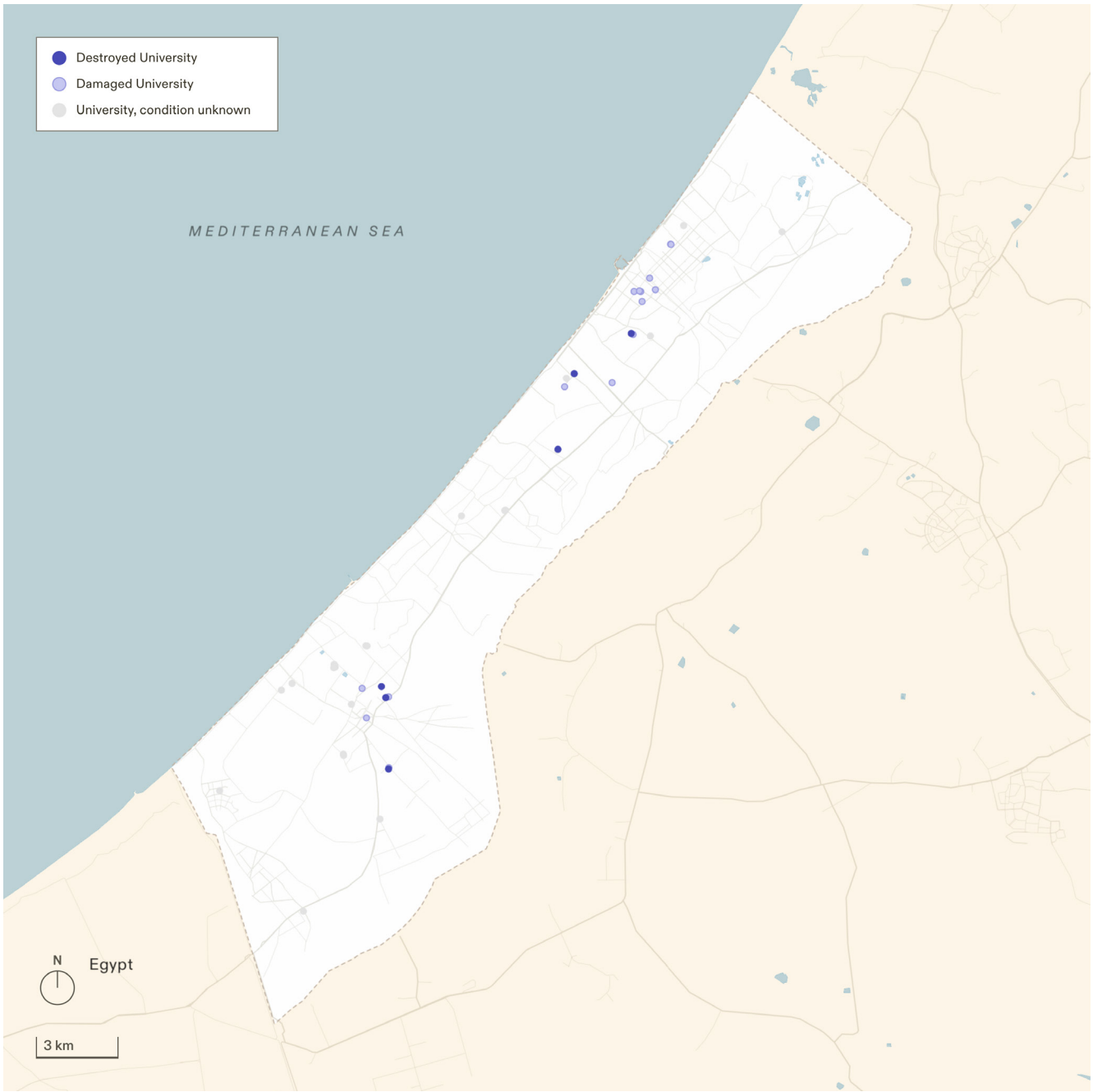

Figure 6.121 Damage and destruction of universities 7 October 2023–7 January 2024. 34% of universities attacked

168 Damage and destruction of universities 7 October 2023–29 February 2024. 65% of universities attacked

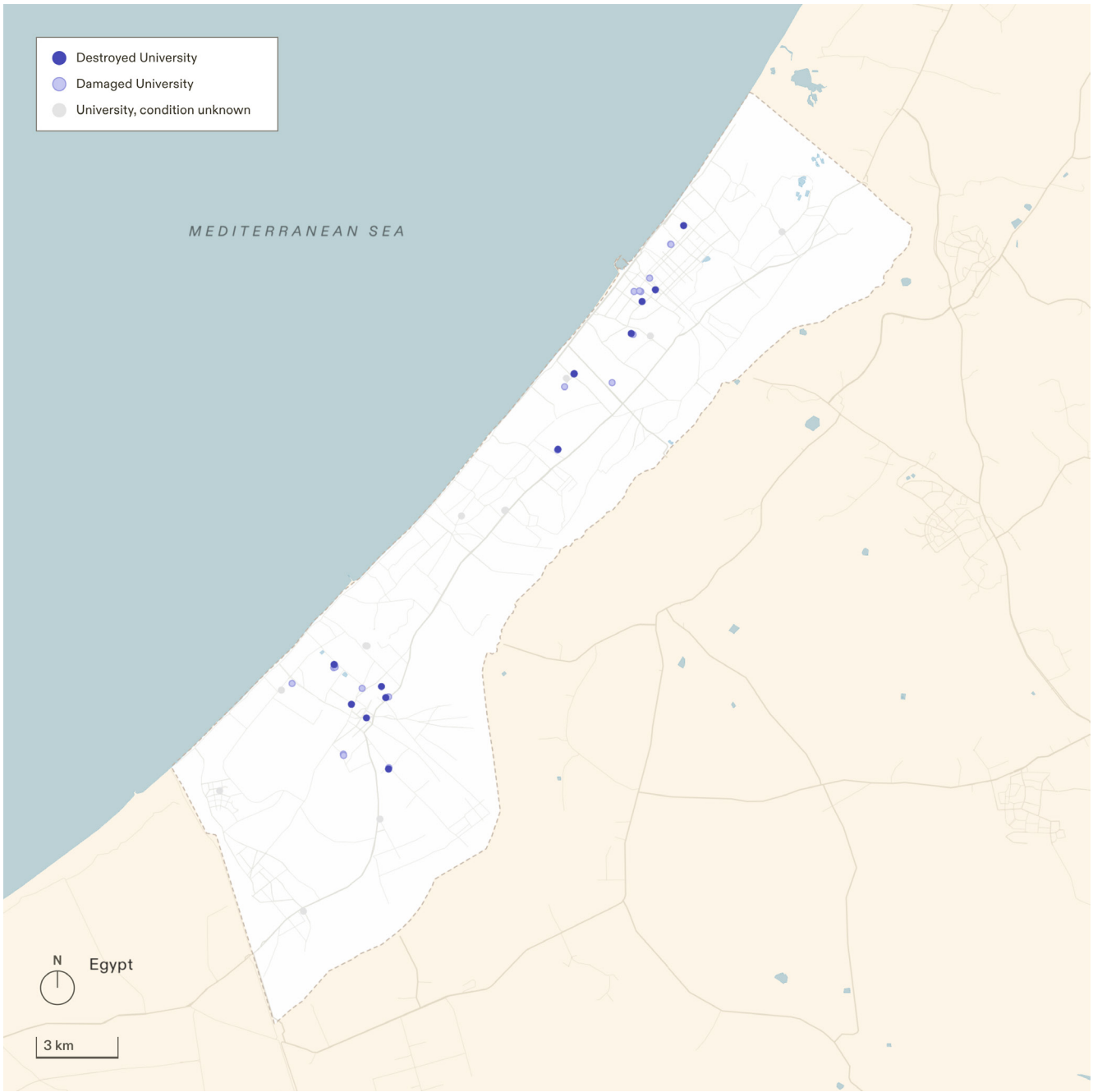

Figure 6.122 Damage and destruction of universities 7 October 2023–29 February 2024. 65% of universities attacked

169 Damage and destruction of universities 7 October 2023–1 April 2024. 68% of universities attacked

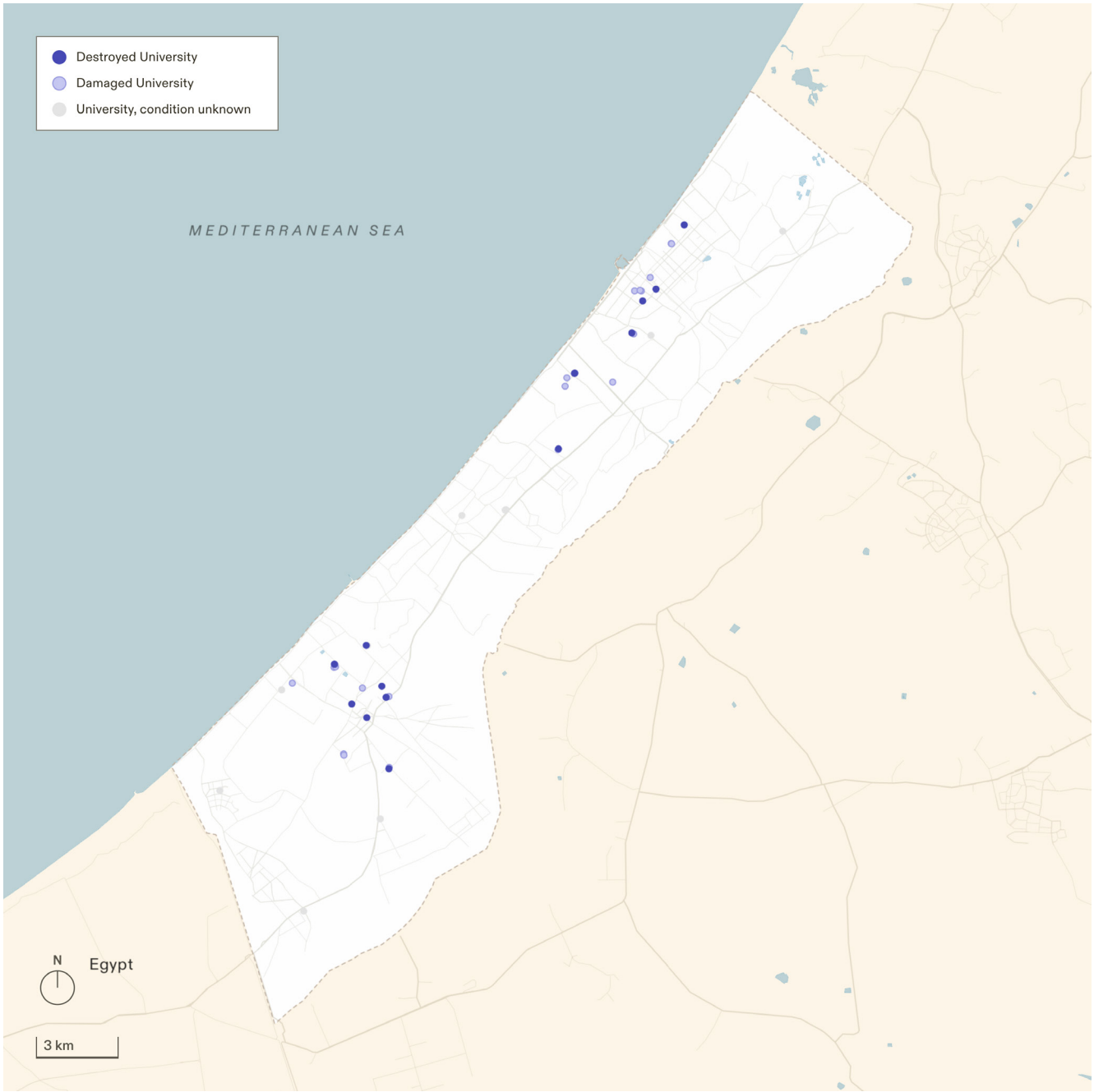

Figure 6.123 Damage and destruction of universities 7 October–1 April 2024. 68% of universities attacked

170 Damage and destruction of universities 7 October 2023– 3 May 2024. 72% of universities attacked

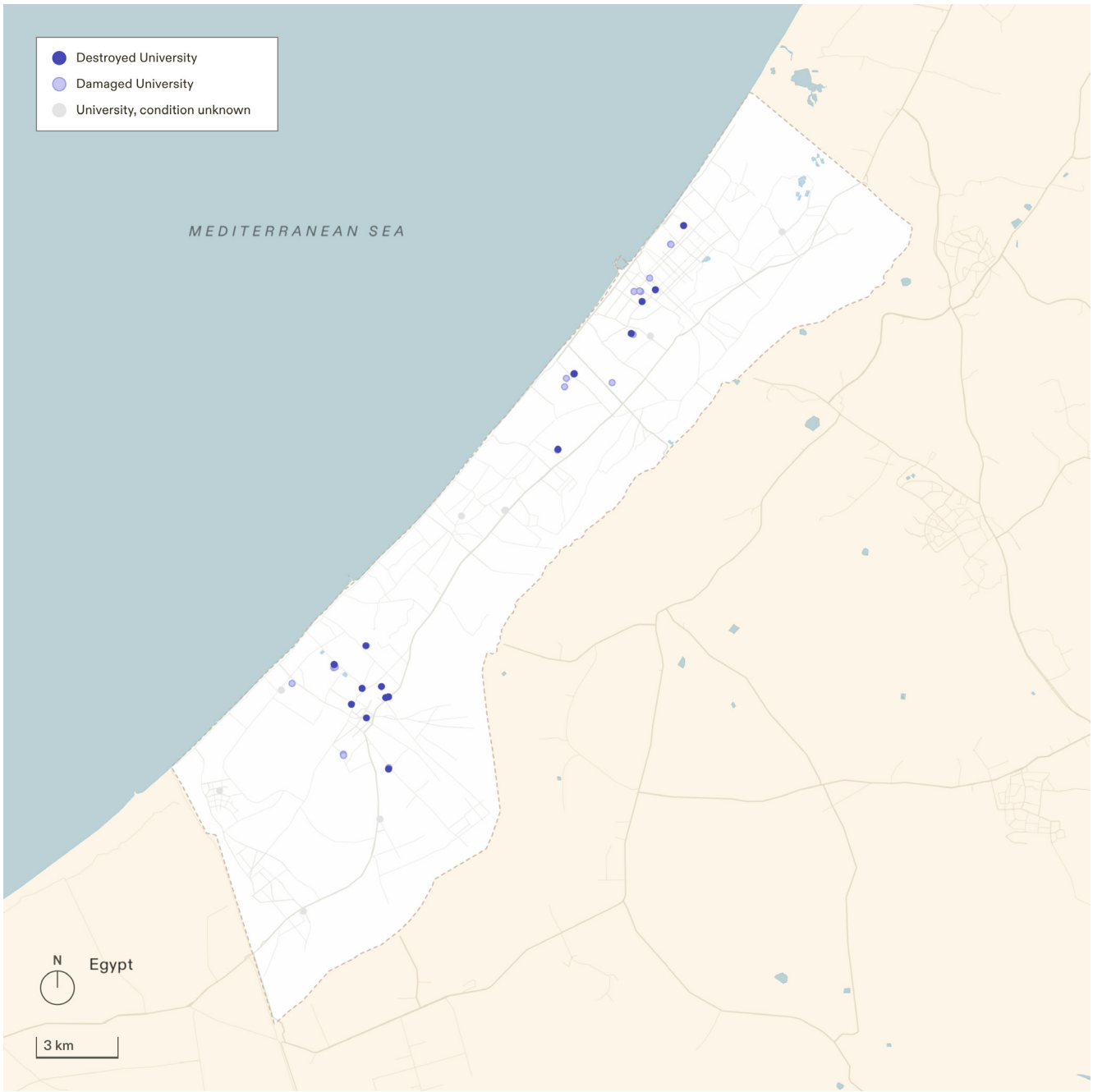

Figure 6.124 Damage and destruction of universities 7 October 2023– 3 May 2024. 72% of universities attacked

171 Damage and destruction of universities 7 October 2023– 6 July 2024. 77% of universities attacked

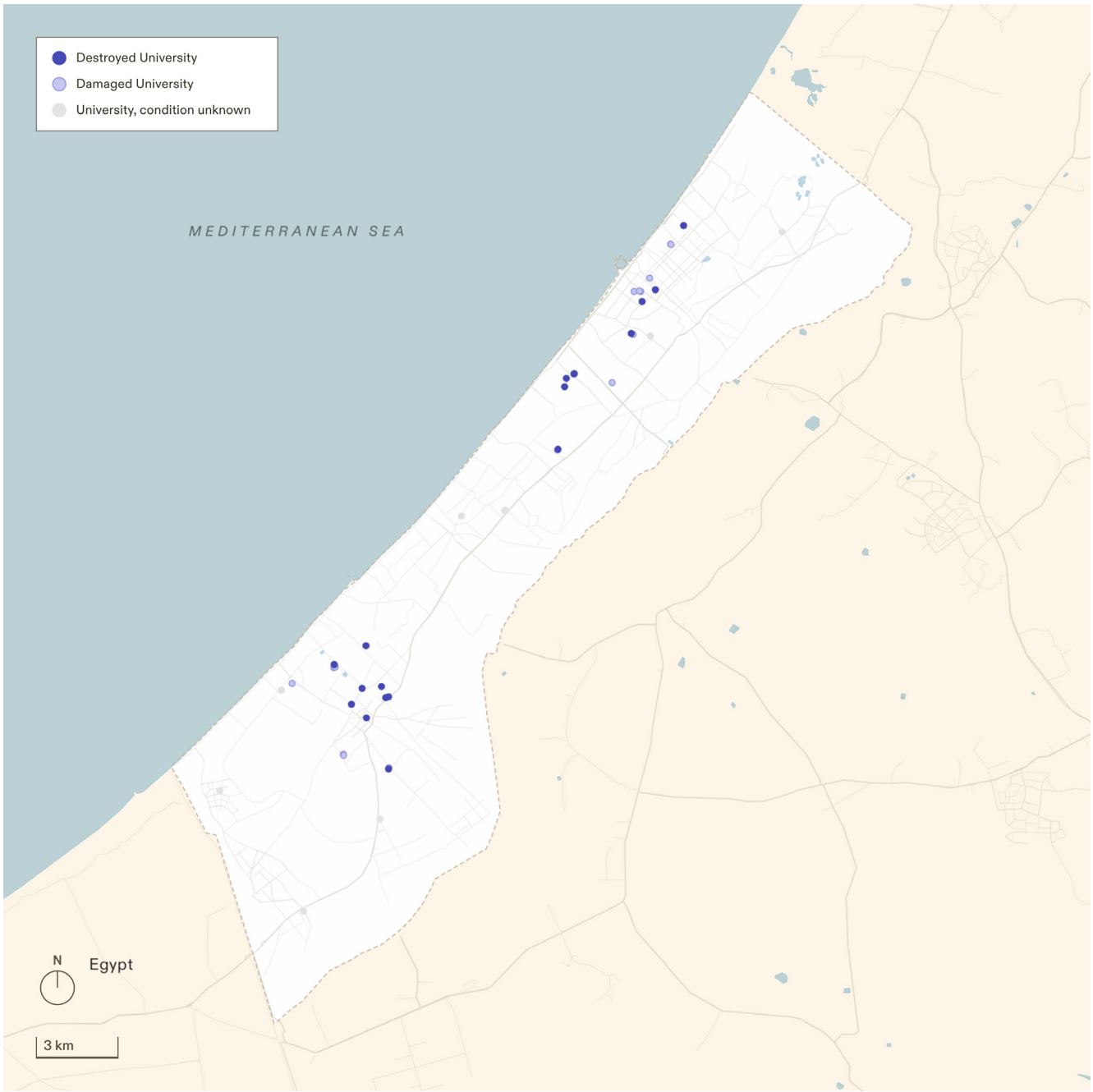

Figure 6.125 Damage and destruction of universities 7 October 2023– 6 July 2024. 77% of universities attacked

1.7 Government buildings

172 Damage and destruction of government buildings 7 October–15 October 2023. 15% of government buildings attacked

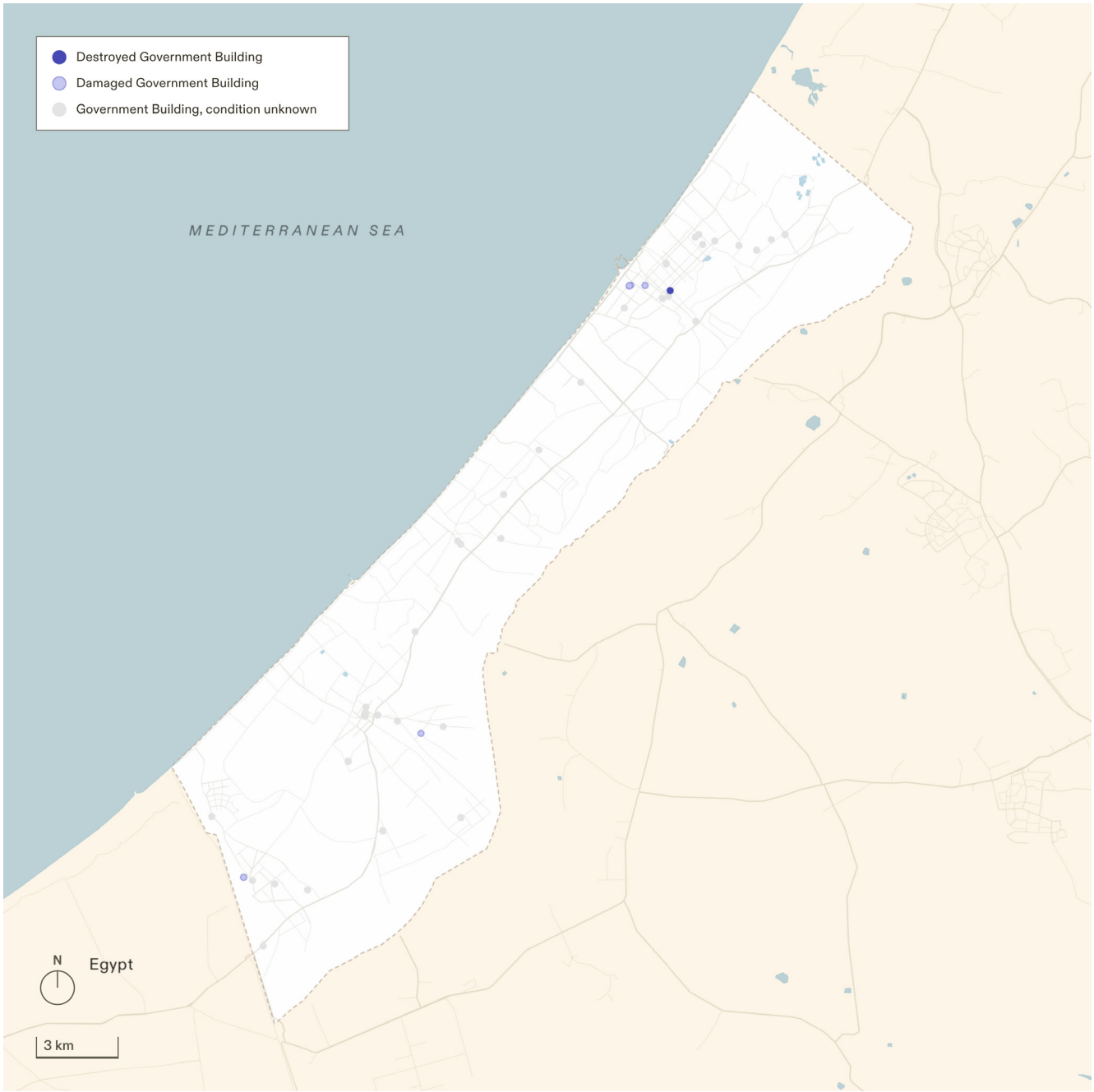

Figure 6.126 Damage and destruction of government buildings 7 October–15 October 2023. 15% of government buildings attacked

173 Damage and destruction of government buildings 7 October–7 November 2023. 29% of government buildings attacked

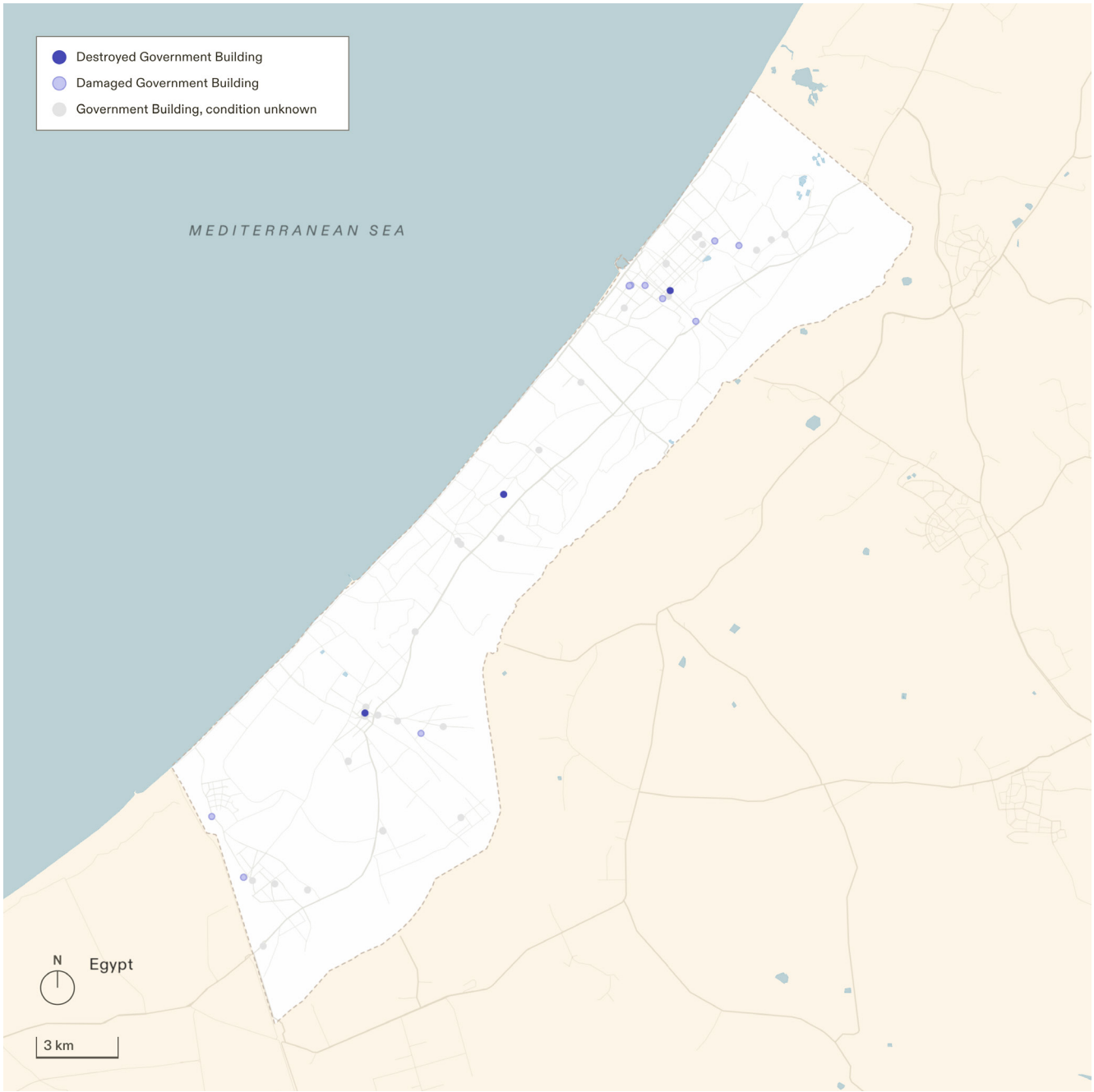

Figure 6.127. Damage and destruction of government buildings 7 October–7 November 2023. 29% of government buildings attacked

174 Damage and destruction of government buildings 7 October–26 November 2023. 42% of government buildings attacked

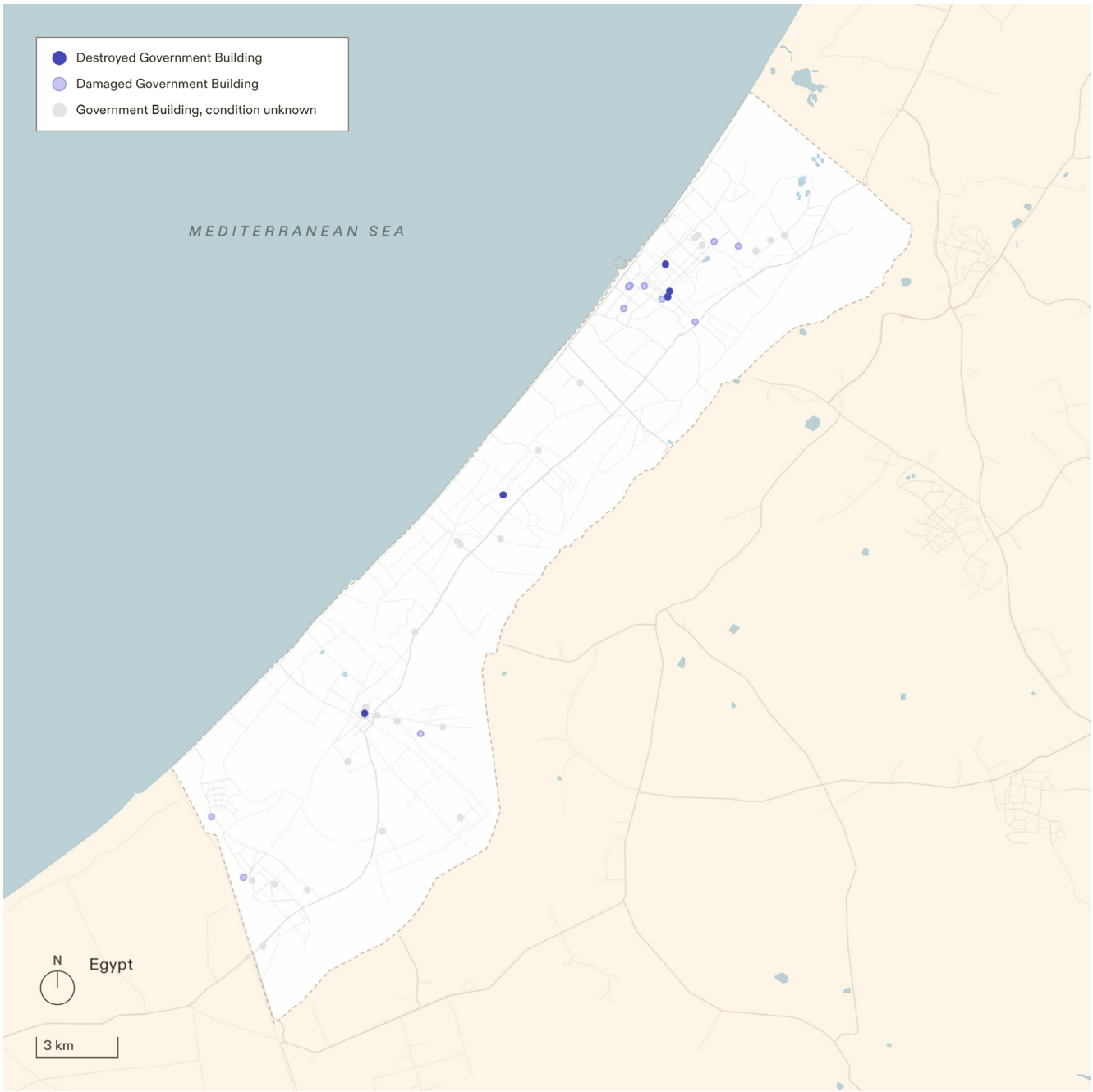

Figure 6.128. Damage and destruction of government buildings 7 October–26 November 2023. 42% of government buildings attacked

175 Damage and destruction of government buildings 7 October 2023–7 January 2024. 62% of government buildings attacked

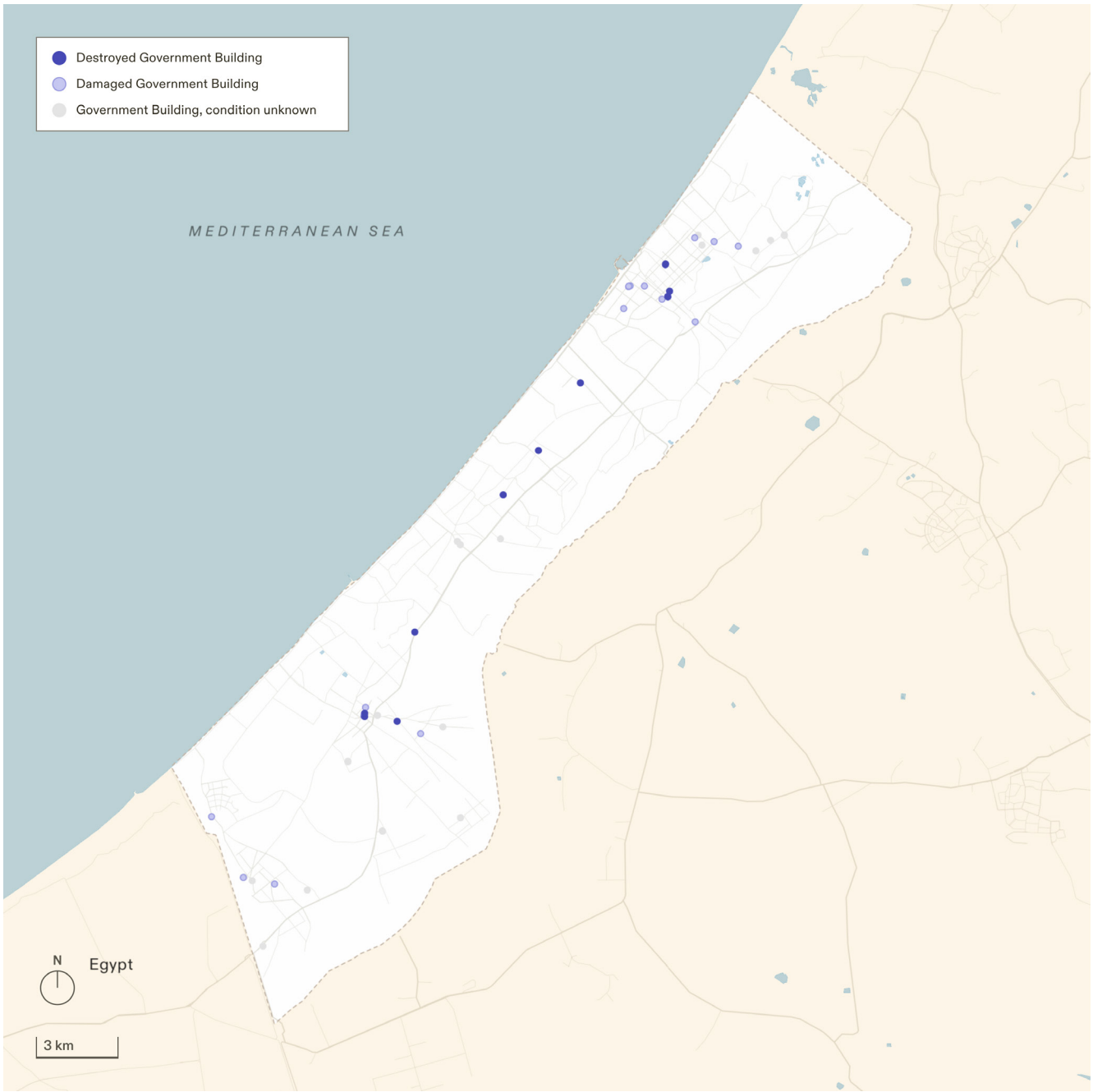

Figure 6.129. Damage and destruction of government buildings 7 October 2023–7 January 2024. 62% of government buildings attacked

176 Damage and destruction of government buildings 7 October 2023–29 February 2024. 73% of government buildings attacked

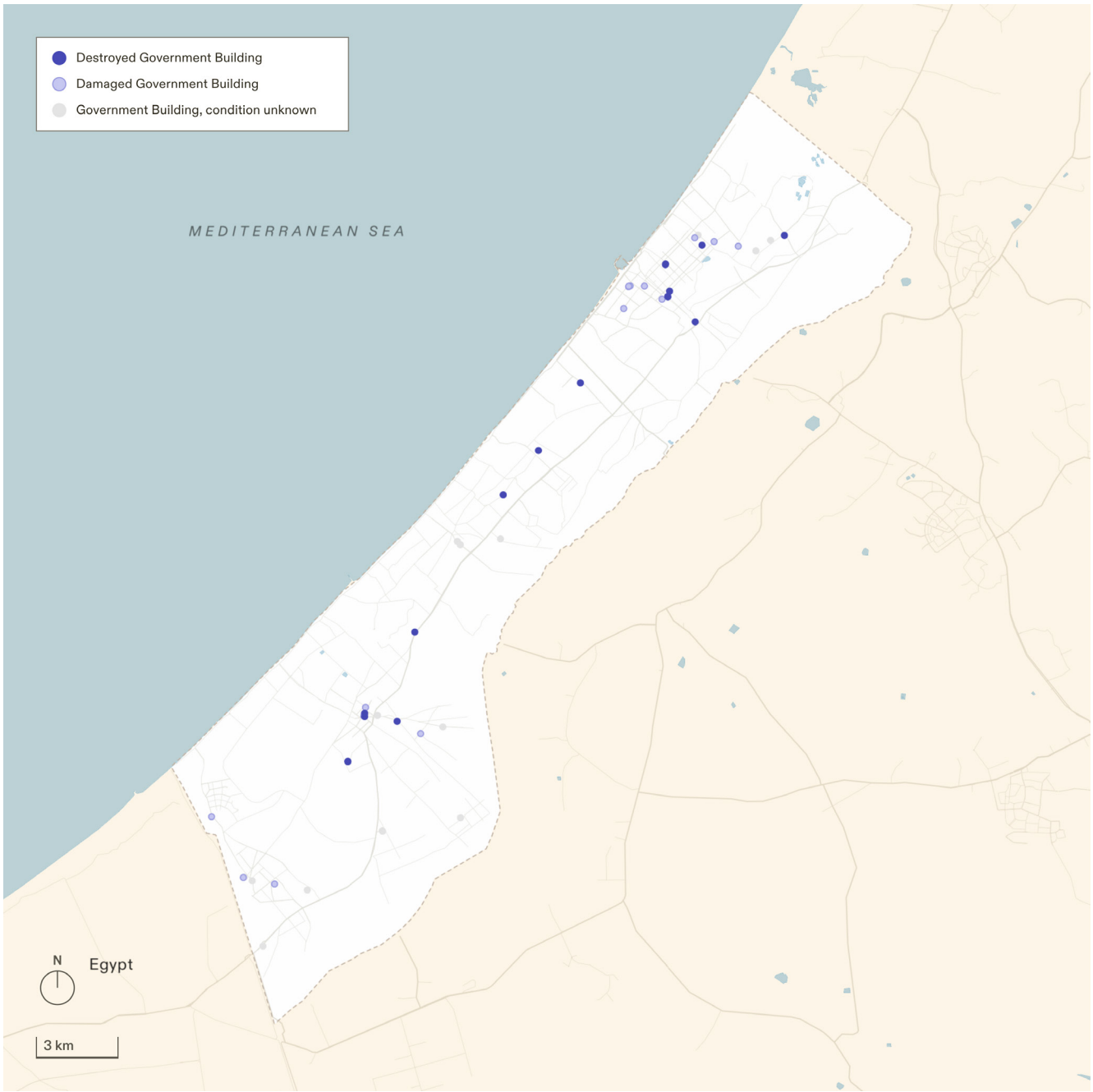

Figure 6.130. Damage and destruction of government buildings 7 October 2023–29 February 2024. 73% of government buildings attacked

177 Damage and destruction of government buildings 7 October 2023–1 April 2024. 73% of government buildings attacked

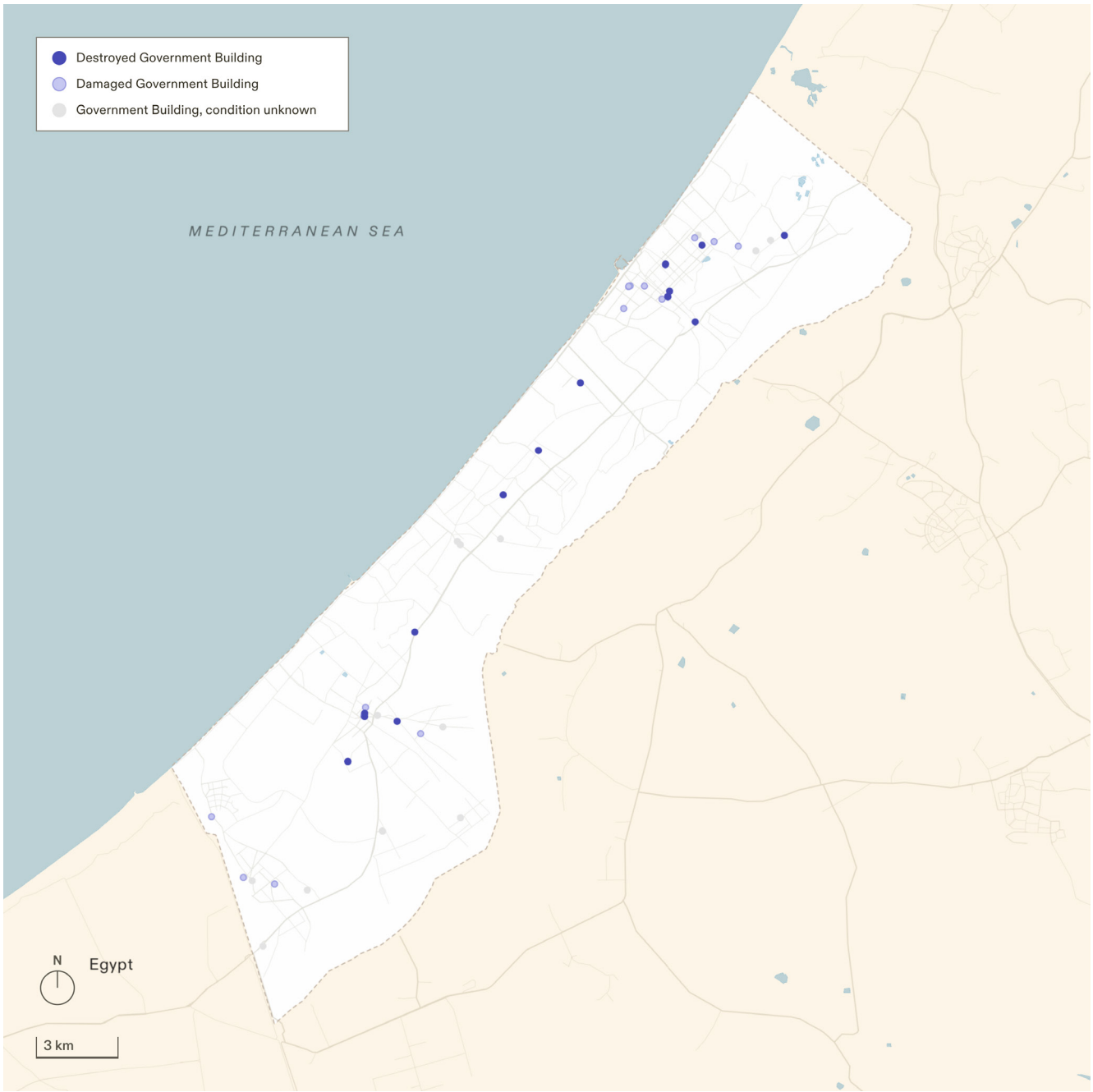

Figure 6.131. Damage and destruction of government buildings 7 October 2023–1 April 2024. 73% of government buildings attacked

178 Damage and destruction of government buildings 7 October 2023–3 May 2024. 76% of government buildings attacked

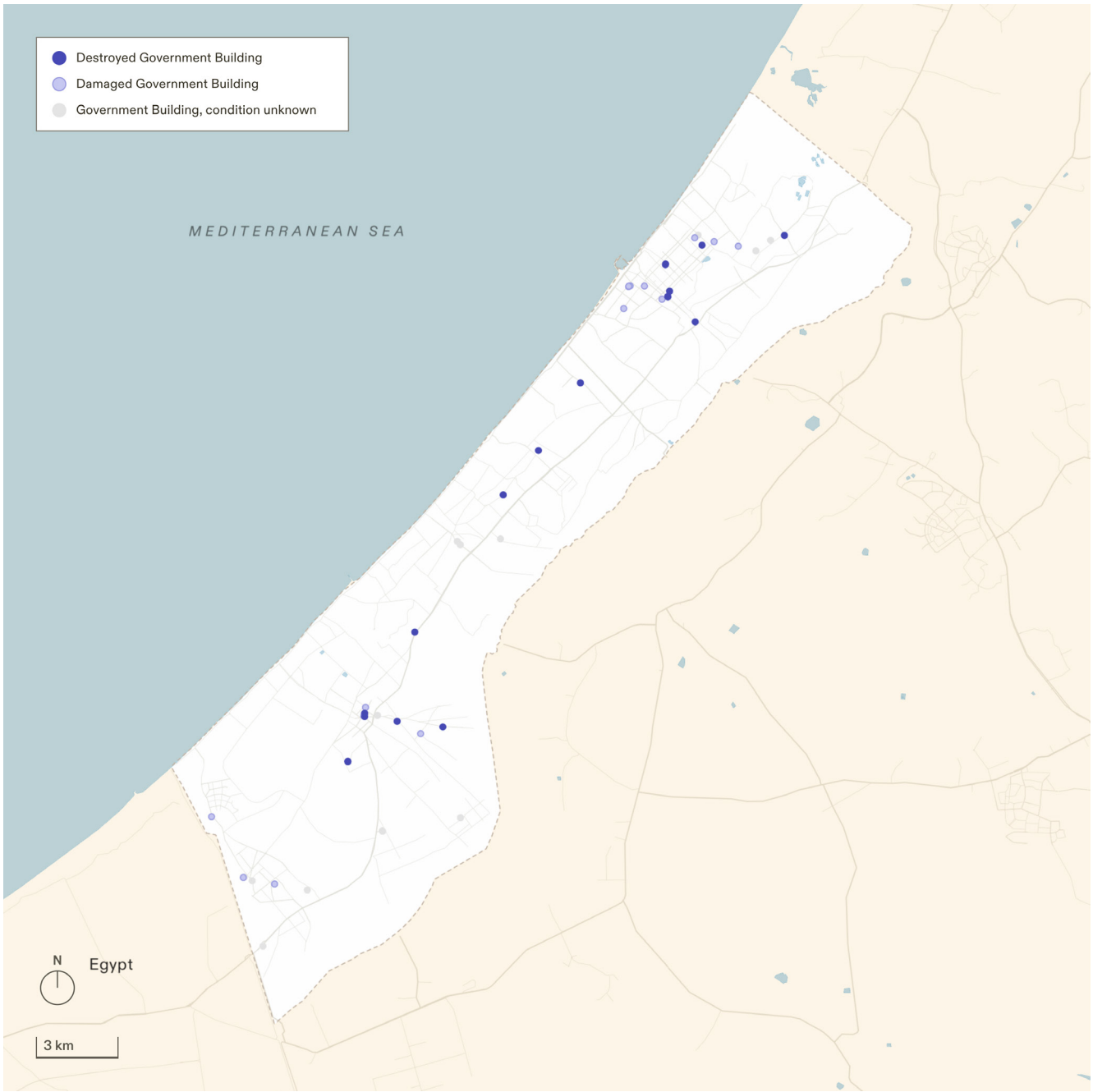

Figure 6.132. Damage and destruction of government buildings 7 October 2023–3 May 2024. 76% of government buildings attacked

179 Damage and destruction of government buildings 7 October 2023–6 July 2024. 85% of government buildings attacked

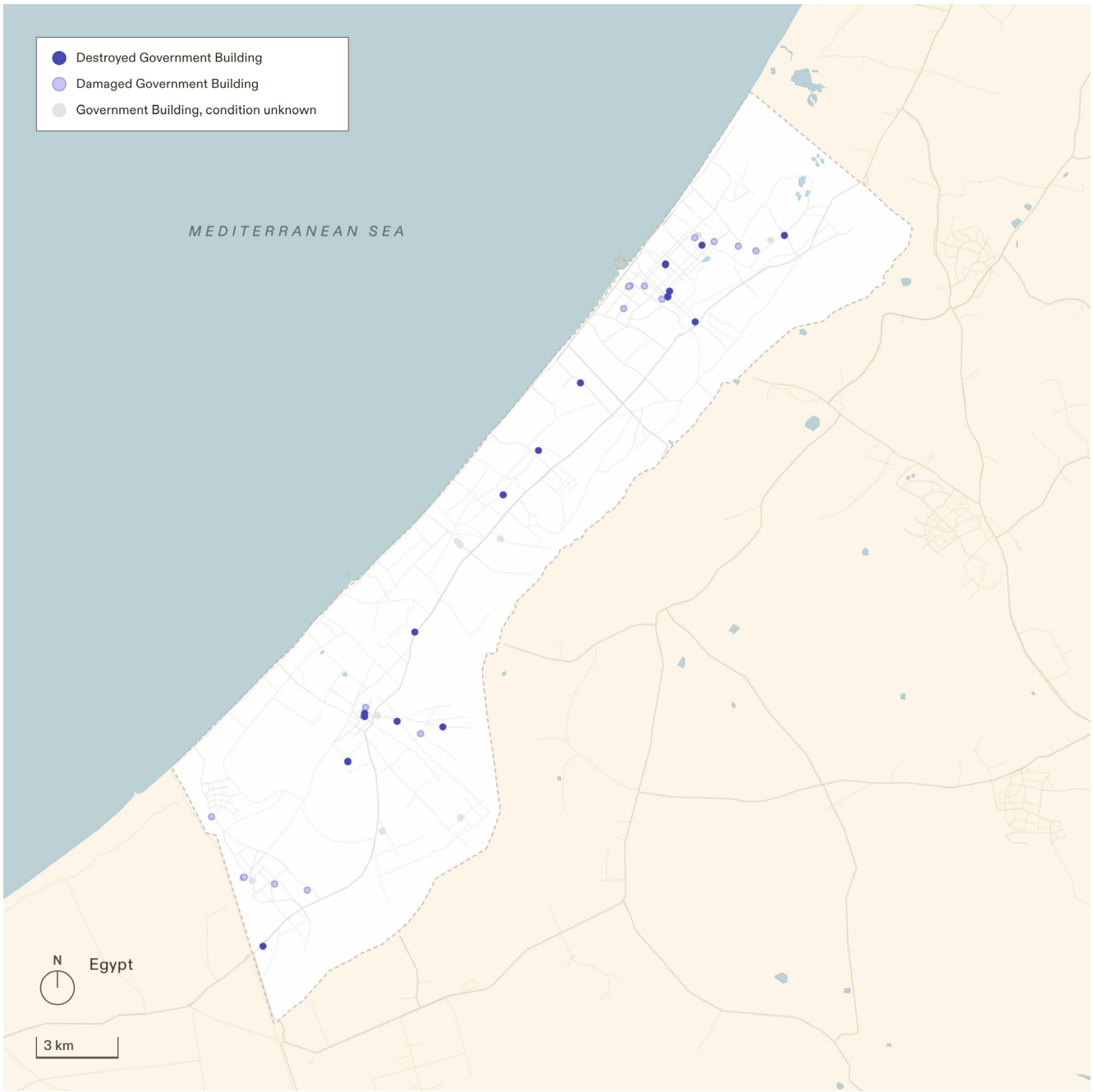

Figure 6.133. Damage and destruction of government buildings 7 October 2023– 6 July 2024. 85% of government buildings attacked

1.8 Religious institutions

180 Damage and destruction of religious institutions 7 October–15 October 2023. 7 % of religious institutions attacked

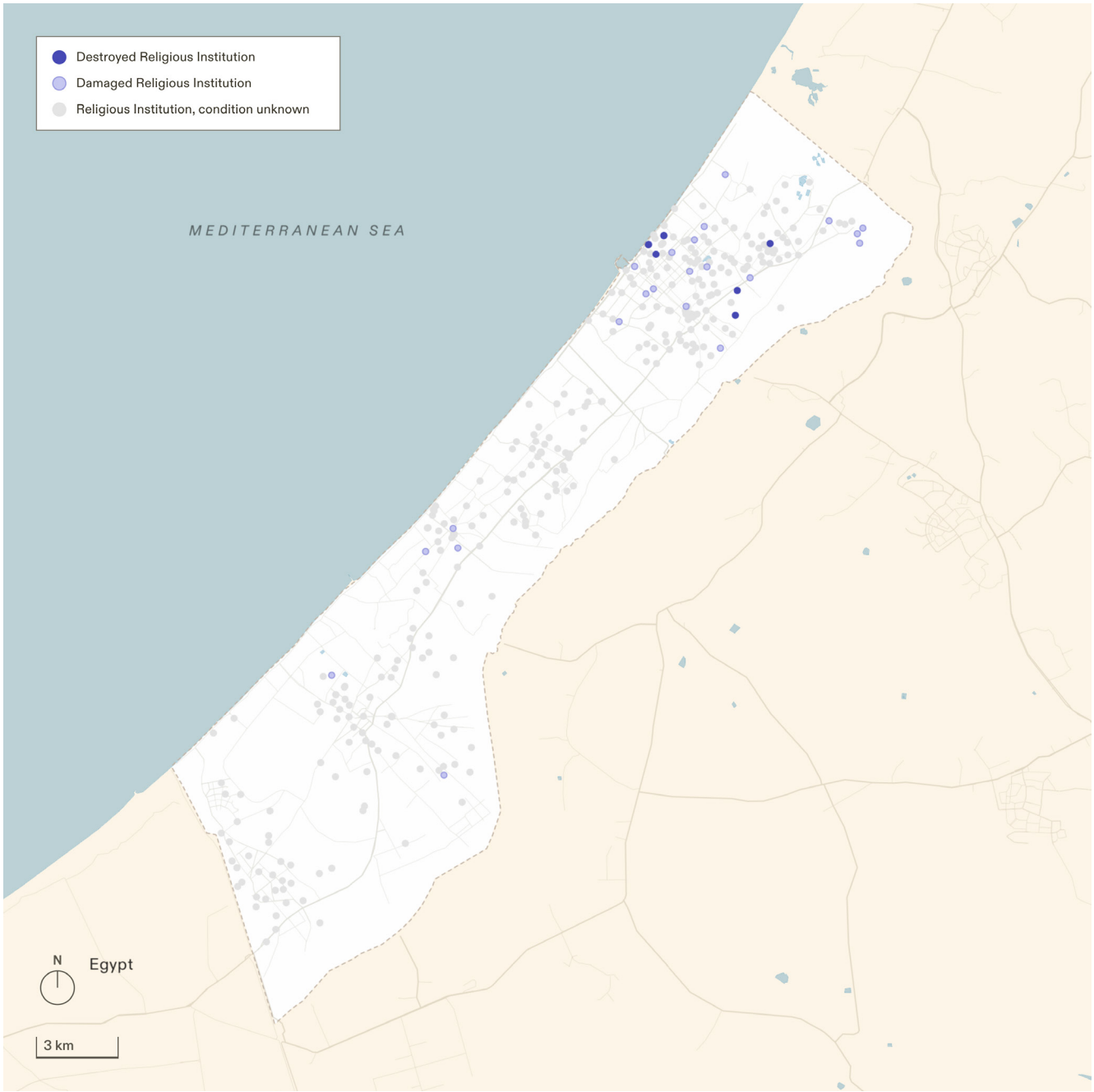

Figure 6.134. Damage and destruction of religious institutions 7 October–15 October 2023. 7% of religious buildings attacked

181 Damage and destruction of religious institutions 7 October–7 November 2023. 19% of religious institutions attacked

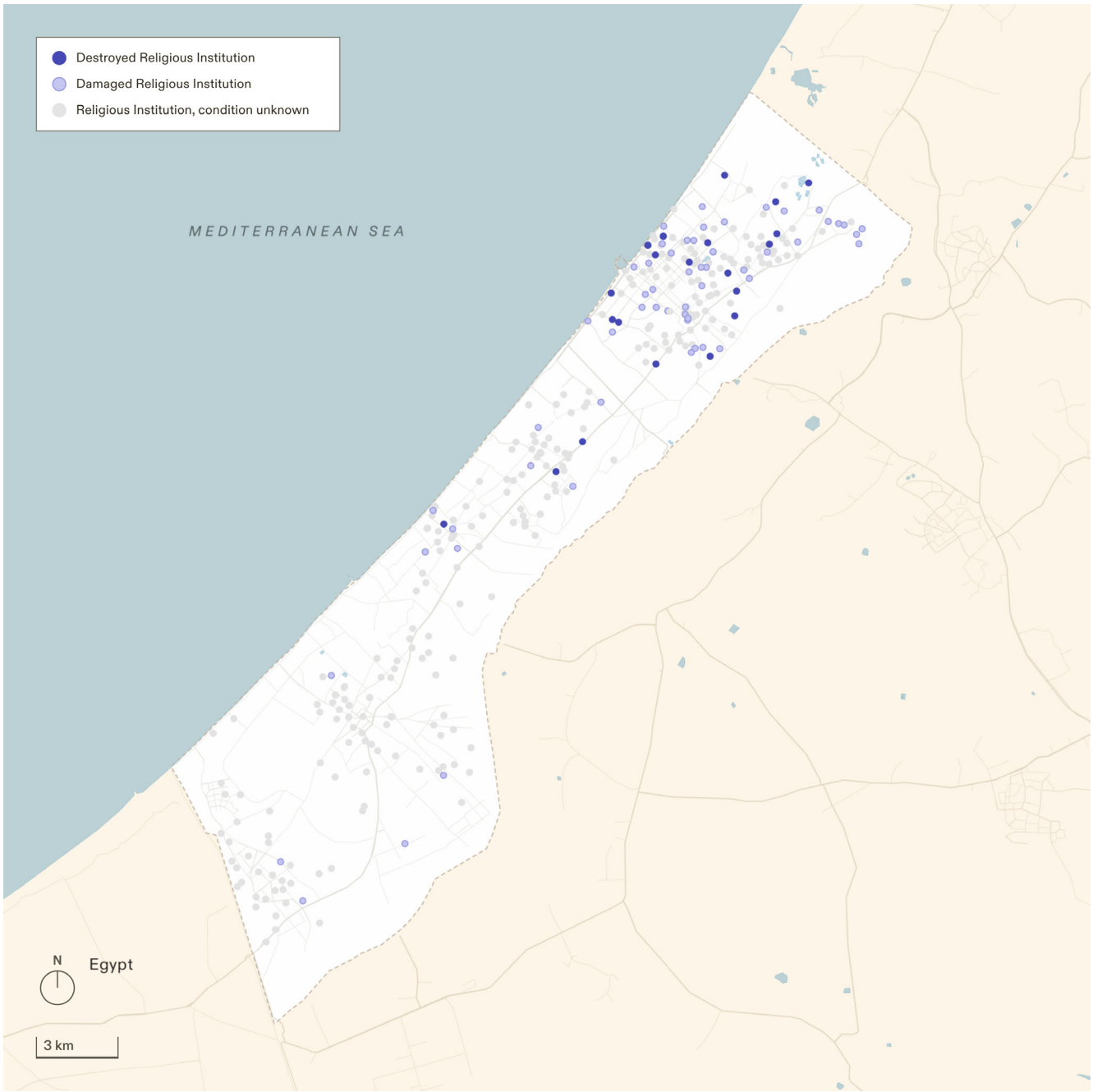

Figure 6.135. Damage and destruction of religious institutions 7 October–7 November 2023. 19% of religious institutions attacked.

182 Damage and destruction of religious institutions 7 October–26 November 2023. 29% of religious institutions attacked

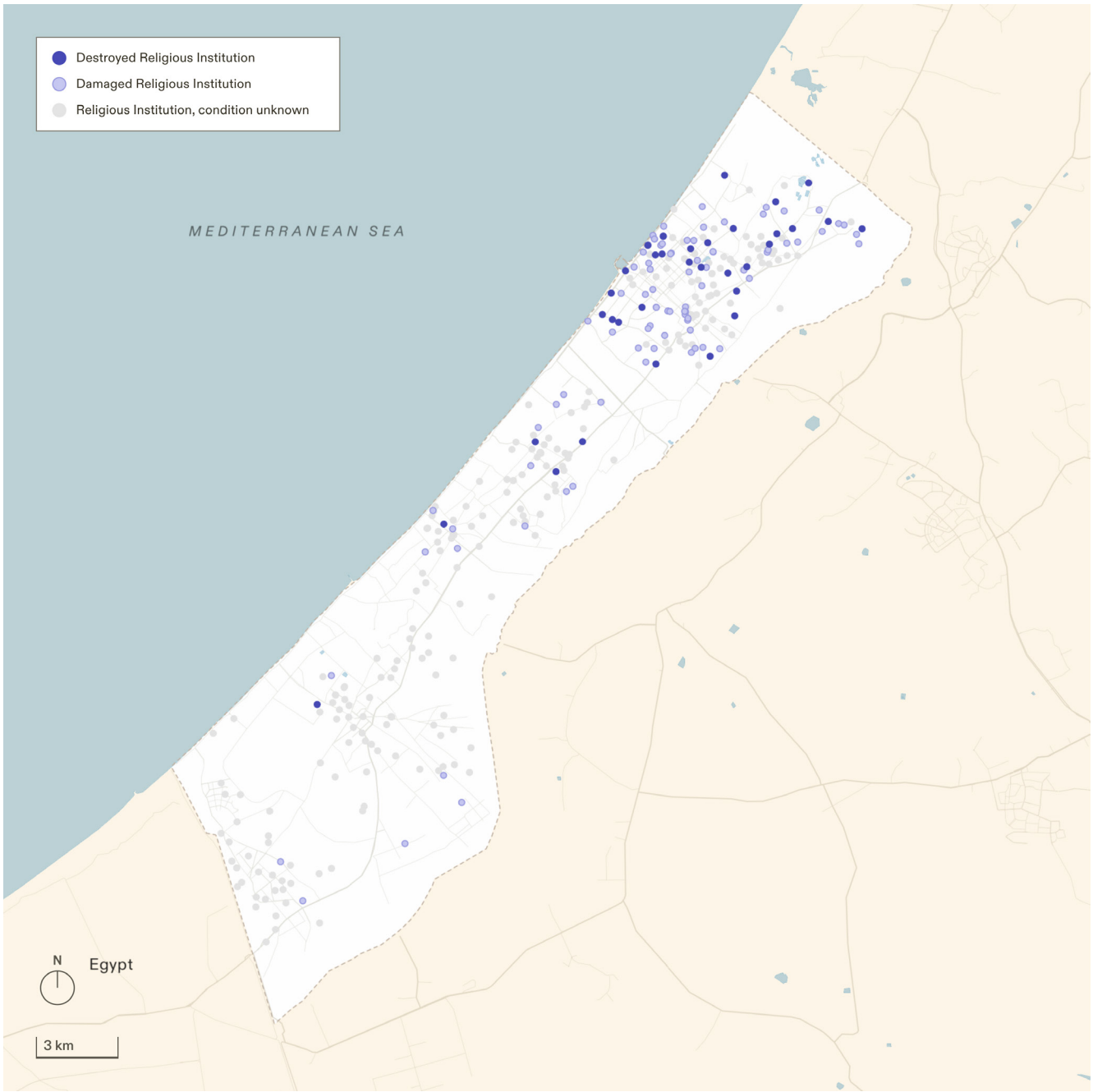

Figure 6.136. Damage and destruction of religious institutions 7 October–26 November 2023. 29% of religious institutions attacked

183 Damage and destruction of religious institutions 7 October 2023–7 January 2024. 48% of religious institutions attacked

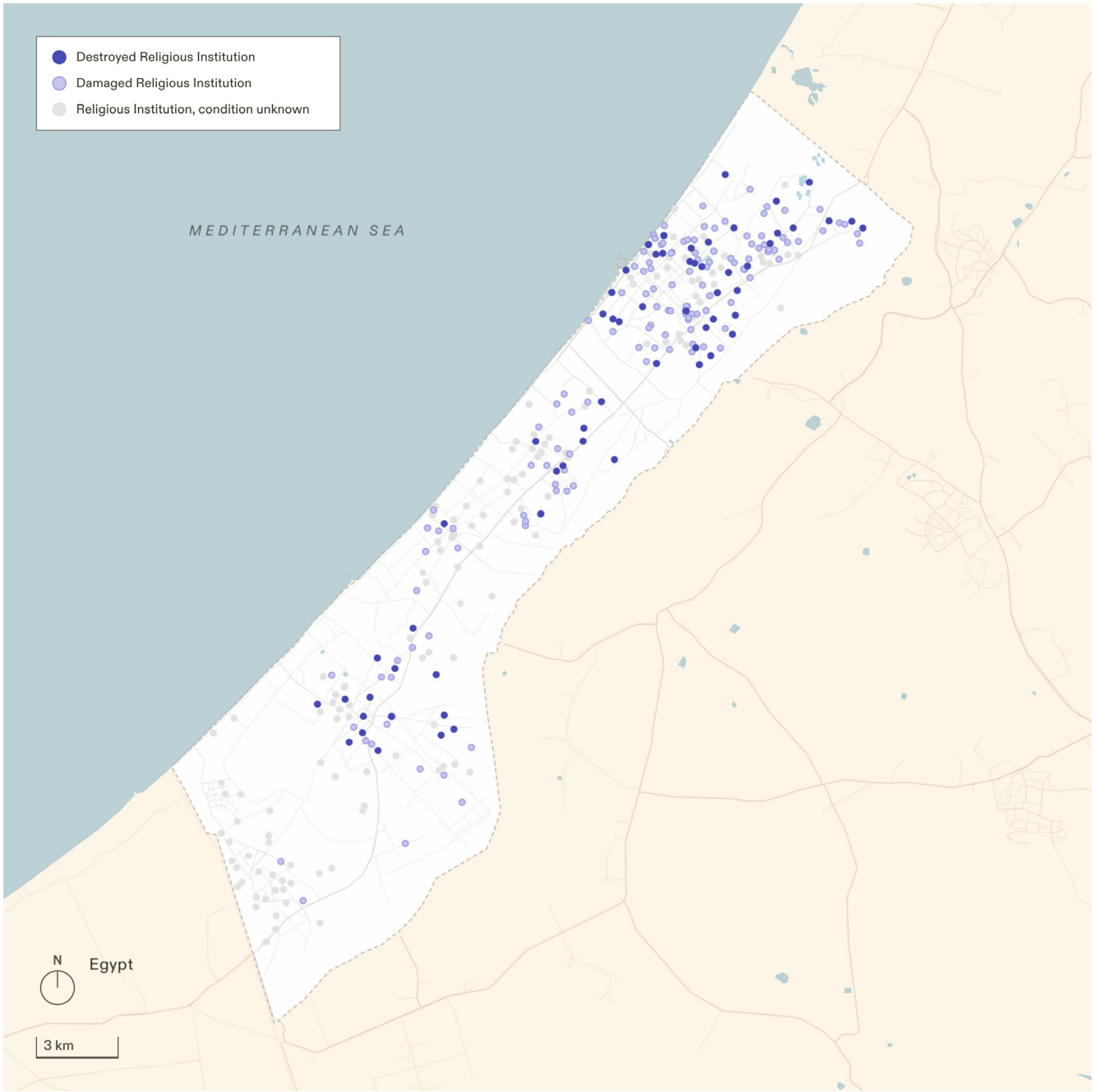

Figure 6.137. Damage and destruction of religious institutions 7 October 2023–7 January 2024. 48% of religious institutions attacked

184 Damage and destruction of religious institutions 7 October 2023–29 February 2024. 63% of religious institutions attacked

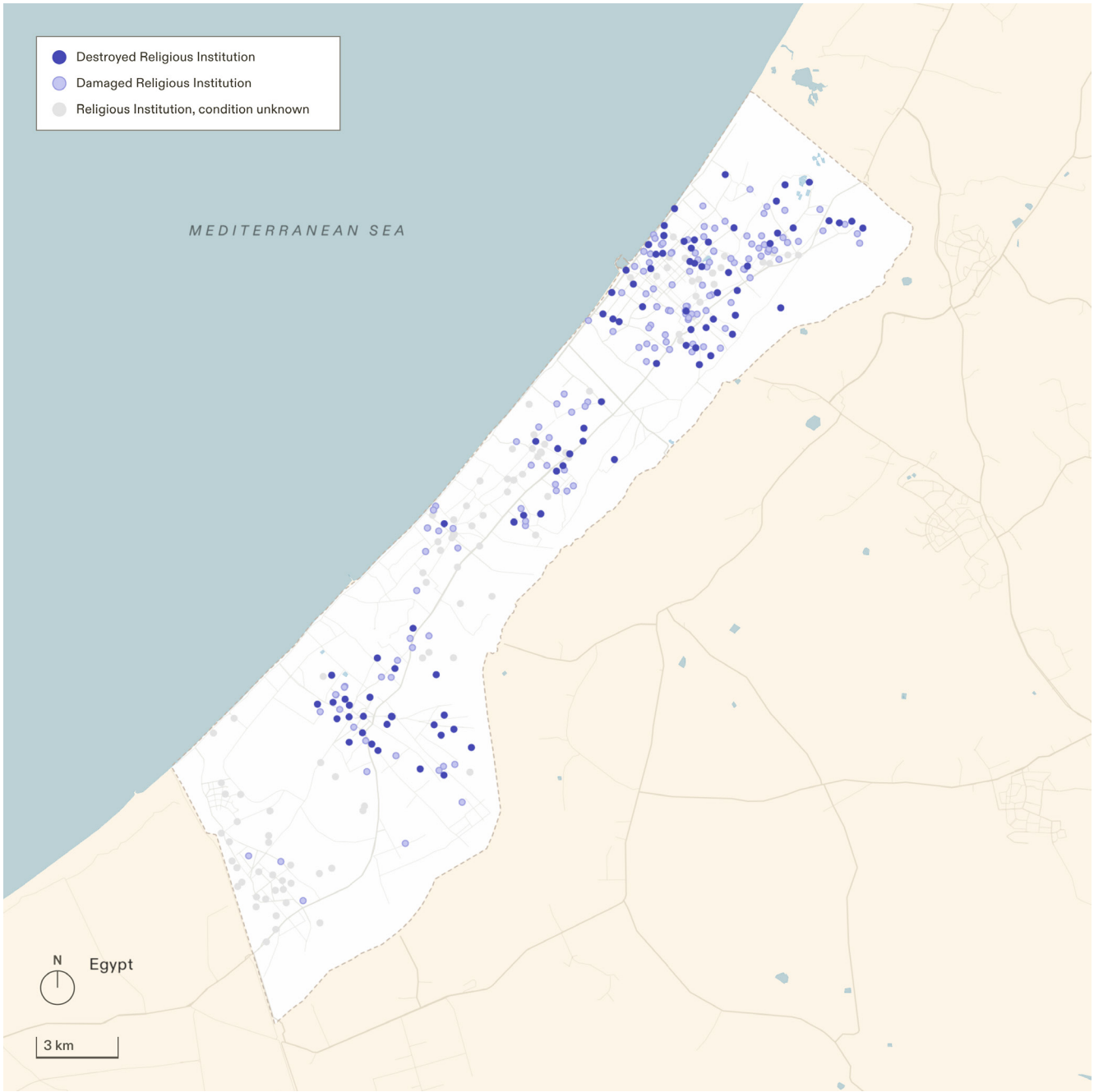

Figure 6.138. Damage and destruction of religious institutions 7 October 2023–29 February 2024. 63% of religious institutions attacked

185 Damage and destruction of religious institutions 7 October 2023–1 April 2024. 73% of religious institutions attacked

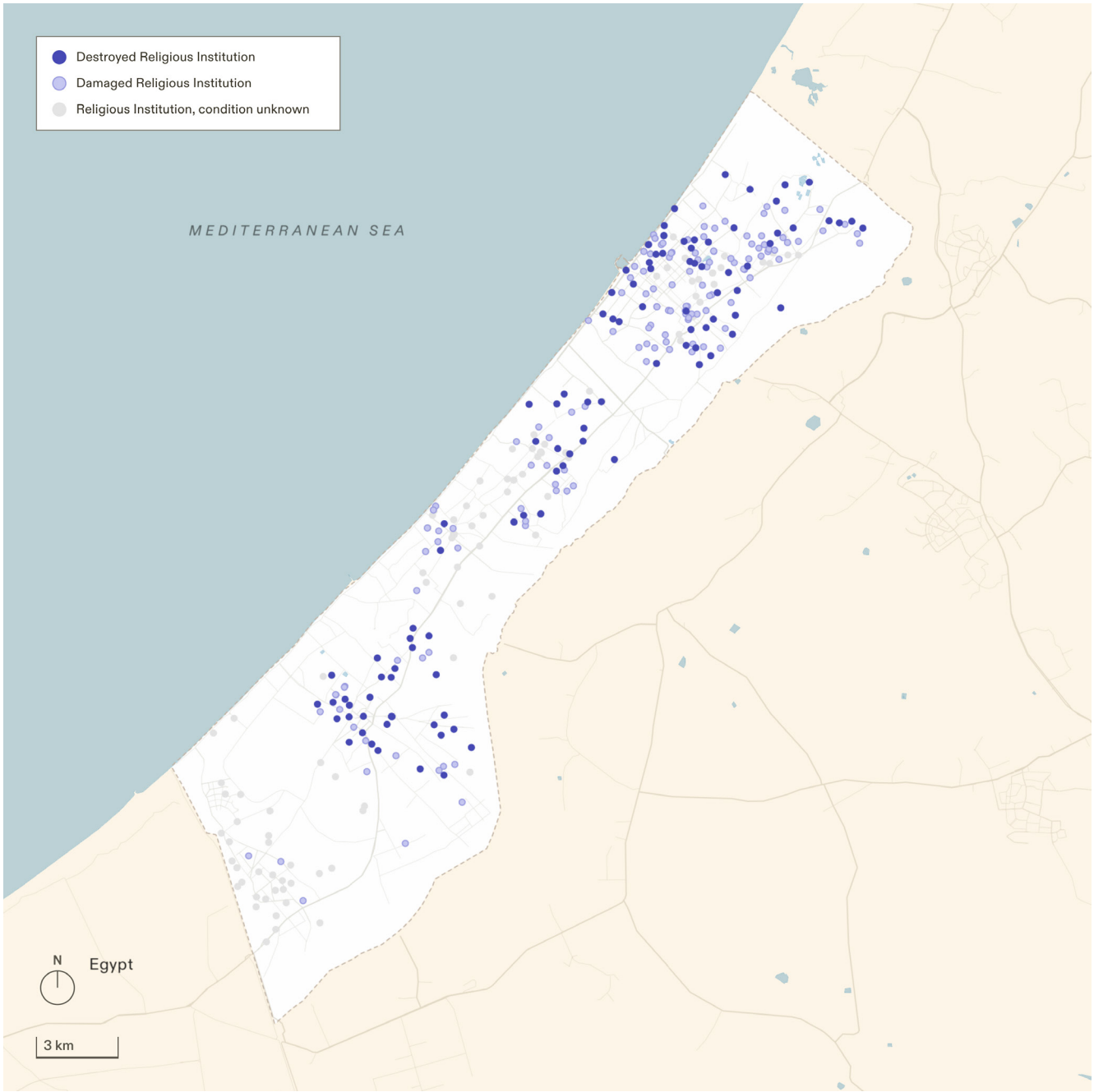

Figure 6.139. Damage and destruction of religious institutions 7 October 2023–1 April 2024. 70% of religious institutions attacked

186 Damage and destruction of religious institutions 7 October 2023–3 May 2024. 69% of religious institutions attacked

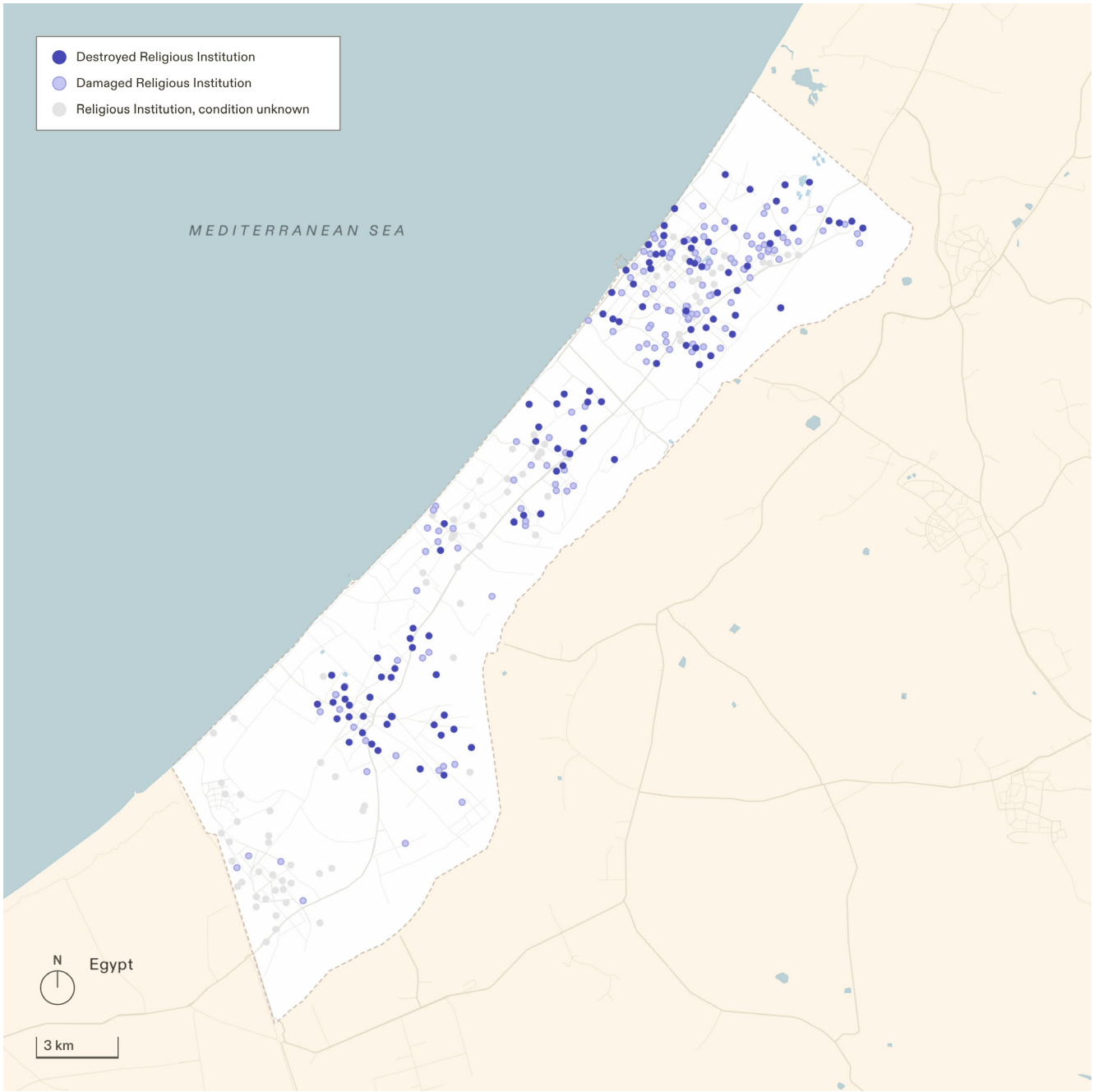

Figure 6.140. Damage and destruction of religious institutions 7 October 2023–3 May 2024. 69% of religious institutions attacked

187 Damage and destruction of religious institutions 7 October 2023–6 July 2024. 81% of religious institutions attacked

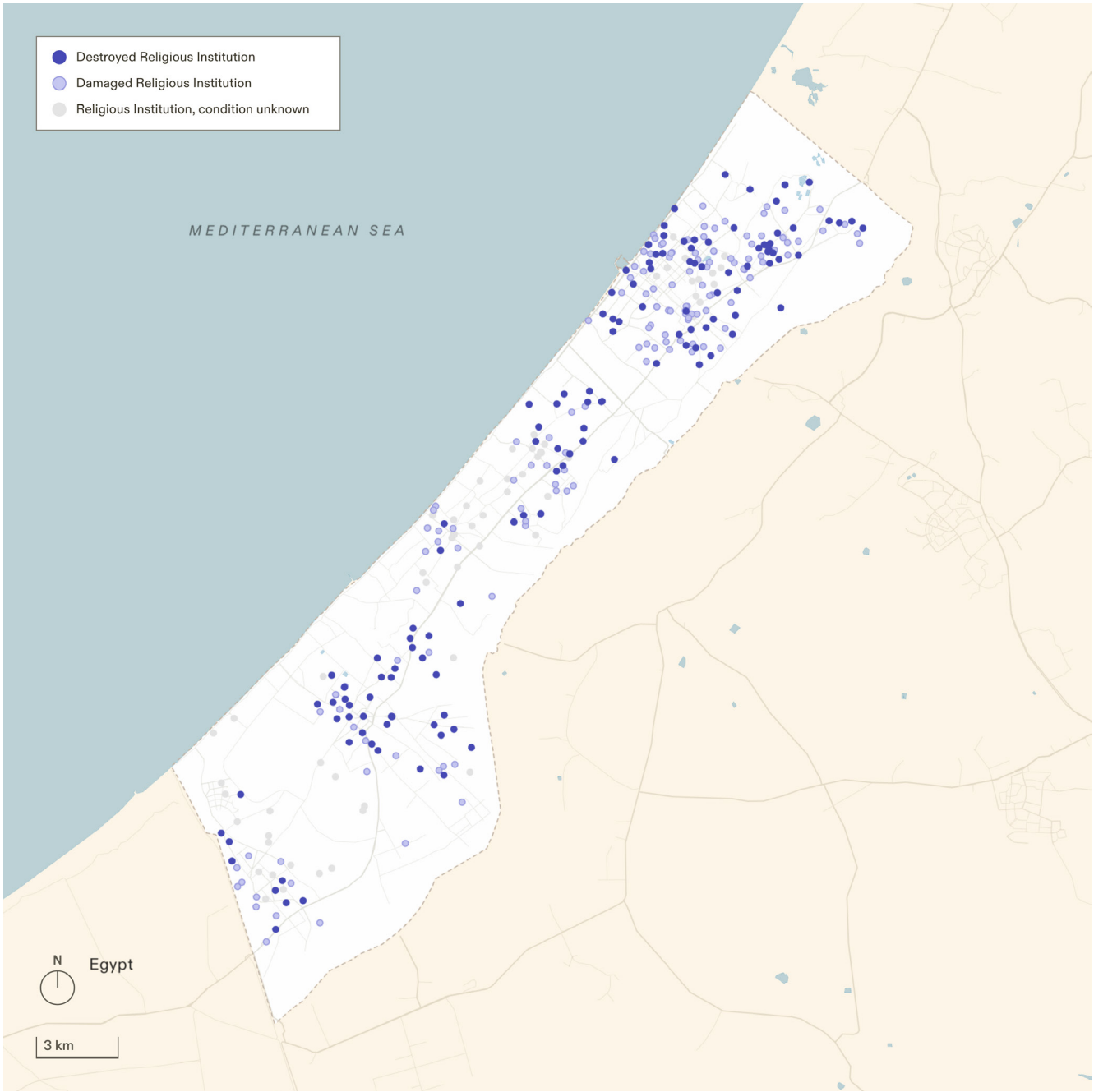

Figure 6.141. Damage and destruction of religious institutions 7 October 2023–6 July 2024. 81% of religious institutions attacked

1.9 Cultural heritage

188 Damage and destruction of cultural heritage sites 7 October–15 October 2023. 2% of cultural heritage attacked



Figure 6.142. Damage and destruction of cultural heritage sites 7 October–15 October 2023. 2% of cultural heritage attacked

189 Damage and destruction of cultural heritage sites 7 October –7 November 2023. 23% of cultural heritage attacked

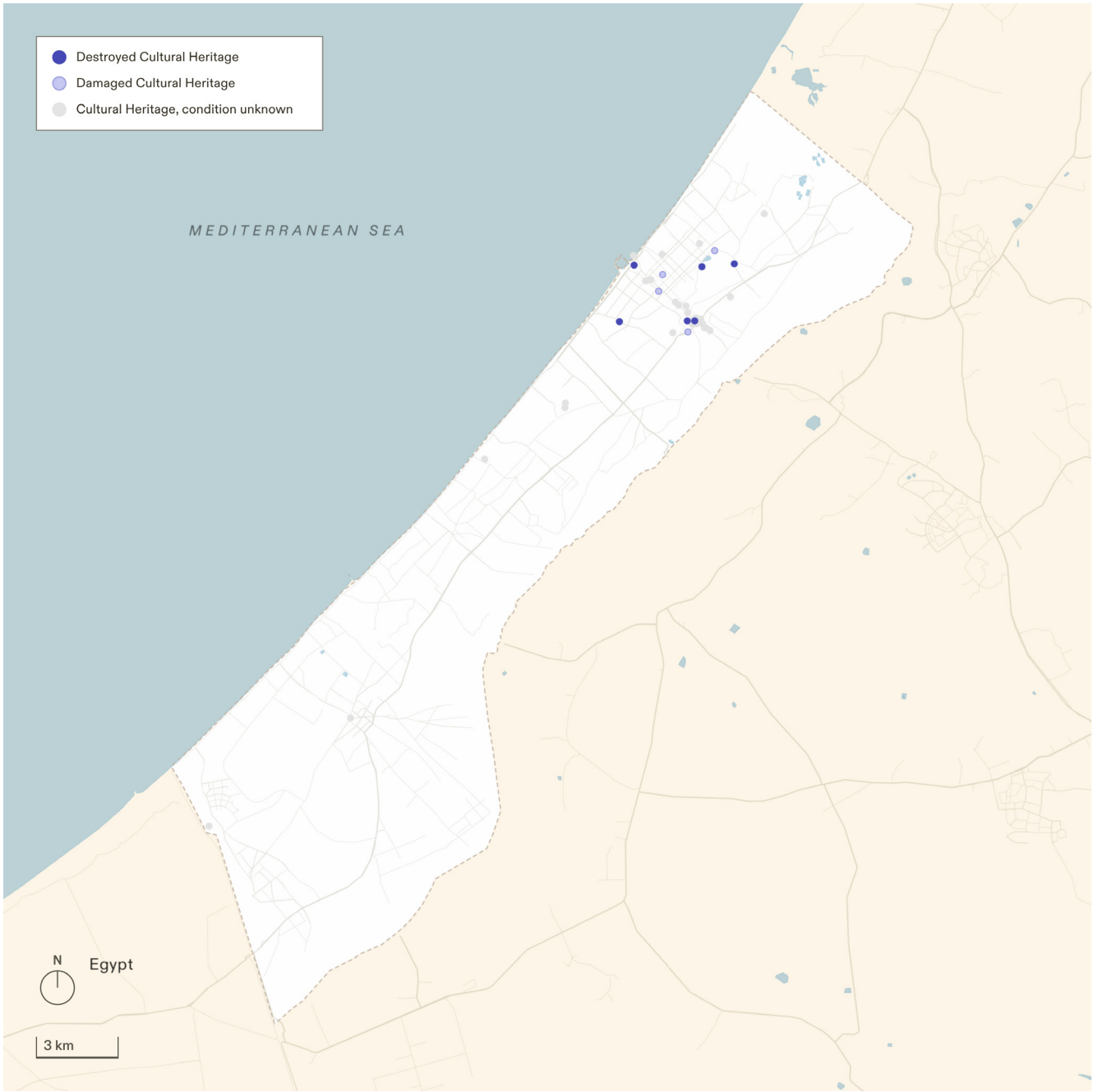

Figure 6.143. Damage and destruction of cultural heritage sites 7 October–15 October 2023. 23% of cultural heritage attacked

190 Damage and destruction of cultural heritage sites 7 October–26 November 2023. 31% of cultural heritage attacked

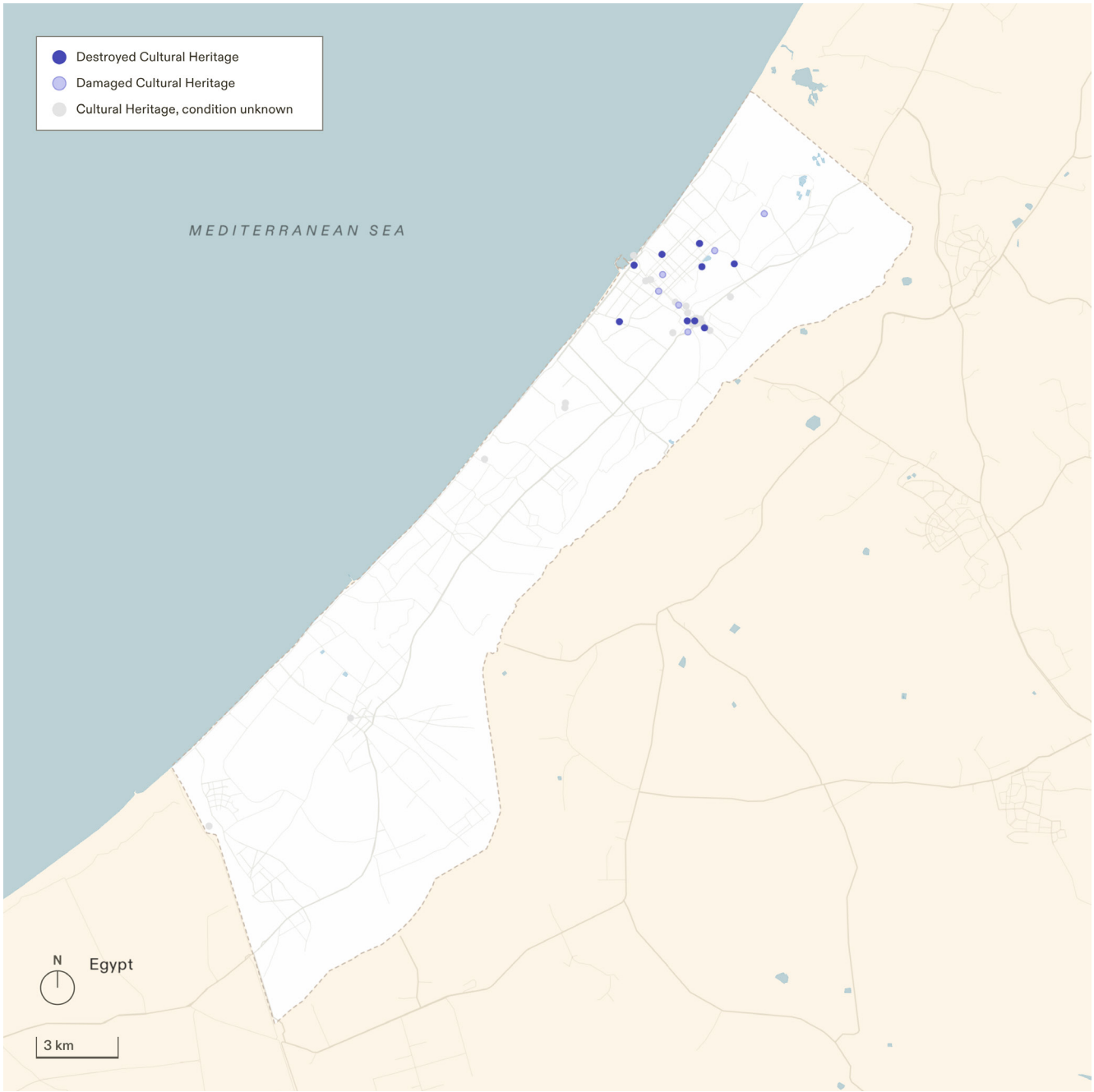

Figure 6.144. Damage and destruction of cultural heritage sites 7 October– 26 November 2023. 31% of cultural heritage attacked

191 Damage and destruction of cultural heritage sites 7 October 2023–7 January 2024. 72% of cultural heritage attacked

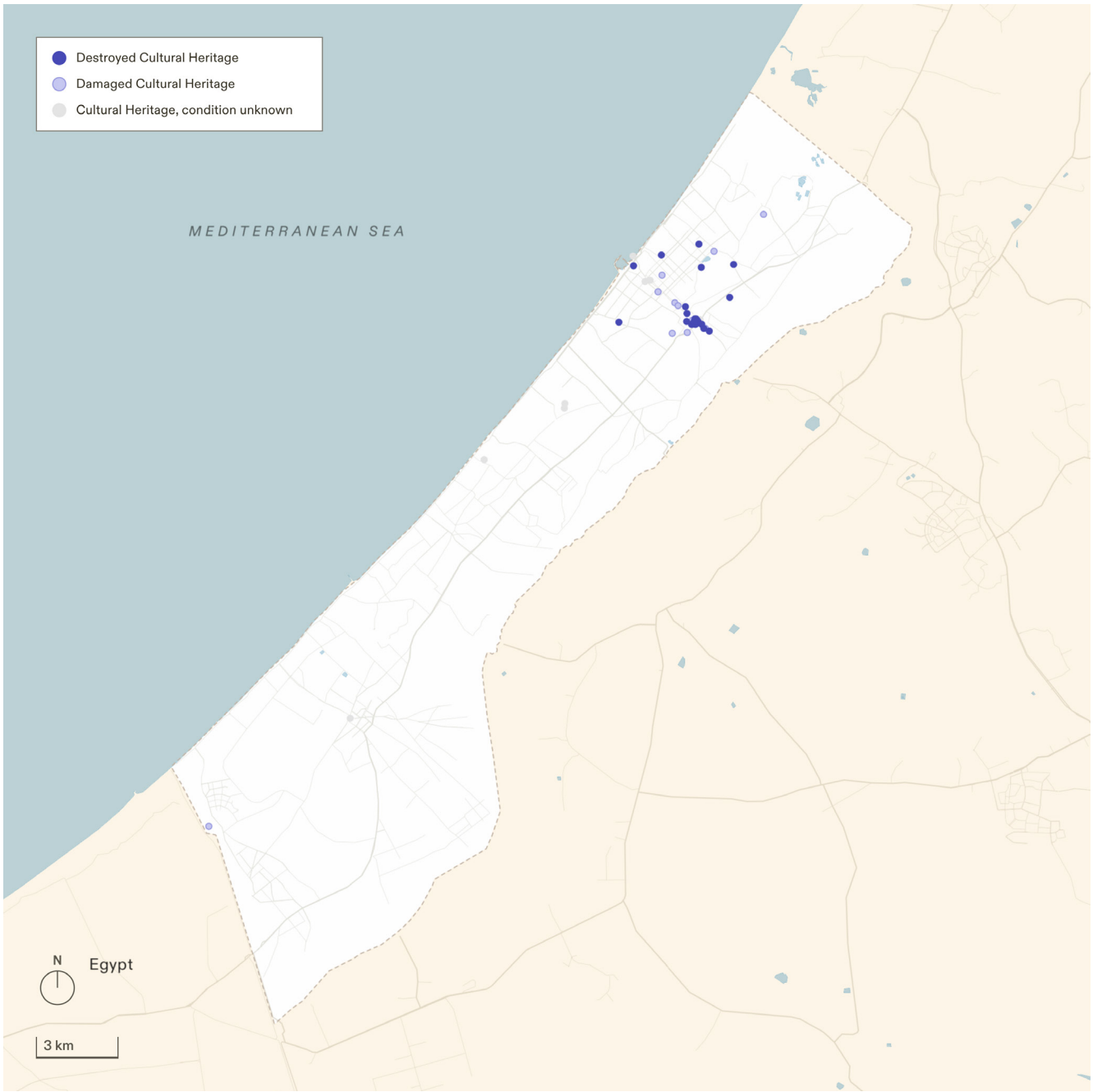

Figure 6.145. Damage and destruction of cultural heritage sites 7 October 2023– 7 January 2024. 72% of cultural heritage attacked

192 Damage and destruction of cultural heritage sites 7 October 2023–29 February 2024. 81% of cultural heritage attacked

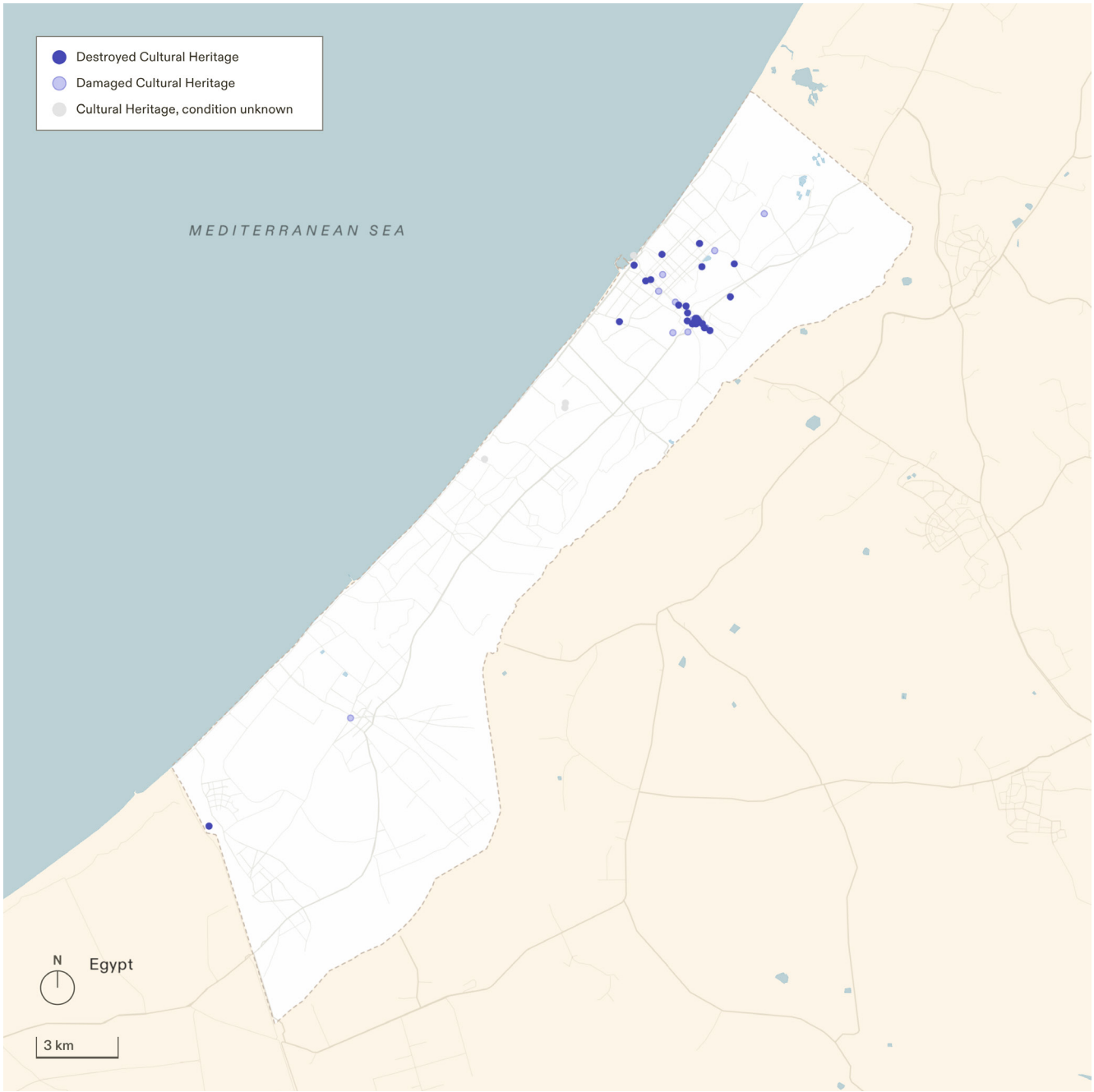

Figure 6.146. Damage and destruction of cultural heritage sites 7 October 2023– 29 February 2024. 81% of cultural heritage attacked

193 Damage and destruction of cultural heritage sites 7 October 2023–1 April 2024. 84% of cultural heritage attacked

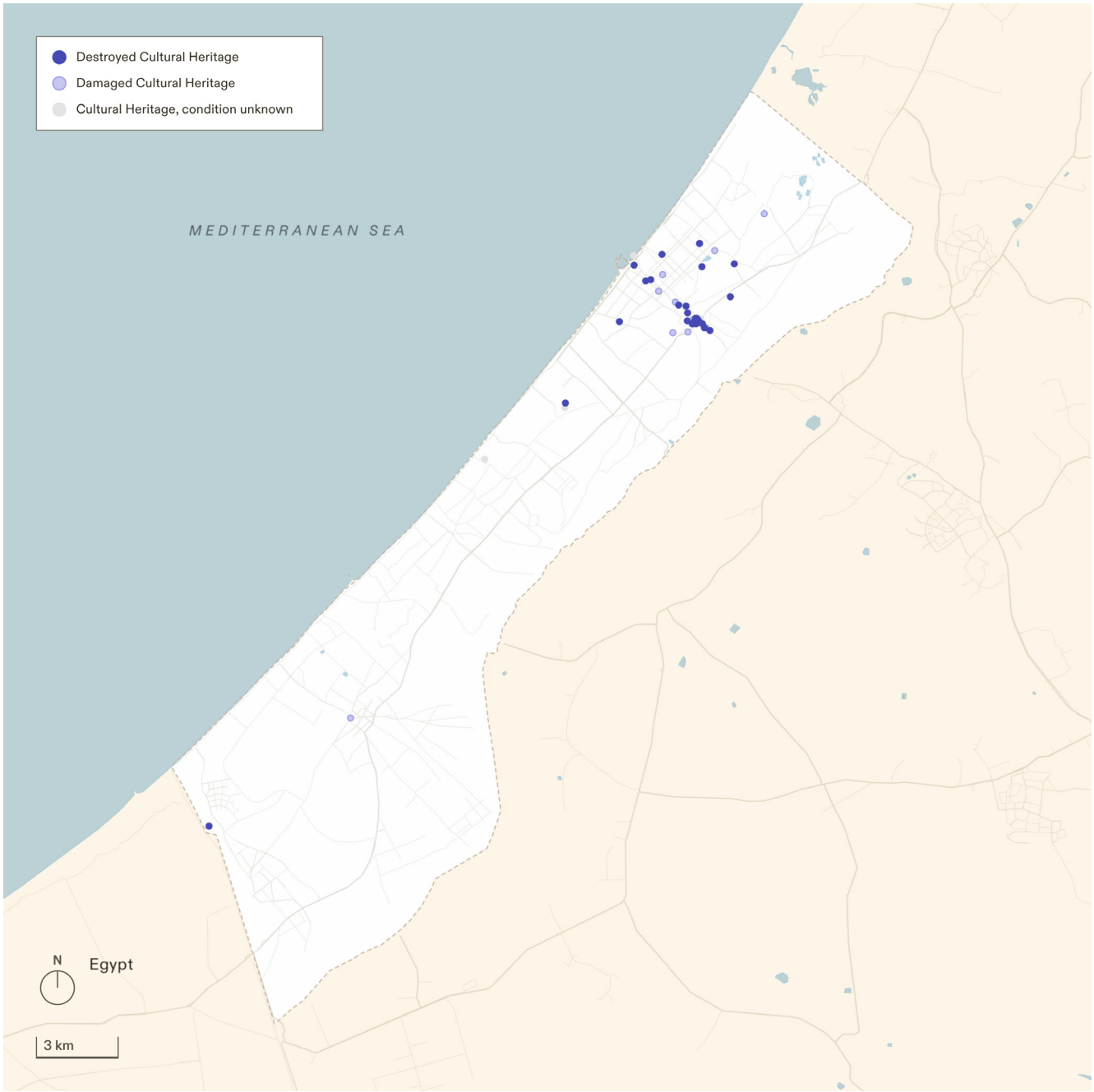

Figure 6.147. Damage and destruction of cultural heritage sites 7 October– 1 April 2024. 84% of cultural heritage attacked

194 Damage and destruction of cultural heritage sites 7 October 2023–3 May 2024. 88% of cultural heritage attacked

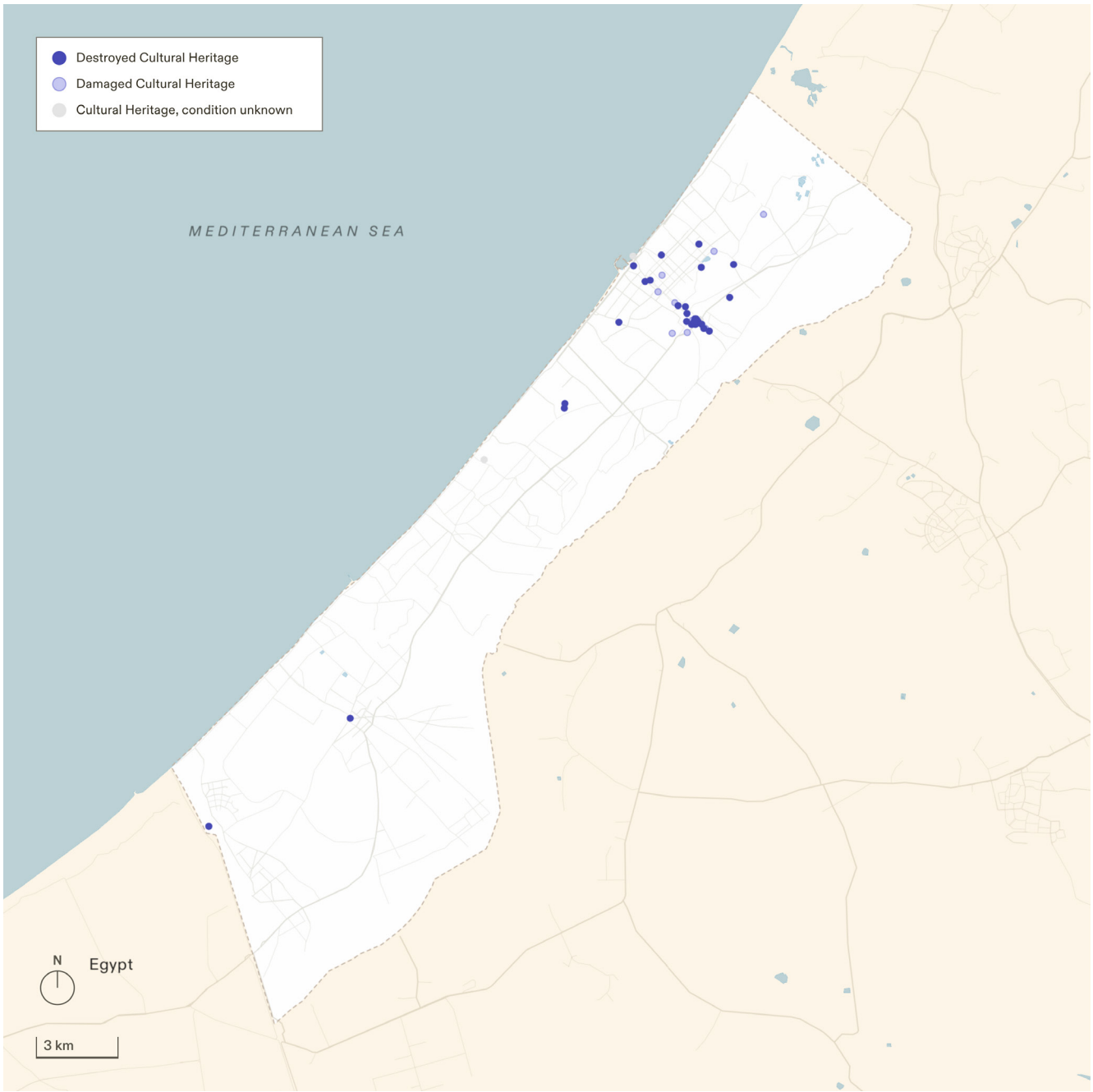

Figure 6.148. Damage and destruction of cultural heritage sites 7 October 2023– 3 May 2024. 88% of cultural heritage attacked

195 Damage and destruction of cultural heritage sites 7 October 2023–6 July 2024. 90% of cultural heritage attacked

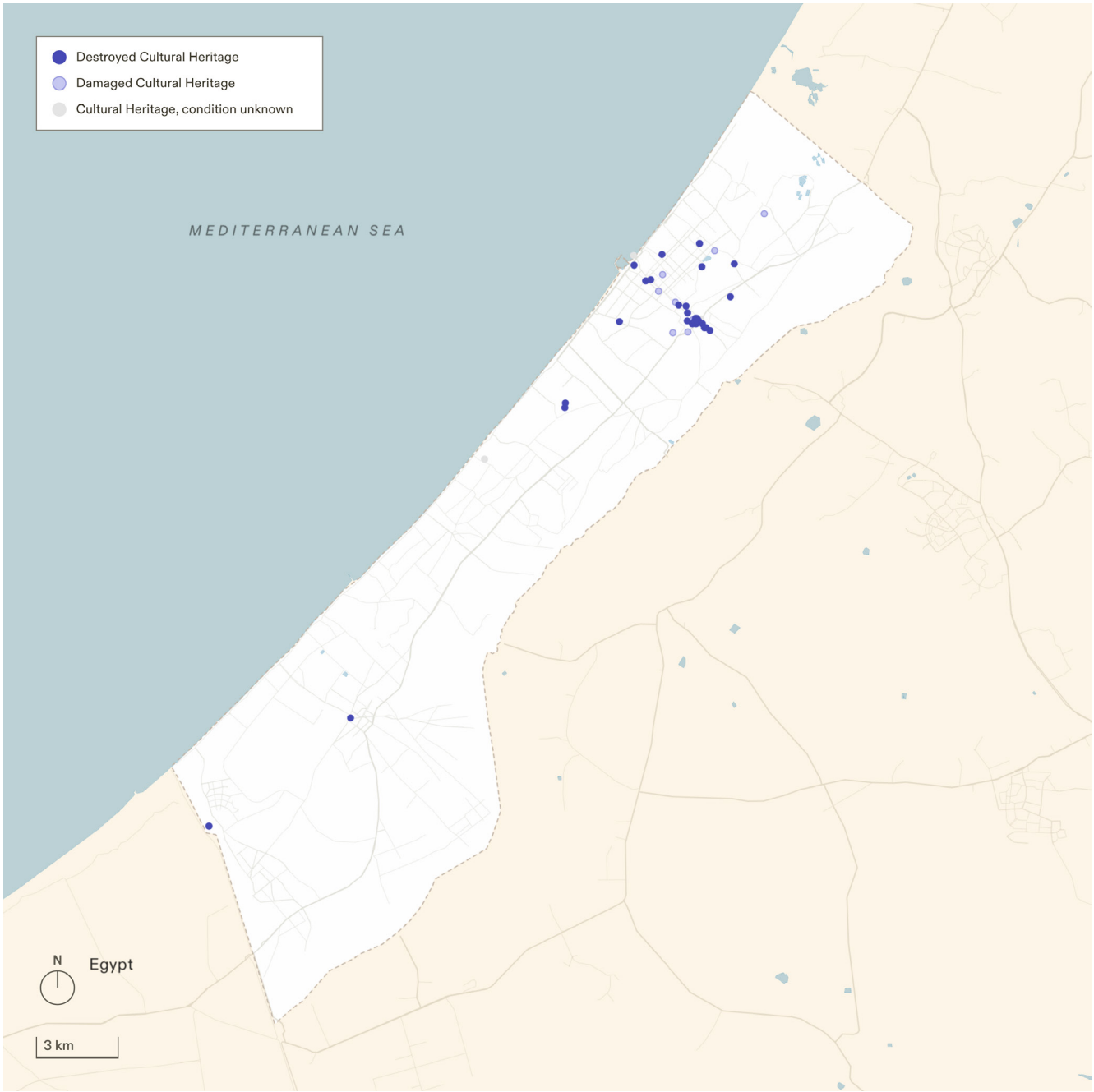

Figure 6.149. Damage and destruction of cultural heritage sites 7 October 2023– 6 July 2024. 90% of cultural heritage attacked

1.10 Table of damaged and destroyed health facilities

Name	Category	Type	Damage Date	Destruction Date	Shelter
Turkish Friendship	health_facilities	hospital	2024-01-07	2024-02-29	N/A
Beit Hanoun Hospital	health_facilities	hospital	2023-11-07	2024-02-29	N/A
Shifa Medical Complex	health_facilities	hospital	2024-01-07	2024-04-01	Yes
Dar es Salaam	health_facilities	hospital	2024-01-07	2024-07-06	N/A
International Eye Hospital	health_facilities	hospital	2023-10-15	2023-11-07	N/A
Kuwaiti Specialized	health_facilities	hospital	N/A	2024-07-06	N/A
Al Karama Hospital	health_facilities	hospital	2024-02-29	N/A	N/A
Al-Durrah	health_facilities	hospital	2024-01-07	N/A	N/A
Al-Wafa (Gaza)	health_facilities	hospital	2024-01-07	N/A	N/A
Al-Awda - Jabalia	health_facilities	hospital	2024-01-07	N/A	N/A
Al-Nasr	health_facilities	hospital	2024-01-07	N/A	N/A
Patient Friends Charitable Soci	health_facilities	hospital	2023-11-26	N/A	N/A
Sheikh Hamad Hospital	health_facilities	hospital	2023-11-07	N/A	N/A
Al-Hayat	health_facilities	hospital	2023-11-26	N/A	N/A
Jaffa Medical Hospital	health_facilities	hospital	2024-01-07	N/A	N/A
Gaza Psychiatric Hospital	health_facilities	hospital	2024-01-07	N/A	N/A
Al-Khair	health_facilities	hospital	2024-02-29	N/A	N/A
Al-Rantisi	health_facilities	hospital	2023-11-26	N/A	Yes
Indonesian Hospital	health_facilities	hospital	2023-11-26	N/A	Yes
Al-Amal	health_facilities	hospital	2024-02-29	N/A	Yes
Algerian	health_facilities	hospital	2024-02-29	N/A	N/A
Ophthalmic	health_facilities	hospital	2023-11-26	N/A	N/A
Al-Quds	health_facilities	hospital	2024-01-07	N/A	Yes
Nasser Hospital	health_facilities	hospital	2024-02-29	N/A	Yes
Al-Helou International Hospital	health_facilities	hospital	2023-11-26	N/A	N/A
Bani Suhaila Martyr Center	health_facilities	health_centre	N/A	2024-01-07	N/A
Rafah Health Center	health_facilities	health_centre	N/A	2024-07-06	N/A
Al-Quba Center	health_facilities	health_centre	N/A	2024-01-07	N/A
Physically Disabled Center	health_facilities	health_centre	2024-01-07	2024-07-06	N/A
Al-Ramal Martyrs Center	health_facilities	health_centre	N/A	2024-02-29	N/A
Al-Shati Martyr Center	health_facilities	health_centre	2023-11-07	2023-11-26	N/A
Al-Swrani Health Center	health_facilities	health_centre	N/A	2024-01-07	N/A
Atta Habib Center	health_facilities	health_centre	2023-11-07	2024-01-07	N/A
Abu Shubak Center	health_facilities	health_centre	N/A	2024-02-29	N/A
Al-Shokeh Center	health_facilities	health_centre	N/A	2024-07-06	N/A
Shiekh Radwan Health Center	health_facilities	health_centre	N/A	2023-11-26	N/A
Shouka Health Center	health_facilities	health_centre	N/A	2024-07-06	N/A
Maghazi Center	health_facilities	health_centre	2023-10-15	N/A	N/A

Name	Category	Type	Damage Date	Destruction Date	Shelter
Nuseirat Martyrs Center	health_facilities	health_centre	2023-11-26	N/A	N/A
Al-Salam Center	health_facilities	health_centre	2023-11-26	N/A	N/A
Sheikh Radwan Martyrs Center	health_facilities	health_centre	2024-01-07	N/A	N/A
Jabalia Martyrs Center	health_facilities	health_centre	2023-11-26	N/A	N/A
Tal Sultan Martyrs Center	health_facilities	health_centre	2024-07-06	N/A	N/A
Khan Younis Health Center	health_facilities	health_centre	2024-02-29	N/A	N/A
Shaboura Health Center	health_facilities	health_centre	2024-07-06	N/A	N/A
Tal Sultan Health Center	health_facilities	health_centre	2024-07-06	N/A	N/A
Bureij Central Clinic	health_facilities	health_centre	2023-11-07	N/A	N/A
Mughraqa Health Center	health_facilities	health_centre	2024-02-29	N/A	N/A
Al-Zaytoun Martyrs Center	health_facilities	health_centre	2024-02-29	N/A	N/A
Shuja'iyya Muscat Center	health_facilities	health_centre	2024-01-07	N/A	N/A
Al-Falah Center	health_facilities	health_centre	2024-01-07	N/A	N/A
Subhi Harazeen Center	health_facilities	health_centre	2024-01-07	N/A	N/A
Khaldia AL agha Center	health_facilities	health_centre	2024-01-07	N/A	N/A
Khuzaa Center	health_facilities	health_centre	2024-01-07	N/A	N/A
Jamila Al-Ashi Health Center	health_facilities	health_centre	2023-11-26	N/A	N/A
Shaboura Martyrs Center	health_facilities	health_centre	2023-11-07	N/A	N/A
Sabra Health Center	health_facilities	health_centre	2023-11-26	N/A	N/A
Shatii Health Center	health_facilities	health_centre	2024-02-29	N/A	N/A
Beit Hanoun Health Center	health_facilities	health_centre	2023-11-07	N/A	N/A
Jabalia Health Clinic	health_facilities	health_centre	2024-07-06	N/A	N/A
Fakhoura Health Center	health_facilities	health_centre	2024-01-07	N/A	N/A
Ramal Health Center	health_facilities	health_centre	2023-11-07	N/A	N/A
Gaza city Health Center	health_facilities	health_centre	2024-02-29	N/A	N/A
Turkish Friendship	health_facilities	hospital	2024-01-07	2024-02-29	N/A
Beit Hanoun Hospital	health_facilities	hospital	2023-11-07	2024-02-29	N/A
Shifa Medical Complex	health_facilities	hospital	2024-01-07	2024-04-01	Yes

Table 6.2. Table of damaged and destroyed health facilities.

1.11 Table of damaged and destroyed utilities

Name	Category	Type	Damage Date	Destruction Date
Daban Gas Company	utility	gas	N/A	2024-01-07
Remal Petroleum Company.. REMAL PETROL CO.	utility	gas_station	N/A	2024-02-29
Tawfiq Taxi Office	utility	gas_station	N/A	2023-11-07
Mushtaha Petrol	utility	gas_station	N/A	2023-11-07
Al-Ghol Petrol Station	utility	gas_station	N/A	2023-11-07
Al Haddad Petrol Station	utility	gas_station	N/A	2024-02-29
Al Naeem Petroleum Station;	utility	gas_station	N/A	2023-11-07
Tamraz gas station	utility	gas_station	2024-01-07	2024-05-03
The safety of the South Fuel and General Trading Company Industry M.kh.m Agha Petroleum	utility	gas_station	2024-01-07	2024-01-07
Abu Jubba Petrol Station	utility	gas_station	N/A	2024-01-07
Al-Aqsa station	utility	gas_station	N/A	2024-07-06
Fattouh station	utility	gas_station	N/A	2024-01-07
Al-Helou Petrol Station	utility	gas_station	N/A	2024-01-07
yousef alhatoum	utility	gas_station	2023-11-07	2023-11-26
Al Khzindar Petrol Station	utility	gas_station	2023-11-26	2024-07-06
Al Baba Petrol Station	utility	gas_station	N/A	2024-01-07
Asleem Petroleum	utility	gas_station	N/A	2024-02-29
Al-Abadla and Al-Astal Gas Filling Company	utility	gas_station	N/A	2024-01-07
Bakr Al Ankar for filling gas cylinders	utility	gas_station	N/A	2024-01-07
Al Wusta Petrol Station	utility	gas_station	N/A	2023-11-26
Salama Al-Janoub Company for Fuel and General Trade and Industry, Al-Agha Petroleum Company	utility	gas_station	2024-01-07	2024-07-06
Akela Petrol Station	utility	gas_station	N/A	2023-11-26
Nabil Hassan Nasr Station	utility	gas_station	N/A	2023-11-07
Al Amoudi Petroleum and Mineral Oil Station	utility	gas_station	2024-01-07	N/A
Al Waleed Petrol Station |	utility	gas_station	2024-01-07	N/A
Makka Al-Mokarma Petrol Station	utility	gas_station	2024-01-07	N/A
Nabil Nasr Petroleum Company	utility	gas_station	2023-11-07	N/A
Akila station	utility	gas_station	2024-07-06	N/A
Bahlol Co.	utility	gas_station	2023-10-15	N/A
Obohadjir Station	utility	gas_station	2024-02-29	N/A
Gaza Petroleum Company |	utility	gas_station	2024-01-07	N/A
Security station	utility	gas_station	2024-07-06	N/A
Marj Al-Zohour Station “Al-Barbarawi”	utility	gas_station	2024-01-07	N/A

Name	Category	Type	Damage Date	Destruction Date
Shbair Petrol Station	utility	gas_station	2024-01-07	N/A
Litro Petrol Station.	utility	gas_station	2024-01-07	N/A
Al Terazi Gas Station	utility	gas_station	2024-02-29	N/A
Ashkelon Petrol Station	utility	gas_station	2024-02-29	N/A
Bahlool Petrol Station	utility	gas_station	2023-11-26	N/A
Dughmush Petroleum Station |	utility	gas_station	2024-01-07	N/A
Lulu Alberbraua Petrol Station	utility	gas_station	2024-01-07	N/A
Salah and Bahloul Petrol Station	utility	gas_station	2024-01-07	N/A
Khalla station	utility	gas_station	2024-04-01	N/A
Al-Barbari Petrol Station	utility	gas_station	2024-01-07	N/A
Lulu and Al-Barbarawi Petrol Station	utility	gas_station	2023-11-26	N/A
Akila Petrol Station	utility	gas_station	2023-11-26	N/A
Fares Petroleum Company	utility	gas_station	2023-10-15	N/A
Abu Qamar Petrol Station_Gaza City	utility	gas_station	2024-01-07	N/A
Abu Kamil Petroleum, General Trade and Fuel Company	utility	gas_station	2024-01-07	N/A
Ibrahim Abu Jebba Petrol Station	utility	gas_station	2023-11-07	N/A
Hamada Gas and Oil Company	utility	gas_station	2024-01-07	N/A
Ashour and Dalloul Petrol Station	utility	gas_station	2023-11-26	N/A
Bahlul Petrol Station and mineral oils	utility	gas_station	2023-11-26	N/A
Salah El Deen Fuel	utility	gas_station	2024-02-29	N/A
Eldahdoh	utility	gas_station	2024-01-07	N/A
Abu Iskandar	utility	gas_station	2024-02-29	N/A
Abu Qamar Petrol Station	utility	gas_station	2024-01-07	N/A
Gaza Power Palnt GPGC	utility	power_plant	2024-05-03	N/A
Abu Shahla Nwari	utility	desalination_plant	2024-01-07	2024-04-01
Ayah	utility	desalination_plant	N/A	2024-04-01
Al Amal 1	utility	desalination_plant	2024-02-29	2024-04-01
Al Amal 2	utility	desalination_plant	2024-02-29	2024-04-01
Madina Riyadia	utility	desalination_plant	N/A	2024-02-29
Satar	utility	desalination_plant	N/A	2024-02-29
Wadi Gaza_desalination	utility	desalination_plant	N/A	2024-04-01
Maghazi 3	utility	desalination_plant	N/A	2024-02-29
Wadi Gaza	utility	desalination_plant	N/A	2024-02-29
Gaza North	utility	desalination_plant	N/A	2024-01-07
Abasan El Jadida	utility	reservoir	N/A	2024-02-29
Khadija_Beit Hanoun	utility	reservoir	2023-10-15	2024-01-07
Tika	utility	reservoir	N/A	2024-01-07

Name	Category	Type	Damage Date	Destruction Date
Bani Sohila Eastern	utility	reservoir	N/A	2024-02-29
Bani Sohila	utility	reservoir	2024-01-07	2024-02-29
Maa'n_Khan Younis	utility	reservoir	2024-01-07	2024-02-29
Ayah_Khan Younis	utility	reservoir	N/A	2024-02-29
Khuza'a Western	utility	reservoir	N/A	2024-04-01
Rafah First Reservoir (Sanitation)	utility	reservoir	N/A	2024-07-06
Al Batool Tank	utility	reservoir	N/A	2024-07-06
Wadi Gaza_Juhor ad-Dik	utility	sewage_plant	2023-11-07	2024-01-07
El Kawther	utility	sewage_plant	N/A	2024-02-29
Maan New	utility	sewage_plant	2024-01-07	2024-02-29
El Amal EU - Buraq	utility	sewage_plant	N/A	2024-07-06
El Satar EU	utility	sewage_plant	2024-04-01	2024-07-06
SEKKA ROAD	utility	sewage_plant	N/A	2024-01-07
MANSHIA	utility	sewage_plant	2023-11-07	2024-01-07
MONTADA	utility	sewage_plant	2024-04-01	2024-05-03
Block 7	utility	sewage_plant	N/A	2024-01-07
Block 12	utility	sewage_plant	N/A	2024-01-07
Maqbarah	utility	sewage_plant	N/A	2024-02-29
Majadlah	utility	sewage_plant	N/A	2024-02-29
Toffah	utility	sewage_plant	2023-11-07	2024-02-29
Fiad (Abu Irreesh)	utility	sewage_plant	2023-11-07	2024-02-29
Moghraqa	utility	sewage_plant	N/A	2024-04-01
ANAN - Amer	utility	sewage_plant	N/A	2024-01-07
Eastern BS Sewage PS	utility	sewage_plant	2024-01-07	2024-04-01
Qatatwa PS	utility	sewage_plant	2024-02-29	2024-04-01
Sheikh Ajleen W.W.T.P	utility	waste_water	N/A	2024-04-01
El Awqaf	utility	well	N/A	2024-04-01
Abu Ghazala	utility	well	2023-10-15	2024-04-01
Aida	utility	well	N/A	2023-10-15
Jamil Shawa	utility	well	N/A	2023-10-15
Municipal - Karaj	utility	well	N/A	2024-01-07
Magbula	utility	well	N/A	2024-01-07
Al Yaman El Said	utility	well	2023-11-07	2023-11-26
Al Jazaer	utility	well	N/A	2024-01-07
Sheikh Zaid2	utility	well	N/A	2024-01-07
Aslan	utility	well	2023-11-07	2023-11-26
Fatma Al Ali	utility	well	2023-11-26	2024-01-07
Bisan	utility	well	2023-11-07	2023-11-26
Al Shimaa	utility	well	N/A	2024-01-07

Name	Category	Type	Damage Date	Destruction Date
Al Nuzha	utility	well	N/A	2024-01-07
Abu Merwan (new)	utility	well	N/A	2024-05-03
Abu Hamam (new)	utility	well	N/A	2024-01-07
Fayroz	utility	well	N/A	2024-01-07
Sh.R.8A	utility	well	N/A	2024-05-03
UNRWA 2 - Beach 2	utility	well	2023-11-26	2024-01-07
Al Mograga 1 - Al Abrar	utility	well	N/A	2024-04-01
Al Mograga 2	utility	well	N/A	2024-04-01
Shejaea 8 - Tawfiq - Igdida	utility	well	N/A	2024-01-07
Hawuz	utility	well	N/A	2024-04-01
Abu Talal - Moasker	utility	well	2024-01-07	2024-07-06
Zohor	utility	well	N/A	2023-11-26
Hesi	utility	well	N/A	2024-05-03
UNRWA1	utility	well	N/A	2024-07-06
UNRWA4	utility	well	2023-11-26	2024-01-07
Al Omari	utility	well	N/A	2024-01-07
Ajrmi	utility	well	N/A	2023-11-07
Tel El Zaater	utility	well	N/A	2024-04-01
UNRWA 6	utility	well	N/A	2024-07-06
Al Alaween	utility	well	N/A	2024-01-07
Al Shefaa	utility	well	2023-11-26	2024-01-07
Tahlia Eastern	utility	well	N/A	2024-02-29
Al Amal 1 (new)	utility	well	N/A	2024-02-29
Old Southern El Sha'er	utility	well	N/A	2024-02-29
Culture Center	utility	well	N/A	2024-05-03
Aqsa Al Bahar Al Jadied	utility	well	N/A	2024-02-29
Stadium - KY	utility	well	N/A	2024-02-29
Islamic Relief	utility	well	N/A	2024-02-29
TIKA 1	utility	well	N/A	2024-02-29
TIKA 2	utility	well	N/A	2024-04-01
Turkey	utility	well	N/A	2024-02-29
South UNRWA - UAE	utility	well	N/A	2024-02-29
North UNRWA - Netherlands	utility	well	N/A	2024-05-03
Al Amal 2 - Opic	utility	well	N/A	2024-02-29
Al Naeem	utility	well	N/A	2024-02-29
Hamad 1	utility	well	N/A	2024-04-01
Hamad 2	utility	well	N/A	2024-02-29
Hamad 3	utility	well	N/A	2024-02-29
Musader	utility	well	N/A	2024-02-29

Name	Category	Type	Damage Date	Destruction Date
Maghazi 1 - Hossain - Eastern	utility	well	N/A	2024-02-29
Abu Kamal - Ahmed Ben Said - BJ	utility	well	N/A	2024-02-29
Maghazi 3 - Bahiri	utility	well	N/A	2024-02-29
Montaza - MZ - New UN	utility	well	N/A	2024-02-29
Aean Jalout - Towers	utility	well	N/A	2024-04-01
Shekaki - New Heteen	utility	well	N/A	2024-04-01
Al Intisar	utility	well	N/A	2024-04-01
Old Western Qarara	utility	well	N/A	2024-04-01
AL Matahen 1	utility	well	N/A	2024-04-01
UNRWA - RF	utility	well	N/A	2024-07-06
Al Tahleia - El Barazil	utility	well	2023-11-07	2023-11-26
Al Salam - Zibidea	utility	well	N/A	2024-07-06
Municipal - Wadi Gaza	utility	well	N/A	2023-10-15
Wadi Salqa Eastern	utility	well	N/A	2024-04-01
Abu Mughseeb	utility	well	N/A	2024-07-06
Zahra City	utility	well	2023-11-26	2024-01-07
Zahra Park	utility	well	N/A	2024-02-29
Al Zahra 1 -NU	utility	well	N/A	2024-02-29
Shoblak	utility	well	N/A	2024-02-29
Nussirat 2 - Al Zahra 2 - Abo Medain 2	utility	well	N/A	2024-02-29
Nussirat 1 - Al Zahra 2	utility	well	N/A	2024-02-29
Khawalda	utility	well	N/A	2024-02-29
Faisal	utility	well	2023-11-07	2023-11-26
Qibaa'	utility	well	N/A	2024-07-06
Abed Rabou	utility	well	N/A	2024-02-29
Berka	utility	well	N/A	2024-01-07
Abu Ouda Neighbour	utility	well	N/A	2024-01-07
Taqwa	utility	well	N/A	2024-01-07
New Sheikh Zaid	utility	well	N/A	2024-01-07
Girls secondary school	utility	well	N/A	2024-02-29
Khansaa - BJ	utility	well	N/A	2024-01-07
Dawaa - Leed	utility	well	N/A	2024-01-07
Yebna Street 35	utility	well	N/A	2024-01-07
Buraq	utility	well	N/A	2024-01-07
Al Mashtal	utility	well	N/A	2024-02-29
Shejaea 17 - Soqia Makka - Shaaf	utility	well	N/A	2024-01-07
New - Eastern 4"	utility	well	2024-01-07	2024-02-29
Shejaea 18 - Qoba	utility	well	N/A	2023-11-07

Name	Category	Type	Damage Date	Destruction Date
Mahata Eastern	utility	desalination_plant	2024-01-07	N/A
EL-Sa'ada_Khan Yonis	utility	desalination_plant	2024-02-29	N/A
EL-Sa'ada	utility	desalination_plant	2024-02-29	N/A
Omari	utility	desalination_plant	2024-01-07	N/A
Rafah Tal Sultan Area_1	utility	desalination_plant	2024-07-06	N/A
Rafah Tal Sultan Area_2	utility	desalination_plant	2024-07-06	N/A
Abasan El Kabira_2	utility	reservoir	2024-01-07	N/A
Bani Sohila New	utility	reservoir	2024-01-07	N/A
Bani Sohila Western	utility	reservoir	2024-01-07	N/A
Saada_1	utility	reservoir	2024-02-29	N/A
Saada_2	utility	reservoir	2024-02-29	N/A
Khuza'a Eastern	utility	reservoir	2024-01-07	N/A
El Naser	utility	reservoir	2024-05-03	N/A
Saudi	utility	reservoir	2024-07-06	N/A
Tel Sultan UNDP	utility	reservoir	2024-07-06	N/A
Rafah Second Reservoir (Sanitation)	utility	reservoir	2024-07-06	N/A
FAWAIDA	utility	sewage_plant	2024-02-29	N/A
ZAITON_Gaza City	utility	sewage_plant	2023-11-26	N/A
ASLAN_Gaza City	utility	sewage_plant	2024-01-07	N/A
ALAMI	utility	sewage_plant	2024-01-07	N/A
ABU RASHED_Jabalia	utility	sewage_plant	2024-01-07	N/A
HAWABER	utility	sewage_plant	2023-11-26	N/A
KARAMA	utility	sewage_plant	2023-11-07	N/A
BAGARA	utility	sewage_plant	2024-01-07	N/A
BEACH CAMP_Gaza City	utility	sewage_plant	2023-11-07	N/A
BLOCK B&J_Al Moasker el jaded	utility	sewage_plant	2024-02-29	N/A
EL Hasaina	utility	sewage_plant	2024-04-01	N/A
Katiba	utility	sewage_plant	2024-01-07	N/A
Jomizt El Sabel	utility	sewage_plant	2024-07-06	N/A
NAJAR	utility	sewage_plant	2024-01-07	N/A
Block O	utility	sewage_plant	2024-01-07	N/A
Absan Al Kbera	utility	well	2024-05-03	N/A
Al Izba	utility	well	2023-11-07	N/A
Nada	utility	well	2023-10-15	N/A
Khadija	utility	well	2023-10-15	N/A
Soqia Jenen	utility	well	2023-10-15	N/A
Western Tank	utility	well	2024-01-07	N/A
Sultan Abedl Hamid - Abu Hassen	utility	well	2024-01-07	N/A

Name	Category	Type	Damage Date	Destruction Date
Shawa - BH	utility	well	2024-01-07	N/A
Al Farouk Mosque - BJ	utility	well	2023-11-07	N/A
Al Montaza - BJ	utility	well	2024-01-07	N/A
Shohada Al Burij	utility	well	2024-01-07	N/A
EL Mashroua	utility	well	2023-11-07	N/A
Ghaben	utility	well	2023-11-07	N/A
Shawa - BL	utility	well	2023-11-07	N/A
Montaza - BL	utility	well	2023-11-07	N/A
Salateen_2	utility	well	2023-11-07	N/A
Kilani Muslm	utility	well	2023-11-07	N/A
TIKA- JB	utility	well	2023-10-15	N/A
Al Omani	utility	well	2024-01-07	N/A

Table 6.3. Table of damaged and destroyed utilities.

1.12 Table of damaged and destroyed education facilities

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Gaza Community College for Tourism and Applied Studies - South Branch	education_facilities	university	2024-01-07	2024-05-03	N/A	N/A
Al-Quds Open University	education_facilities	university	N/A	2024-04-01	N/A	N/A
Al-Aqsa Community College for Intermediate Studies	education_facilities	university	N/A	2024-02-29	N/A	N/A
University College of Applied Sciences - Israa	education_facilities	university	2023-11-26	2024-01-07	N/A	N/A
Al-Zaytouna College of Science and Development	education_facilities	university	N/A	2024-01-07	N/A	N/A
Al-Isra University, Zahra	education_facilities	university	N/A	2024-02-29	N/A	N/A
Al-Uma University	education_facilities	university	2024-04-01	2024-07-06	N/A	N/A
Saleh Imad	education_facilities	university	2024-01-07	2024-05-03	N/A	N/A
Al-Aqsa University	education_facilities	university	2023-10-15	2024-02-29	N/A	N/A
Islamic University - khanyonuis	education_facilities	university	N/A	2024-01-07	N/A	N/A
Al-Aqsa University, Khan Yunis	education_facilities	university	2024-02-29	N/A	N/A	N/A
Palestine Technical College - Gaza Branch	education_facilities	university	N/A	2024-02-29	N/A	N/A
University of Palestine	education_facilities	university	2023-11-26	2024-07-06	N/A	N/A
Vocational College and Relief Agency	education_facilities	university	2024-02-29	N/A	N/A	N/A
Islamic University of Gaza	education_facilities	university	2023-11-07	N/A	N/A	N/A
University of Gaza - South Branch	education_facilities	university	N/A	2024-01-07	N/A	N/A
Professional Khan College	education_facilities	university	N/A	2024-02-29	N/A	N/A
College of Intermediate Studies at Al-Isra University	education_facilities	university	N/A	2024-01-07	N/A	N/A
Al Quds Open University - Gaza Branch	education_facilities	university	2024-01-07	N/A	N/A	N/A
University College of Science and Technology_Khan younis	education_facilities	university	2024-02-29	N/A	N/A	N/A
Gaza Community College - South Branch	education_facilities	university	2024-01-07	2024-02-29	N/A	N/A
Embassy English Institute	education_facilities	university	2023-10-15	2024-02-29	N/A	N/A
UNRWA vocational college	education_facilities	university	2024-02-29	N/A	N/A	N/A
British Academy for Development and Creativity	education_facilities	university	2023-11-26	N/A	N/A	N/A
College of Companions and Da'wah Center_Nuseirat	education_facilities	university	N/A	2024-01-07	N/A	N/A
University College of Applied Sciences - Gaza	education_facilities	university	2023-11-26	N/A	N/A	N/A
Al-Azhar University, Faculty of Law, Al-Mughraqa	education_facilities	university	2023-11-07	N/A	N/A	N/A
College of Companions and Da'wah Center	education_facilities	university	2024-02-29	N/A	N/A	N/A

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Khan Yunis Vocational College	education_facilities	university	2024-02-29	N/A	N/A	N/A
Intermediate College of Studies - Al-Azhar	education_facilities	university	2023-10-15	N/A	N/A	N/A
University College of Science and Technology	education_facilities	university	2024-02-29	N/A	N/A	N/A
Islamic University, South Branch	education_facilities	university	2024-01-07	N/A	N/A	N/A
Al-Azhar University - Gaza	education_facilities	university	2023-11-07	N/A	N/A	N/A
Al-Quds Open University - Gaza Branch	education_facilities	university	2024-01-07	N/A	N/A	N/A
Sakhnin Basic Boys School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Muawiya Ibn Abi Sufyan Basic Co-education School	education_facilities	school	2024-01-07	2024-02-29	N/A	GOV
Abu Jaafar Al-Mansour Basic Girls School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Om Al-Fahem Secondary Girls School	education_facilities	school	2024-04-01	N/A	N/A	GOV
Omar Ben Al Khattab Basic Boys School	education_facilities	school	2023-11-07	2024-02-29	N/A	GOV
Abu Tammam Basic Co-education School and Abu Tammam Basic Girls School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Alkwait Secondary Girls School	education_facilities	school	2023-11-26	N/A	Yes	GOV
Hamad Ibn Khalifa Secondary Girls School	education_facilities	school		2024-01-07	Yes	GOV
Beit Lahiya Basic Boys School “A” and Beit Lahiya Basic Boys School “B”	education_facilities	school	2024-02-29	N/A	Yes	GOV
Beit Lahiya Secondary Boys School	education_facilities	school	2024-02-29	N/A	N/A	GOV
Awni Al Hertani Secondary Girls School	education_facilities	school	2023-W11-07	N/A	Yes	GOV
Hafsa Bint Omar Basic Boys School and Hafsa Bint Omar Basic Co-education School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Al Falluja Secondary Girls’ School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Shadia Abu Ghazaleh Secondary Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Al-Nazla Basic Boys School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Halima Al-Saadia Basic Girls School and Halima Al-Saadia Basic Co-education School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Zaid Ibn Haritha Basic Co-education School	education_facilities	school	2023-11-26	N/A	Yes	GOV
Al Manama Basic Boys School	education_facilities	school	N/A	2023-11-07	N/A	GOV
Al Ameer Naief Ibn Abed Al Azeez Secondary Girls School	education_facilities	school	N/A	2023-11-07	N/A	GOV
Shuhada Jabalya Secondary Boys School and Shuhada Jabalya Basic Boys School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Hani Naim Secondary Agricultural for Boys School	education_facilities	school	N/A	2023-11-26	N/A	GOV

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Hail Abd Al Hamid Secondary Girls School	education_facilities	school	2023-10-15	2024-04-01	N/A	GOV
Beit Hanoun Secondary Girls School	education_facilities	school	2023-11-07	2024-01-07	N/A	GOV
Mahdea El Shawa Secondary Boys School	education_facilities	school	N/A	2023-11-26	Yes	GOV
Ghazi El Shawa Secondary Boys School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Awni Al Hertani Basic Co-education School and Awni Al Hertani Basic Boys School	education_facilities	school	2024-01-07	N/A	N/A	GOV
Kamal Al Ihoud Basic Girls School and Kamal Al Ihoud Basic Co-education School	education_facilities	school	2024-01-07	N/A	N/A	GOV
Tal Al-Rabee Basic Co-education School and Tal Al-Rabee Secondary Girls School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Tal Zaatar Secondary Girls School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Faisal Ibn Fahed Secondary Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Saad Ibn Abi Waqas Basic Boys School “A” and Saad Ibn Abi Waqas Basic Boys School “B”	education_facilities	school	2023-11-26	N/A	Yes	GOV
Ammuas Basic Girls School “A” and Ammuas Basic Girls School “B”	education_facilities	school	2023-11-07	N/A	Yes	GOV
Ahmad Al Shouqary Secondary Boys School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Othman Ibn Affan Secondary Boys School	education_facilities	school	2023-11-07	N/A	N/A	GOV
That-Alsawari Secondary Girls School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Al Tafauk Basic Co-education School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Khalil Alrahman Secondary Boys School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Masqat Beit Lahiya Secondary Boys School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Khalifa Ben Zayed Secondary Boys School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Al-Shaimaa Basic Girls School and Al-Shaimaa Basic Boys School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Al-Shaimaa Basic Secondary School	education_facilities	school	N/A	2024-01-07	N/A	GOV
Al Qaraya al Badawiya School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Al Naqab Basic Boys School “A” and Al Naqab Basic Boys School “B”	education_facilities	school	2023-11-26	N/A	Yes	GOV
Al-Rafii Basic Boys School “A” and Al-Rafii Basic Boys School “B”	education_facilities	school	2023-11-26	2024-01-07	Yes	GOV
Fatema Bent Asd Basic Girls School “A” and Fatema Bent Asd Basic Girls School “B”	education_facilities	school	2024-01-07	N/A	Yes	GOV
Al-Qustena Secondary Boys School	education_facilities	school	N/A	2024-07-06		GOV

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Nusseibeh Ibnt Ka'b Basic Girls School "A" and Nusseibeh Ibnt Ka'b Basic Girls School "B"	education_facilities	school	2024-04-01	N/A	Yes	GOV
Jabal Al Mukaber Secondary Boys School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Omar Ibn Abed Al Azeez Basic Boys School	education_facilities	school	N/A	2024-01-07	N/A	GOV
Mouath Ibn Jabal Basic Boys School	education_facilities	school		2024-01-07	N/A	GOV
Beit Dagan Basic Boys School "A" and Beit Dagan Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	N/A	GOV
Shuhada Al Shojaeya Secondary Boys School	education_facilities	school	2024-01-07	2024-04-01	Yes	GOV
Dalal Al Mughrabi Secondary Girls School "A" and Dalal Al Mughrabi Secondary Girls School "B"	education_facilities	school	2023-11-07	N/A	Yes	GOV
Abu Bakr Al Razi Basic Boys School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Ahmed Al Jabari Secondary School for Boys	education_facilities	school	2023-10-15	N/A	N/A	GOV
Abed Al Fattah Hammoud Secondary Boys School and Abed Al Fattah Hammoud Basic Boys School	education_facilities	school	2024-04-01	N/A	Yes	GOV
Khalil Nubani Secondary Co-education School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Abed El Raouf Al-Sharif Basic Boys School	education_facilities	school	2024-02-29	N/A	N/A	GOV
Al Shejaeya Secondary Girls School "A" and Al Shejaeya Secondary Girls School "B"	education_facilities	school	N/A	2024-01-07	N/A	GOV
Al Abbas Ibn Abd Al-Muttalib Basic Girls School "A" and Al Abbas Ibn Abd Al-Muttalib Basic Girls School "B"	education_facilities	school	N/A	2024-01-07	Yes	GOV
Shuhada Al Mountar Basic Co-education School "A" and Shuhada Al Mountar Basic Co-education School "B"	education_facilities	school	N/A	2024-01-07	Yes	GOV
Hasan Al Nakhal Basic Boys School "A" and Hasan Al Nakhal Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Asaad Saftawi Basic Boys School "A" and Asaad Saftawi Basic Boys School "B"	education_facilities	school	2024-04-01	N/A	Yes	GOV
Salah Al-Deen Basic Boys School "A" and Salah Al-Deen Basic Boys School "B"	education_facilities	school	2024-04-01	N/A	Yes	GOV
Al Tofah Basic Girls School and Al Tofah Basic Co-education School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Fahmi Al-Jerjaoi Secondary Girls School and Fahmi Al-Jerjaoi Basic Co-education School	education_facilities	school	2024-07-06	N/A	Yes	GOV
Al Zahra Secondary Girls School and Al Zahra Basic Girls School	education_facilities	school	N/A	2024-01-07	Yes	GOV

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Al Qastal Basic Boys School "A" and Al Qastal Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Hittin Basic Boys School "A" and Hittin Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	N/A	GOV
Al Nasera Basic Girls School "A" and Al Nasera Basic Girls School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Abed Al Mouty Al Rayes Secondary Girls School	education_facilities	school	2023-11-07	2024-04-01	N/A	GOV
Moueen Bseiso Basic Boys School "A" and Moueen Bseiso Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Gamal Abed Al Nasser Secondary Boys School and Jamal Abdel Nasser Basic School for Boys	education_facilities	school	2023-11-07	N/A	N/A	GOV
Ein Galout Basic Girls School "A" and Ein Galout Basic Girls School "B"	education_facilities	school	2024-04-01	N/A	Yes	GOV
Sumaya Ibnt Khayyat Basic Co-education School "A" and Sumaya Ibnt Khayyat Basic Co-education School "B"	education_facilities	school	2024-02-29	N/A	Yes	GOV
Ramiz Fakhrea Basic Girls School	education_facilities	school	N/A	2023-11-26	N/A	GOV
Hashim Ata Al-Shawa Secondary Girls School "A" and Hashim Ata Al-Shawa Secondary Girls School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Sabha Al Harazin Basic Boys School	education_facilities	school	2024-01-07	N/A	N/A	GOV
Tounes Basic Co-education School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Bessan Basic Girls School	education_facilities	school	2023-11-26	2024-01-07	N/A	GOV
Al Fourqan Basic Co-education School and Al Fourqan Basic School for Girls	education_facilities	school	2023-11-26	N/A	N/A	GOV
Shaaban Al Rayes Secondary Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Al Qrama Basic Co-education School and Al Qrama Basic Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Shuhada Gaza Basic Boys School	education_facilities	school	2023-10-15	N/A	N/A	GOV
Zenab Al Rayes Basic Co-education School	education_facilities	school	2024-04-01	N/A	Yes	GOV
Al Ramla Secondary Girls School and Al Ramla Basic Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Badr Basic Girls School "A" and Badr Basic Girls School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Ibn Al-Haytham Basic Boys School "A" and Ibn Al-Haytham Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Hashim Basic Co-education School "A" and Hashim Basic Co-education School "B"	education_facilities	school	N/A	2024-01-07	Yes	GOV

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Al Majdal Basic Girls School "A" and Al Majdal Basic Girls School "B"	education_facilities	school	N/A	2024-01-07	Yes	GOV
Al Hurea Basic Boys School "A" and Al Hurea Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Safad Basic Boys School "A" and Safad Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Al Zaytun Basic Co-education School "A" and Al Zaytun Basic Co-education School "B"	education_facilities	school	2024-01-07	2024-07-06	N/A	GOV
Mahfoud Alnihnah Basic Girls School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Balqees Al Yaman Secondary Girls School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Om Al-Qura Basic Co-education School	education_facilities	school	2023-11-26	N/A	Yes	GOV
Khaled Alalma Basic Boys School	education_facilities	school	N/A	2023-11-07	N/A	GOV
Adnan Al Alamiy Secondary Boys School	education_facilities	school	N/A	2023-11-07	N/A	GOV
Sharjah Basic Boys School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Shuhada Al Shatti Secondary Girls School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Abdul Salam Siam Secondary School for Girls	education_facilities	school	N/A	2023-11-07	N/A	GOV
Salah Khalaf Basic Girls School	education_facilities	school	2023-11-07	2024-02-29	N/A	GOV
Ibn Sina Basic Girls School	education_facilities	school	N/A	2023-11-07	N/A	GOV
Lolwa Abd Al Wahab Al Qatami Basic "A" for Boys School and Lulwa Abdul Wahab Al Qatami Basic "B" for Boys	education_facilities	school	2024-02-29	N/A	Yes	GOV
Souad Al Sabah Secondary Boys School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Anas Ibn Malik Basic Boys School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Mustafa Sadiq Al Rafii Secondary Girls School for Deaf	education_facilities	school	2024-02-29	N/A	Yes	GOV
Mustafa Sadiq Al Rafii Secondary Boys School for Deaf	education_facilities	school	2024-02-29	N/A	Yes	GOV
Ahmad Shawqi Secondary Girls School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Mustafa Hafez Basic Girls School and Mustafa Hafez Basic Co-education School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Al Hassan Al Basri Basic Co-education School	education_facilities	school	2023-11-26	N/A	Yes	GOV
Alkarmel Secondary Boys School	education_facilities	school	2023-11-26	N/A	Yes	GOV
Arafat Secondary School for Gifted Students-Boys	education_facilities	school	2023-11-26	N/A	Yes	GOV
Arafat Secondary School for Gifted Students-Girls	education_facilities	school	N/A	2023-11-26	Yes	GOV
Al Huda Secondary Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Shuhada Al Sheikh Radwan Basic Boys School "A" and Shuhada Al Sheikh Radwan Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Al Rafedean Basic Co-education School "A" and Al Rafedean Basic Co-education School "B"	education_facilities	school	2023-11-07	N/A	Yes	GOV
Hmama Basic Girls School "A" and Hmama Basic Girls School "B"	education_facilities	school	2023-11-07	N/A	Yes	GOV
Abu Thar Al Ghaffari Secondary Boys School	education_facilities	school	N/A	2023-11-07		GOV
Musab Ibn Omair Co-education School and Musab Bin Omair Basic Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Asma Ibnt Abi Bakr Basic Co-education School "A" and Asma Ibnt Abi Bakr Basic Co-education School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Abed Al Rahman Ibn Aouf Basic Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Amro Ibn Al Aas Basic Boys School "A" and Amro Ibn Al Aas Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Abed Al Malik Ibn Marwan Basic Co-education School "A" and Abed Al Malik Ibn Marwan Basic Co-education School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Tal Al Zhour Basic Girls School	education_facilities	school	2024-01-07	N/A	N/A	GOV
Al Galileel Secondary Girls School	education_facilities	school	2024-01-07	N/A	N/A	GOV
Al Qahera Basic Girls School "A" and Al Qahera Basic Girls School "B"	education_facilities	school	2023-11-26	N/A	Yes	GOV
Amir Mansi Basic Boys School "A" and Amir Mansi Basic Boys School "B"	education_facilities	school	2023-11-26	N/A	Yes	GOV
Jules Secondary Boys School	education_facilities	school	N/A	2023-11-07	N/A	GOV
Sami Al Alamiy Secondary Boys School	education_facilities	school	N/A	2023-11-07	N/A	GOV
Al Taqoa Secondary Boys School	education_facilities	school	N/A	2023-11-26	N/A	GOV
Sarafand Basic Boys School	education_facilities	school	N/A	2023-11-07	N/A	GOV
Asdoud Basic Boys School	education_facilities	school	N/A	2024-01-07	N/A	GOV
Al Zahawi Basic Boys School	education_facilities	school	N/A	2023-11-26	N/A	GOV
Zuhair Al Alamiy Secondary Boys School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Al Neel Basic Boys School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Fatima Al-Najjar Basic Boys School	education_facilities	school	2023-11-26	N/A	N/A	GOV

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Al Majeda Wassila Ibn Ammar Secondary Girls School and Al Majeda Wassila Ibn Ammar Basic Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Zahraa Al Madaean Secondary Girls School	education_facilities	school	N/A	2023-11-26	N/A	GOV
Hassan Salameh Basic Co-education School "A" and Hassan Salameh Basic Co-education School "B"	education_facilities	school	N/A	2024-01-07	Yes	GOV
Bashir Al Rayes Secondary Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Al Buraq Basic Co-education School "A" and Al Buraq Basic Co-education School "B"	education_facilities	school	N/A	2024-01-07	Yes	GOV
Al Aqsa Basic Boys School "A" and Al Aqsa Basic Boys School "B"	education_facilities	school	N/A	2024-01-07	Yes	GOV
Kafr Kasem Secondary Girls' School	education_facilities	school	2023-11-26	N/A	Yes	GOV
Abdullah Aldhayan Secondary Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Fatthy Al Balawi Secondary Boys School and Fatthy Al Balawi Basic Boys School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Shuhada Al Maghazi Secondary Boys School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Amuriyah Basic Boys School	education_facilities	school	N/A	2023-10-15	Yes	GOV
Adnan Alghoul Basic Boys School	education_facilities	school	2024-05-03	N/A	N/A	GOV
Ein El-Helwa Basic Co-education School	education_facilities	school	2024-04-01	N/A	Yes	GOV
Al Nour and Al Amal Co-education Secondary Blind School	education_facilities	school	N/A	2024-05-03	N/A	GOV
Al Shaheed Ibrahem Magdma Secondary Boys' School	education_facilities	school	2023-11-26	2024-05-03	N/A	GOV
Sabra-Shatila Secondary Girls School	education_facilities	school	2024-04-01	N/A	Yes	GOV
Abed Al Karim Al Aeklok Secondary Boys School and Abed Al Karim Al Aeklok Basic Boys School	education_facilities	school	2024-05-03	N/A	Yes	GOV
Deir Al Balah Basic Co-education School and Deir Al-Balah Basic Boys School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Al Aysheya Basic Girls School and Al Aysheya Basic Co-education School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Shuhada Al Nusseirat Secondary Boys School and Shuhada Al Nusseirat Secondary Boys School "B"	education_facilities	school	2024-04-01	N/A	Yes	GOV
Soukina Ibnt Al Hussein Secondary Girls School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Rudolph Feltar Basic Boys School "B" and Rudolph Feltar Basic Boys School "A"	education_facilities	school	2023-11-07	N/A	Yes	GOV

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Rudolph Feltar Basic Co-education School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Al Orouba Secondary Girls School	education_facilities	school	2023-11-07	2024-02-29	Yes	GOV
Al-Ma'ari Basic Boys School	education_facilities	school	2023-11-07	2024-01-07	N/A	GOV
Al-Ma'ari Secondary Girls School and Al-Ma'ari Basic Co-education School	education_facilities	school	2023-11-07	2024-02-29	N/A	GOV
Abasan Basic Girls School "A" and Abasan "B" Basic Girls School	education_facilities	school	2024-02-29	N/A	N/A	GOV
Ibn Alnafees Basic Boys School and Ibn Alnafees Basic Girls School	education_facilities	school	N/A	2024-01-07	N/A	GOV
B/Suhaila Secondary Boys School	education_facilities	school	2024-01-07		N/A	GOV
B/Suhaila Basic Girls School and B/Suhaila Basic Co-education School	education_facilities	school	2024-01-07	2024-04-01	N/A	GOV
Shohada B/Sohayla Secondary Girls School and Shohadaa B/Sohayla Co-education Basic School	education_facilities	school	2024-01-07	N/A	N/A	GOV
Shajarat Al-Durr Basic Co-education School and Shajarat Al-Durr Basic Boys School	education_facilities	school	N/A	2024-02-29	Yes	GOV
Daleat Al-Karmel Basic Girls School	education_facilities	school	2024-04-01	N/A	N/A	GOV
Abd El Kareem El Karmy Basic Boys School "B" and Abd El Kareem El Karmy Basic Boys School "A"	education_facilities	school	2024-02-29	N/A	Yes	GOV
Al Awda Secondary Boys School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Eilabun Secondary Girls School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Khuza'a Martyrs Secondary Girls School	education_facilities	school	N/A	2024-01-07	N/A	GOV
Khuza'a Martyrs Secondary Boys School	education_facilities	school	2023-11-07	2024-01-07	N/A	GOV
Al Shaheed Mahmoud Al Mabhoh Basic Boys' School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Abdelkader Basic Girls School "A" and Abdelkader Basic Girls School "B"	education_facilities	school	2024-02-29	N/A	Yes	GOV
Haifa Basic Girls School "A" and Haifa Basic Girls School "B"	education_facilities	school	N/A	2023-11-07	Yes	GOV
Al Oula Basic Boys School	education_facilities	school	2024-01-07	N/A	N/A	GOV
Ibn Khaldun Basic Girls School "A" and Ibn Khaldun Basic Girls School "B"	education_facilities	school	2024-02-29	N/A	Yes	GOV
Abd Allah Abu Seta Basic Boys School "A" and Abed Allah Abu Seta Basic Boys School "B"	education_facilities	school	2024-01-07	2024-02-29	N/A	GOV
Eid Al Aga Basic Girls School and Eid Al Aga Basic Boys School	education_facilities	school	2024-01-07	N/A	Yes	GOV

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Al Israa Secondary Boys School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Abed Al Azeez Al Rantisi Basic Girls School "A" and Abed Al Azeez Al Rantisi Basic Girls School "B"	education_facilities	school	2024-02-29	N/A	Yes	GOV
Abu Bakr Al Siddiq Basic School "A" for Boys and Abu Bakr Al Siddiq Basic School "B" for Boys	education_facilities	school	2024-05-03	N/A	Yes	GOV
Ahlam Al Harazin Basic Girls School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Abed Al Rahman Al Agha Secondary Girls School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Ahmed Ibn Abed Al Azeez Basic Boys School "A" and Ahmed Ibn Abed Al Azeez Basic Boys School "B"	education_facilities	school	2024-04-01	N/A	Yes	GOV
Al Jenan Secondary Boys School "B" and Al Jenan Secondary Boys School "A"	education_facilities	school	2024-02-29	N/A	Yes	GOV
Harun Al-Rashid Secondary Boys School	education_facilities	school		2024-02-29	Yes	GOV
Khalid Hassan Secondary Boys School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Smou Al Sheakh Hamad Ibn Khalifa Al Thanee Basic Girls School and Smou Al Sheakh Hamad Ibn Khalifa Al Thanee Secondary Girls School	education_facilities	school	2024-04-01	N/A	Yes	GOV
Abed Allah Siyam Basic Boys School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Yasser Al-Namrouti Basic School for Boys	education_facilities	school	2024-04-01	N/A	Yes	GOV
Al Haaj Mohammed El Najar Secondary Boys School	education_facilities	school	2023-11-26	N/A	Yes	GOV
Kamal Nasser Basic School "A" for Boys and Kamal Nasser Basic School "B" for Boys	education_facilities	school	2024-01-07	N/A	Yes	GOV
Bait El-Maqdes Secondary Girls School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Rabaa Adawiyyah Basic Boys School and Rabaa Adawiyyah Basic Girls School	education_facilities	school	2024-07-06	N/A	Yes	GOV
Alkwait Secondary School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Amna Ibnt Wahab Secondary Girls School and Amna Ibnt Wahab Basic Girls School	education_facilities	school	2024-07-06	N/A		GOV
Al Quds Secondary Girls School	education_facilities	school	2024-07-06	N/A	Yes	GOV
Rafah Basic Boys School "A" and Rafah Basic Boys School "B"	education_facilities	school	2024-07-06	N/A	Yes	GOV
Uqba Ibn Nafie Basic Co-education School	education_facilities	school	2024-04-01	N/A	Yes	GOV
Al Shouka Secondary Girls School	education_facilities	school	2024-07-06	N/A		GOV
Beer Sheva Secondary "A" Boys School and Beer Sheva Secondary "B" Boys School	education_facilities	school	2024-07-06	N/A	Yes	GOV

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Deir Yassin Basic Co-education School and Deir Yassin Basic School for Girls	education_facilities	school	2023-11-07	N/A	Yes	GOV
Mohamed Youssef Al-Najjar Basic Girls School	education_facilities	school	2023-11-07	N/A	Yes	GOV
Taha Hussein Basic "B" Boys School and Taha Hussein Basic "A" for Boys	education_facilities	school	2024-07-06	N/A	Yes	GOV
Ahmed Yassen Secondary Boys School	education_facilities	school	2024-07-06	N/A	Yes	GOV
Fathi Alshqaqi Secondary Boys School "A" and Fathi Alshqaqi Secondary Boys School "B"	education_facilities	school	2023-11-07	N/A	Yes	GOV
Mariam Farahat Secondary Girls School	education_facilities	school	2024-07-06	N/A	Yes	GOV
Al Dawha Secondary Boys School "B" and Al Dawha Secondary Boys School "A"	education_facilities	school	2024-07-06	N/A	Yes	GOV
Masqat Rafah Secondary Boys School "A" and Masqat Rafah Secondary Boys School "B"	education_facilities	school	2024-07-06	N/A	Yes	GOV
Al Qadisiya Secondary Girls School	education_facilities	school	2024-07-06	N/A	Yes	GOV
Al Shaheed Mohammed Al Dura Basic Boys' School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Caesarea Secondary Co-education School	education_facilities	school	2023-11-26	N/A	N/A	GOV
Al Romaida Basic Co-education School	education_facilities	school	2023-10-15	N/A	N/A	GOV
Al Shaheed Abo Hmead Basic Co-education School and Al Shaheed Abo Hmead Basic Boys' School	education_facilities	school	N/A	2024-01-07	N/A	GOV
Al Shejaeya Basic Girls School "A" and Al Shejaeya Basic Girls School "B"	education_facilities	school	N/A	2024-07-06	N/A	GOV
Abu Obaida Ibn Al Jarrah Secondary Boys School and Abu Obaida Ben Al Jarah Basic Boys School	education_facilities	school	N/A	2023-11-26	N/A	GOV
Farouk El-Farra Secondary Girls School and Farouk Al Farra Basic for Girls	education_facilities	school	N/A	2024-01-07	Yes	GOV
Asqalan Basic Boys School	education_facilities	school	2024-02-29	N/A	N/A	GOV
Zenab Al Wazeer Basic Co-education School and Zenab Al Wazeer Basic Boys School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Suleiman Al Aghaa Secondary Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Masadaa Ibn Abed Allah Al Azmi Basic Co-education School	education_facilities	school	2024-02-29	N/A	N/A	GOV
Al Amal Basic Co-education School	education_facilities	school	2023-11-07	N/A	N/A	GOV
Al Mutanabi Secondary Boys School - New	education_facilities	school	2024-02-29	2024-05-03	Yes	GOV
Jabalya Basic Girls School "A" and Jabalya Basic Girls School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV

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Brier Basic Boys School "A" and Brier Basic Boys School "B"	education_facilities	school	2024-02-29	N/A	Yes	GOV
Osama Al-Najjar Basic Girls School "A" and Osama Al-Najjar Basic Girls School "B"	education_facilities	school	N/A	2024-01-07	N/A	GOV
Wafaa Al Amear Secondary Co-education School and Wafaa Al Amear Basic Boys School	education_facilities	school	2024-01-07	N/A	N/A	GOV
Jaafar Bin Abi Talib Basic School "A" for boys and Jaafar Bin Abi Talib Basic "B" for boys	education_facilities	school	2024-07-06	N/A	N/A	GOV
Muscat Al Qarara Basic School "A" for Girls and Muscat Al Qarara Basic School "B" for Girls	education_facilities	school	2024-01-07	N/A	N/A	GOV
Umariya Prep. Boys	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Al Sayda Roqya Basic Girls School "A" and Al Sayda Roqya Basic Girls School "B"	education_facilities	school	2024-02-29	N/A	N/A	GOV
Sheikh Ajleen Basic School "A" for girls and Sheikh Ajleen Basic School "B" for girls	education_facilities	school	2023-11-07	N/A	N/A	GOV
Al Farabi Basic Co-education School "A" and Al Farabi Basic Co-education School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Al Motasem Billah Basic Boys School "A" and Al Motasem Billah Basic Boys School "B"	education_facilities	school	2024-01-07	N/A	Yes	GOV
Taberia Secondary Girls School and Tiberias Basic School for Girls	education_facilities	school	2024-02-29	2024-04-01	Yes	GOV
Necmettin Erbakan School	education_facilities	school	2024-01-07	N/A	Yes	GOV
New Shadia Abu Ghazaleh Secondary Girls School	education_facilities	school	2024-01-07	N/A	Yes	GOV
Tayba Secondary Girls School and Tayba Basic Girls School	education_facilities	school	2024-02-29	N/A	Yes	GOV
Tal El-Hawa Prep. Girls	education_facilities	school	N/A	2023-10-15	N/A	UNRWA
Al Quds Elem. Girls and Al Quds Prep. Girls	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
D/Balah Prep. Boys "A" and "B"	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Mamounia Prep. Girls "A" and "B"	education_facilities	school	2023-11-07	N/A	N/A	UNRWA
Mamounia Elem. Co-ed "B" and "A"	education_facilities	school	2023-11-07	N/A	N/A	UNRWA
New Kh/Younis Prep. Girls	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Maghazi Elem. Co-ed "A" and "B"	education_facilities	school	2024-04-01	N/A	Yes	UNRWA
Jabalia Elem. Boys "A" and "E"	education_facilities	school	2024-04-01	N/A	Yes	UNRWA
Rafah Elem. Co-ed "A"	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Asma' Elem. Co-ed "B" and Asma' Prep. Girls "C"	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Zaitoun Prep. Boys "A" and Zaitoun Elem. Boys "A"	education_facilities	school	2023-11-26	N/A	Yes	UNRWA

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Maghazi Prep. Girls “A” and “B”	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
D/Balah Elem. Co-ed “C” and “D”	education_facilities	school	2024-04-01	N/A	Yes	UNRWA
Rafah Prep. Boys “A” and “D”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Khalil Uweida Elem. Co-ed and Khalil Uweida Prep. Girls	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Al Nuseirat Elem. Co-ed “A” and “F”	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Nusierat Prep. Girls “D” and “F”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Al Amal Elem. Boys	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Kh/Younis Elem. Boys “A” and “C”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Al Jonaina Prep. Girls and Al Jonaina Elem. Co-ed	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Kh/Younis Prep. Girls “B”	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Jabalia Elem. Girls “A” and “B”	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Bureij Prep. Boys “C” and “B”	education_facilities	school	2024-04-01	N/A	Yes	UNRWA
Fakhoura Prep. Boys “A” and “B”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
B/Lahiya Elem. Boys and B/Lahiya Elem. Girls	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Qarara Prep. Co-ed and Qarara Elem. Co-ed	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
New Nuseirat Elem. Co-ed and Nuseirat Prep. Girls “A”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Rimal Prep. Co-ed “C”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Rimal Elem. Co-ed “A” and “B”	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
B/Lahiya Prep. Girls “A” and “B”	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Beach Elem. Boys “D” and “C”	education_facilities	school	N/A	2024-02-29	Yes	UNRWA
New Gaza Prep. Boys “A” and “C”	education_facilities	school	N/A	2023-11-26	Yes	UNRWA
Nuseirat Prep. Girls “E” and El Mofte Elem. Co-ed	education_facilities	school	2024-04-01	N/A	Yes	UNRWA
Rafah Prep. Girls “A”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Kh/Younis Elem. Co-ed “A”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Kh/Younis Prep. Co-ed “C”	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Imam Shafi Prep. Boys “A” and “B”	education_facilities	school	2024-01-07	N/A	N/A	UNRWA
Wadi Gaza Prep. Co-ed	education_facilities	school	2023-11-07	2023-11-26	N/A	UNRWA
B/Hanoun Prep. Boys “C”	education_facilities	school	N/A	2023-11-07	N/A	UNRWA
Rafah Elem. Co-ed “C”	education_facilities	school	2024-02-29	N/A	Yes	UNRWA

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Rafah Prep. Girls “B”	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Bureij Elem. Co-ed “C”	education_facilities	school	2023-11-26	N/A	N/A	UNRWA
Bureij Elem. Co-ed “A”	education_facilities	school	2023-11-07	N/A	N/A	UNRWA
Moghraqa Prep. Girls and Moghraqa Elem. Boys	education_facilities	school	2023-11-26	2024-07-06	N/A	UNRWA
Beach Elem. Co-ed “C” and “F”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Rimal Prep. Boys “A” and “B”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Khuza’a Prep. Boys	education_facilities	school		2024-05-03	N/A	UNRWA
Abu Tu’ema Elem. Co-ed and Abu Tu’ema Prep. Co-ed	education_facilities	school	2023-11-07	N/A	N/A	UNRWA
Abasan Prep. Boys and Abasan Elem. Boys	education_facilities	school	2024-01-07	N/A	N/A	UNRWA
Abasan Prep. Girls and Abasan Elem. Co-ed	education_facilities	school	2024-01-07	N/A	N/A	UNRWA
Jabalia Elem. Boys “C” and Ayyoubiya Elem. Boys	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Jabalia Elem. Boys “B” and “D”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Al Amal Prep. Girls	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Qarara Prep. Boys “A” and “B”	education_facilities	school	2024-04-01	N/A	Yes	UNRWA
Ma’en Prep. Boys “A” and Ma’en Elem. Boys	education_facilities	school	2024-05-03	N/A	Yes	UNRWA
B/Suhaila Prep. Girls and B/Suhaila Elem. Co-ed “B”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Jabalia Prep. Boys “A”	education_facilities	school	2024-07-06	N/A	N/A	UNRWA
Jabalia Prep. Boys “E”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Jabalia Prep. Girls “A”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
B/Hanoun Elem. Co-ed “C”	education_facilities	school	2023-11-07	2024-04-01	N/A	UNRWA
B/Hanoun Prep. Girls “B”	education_facilities	school	2023-11-07	2024-04-01	N/A	UNRWA
Jabalia Elem. Co-ed “B”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Kh/Younis Prep. Boys “C”	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Jabalia Elem. Co-ed “A” and Hafsa Elem. Co-ed	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Palestine Elem. Boys “A” and “B”	education_facilities	school	N/A	2024-07-06	Yes	UNRWA
Jabalia Elem. Co-ed “C” and “D”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Halab Elem. Co-ed “A” and “B”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Ibin Sina Elem. Co-ed and Razi Elem. Co-ed	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Nusierat Prep. Boys “A” and Nusierat Elem. Boys “A”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Salah El Ddin Prep. Boys “B” and “A”	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
New Jabalia Elem. Boys	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Bureij Prep. Girls “A”	education_facilities	school	2024-04-01	N/A	Yes	UNRWA
Maghazi Elem. Boys “B” and “A”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
B/Hanoun Prep. Boys “B”	education_facilities	school	N/A	2023-11-07	N/A	UNRWA
Maghazi Prep. Boys “A”	education_facilities	school	2024-04-01	N/A	N/A	UNRWA
Jabalia Prep. Boys “B”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Galibo Prep. Boys	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Jabalia Prep. Girls “B” and “C”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Izbet B/Hanoun Elem. Boys	education_facilities	school	2024-01-07	N/A	N/A	UNRWA
B/Hanoun Prep. Boys “A”	education_facilities	school	2024-05-03	N/A	N/A	UNRWA
Izbet B/Hanoun Prep. Boys	education_facilities	school	2023-11-26	N/A	N/A	UNRWA
Kh/Younis Prep. Boys “B”	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Kh/Younis Elem. Co-ed “E”	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Al Amal Elem. Girls	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Rafah Prep. Boys “C” and “E”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Taif Prep. Boys	education_facilities	school	2024-05-03	N/A	Yes	UNRWA
Damam Prep. Co-ed	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Makka Al Mukarama Prep. Boys	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Shouka Prep. Boys	education_facilities	school	N/A	2024-07-06	N/A	UNRWA
Jeddah Elem. Co-ed	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Al Riyad Elem. Boys	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Al Madina Al Monawara Prep. Girls	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Rafah Prep. Girls “C”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Rafah Elem. Co-ed “D”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Nusierat Prep. Boys “C”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Nuseirat Prep. Girls “B”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Sabra Prep. Girls	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Beach Prep. Boys “C”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Beach Prep. Boys “A”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Beach Prep. Boys “B”	education_facilities	school	N/A	2023-11-26	Yes	UNRWA
Mashtal Prep. Boys	education_facilities	school	2023-11-07	N/A	N/A	UNRWA
Al Fardous Prep. Girls and Al Fardous Elem. Co-ed	education_facilities	school	2023-11-07	N/A	N/A	UNRWA
B/Hanoun Elem. Boys “A” and “B”	education_facilities	school	N/A	2023-11-07	N/A	UNRWA
B/Hanoun Elem. Co-ed “A” and “D”	education_facilities	school	2023-11-07	N/A	N/A	UNRWA
Kh/Younis Elem. Girls “A” and “B”	education_facilities	school	N/A	2024-04-01	Yes	UNRWA
Rafah Elem. Boys “B” and “E”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Zahra Elem. Girls “A” and “B”	education_facilities	school	2024-07-06	N/A	Yes	UNRWA
Shouka Elem. Co-ed and Shouka Prep. Girls	education_facilities	school	2024-07-06	N/A	N/A	UNRWA
D/Balah Elem. Boys “A” and “B”	education_facilities	school	2024-01-07	N/A	Yes	UNRWA
Nuseirat Elem. Girls “A” and Nusierat Elem. Boys “B”	education_facilities	school	2024-04-01	N/A	Yes	UNRWA
Hashem Elem. Boys “A” and “B”	education_facilities	school	2023-11-07	N/A	N/A	UNRWA
Shaja’iya Prep. Boys “A” and “C”	education_facilities	school	2024-04-01	N/A	N/A	UNRWA
Shaja’iya Elem. Co-ed “A” and “B”	education_facilities	school	2023-11-07	N/A	N/A	UNRWA
Rimal Prep. Girls “A” and “B”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Beach Elem. Boys “A” and “B”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
New Gaza Elem. Boy “A” and “B”	education_facilities	school	N/A	2023-11-26	Yes	UNRWA
Bahrain Elem. Boys “A” and “B”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Tal El-Hawa Prep. Boys “A” and “B”	education_facilities	school	2024-04-01	N/A	Yes	UNRWA
New Gaza Elem. Boys “C” and “D”	education_facilities	school	N/A	2023-11-26	Yes	UNRWA
Beach Elem. Co-ed “D” and “G”	education_facilities	school	2023-11-26	2024-01-07	Yes	UNRWA
Beach Prep. Girls “B” and “C”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Asma’ Elem. Co-ed “C” and “D”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Asma’ Prep. Girls “A” and “B”	education_facilities	school	2023-11-26	N/A	Yes	UNRWA
Beach Prep. Girls “A” and Beach Elem. Co-ed “E”	education_facilities	school	2023-11-07	N/A	Yes	UNRWA
Ma’en Prep. Boys “B”	education_facilities	school	2024-02-29	N/A	Yes	UNRWA
Shaja’iya Elem. Boys “A”	education_facilities	school	2024-01-07	N/A	N/A	UNRWA
Daraj Prep. Co-ed “C”	education_facilities	school	2023-11-07	N/A	N/A	UNRWA

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Tal Rumaida Prep. Co-ed	education_facilities	school	N/A	2024-04-01	N/A	UNRWA
Nour Al Mareaf Al Namouthajea Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Salam Private School for Al Zytoun Children	education_facilities	school	2023-11-07	N/A	N/A	Private
Om Al Moumineen Afsah Al Shariah Girls Private School	education_facilities	school	2023-11-26	N/A	N/A	Private
Al Sahaba Al Shariah Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Huda Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Sedeeq Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Hermann Gmeiner Basic Private School	education_facilities	school	2024-07-06	N/A	N/A	Private
Om Al Moumineen Khadija Girls Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Khubayb Al Shariah for Memorizing Quran Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Qourania Al Maleazia Private School	education_facilities	school	2024-05-03	N/A	Yes	Private
Al-Zahra Al Namouthajea Private School	education_facilities	school	2024-01-07	2024-02-29	N/A	Private
Al Awqaf Al Shariah Boys Private School	education_facilities	school	N/A	2024-01-07	N/A	Private
Latin Patriarchate Private School Gaza	education_facilities	school	2024-01-07	N/A	N/A	Private
A Manara Co-education Basic Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Mohammed Al Bashir Al Ibrahimi Basic Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Ta'eleam Al Moutawar Private School	education_facilities	school	N/A	2024-01-07	N/A	Private
Macca Al Mocarama Al Namouthajea Private School	education_facilities	school	2023-11-26	N/A	N/A	Private
Dar Al-Arqam Secondary Boys Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Dar Al Arqam Basic Boys Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Huda Private School "A"	education_facilities	school	2023-11-26	N/A	N/A	Private
Al Imam Mohammed Ibn Saleh Al Ethaimeen Private School for Girls	education_facilities	school	N/A	2024-01-07	N/A	Private
Al Awqaf Al Shariah Girls Private School	education_facilities	school	2024-02-29	N/A	N/A	Private
Braem Al Sendbad Private School	education_facilities	school	2024-05-03	N/A	N/A	Private
Al Imam Mohammed Ibn Saleh Al Ethaimeen Private School for Boys	education_facilities	school	N/A	2024-01-07	N/A	Private
Al Sahaba Al Shariah Boys Private School	education_facilities	school	N/A	2024-02-29	N/A	Private
Al Hekma Private School	education_facilities	school	2023-10-15	N/A	N/A	Private
Ebad Al Rahman Al Namouthajea Private School	education_facilities	school	2024-02-29	N/A	N/A	Private

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Gaza College Private School	education_facilities	school	2024-02-29	N/A	N/A	Private
Al Naser Al Namouthajea Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
American Private School Gaza	education_facilities	school	2023-11-07	N/A	N/A	Private
Dar Al Slam Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Basma Al Hadethah School	education_facilities	school	2023-11-26	N/A	Yes	Private
Al Mutamyaizun Al Hadeatha Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
A Wehda for Language Basic Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al-Rahebat Al-Wardeya Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al A'aela Al Mouqadasa Private School-Gaza	education_facilities	school	2023-11-26	N/A	N/A	Private
Al Sheikh Abed Al Latif El Khozindar Co-education Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Majed Al Namouthajea Private School	education_facilities	school	2023-10-15	N/A	N/A	Private
Al Mostaqbal Al Namouthajea Basic Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Tabeean Al Shariah Private School	education_facilities	school	2024-04-01	N/A	N/A	Private
Al Hayah Al Hadetha School	education_facilities	school	2024-02-29	N/A	N/A	Private
Pioneers & Leaders Private School	education_facilities	school	2023-11-26	N/A	N/A	Private
Pioneers & Leaders Co-education School	education_facilities	school		2024-04-01	Yes	Private
Al Biritania Al Daoulia Private School	education_facilities	school	2024-04-01	N/A	N/A	Private
Dar Al-Arqam Al Namouthajea Secondary Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Muruj Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Mutamaizum Al Hadetha School	education_facilities	school	2023-11-26	N/A	N/A	Private
Ya Hala Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Reham Al Hadetha School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Zahrat Al Arbaa Private School	education_facilities	school		2023-11-26	N/A	Private
Qudsna Basic Private School	education_facilities	school	2024-05-03	N/A	N/A	Private
Maryam School	education_facilities	school	2023-11-26	N/A	N/A	Private
Basma School	education_facilities	school	2024-02-29	N/A	N/A	Private
Al Nahda Al Namothgyah School	education_facilities	school	2023-11-07	2024-01-07	N/A	Private
Iqraa Private Basic School	education_facilities	school	2024-01-07	N/A	N/A	Private
Om Al Moumineen Khadija Girls Private School	education_facilities	school	2024-01-07	N/A	N/A	Private

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Khubayb Al Shariah for Memorizing Quran Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Qourania Al Maleazia Private School	education_facilities	school	2024-05-03	N/A	Yes	Private
Al-Zahra Al Namouthajea Private School	education_facilities	school	2024-01-07	2024-02-29	N/A	Private
Al Awqaf Al Shariah Boys Private School	education_facilities	school	N/A	2024-01-07	N/A	Private
Latin Patriarchate Private School Gaza	education_facilities	school	2024-01-07	N/A	N/A	Private
A Manara Co-education Basic Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Mohammed Al Bashir Al Ibrahimi Basic Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Ta'eleam Al Moutawar Private School	education_facilities	school	N/A	2024-01-07	N/A	Private
Macca Al Mocarama Al Namouthajea Private School	education_facilities	school	2023-11-26	N/A	N/A	Private
Dar Al-Arqam Secondary Boys Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Dar Al Arqam Basic Boys Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Huda Private School "A"	education_facilities	school	2023-11-26	N/A	N/A	Private
Al Imam Mohammed Ibn Saleh Al Ethaimeen Private School for Girls	education_facilities	school	N/A	2024-01-07	N/A	Private
Al Awqaf Al Shariah Girls Private School	education_facilities	school	2024-02-29	N/A	N/A	Private
Braem Al Sendbad Private School	education_facilities	school	2024-05-03	N/A	N/A	Private
Al Imam Mohammed Ibn Saleh Al Ethaimeen Private School for Boys	education_facilities	school	N/A	2024-01-07	N/A	Private
Al Sahaba Al Shariah Boys Private School	education_facilities	school	N/A	2024-02-29	N/A	Private
Al Hekma Private School	education_facilities	school	2023-10-15	N/A	N/A	Private
Ebad Al Rahman Al Namouthajea Private School	education_facilities	school	2024-02-29	N/A	N/A	Private
Gaza College Private School	education_facilities	school	2024-02-29	N/A	N/A	Private
Al Naser Al Namouthajea Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
American Private School Gaza	education_facilities	school	2023-11-07	N/A	N/A	Private
Dar Al Slam Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Basma Al Hadethah School	education_facilities	school	2023-11-26	N/A	Yes	Private
Al Mutamyaizun Al Hadeatha Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
A Wehda for Language Basic Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al-Rahebat Al-Wardeya Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al A'aela Al Mouqadasa Private School-Gaza	education_facilities	school	2023-11-26	N/A	N/A	Private

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Al Sheikh Abed Al Latif El Khozindar Co-education Private School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Majed Al Namouthajea Private School	education_facilities	school	2023-10-15	N/A	N/A	Private
Al Mostaqbal Al Namouthajea Basic Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Tabeean Al Shariah Private School	education_facilities	school	2024-04-01	N/A	N/A	Private
Al Hayah Al Hadetha School	education_facilities	school	2024-02-29	N/A	N/A	Private
Pioneers & Leaders Private School	education_facilities	school	2023-11-26	N/A	N/A	Private
Pioneers & Leaders Co-education School	education_facilities	school		2024-04-01	Yes	Private
Al Biritania Al Daoulia Private School	education_facilities	school	2024-04-01	N/A	N/A	Private
Dar Al-Arqam Al Namouthajea Secondary Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Muruj Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Mutamaizum Al Hadetha School	education_facilities	school	2023-11-26	N/A	N/A	Private
Ya Hala Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Reham Al Hadetha School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Zahrat Al Arbaa Private School	education_facilities	school		2023-11-26	N/A	Private
Qudsna Basic Private School	education_facilities	school	2024-05-03	N/A	N/A	Private
Maryam School	education_facilities	school	2023-11-26	N/A	N/A	Private
Basma School	education_facilities	school	2024-02-29	N/A	N/A	Private
Al Nahda Al Namothgyah School	education_facilities	school	2023-11-07	2024-01-07		Private
Iqraa Private Basic School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Mostaqbal Al Namouthajea Basic Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Tabeean Al Shariah Private School	education_facilities	school	2024-04-01	N/A	N/A	Private
Al Hayah Al Hadetha School	education_facilities	school	2024-02-29	N/A	N/A	Private
Pioneers & Leaders Private School	education_facilities	school	2023-11-26	N/A	N/A	Private
Pioneers & Leaders Co-education School	education_facilities	school		2024-04-01	Yes	Private
Al Biritania Al Daoulia Private School	education_facilities	school	2024-04-01	N/A	N/A	Private
Dar Al-Arqam Al Namouthajea Secondary Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Muruj Private School	education_facilities	school	2023-11-07	N/A	N/A	Private
Al Mutamaizum Al Hadetha School	education_facilities	school	2023-11-26	N/A	N/A	Private
Ya Hala Private School	education_facilities	school	2023-11-07	N/A	N/A	Private

Name	Category	Type	Damage Date	Destruction Date	Shelter	Supervision
Reham Al Hadetha School	education_facilities	school	2024-01-07	N/A	N/A	Private
Al Zahrat Al Arbaa Private School	education_facilities	school		2023-11-26	N/A	Private
Qudsna Basic Private School	education_facilities	school	2024-05-03	N/A	N/A	Private
Maryam School	education_facilities	school	2023-11-26	N/A	N/A	Private
Basma School	education_facilities	school	2024-02-29	N/A	N/A	Private
Al Nahda Al Namothgyah School	education_facilities	school	2023-11-07	2024-01-07	N/A	Private
Iqraa Private Basic School	education_facilities	school	2024-01-07	N/A	N/A	Private

Table 6.4. Table of damaged and destroyed education facilities

1.13 Table of damaged and destroyed religious institutions

Name	Category	Type	Damage Date	Destruction Date
St. Philip the evangelist chapel	religious_institution	church	2023-11-07	N/A
Greek Orthodox Church	religious_institution	church	2023-11-07	N/A
Unnamed mosque	religious_institution	mosque	N/A	2024-04-01
Lady Aisha, Mother of the Believers Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Maghazi Grand Mosque |	religious_institution	mosque	2023-11-26	N/A
Al Ameen Mohamed Mosque	religious_institution	mosque	N/A	2024-07-06
Tamim Al-Dari Mosque	religious_institution	mosque	N/A	2024-02-29
Tawheed Mosque_Gaza City	religious_institution	mosque	2023-11-26	N/A
Ahmed Ezz Mosque	religious_institution	mosque	2024-02-29	N/A
Hatin Mosque	religious_institution	mosque	N/A	2023-11-07
Unnamed mosque_1	religious_institution	mosque	2024-01-07	2024-02-29
Shuhada Al-Mughraqa Mosque	religious_institution	mosque	2024-01-07	2024-04-01
Bersheeba Mosque	religious_institution	mosque	N/A	2023-11-07
Al-Nour Al-Muhammadi Mosque	religious_institution	mosque	2023-11-07	N/A
Almostafa Mosque	religious_institution	mosque	2023-11-26	N/A
al-Shusheda Mosque	religious_institution	mosque	2024-02-29	N/A
Tawheed Mosque_Beit Hanoun	religious_institution	mosque	N/A	2024-01-07
Saad bin Moaz Mosque	religious_institution	mosque	N/A	2024-07-06
Taiba Mosque_Beit Lahia	religious_institution	mosque	N/A	2023-11-07
Taiba Mosque_Khan Younis	religious_institution	mosque	2024-01-07	N/A
Al-Helmi Saqr Sultan Mosque	religious_institution	mosque	N/A	2024-07-06
Al Huda Mosque	religious_institution	mosque	2024-04-03	N/A
Sheikh Zayed Mosque_Beit Lahia	religious_institution	mosque	N/A	2023-11-26
Sheikh Zayed Mosque	religious_institution	mosque	N/A	2024-02-29
Al-Sayyid Al-Badawi Mosque	religious_institution	mosque	2024-02-29	N/A
Al Ansari Mosque	religious_institution	mosque	2024-02-29	N/A
Saed Ansari mosque	religious_institution	mosque	2023-11-07	N/A
Rawda Mosque	religious_institution	mosque	2024-01-07	N/A
Saeed Mosque	religious_institution	mosque	2023-10-15	N/A
Suleiman the Persian	religious_institution	mosque	2024-02-29	N/A
Salah al-Din al-Ayyubi Mosque_Jabalia	religious_institution	mosque	2023-11-07	N/A
Salah al-Din al-Ayyubi Mosque	religious_institution	mosque	N/A	2024-07-06
Palestine Mosque	religious_institution	mosque	N/A	2024-02-29
Al-Shaheed Mosque	religious_institution	mosque	2023-11-26	N/A
Abu Musab Al-Zarqawi Mosque	religious_institution	mosque	2024-07-06	N/A
Omar bin Al Khattab Mosque	religious_institution	mosque	2023-11-07	2024-07-06
Omar bin Al Khattab Mosque_Rafah	religious_institution	mosque	2024-07-06	N/A
Shuhada Al Shati Mosque	religious_institution	mosque	2023-11-07	2024-02-29
Sheikh Ajlin Mosque “Khalil Al-Wazir”	religious_institution	mosque	2023-11-07	N/A

Name	Category	Type	Damage Date	Destruction Date
Omar bin Al Khattab Mosque_Jablia	religious_institution	mosque	2024-01-07	N/A
Omar bin Al Khattab Mosque_Gaza City	religious_institution	mosque	2023-11-07	N/A
Ashkelon Mosque	religious_institution	mosque	2023-11-26	N/A
Omar bin Abdul Aziz Mosque_Abasan	religious_institution	mosque	2024-01-07	2024-02-29
Ahmed Abu Madin Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Omari Mosque	religious_institution	mosque	2024-01-07	N/A
Martyr Mahmoud Tawalba Mosque	religious_institution	mosque	2023-10-15	N/A
Musab Bin Omair Mosque	religious_institution	mosque	N/A	2023-11-26
Musab bin Omair Mosque_Bureij	religious_institution	mosque	2023-11-07	N/A
Musab bin Omair Mosque_Beit Lahia	religious_institution	mosque	2023-11-07	N/A
Martyrs Mosque in Nuseirat	religious_institution	mosque	2024-01-07	N/A
Muammar Al-Moubayed Mosque	religious_institution	mosque	N/A	2024-01-07
Unnamed Mosque_Khan Younis	religious_institution	mosque	N/A	2024-01-07
Al Wahda Mosque	religious_institution	mosque	N/A	2023-11-26
Unnamed Mosque_2_Khan Younis	religious_institution	mosque	2024-02-29	N/A
Eastern Cemetery	religious_institution	mosque	N/A	2024-02-29
Haraa Masked Mosque	religious_institution	mosque	2024-01-07	N/A
Unnamed Mosque_Rafah	religious_institution	mosque	N/A	2024-07-06
Asmaa Bint Abi Bakr Mosque	religious_institution	mosque	N/A	2023-11-26
Unnamed Mosque_Gaza_City	religious_institution	mosque	2023-10-15	N/A
Moaz bin Jabal Mosque_Mughraqa	religious_institution	mosque	N/A	2024-05-03
Moaz bin Jabal Mosque	religious_institution	mosque	2023-11-07	N/A

Name	Category	Type	Damage Date	Destruction Date
Unnamed Mosque_Gaza_City2	religious_institution	mosque	2023-10-15	N/A
Martyr Imad Akl Mosque_Jabalia	religious_institution	mosque	2023-11-07	2024-07-06
Martyr Imad Akl Mosque	religious_institution	mosque	2024-01-07	N/A
Khaled Ibn Al-Walid Mosque_Deir al-Balah	religious_institution	mosque	2023-10-15	N/A
Mosque of Faith and Tawheed	religious_institution	mosque	2023-11-07	2024-07-06
Khaled Ibn Al-Walid Mosque_Al-Qarara	religious_institution	mosque	2024-01-07	2024-04-01
Khaled bin Al-Walid Mosque	religious_institution	mosque	N/A	2023-11-26
Jaffa Mosque	religious_institution	mosque	2024-01-07	N/A
Sayyid Qutb Mosque	religious_institution	mosque	2024-02-29	N/A
Othman Ibn Affan Mosque	religious_institution	mosque	N/A	2024-01-07
Mosque of Faith and Guidance	religious_institution	mosque	2023-10-15	N/A
Abu Bakr Al-Siddiq Absan Mosque	religious_institution	mosque	2024-02-29	N/A
El Rahman Mosque	religious_institution	mosque	2023-11-07	N/A
Martyr Abdullah Azzam Mosque	religious_institution	mosque	N/A	2023-11-26
Al-Firdaws Al-Ala Mosque	religious_institution	mosque	N/A	2023-10-15

Name	Category	Type	Damage Date	Destruction Date
Dome Mosque	religious_institution	mosque	2024-01-07	N/A
Ibrahim Khalil Rahman Mosque	religious_institution	mosque	N/A	2024-02-29
Al-Jihad Mosque	religious_institution	mosque	N/A	2024-01-07
Hattin Mosque	religious_institution	mosque	2023-11-26	2024-04-01
Al Rahman Mosque	religious_institution	mosque	N/A	2023-10-15
Al-Musawara Mosque	religious_institution	mosque	2024-07-06	N/A
Al-Khaldi Mosque	religious_institution	mosque	N/A	2024-02-29
Ad-Dhilal Mosque	religious_institution	mosque	2024-01-07	2024-02-29
Hassan Al-Banna Mosque	religious_institution	mosque	2024-02-29	2024-05-03
Umm Tawfiq Mosque	religious_institution	mosque	N/A	2024-01-07
Al-Numan bin Muqrin	religious_institution	mosque	2023-10-15	N/A
Hassan Al-Banna Mosque_Nuseirat	religious_institution	mosque	2023-11-07	2024-05-03
Hassan Al-Banna Mosque_Gaza City	religious_institution	mosque	2024-02-29	N/A
fEbad al-Rahman Mosque	religious_institution	mosque	2023-11-26	N/A
Moroccan Mosque	religious_institution	mosque	2024-01-07	N/A
Grand Beach Mosque	religious_institution	mosque	2023-10-15	N/A
Fisherman's Mosque	religious_institution	mosque	N/A	2023-11-26
New Al Noor Mosque	religious_institution	mosque	2024-01-07	N/A
Bilal Mosque	religious_institution	mosque	2024-02-29	N/A
Anas Abd Rabbo Mosque	religious_institution	mosque	2023-11-07	N/A
Al Fawz Mosque	religious_institution	mosque	2023-11-07	N/A
Bilal Mosque_Gaza City	religious_institution	mosque	2023-11-07	N/A
Bilal bin Rabah Mosque	religious_institution	mosque	2023-11-07	2024-01-07
Al Albany Mosque	religious_institution	mosque	2023-11-26	N/A
Al-Ajami Mosque	religious_institution	mosque	2023-11-07	2024-02-29
Al-Nour Nuseirat Mosque	religious_institution	mosque	2024-01-07	2024-02-29
Musab bin Amir mosque	religious_institution	mosque	2023-11-26	N/A
Dr. Mosque Hassan Hamad	religious_institution	mosque	2024-02-29	N/A
Abdullah Al-Abadla Mosque	religious_institution	mosque	2024-04-01	2024-07-06
Al-Ihsan Mosque in Nuseirat	religious_institution	mosque	2023-11-07	N/A
Imam Al-Shafi'i Mosque	religious_institution	mosque	2024-07-06	N/A
Hajj Subhi Al Shawa Mosque	religious_institution	mosque	N/A	2023-11-07
Ammar bin Yasser Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Zakrin Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Safa and Al-Marwa Mosque	religious_institution	mosque	2023-11-07	N/A
White mosque	religious_institution	mosque	2024-01-07	2024-02-29
Aliyin Mosque	religious_institution	mosque	2023-11-26	N/A
Imam Abu Hanifa Al-Nomani Mosque	religious_institution	mosque	2024-01-07	2024-07-06
Al-Tawbah Mosque	religious_institution	mosque	2023-10-15	N/A

Name	Category	Type	Damage Date	Destruction Date
Al-Nasr Mosque	religious_institution	mosque	2023-11-07	N/A
Tawbah Mosque Tawbah Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Habib Muhammad Mosque	religious_institution	mosque	2024-04-01	N/A
Unnamed mosque_Jabalia	religious_institution	mosque	N/A	2023-11-07
Al-Albani Mosque	religious_institution	mosque	N/A	2024-07-06
Al-Tawbah Mosque_Abasan	religious_institution	mosque	2024-02-29	N/A
Sheikh Khaled Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Taqwa Mosque_Bureij	religious_institution	mosque	N/A	2023-11-07
Al-Taqwa Mosque	religious_institution	mosque	N/A	2024-02-29
Northern Mosque	religious_institution	mosque	N/A	2023-10-15
Al-Shafi'i Mosque_Rafah	religious_institution	mosque	N/A	2024-07-06
Abbas Mosque	religious_institution	mosque	2024-01-07	N/A
Altakwa Mosque	religious_institution	mosque	2023-11-26	N/A
Al-Abrar Mosque	religious_institution	mosque	N/A	2024-01-07
Sheikh Radwan Martyrs Mosque	religious_institution	mosque	2024-01-07	N/A
Abu Hanifa Mosque	religious_institution	mosque	2024-07-06	N/A
Al-Sabreen Mosque_Shuka	religious_institution	mosque	2024-07-06	N/A
Al-Sabreen Mosque	religious_institution	mosque	2023-11-07	2024-04-01
Al-Ridwan Mosque_Gaza City	religious_institution	mosque	2023-10-15	2024-02-29
Al-Ridwan Mosque	religious_institution	mosque	2023-11-26	N/A
Imam Ali mosque/ Al-Ajarma Street	religious_institution	mosque	N/A	2023-10-15
Al-Ihsan Mosque	religious_institution	mosque	2024-07-06	N/A
Al Imran Mosque	religious_institution	mosque	2023-10-15	2023-11-07
Al Safa Mosque	religious_institution	mosque	2024-01-07	N/A
Jabalia Martyrs Mosque	religious_institution	mosque	2024-07-06	N/A
Al-Rahman Mosque_Beit Hanoun	religious_institution	mosque	2023-11-26	N/A
Anwar Aziz Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Bashir Mosque	religious_institution	mosque	N/A	2024-04-01
Saffron	religious_institution	mosque	N/A	2024-01-07
Al-Rahman Mosque_Gaza City	religious_institution	mosque	2024-01-07	N/A
Bilal bin Rabah-Al-Saqqa	religious_institution	mosque	N/A	2024-07-06
Abu Al-Khair Mosque	religious_institution	mosque	N/A	2023-11-26
Old Balad Mosque	religious_institution	mosque	2023-10-15	N/A
Al Shorta Mosque	religious_institution	mosque	N/A	2024-01-07
Al Rajhi Mosque	religious_institution	mosque	2024-01-07	N/A
Imam Abu Hanifa Al-Numan Mosque	religious_institution	mosque	2023-10-15	N/A
Al-Rahma Mosque_Mugharqa	religious_institution	mosque	N/A	2024-01-07
Al-Rahma Mosque_Khan younis	religious_institution	mosque	2024-02-29	N/A
Great Mosque Castle	religious_institution	mosque	N/A	2024-02-29

Name	Category	Type	Damage Date	Destruction Date
Fayyad Ibrahim Fayyad	religious_institution	mosque	N/A	2024-01-07
Said Bin Aby Waqas Mosque	religious_institution	mosque	2024-01-07	N/A
Indian Mosque	religious_institution	mosque	2024-01-07	N/A
Muhammadi mosque	religious_institution	mosque	2023-11-07	N/A
Al Dawa Mosque	religious_institution	mosque	2024-01-07	2024-02-29
Rabat Mosque	religious_institution	mosque	N/A	2023-11-07
Al-Rahma Mosque	religious_institution	mosque	2023-11-07	2023-11-26
Al-Rahma Mosque_Jabalia	religious_institution	mosque	N/A	2024-07-06
Al-Mustafa Mosque_Gaza City	religious_institution	mosque	2023-11-26	N/A
Al-Mustafa Mosque_Nuseirat	religious_institution	mosque	N/A	2023-11-07
Al-Istiqama Mosque_Maghazi	religious_institution	mosque	N/A	2024-02-29
Martyr Abdul Aziz Al-Ashqar Mosque	religious_institution	mosque	2024-01-07	2024-07-06
Al-Ghufran Mosque	religious_institution	mosque	2023-11-07	2023-11-26
Yahya Ayyash Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Istiqama Mosque_Beit Hanoun	religious_institution	mosque	2023-10-15	2023-11-26
Abu Dhar Al-Ghafari Mosque	religious_institution	mosque	N/A	2024-01-07
Al-Isra Mosque_Gaza City	religious_institution	mosque	N/A	2023-11-26
Masjid at Tawheed	religious_institution	mosque	2023-11-26	2024-02-29
Mahatta mosque	religious_institution	mosque	N/A	2024-01-07
Al-Iman Mosque_Mugharqa	religious_institution	mosque	2024-01-07	N/A
Al-Iman Mosque_Qarara	religious_institution	mosque	2024-02-29	2024-04-01
Fatima Al-Zahra Mosque	religious_institution	mosque	2023-11-26	2024-04-01
Al Rayyan Mosque	religious_institution	mosque	2023-11-07	N/A
Olive Martyrs Mosque	religious_institution	mosque	2023-11-26	N/A
Aman Mosque	religious_institution	mosque	2023-11-26	N/A
Salam Mosque	religious_institution	mosque	2023-11-07	N/A
Jerusalem Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Ikhlas Mosque_Nuseirat	religious_institution	mosque	2024-05-03	N/A
Al-Zawiya Mosque	religious_institution	mosque	2023-11-26	N/A
Al-Ikhlas Mosque_Wadi	religious_institution	mosque	2024-05-03	N/A
Al-Salaf Al-Salih Mosque	religious_institution	mosque	2024-02-29	N/A
Hamza bin Abdul Muttalib Mosque	religious_institution	mosque	2023-11-07	N/A
Al-Mu'tasim Billah Mosque	religious_institution	mosque	2024-02-29	N/A
Ibn al-Qayyim Mosque	religious_institution	mosque	2024-01-07	N/A
Khalil Rahman Mosque	religious_institution	mosque	2024-02-29	N/A
Al-Huda Mosque_Khan Younis	religious_institution	mosque	N/A	2024-01-07
Abu Ayoub Al Ansari Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Fakhari Mosque	religious_institution	mosque	2023-11-07	N/A
Al-Huda Mosque_Qarara	religious_institution	mosque	2024-04-01	N/A

Name	Category	Type	Damage Date	Destruction Date
Halima Mosque	religious_institution	mosque	N/A	2024-01-07
Al-Huda Chapel_Mugharqa	religious_institution	mosque	2024-02-29	N/A
Salah Chapel	religious_institution	mosque	2023-11-26	N/A
Al-Khulafa Al-Rashidun Mosque	religious_institution	mosque	2024-01-07	N/A
Al-Huda Chapel_Gaza City	religious_institution	mosque	2023-11-07	N/A
Sidra Mosque	religious_institution	mosque	2024-01-07	N/A
Abdullah Azzam Mosque	religious_institution	mosque	2024-01-07	2024-04-01
Al-Saqqa Mosque	religious_institution	mosque	N/A	2024-02-29
Al-Hidaya Mosque_Gaza City	religious_institution	mosque	N/A	2023-11-07
Al-Hidaya Mosque_Beit Hanoun	religious_institution	mosque	2023-10-15	N/A
Sheikh Shaaban Mosque	religious_institution	mosque	2023-11-26	2024-01-07
Dhi Al-Nourin Mosque	religious_institution	mosque	N/A	2024-01-07
Martyr Mosque / Dr. Ibrahim Al-Maqadmeh	religious_institution	mosque	N/A	2024-01-07
Al-Furqan Mosque_Beit Lahia	religious_institution	mosque	2024-01-07	2024-04-01
Islam Mosque	religious_institution	mosque	N/A	2024-01-07
Al-Furqan Mosque	religious_institution	mosque	N/A	2023-11-07
Al-Siddiqin Mosque	religious_institution	mosque	N/A	2024-02-29
Sheikh Mustafa Al Akkad Mosque	religious_institution	mosque	N/A	2024-01-07
Dar Al Salam Mosque	religious_institution	mosque	2023-11-26	N/A
Dhul-Nourin Mosque	religious_institution	mosque	N/A	2024-01-07
Kondisi Masjid Istiqlal Indonesia	religious_institution	mosque	2024-01-07	2024-02-29
Abdullah bin Rawaha Mosque	religious_institution	mosque	N/A	2024-07-06
Al-Fath Al-Mubin Mosque_Om al-Nasr	religious_institution	mosque	N/A	2023-11-07
Al-Bushra Mosque_Jabalia	religious_institution	mosque	2024-02-29	N/A
Al-Bushra Mosque	religious_institution	mosque	2023-10-15	2024-02-29
Al-Mu'tasim Kindergarten	religious_institution	mosque	N/A	2024-01-07
Sheikh Zakaria Mosque	religious_institution	mosque	2023-10-15	N/A
Al-Ansar Mosque_Bani Suhaila	religious_institution	mosque	2024-02-29	N/A
Al-Istiqama Mosque - Al-Maghazi	religious_institution	mosque	N/A	2024-02-29
Saffron Mosque	religious_institution	mosque	N/A	2024-01-07
Al-Sitt Ruqaya Mosque	religious_institution	mosque	N/A	2024-01-07
Al-Sheikh Sha'ban Mosque	religious_institution	mosque	2023-11-26	N/A
Borno Mosque	religious_institution	mosque	2023-11-26	2024-02-29
Al-Tawabin Mosque	religious_institution	mosque	2023-11-26	N/A
Al-Ansar Mosque	religious_institution	mosque	2024-07-06	N/A
Al Salam Mosque (Zawiya)	religious_institution	mosque	2023-10-15	2023-11-07
Othman bin Affan Mosque	religious_institution	mosque	2024-01-07	2024-04-01
Riyad Al-Salehin Mosque	religious_institution	mosque	2024-02-29	N/A
Al-Fadhila Mosque	religious_institution	mosque	2024-07-06	N/A

Name	Category	Type	Damage Date	Destruction Date
Al Noor Mosque_Jabalia	religious_institution	mosque	2024-01-07	N/A
Martyrs Mosque in Al-Nasr neighborhood	religious_institution	mosque	2023-11-07	N/A
Al Noor Mosque_Khan Younis	religious_institution	mosque	2024-01-07	2024-04-01
Anas bin Malik Mosque	religious_institution	mosque	N/A	2024-01-07
Zaid bin Haritha Mosque	religious_institution	mosque	2024-04-01	N/A
Martyrs Mosque of the Islamic Complex	religious_institution	mosque	2023-11-26	N/A
Martyrs Mosque	religious_institution	mosque	2024-01-07	N/A
Al Salam Mosque (Al Hamada)	religious_institution	mosque	2024-01-07	N/A
Martyr Mahmoud Al-Khawaja Mosque	religious_institution	mosque	N/A	2024-07-06
Al Yarmouk Mosque	religious_institution	mosque	2023-10-15	N/A
Al Min Mohammed Mosque	religious_institution	mosque	2023-11-26	N/A
Katib Wilayat Mosque	religious_institution	mosque	2023-11-07	N/A
Al Farouk Mosque_Abasan	religious_institution	mosque	N/A	2024-01-07
Blessing	religious_institution	mosque	2023-10-15	N/A
Abdullah bin Omar Mosque - Al-Sousi	religious_institution	mosque	N/A	2023-10-15
Al Farouk Mosque_Beit Lahia	religious_institution	mosque	2023-11-07	N/A
Al Farouk Mosque	religious_institution	mosque	2023-11-26	N/A
Al Falah Mosque_Rafah	religious_institution	mosque	2024-07-06	N/A
Al Falah Mosque_Maghazi	religious_institution	mosque	2024-01-07	2024-02-29
Al Awda Mosque_Beit Hanoun	religious_institution	mosque	2023-10-15	2023-11-26
Imam Muhammad Nasir al-Din al-Albani Mosque	religious_institution	mosque	2024-02-29	N/A
Martyr Mahmoud Abu Hain Mosque	religious_institution	mosque	N/A	2023-11-07
Al Awda Mosque_Jabalia	religious_institution	mosque	2024-01-07	2024-07-06
Abu Ubaida Mosque_Bani Suhaila	religious_institution	mosque	N/A	2024-01-07
Al Gharbi Mosque	religious_institution	mosque	N/A	2023-10-15
Abu Samra Mosque	religious_institution	mosque	2023-11-07	2024-01-07
Al Aidoun Mosque	religious_institution	mosque	2023-10-15	N/A
Ahmed Yassin Mosque	religious_institution	mosque	N/A	2023-10-15
Abu Obaida Aljarh Mosque	religious_institution	mosque	N/A	2024-07-06
Qalibo Mosque	religious_institution	mosque	2023-11-07	N/A
Abu Ubaida Mosque	religious_institution	mosque	2024-01-07	2024-02-29
Saladin Mosque	religious_institution	mosque	N/A	2024-07-06
Alfarouq Mosque	religious_institution	mosque	2024-02-29	N/A
Abu Ubaida bin Al-Jarrah Mosque_Rafah	religious_institution	mosque	N/A	2024-07-06
Abu Ubaida bin Al-Jarrah Mosque_Bani Suhaila	religious_institution	mosque	2024-01-07	2024-02-29
Sheikh Ahmed Yassin Mosque	religious_institution	mosque	2024-01-07	N/A
Abu Ubaida bin Al-Jarrah Mosque	religious_institution	mosque	2024-05-03	N/A
Imam Bukhari Mosque	religious_institution	mosque	N/A	2024-07-06
Al-Bukhari Mosque	religious_institution	mosque	2024-04-01	N/A

Name	Category	Type	Damage Date	Destruction Date
Al Salam Mosque	religious_institution	mosque	N/A	2023-11-07
Al-Amin Muhammad Mosque	religious_institution	mosque	2023-10-15	2024-02-29

Table 6.5. Table of damaged and destroyed religious institutions.

1.14 Table of damaged and destroyed government buildings

Name	Category	Type	Damage Date	Destruction Date
Khan Yunis Municipality	government	city_hall	2024-01-07	N/A
Palestinian Legislative Council	government	city_hall	N/A	2023-11-26
Municipality of Jabalia-Nazla	government	city_hall	2023-11-07	2023-02-29
Supreme Court House	government	courthouse	N/A	2023-11-26
Khan Yunis Court	government	courthouse	N/A	2024-02-29
Rafah Court	government	courthouse	2024-01-07	N/A
Gaza Sharia Court	government	courthouse	2023-11-07	N/A
Rafah Courts Complex	government	courthouse	2024-07-06	N/A
Palace of Justice Complex, Gaza	government	courthouse	N/A	2024-01-07
Supreme Sharia Judicial Council	government	courthouse	N/A	2023-11-26
Municipality of Zawaida	government	local_government_office	N/A	2023-11-07
Gaza Center Bar Association	government	local_government_office	2023-10-15	N/A
Voice of Youth Radio	government	local_government_office	2023-11-26	N/A
Rafah Municipality	government	local_government_office	2024-07-06	N/A
Technology And Communications Ministry	government	local_government_office	N/A	2023-11-26
Abdul Salam Yaseen Company Abdul Salam Yaseen Company	government	local_government_office	2023-11-07	N/A
Khan Yunis transportation license	government	local_government_office	2024-01-07	N/A
Labor Office, North Branch	government	local_government_office	N/A	2024-02-29
Passenger registration hall	government	local_government_office	N/A	2023-10-15
Al-Huthaifi Law Office	government	local_government_office	2023-11-07	2024-02-29
External passenger reception hall	government	local_government_office	N/A	2024-07-06
Khan Younis Court	government	local_government_office, courthouse	N/A	2024-02-29
Al Qarara Police Station	government	police	N/A	2024-01-07
Al Abbas Police Station	government	police	2023-10-15	N/A
Khan Yunis Police Station	government	police	N/A	2023-11-07
Rimal Center (Al Abbas)	government	police	2023-10-15	N/A
Jawazac- Palestinian police headquarters	government	police	2023-10-15	N/A
Sheikh Radwan Police Station	government	police	N/A	2024-02-29

Name	Category	Type	Damage Date	Destruction Date
Palestinian Police Station (Rafah City)	government	police	2023-11-07	N/A
Al-Sharqiya and Al-Qarara Police Station	government	police	N/A	2024-05-03
Sharqia Police Station	government	police	2023-10-15	N/A
Khan Yunis Post Office	government	post_office	N/A	2024-01-07
Rafah Post Office	government	post_office	2023-10-15	N/A
Nuseirat Post Office	government	post_office	N/A	2024-01-07
Jabalia Post Office	government	post_office	2024-07-06	N/A
General Administration of Palestinian Post	government	post_office	2024-01-07	N/A
Bani Suhaila Post Office	government	post_office	N/A	2024-01-07
Omer el-Mokhtar Post Office	government	post_office	N/A	2023-11-26

Table 6.6. Table of damaged and destroyed government buildings.

1.15 Table of damaged and destroyed cultural heritage

Name	Category	Type	Damage Date	Destruction Date
Anthedon Harbour	cultural_heritage	cultural_heritage	N/A	2023-11-26
Ibn Othman Mosque	cultural_heritage	cultural_heritage	N/A	2023-11-07
Rashad Ash-Shawwa Cultural Centre	cultural_heritage	cultural_heritage	2023-11-07	N/A
The Great Omari Mosque	cultural_heritage	cultural_heritage	N/A	2024-01-07
Dar AsSa'ada dome and Manuscript Center	cultural_heritage	cultural_heritage	N/A	2024-01-07
Pasha Palace	cultural_heritage	cultural_heritage	N/A	2024-01-07
Zofor Domri Mosque	cultural_heritage	cultural_heritage	2024-01-07	N/A
AsSaqqa Palace	cultural_heritage	cultural_heritage	2024-01-07	N/A
Subat Al Alami	cultural_heritage	cultural_heritage	2024-01-07	N/A
Al-Qissariya Market	cultural_heritage	cultural_heritage	N/A	2024-01-07
The Commonwealth Gaza War Cemetery	cultural_heritage	cultural_heritage	2023-10-15	N/A
Hamam AsSamra	cultural_heritage	cultural_heritage	N/A	2024-01-07
Khader Tarazi House	cultural_heritage	cultural_heritage	N/A	2023-11-07
Storage facility at the Ministry of Tourism and Antiquities	cultural_heritage	cultural_heritage	2023-11-07	N/A
The Roman cemetery	cultural_heritage	cultural_heritage	N/A	2023-11-26
Al-Ghussein House/Goethe Institute	cultural_heritage	cultural_heritage	2023-10-15	2023-11-07
The Saint Porphyrios Orthodox Church Complex	cultural_heritage	cultural_heritage	N/A	2024-01-07
Sabil ArRifaiya (ArRifaiya Fountain)	cultural_heritage	cultural_heritage	N/A	2024-01-07
HatHat House	cultural_heritage	cultural_heritage	N/A	2023-11-26
Ali Ibn Marwan Mosque	cultural_heritage	cultural_heritage	2023-10-15	2023-11-07
Shaikh Zakaria Mosque	cultural_heritage	cultural_heritage	N/A	2024-01-07
Al-Mahkama Mosque Minaret	cultural_heritage	cultural_heritage	N/A	2024-01-07
Al-Mughrabi Mosque	cultural_heritage	cultural_heritage	N/A	2023-11-07
Sett Ruqayya Mosque	cultural_heritage	cultural_heritage	2024-01-07	2024-07-06
The Unknown Soldier Memorial	cultural_heritage	cultural_heritage	N/A	2024-02-29
Gaza Municipality building of Omar Al-Mukhtar Street	cultural_heritage	cultural_heritage	N/A	2024-01-07
An-Nassr Cinema	cultural_heritage	cultural_heritage	2024-01-07	N/A
As-Samer Cinema	cultural_heritage	cultural_heritage	2023-11-26	2024-02-29

Name	Category	Type	Damage Date	Destruction Date
Tell el-Ajjul	cultural_heritage	cultural_heritage	N/A	2024-05-03
Ali Ibn Marwan Shrine	cultural_heritage	cultural_heritage	2023-11-07	N/A
Kateb Wilaya Mosque	cultural_heritage	cultural_heritage	N/A	2024-01-07
Tell Essakan	cultural_heritage	cultural_heritage	N/A	2024-04-01

Name	Category	Type	Damage Date	Destruction Date
Ali Abu Al-Kass Shrine	cultural_heritage	cultural_heritage	N/A	2024-01-07

Table 6.7. Table of damaged and destroyed cultural heritage.

1.16 Street network damage

196 Street damage on 15 October 2023, north of Wadi Gaza: 22.5% of the street network damaged.

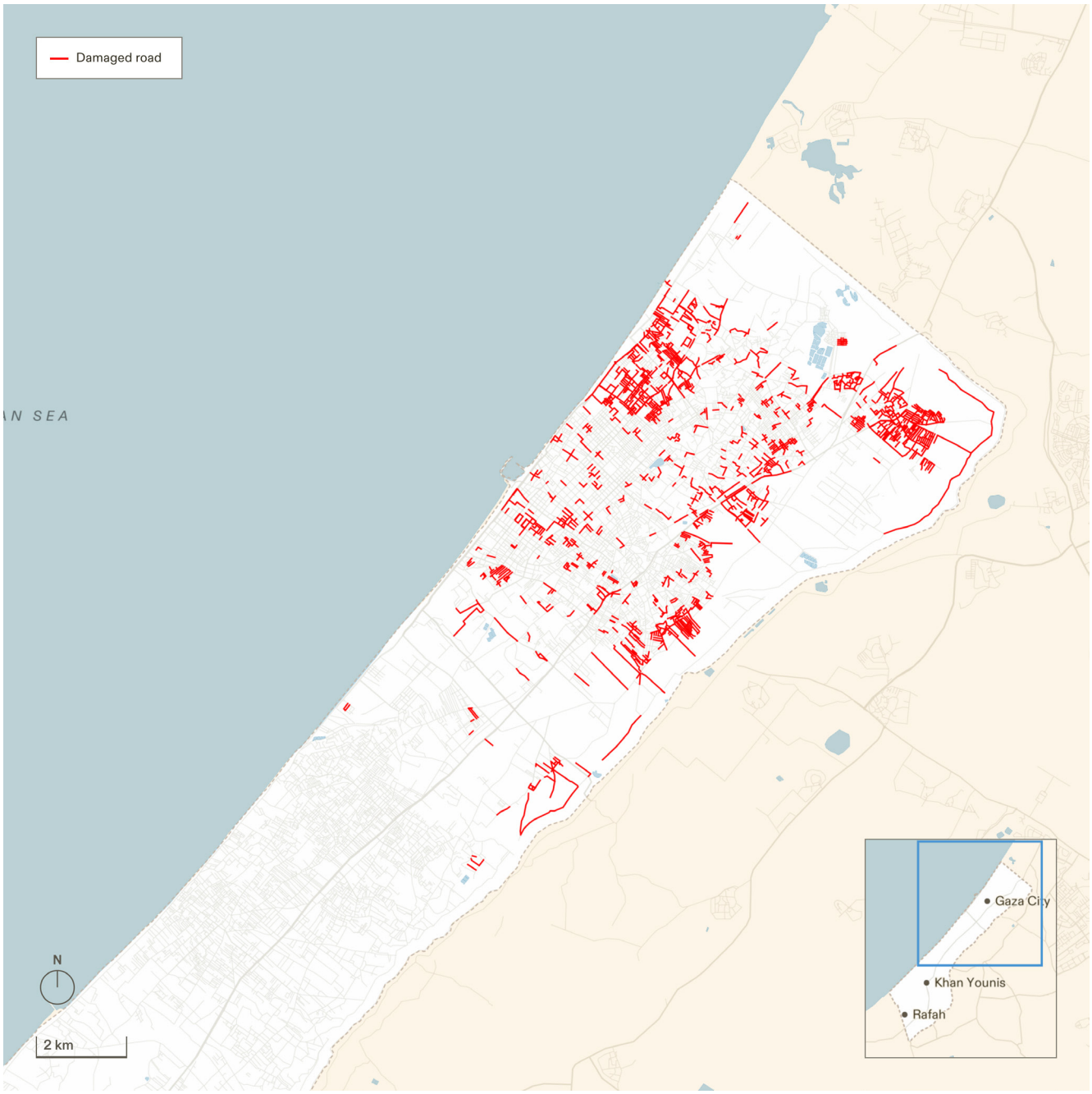

Figure 6.150. Street damage on 15 October 2023, north of Wadi Gaza: 22.5% of the street network damaged.

197 Street damage on 7 November 2023, north of Wadi Gaza: 47.3% of the street network damaged.

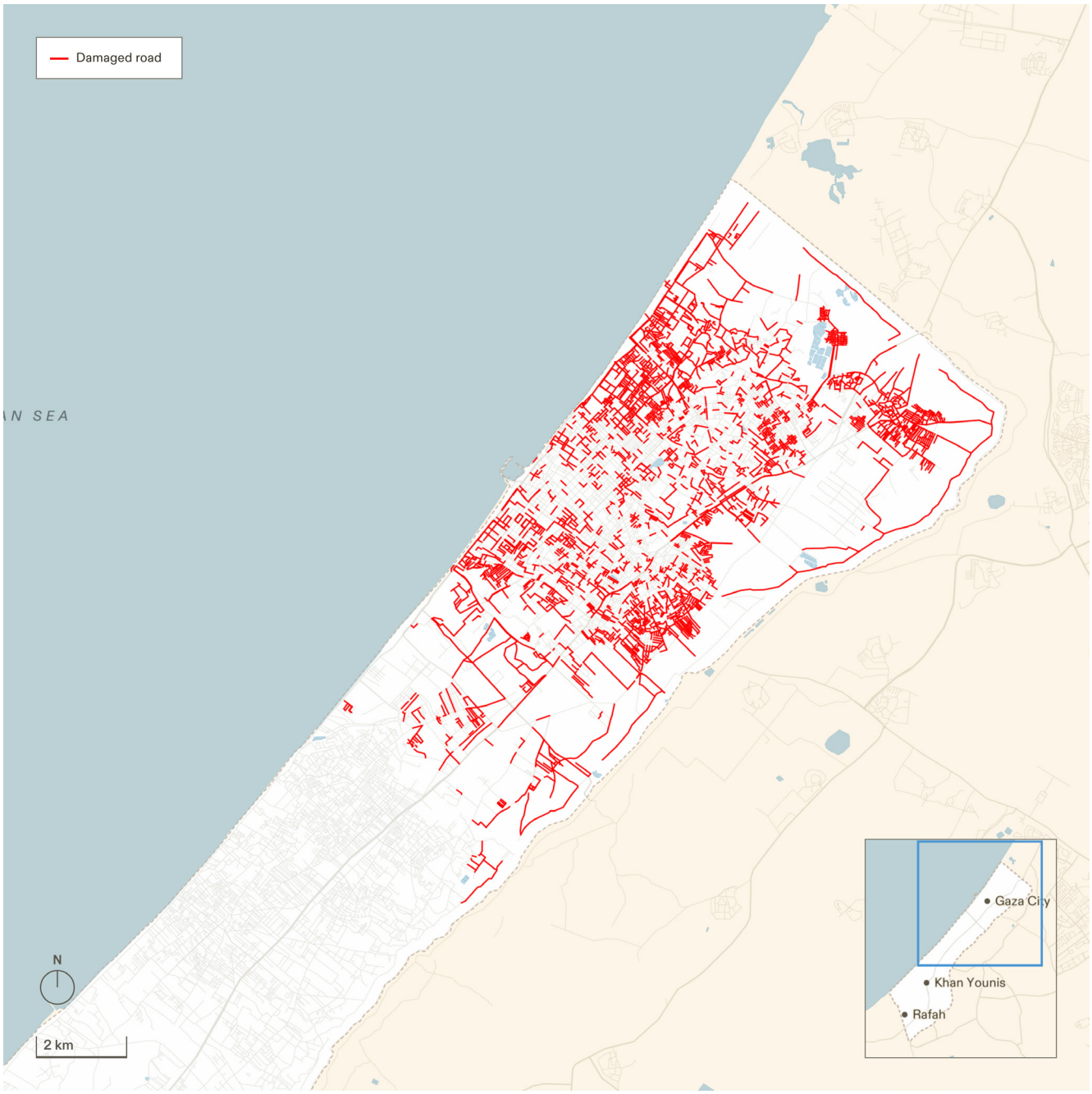

Figure 6.151. Street damage on 7 November 2023, north of Wadi Gaza: 47.3%of the street network damaged.

198 Street damage on 15 October 2023, south of Wadi Gaza: 7.7% of the street network is damaged.

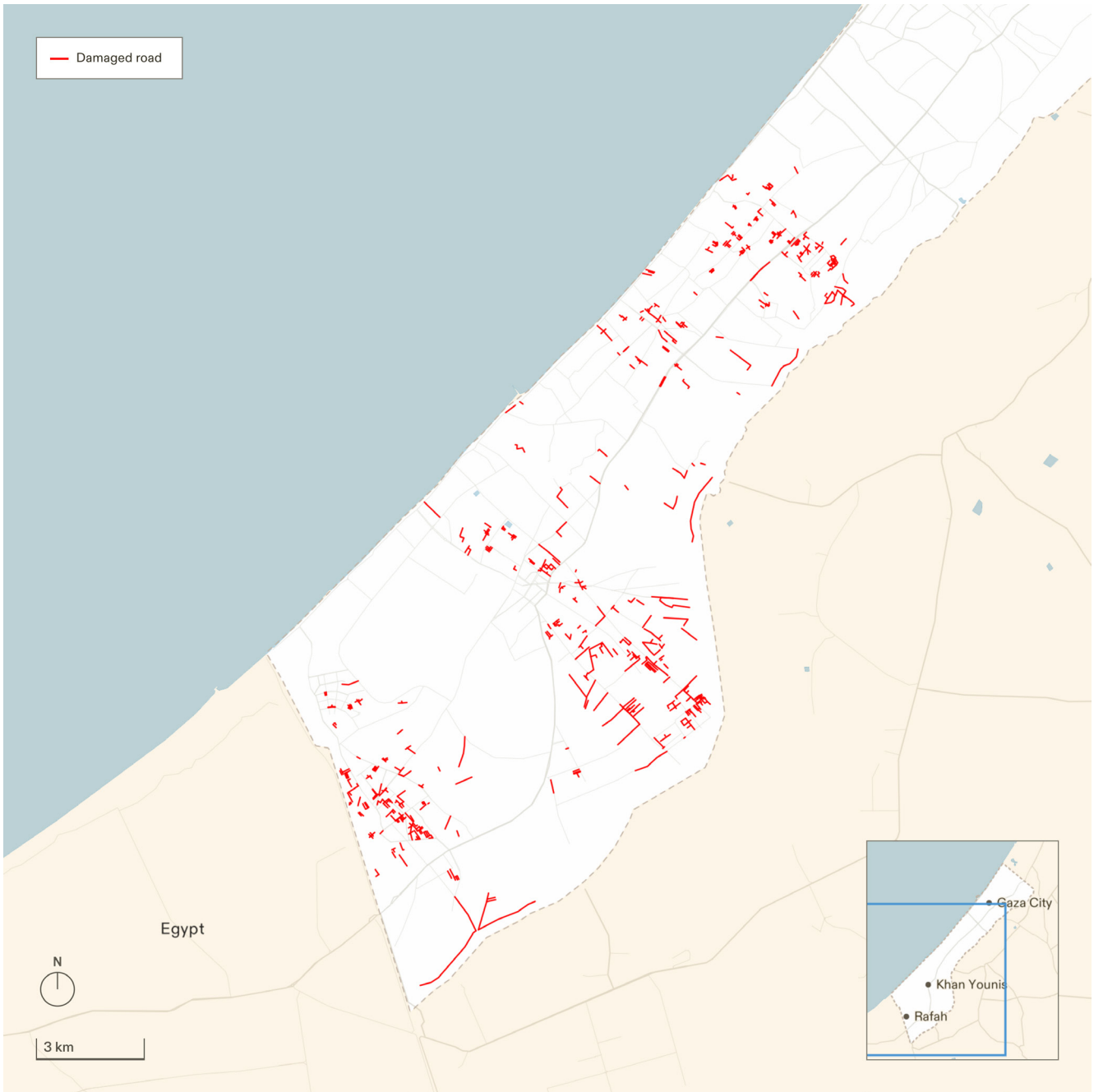

Figure 6.152. Street damage on 15 October 2023, south of Wadi Gaza: 7.7% of the street network is damaged.

199 Street damage on 7 November 2023, south of Wadi Gaza: 15.9% of the street network is damaged.

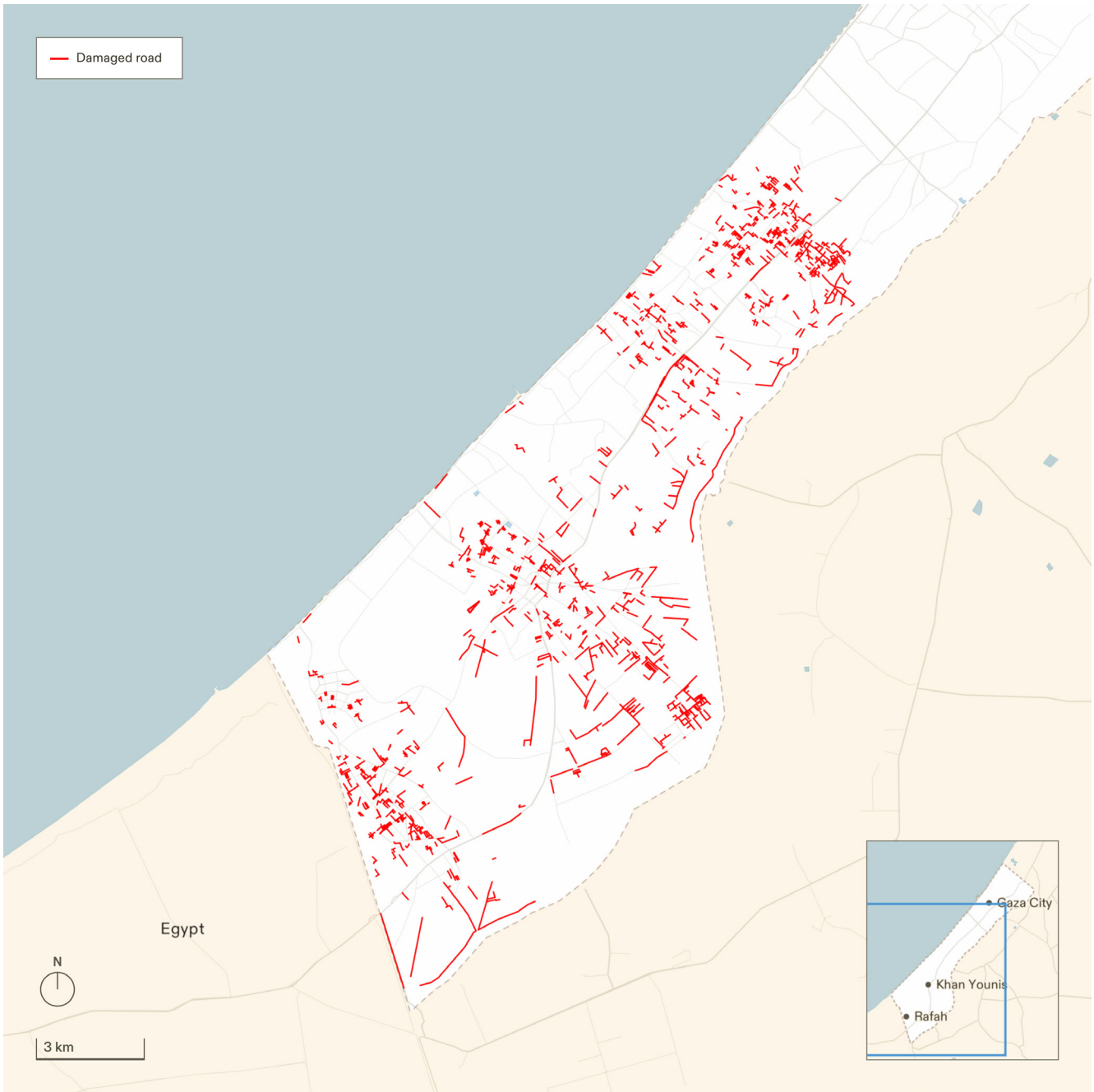

Figure 6.153. Street damage on 7 November 2023, south of Wadi Gaza. 15.9% of the street network is damaged

200 Street damage on 7 January 2024, south of Wadi Gaza: 33.7% of street network damaged.

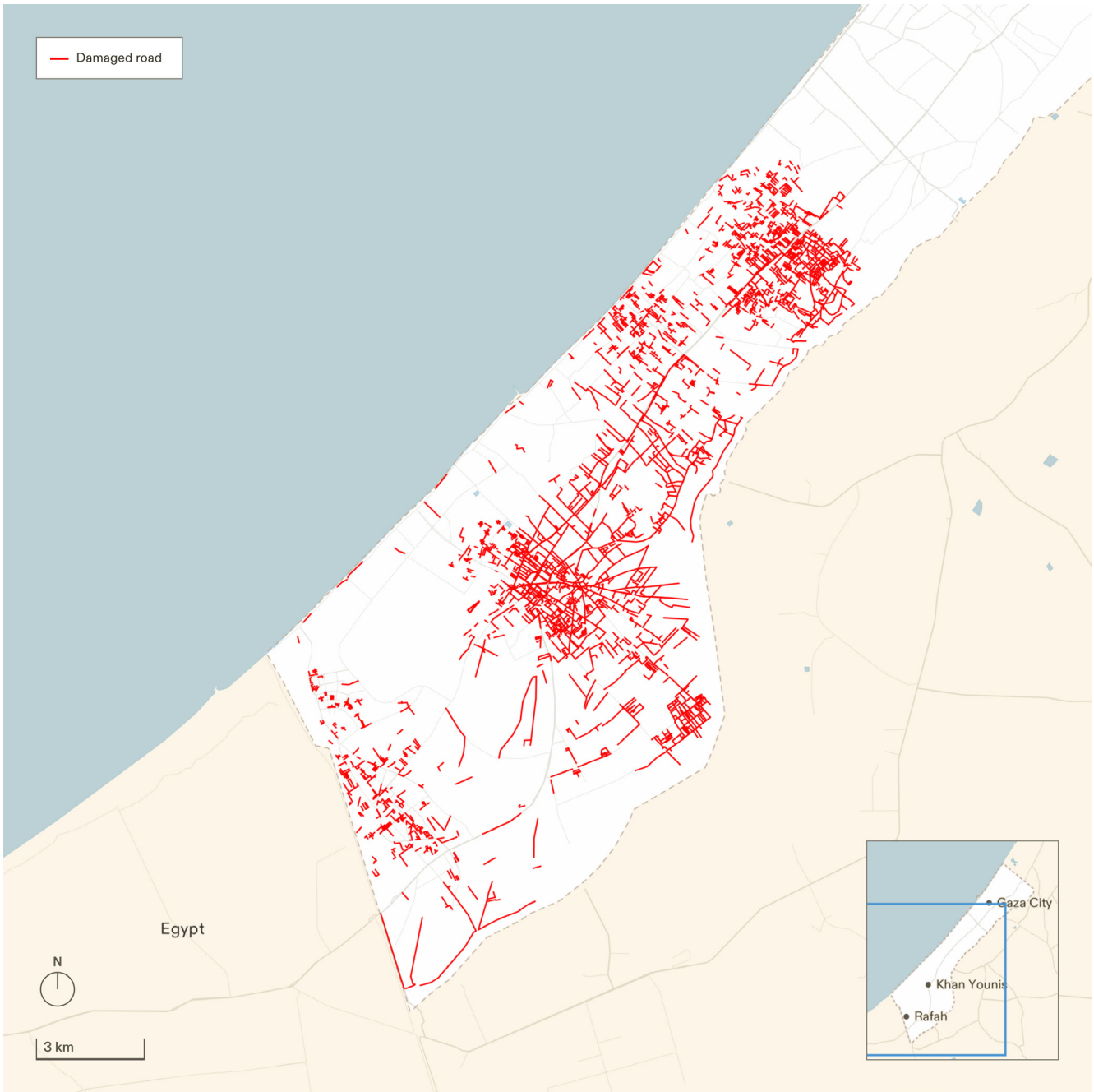

Figure 6.154. Street damage on 7 January 2024, south of Wadi Gaza: 33.7% of street network damaged.

1.17 Incident IDs

ID	Date	Latitude	Longitude	Sources	Geolocation by
40903-59006	2024-09-03	31.282948	34.249763	https://x.com/ytirawi/status/1830728825933824378	OSINT
31010-53523	2023-10-10	31.248635	34.257464	https://x.com/idfonline/status/1711721465194680554	OSINT
31016-68401	2023-10-16	31.247812	34.257233	https://x.com/Sinaifhr/status/1713964959942557781	OSINT
31014-97213	2023-10-14	31.2481874	34.2571561	https://x.com/Osinttechnical/status/1713107080712782170	OSINT
40507-82991	2024-05-07	31.24834	34.259821	https://x.com/kann_news/status/1787736946090844621	OSINT
40617-85007	2024-06-17	31.248138	34.259796	https://x.com/ytirawi/status/1802483120601485529	OSINT
40619-24142	2024-06-19	31.247893	34.259805	https://x.com/Doron_Kadosh/status/1803233819861455149	OSINT
40612-92910	2024-06-12	31.247961	34.260265	https://x.com/ytirawi/status/1800841913349894346	OSINT
40212-67287	2024-02-12	31.282948	34.249763	https://x.com/Hind_Gaza/status/1756869279385788851	OSINT
40114-78720	2024-01-14	31.481689	34.408695	https://x.com/ytirawi/status/1776047020811141402	OSINT
31204-19472	2023-12-04	31.478454	34.411254	https://x.com/no_itsmyturn/status/1731671802705826208	OSINT
40507-91680	2024-05-07	31.279272	34.253391	https://x.com/AlQastalps/status/1787927921077674323	OSINT
40807-70569	2024-08-07	31.279272	34.253391	https://t.me/amitsegal/36987	OSINT
40822-95472	2024-08-22	31.279272	34.253391	https://www.facebook.com/murafah/videos/8310824809004769/	OSINT
31114-74766	2023-11-14	31.348311	34.302747	https://x.com/zl_at47051/status/1724544847640478023	OSINT
31115-47485	2023-11-15	31.348311	34.302747	https://x.com/PalpostN/status/1724727510615609692	OSINT
40224-39086	2024-02-24	31.348311	34.302747	https://x.com/ytirawi/status/1775998678521495867	OSINT
40604-83642	2024-06-04	31.499181	34.436693	https://x.com/RamAbdu/status/1797953926857392305	OSINT
40612-28497	2024-06-12	31.497919	34.43566	https://www.facebook.com/KuffiyaT/videos/a-video-shows-the-hellish-destruction-in-the-vicinity-of-gazas-university-college/794363219491342/	OSINT
40803-09322	2024-08-03	31.497919	34.43566	https://x.com/QudsNen/status/1819674320391553125	OSINT
31009-21939	2023-10-09	31.246861	34.255275	https://x.com/m_osint/status/1711428379675631764	OSINT
31010-25053	2023-10-10	31.248342	34.259032	https://airwars.org/civilian-casualties/ispt0086-october-10-2023/	Airwars
31010-42259	2023-10-10	31.25148	34.262103	https://x.com/EjShahid/status/1711752140039807293	OSINT
31014-47375	2023-10-14	31.40916587	34.35055316	https://airwars.org/civilian-casualties/ispt0241a-october-14-2023/	FA
31014-26312	2023-10-14	31.42494	34.377314	https://airwars.org/civilian-casualties/ispt0200-october-14-2023/	FA

ID	Date	Latitude	Longitude	Sources	Geolocation by
31015-79917	2023-10-15	31.28726009	34.24817087	https://airwars.org/civilian-casualties/ispt0227-october-15-2023/	FA
31015-60690	2023-10-15	31.450065	34.392934	https://airwars.org/civilian-casualties/ispt0239b-october-15-2023/	Airwars
31016-74899	2023-10-16	31.450065	34.392934	https://airwars.org/civilian-casualties/ispt0248-october-16-2023/	Airwars
31016-40407	2023-10-16	31.333847	34.296719	https://www.facebook.com/elakkad.m/posts/pfbid0jRE3c9ZmWMpv6zKCtDb6zaBUfzZh6HnBFAEzjwYdJxP8WVWkGtvdNigWzhpdYc22l	Airwars
31016-53703	2023-10-16	31.310318	34.241843	https://t.me/GazaNewsNow/253842	Airwars
31016-52192	2023-10-16	31.437817	34.388418	https://www.facebook.com/Ppostps/posts/pfbid02mG2qxNSHrnQYhr4JmxFWXUBEMBjSXd1pWUFGAQbmhyY3kAgVV29WJVg2HMj5UWf6l	Airwars
31017-32111	2023-10-17	31.34548584	34.30043835	https://airwars.org/civilian-casualties/ispt0332e-october-17-2023/,https://t.me/ShehabTelegram/406438	FA
31017-73449	2023-10-17	31.408654	34.353214	https://airwars.org/civilian-casualties/ispt0285-october-17-2023/,https://t.me/ShehabTelegram/406206	Airwars
31017-96266	2023-10-17	31.288347	34.250999	https://airwars.org/civilian-casualties/ispt0290-october-17-2023/,https://t.me/ShehabTelegram/406129	FA
31017-91074	2023-10-17	31.3614983	34.2927371	https://airwars.org/civilian-casualties/ispt0283-october-17-2023/,https://t.me/AlarabyTelevision/28168 https://t.me/ShehabTelegram/406054. https://t.me/ShehabTelegram/406407	FA
31017-43747	2023-10-17	31.3606631	34.2911958	https://airwars.org/civilian-casualties/ispt0288-october-17-2023/,https://t.me/AlarabyTelevision/27926. https://t.me/AlarabyTelevision/28064	FA
31017-88184	2023-10-17	31.420319	34.370157	https://airwars.org/civilian-casualties/ispt0332c-october-17-2023/,https://t.me/AjaNews/214651	Airwars
31017-10271	2023-10-17	31.285973	34.253723	https://airwars.org/civilian-casualties/ispt0300-october-17-2023/,https://t.me/ShehabTelegram/406057	Airwars
31017-27422	2023-10-17	31.36190425	34.29440497	https://airwars.org/civilian-casualties/ispt0303-october-17-2023/,https://t.me/ShehabTelegram/406425	FA
31017-74600	2023-10-17	31.504682	34.461424	https://t.me/bethlehemnewss/32160	AlHaq

ID	Date	Latitude	Longitude	Sources	Geolocation by
31018-96453	2023-10-18	31.4081905	34.3522871	https://airwars.org/civilian-casualties/ispt0285-october-17-2023/	FA
31019-20073	2023-10-19	31.34317075	34.30256436	https://airwars.org/civilian-casualties/ispt0371-october-19-2023/	FA
31019-42173	2023-10-19	31.311076	34.238001	https://www.facebook.com/murafah/posts/pfbid0hzzu4F3VEfSXmgoBDV998M6fECxXSPtmAk3WEVXZtUMMbKMKWdWhTBd2JdZJr1jdl	Airwars
31020-77850	2023-10-20	31.536044	34.465346	https://airwars.org/civilian-casualties/ispt0415b-october-20-2023/	AlHaq
31020-87068	2023-10-20	31.450065	34.392934	https://airwars.org/civilian-casualties/ispt0415b-october-20-2023/	Airwars
31021-94605	2023-10-21	31.3497759	34.2956688	https://www.facebook.com/lama.j.abuhilal/posts/pfbid0FxX1qVhdMPtyhELuZePcBDEohBUFeccnPaJzaUqoxBq3Tqga3QmjGxYxCUzxJaTCl	FA
31021-43810	2023-10-21	31.449392	34.390762	https://airwars.org/civilian-casualties/ispt0434-october-21-2023/	Airwars
31022-14885	2023-10-22	31.418095	34.352234	https://airwars.org/civilian-casualties/ispt0449-october-22-2023/	Airwars
31017-69911	2023-10-17	31.248183	34.257206	https://x.com/hwtnv/status/1714869741104603432	FA
31121-49949	2023-11-21	31.478309	34.411304	https://x.com/restitutorII/status/1727092425485914510	FA

Table 6.8. Table of incidents cited in Section.

7. Targeting of Aid

1 In this chapter, we analyse incidents, and patterns of incidents, in which the Israeli military obstructed or attacked sites and systems for the provision and receipt of humanitarian aid, aid personnel, and civilians seeking aid.

A GLOSSARY

2 **Aid**: We use the term 'aid' to refer to material and logistical assistance to Palestinians throughout Gaza, in accordance with the ICJ's provisional measures order for Israel to ensure 'unhindered provision at scale' of 'urgently needed basic services and humanitarian assistance, including food, water, electricity, fuel, shelter, clothing, hygiene and sanitation requirements, as well as medical supplies …'.[1]

3 **Escalated attacks:** We use the term 'escalated attacks' to refer to a significant increase in the rate of attacks observed for a given aid category. This is determined by cross-referencing the time and location of all recorded incidents with one another, along with contextual research about a given period.

4 **Vigilante:** We use the term 'vigilante' in this chapter to refer to Israeli civilians who have acted, without official state instruction, to attack or disrupt aid routes and aid convoys destined for Gaza.

5 **Deconflicted**: A site whose operations and coordinates have been coordinated with the Israeli authorities to protect and exempt it from military targeting.

6 **Netzarim corridor**: A militarised border constructed by Israel just north of the Wadi Gaza River, which divides Gaza into a north and a south, and which played a significant role in limiting aid crossing into northern Gaza. A dirt path in the shape of the border appeared by 15 November 2023, and checkpoints were constructed on the border to intercept aid trucks by 12 January 2024.

[1] 'The Court Indicates Additional Provisional Measures | INTERNATIONAL COURT OF JUSTICE' <https://www.icj-cij.org/node/203854> accessed 25 September 2024.

B SUMMARY OF FINDINGS

7 Our analysis of incidents in which aid was attacked indicates that the Israeli military repeatedly targeted aid across Gaza since the Israeli military campaign began in October 2023. The repeated nature of such attacks suggests that they were not random.

1 *Quantitative findings*

1.1 We documented 322 incidents of aid-targeting between 7 October 2023 and 16 September 2024. Of which:

(a) 17 attacks were on bakeries

(b) 73 attacks were on shelters for displaced Palestinians, such as UNRWA-run schools, where food aid was received and distributed

(c) 60 attacks were on aid personnel

(d) 50 attacks were on civilians seeking aid – 37 of these occurred just north of the Netzarim corridor between January and March 2024. (More civilians were killed in attacks which we have classified as attacks on other targets.)

(e) 78 attacks were on aid infrastructure, such as warehouses and water treatment facilities

(f) 22 attacks were on convoys of trucks transporting aid through Gaza, which were coordinated by humanitarian aid organisations

(g) 6 attacks were on aid convoys en route to Gaza through Israel or the occupied West Bank, carried out by Israeli vigilantes during May 2024

(h) 16 attacks were on markets where aid was being obtained by civilians

(i) At least 17 of the attacks on aid personnel, convoys, and infrastructure targeted sites involved in operations that had been officially coordinated with Israel and recognised as 'deconflicted sites', understood to be exempt from Israeli military targeting, or 'safe'.

1.2 We documented the following attacks on aid sites and systems operated by UNRWA:

(a) Among the attacks on aid personnel, convoys, and infrastructure, at least 39 were on UNRWA personnel, facilities, or vehicles.

(b) In total, 195 UNRWA personnel were killed, including 177 staff members and 18 other aid workers.

(c) Another 40 UNRWA staff members have been detained by the Israeli military.

2 *Pattern findings*

2.1 Our analysis indicates that the Israeli military targeted sites and systems of aid distribution when and where they became the main mode of aid facilitation. We observed that this targeting followed a pattern of overlapping phases, during which attacks on the specified aid categories intensified:

(a) **October–November 2023: Bakeries** in the north of Gaza were targeted when they played a critical role in aid distribution, **during October and early November 2023.** By mid-November, there were no official bakeries still in operation in Gaza City.

(b) **October 2023–January 2024: Shelters** were targeted when they assumed a central role in housing people displaced by Israeli attacks, and facilitating the receipt and preparation of food aid, **from 13 October to December 2023.**

(c) **December 2023–February 2024: Palestinian police officers**, who we categorise as **aid personnel**, were targeted when they played a critical role in escorting aid convoys.

(d) **January–March 2024: Civilians** were targeted when gathering to receive aid from aid trucks that passed through the Netzarim corridor checkpoints into northern Gaza **from January to March 2024.**

(e) **March 2024: Aid administrators** from Palestinian organisations and groups that took up responsibility for facilitating aid delivery and distribution, who we categorise as **aid personnel**, were targeted when they began to play a prominent role **in March 2024**. Attacks on these personnel and organisations were extensive and deadly enough to eliminate their key administrators or otherwise force them to cease operating.

(f) **October 2023, December 2023, and May 2024: Aid distribution and storage sites**, including warehouses and markets, were targeted when they were actively operating to supply civilians with food, with severe attacks on Rafah crossing, Karem Abu Salem/Kerem Shalom crossing, and markets during periods of increased aid-entering.

(g) **May 2024: Israeli vigilantes** attacked aid convoys passing through Israel and the occupied West Bank under the watch and sometimes with direct support of Israeli military personnel.

2.2 The periods after which Israel increased the flow of humanitarian aid into Gaza (late December 2023; late March and early April 2024; early May 2024) coincide in time and space with an increase of Israel's targeting of the means of distributing that aid, including the logistics, personnel, and infrastructure necessary.

2.3 The targeting of aid occurred in tandem with the Israeli military's evacuation orders and coincides with its attempts to force Palestinian civilians to displace from the north of Gaza. The construction of the new internal border in the Netzarim corridor and the checkpoints within it supporting a one-way (north to south) movement of civilians coincided with the restriction of aid as a means of displacement.



Figure 7.1. Annotated timeline of attacks targeting aid and the phases in which they occur. Each row displays a category of aid attacks (e.g., attacks on aid infrastructure), and it highlights a significant period, which is explained by an accompanying annotation. Note that some categories of attacks – aid infrastructure and aid personnel – are repeated in two distinct rows.

C BACKGROUND

8 Since 2007, when Hamas took control of Gaza, Israel has placed restrictions on all provisions coming into Gaza through crossings controlled by the Israeli military, exercising almost complete control over conditions of life in Gaza.[2] The quantity of food was reduced to the minimum calories deemed necessary for survival, with the total amount calculated according to a population count factoring in age and gender.[3]

9 Electricity supply was calibrated to bring life in Gaza to a near standstill.[4] Medical aid was restricted to a level that would keep Gaza just over the threshold of a 'humanitarian disaster' – although multiple UN agencies judge that this level was crossed some time ago.[5]

10 On 7 October 2023, approximately half of the population of Gaza was 'food insecure', and more than 80% relied on humanitarian aid.[6] Under the terms of a strict blockade, over 80% of goods, and two-thirds of foodstuffs entered Gaza through Israeli checkpoints. According to the UN, the total of inflowing aid amounted to 500 truckloads per working day, roughly 10,000 truckloads a month.

11 On 9 October 2023, Minister of Defence Yoav Gallant announced that Israel was 'imposing a complete siege on Gaza. No electricity, no food, no water, no fuel. Everything is closed. We are fighting human animals, and we are acting accordingly.' [7]

12 From 9 to 21 October 2023, Israel effectively blocked all aid from entering Gaza by disabling all of the crossings leading into Gaza, which provided the only means for aid to enter. [8] When Israel reopened the Rafah border crossing on 21 October,[9] it restricted the number of trucks allowed to enter Gaza[10] to an average of 52 (until the ceasefire on 24 November).[11] Given the destruction of much of Gaza's

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2 28/06/2023, 'Gaza Up Close' (*Gisha*) <https://features.gisha.org/gaza-up-close/> accessed 25 September 2024.

3 Associated Press, 'Israel Used "calorie Count" to Limit Gaza Food during Blockade, Critics Claim' *T*he Guardian (17 October 2012) <https://www.theguardian.com/world/2012/oct/17/israeli-military-calorie-limit-gaza> accessed 25 September 2024.

4 Michael Lynk, 'How Gaza Was Made into an Unlivable Place' (Al Jazeera) <https://www.aljazeera.com/opinions/2017/7/24/how-gaza-was-made-into-an-unlivable-place> accessed 25 September 2024.

5 22 Yotam Feldman and Uri Blau, 'Gaza Bonanza,' Ha'aretz, 11 June 2009; 22 Yotam Feldman and Uri Blau, 'Gaza Bonanza,' Ha'aretz, 11 June 2009; David R. Francis, 'What Aid Cutoff to Hamas Would Mean', Christian Science Monitor, 27 February 2006. See note 20; IDF humanitarian coordination, 'An Interview with Baruch Spiegel', 19 February 2009, edition 7, vol. 7, bitterlemons-international.org/inside.php?id=1066; Darryl Li, 'Disengagement and the Frontiers of Zionism,' 16 February 2008, Middle East Report, merip.org/mero/mero021608.html; David R. Francis, 'What Aid Cutoff to Hamas Would Mean', Christian Science Monitor, 27 February 2006. See note 20; IDF humanitarian coordination, 'An Interview with Baruch Spiegel', 19 February 2009, edition 7, vol. 7, bitterlemons-international.org/inside.php?id=1066; Darryl Li, 'Disengagement and the Frontiers of Zionism,' 16 February 2008, Middle East Report, merip.org/mero/mero021608.html; 'Ministry of Defense v. Gisha "Food Consumption in the Gaza Strip – Red Lines" Presentation' (*Red Lines*, 1 January 2008) <https://www.gisha.org/UserFiles/File/publications/redlines/red-lines-presentation-eng.pdf> accessed 25 September 2024.

6 'The Gaza Strip | The Humanitarian Impact of 15 Years of Blockade - June 2022 | UNICEF Middle East and North Africa' <https://www.unicef.org/mena/documents/gaza-strip-humanitarian-impact-15-years-blockade-june-2022> accessed 25 September 2024."plain-Citation":"'The Gaza Strip | The Humanitarian Impact of 15 Years of Blockade - June 2022 | UNICEF Middle East and North Africa' <https://www.unicef.org/mena/documents/gaza-strip-humanitarian-impact-15-years-blockade-june-2022> accessed 25 September 2024.","noteIndex":8},"citationItems":[{"id":8,"uris":["http://zotero.org/groups/5662973/items/P9Y4MHVC"],"itemData":{"id":8,"-type":"webpage","abstract":"In June 2007, following the military takeover of Gaza by Hamas, the Israeli authorities significantly intensified existing movement restrictions, virtually isolating the Gaza Strip from the rest of the occupied Palestinian territory (oPt

7 Emanuel Fabian, 'Defense Minister Announces "Complete Siege" of Gaza: No Power, Food or Fuel' <https://www.timesofisrael.com/liveblog_entry/defense-minister-announces-complete-siege-of-gaza-no-power-food-or-fuel/> accessed 25 September 2024.

8 'Aid Enters Gaza as Rafah Border Crossing Opens' (POLITICO, 21 October 2023) <https://www.politico.eu/article/aid-enter-gaza-rafah-border-crossing-open/> accessed 25 September 2024.

9 'Aid Enters Gaza as Rafah Border Crossing Opens' (POLITICO, 21 October 2023) <https://www.politico.eu/article/aid-enter-gaza-rafah-border-crossing-open/> accessed 25 September 2024.

10 Ali Jadallah, 'Focus | Palestine (Gaza Strip)'.

11 'Power BI Report' <https://app.powerbi.com/view?r=eyJrIjoiZTVkYmEwNmMtZWYxNy00ODhlLWI2ZjctNjIzMzQ5OGQxNzY5IiwidCI-6IjI2MmY2YTQxLTIwZTktNDE0MC04ZDNlLWZkZjVlZWNiNDE1NyIsImMiOjI9&pageName=ReportSection3306863add46319dc574> accessed 25 September 2024.

agricultural sector (see Chapter 4: Destruction of Agriculture and Water Resources) in the early stages of the assault, this throttling of aid occurred at a time when food provision was urgently needed. Israel also reduced the number of open crossings into the south of Gaza, while closing all crossings that could have delivered aid directly to the north.

13 While the 29 February 'Flour Massacre' and the 1 April attack on the World Central Kitchen convoy are the most widely reported attacks on aid, we have documented a total of 322 attacks by the Israeli military on aid sites and systems.

14 We have previously documented the attacks on aid in an online platform at www.gaza-aid-attacks.forensic-architecture.org, which we have continued to update.[12] This previously published platform constitutes part of the GCD.

[12] On 14 May 2024, we published documentation of at least 80 attacks on aid across Gaza between January and March. Our analysis included the following categories: attacks on aid infrastructure; attacks on aid personnel; attacks on civilians seeking aid; and attacks on aid convoys.

D SCOPE

15 In this chapter, we examine Israel's attacks on and impediments to various sites and systems of aid distribution in Gaza from October 2023 to September 2024. Our analysis of these attacks addresses the following:

(a) The frequency of Israeli attacks on aid sites and systems in space and time.

(b) How these attacks correlate to significant changes in the availability and coordination of aid, such as the opening of border crossings and the emergence of new aid systems or groups.

(c) The relation between attacks on aid sites and systems and the displacement of Palestinian civilians, by way of restricting the availability of aid.

16 The analysis considers attacks on aid in the following categories:

(a) **Attacks on bakeries:** All facilities actively preparing baked goods at scale.

(b) **Attacks on shelters:** All facilities officially designated as housing displaced people.

(c) **Attacks on civilians seeking aid: Attacks on civilians seeking aid occurred at** sites of aid delivery, receipt, transportation, or storage.

(d) **Attacks on aid personnel:** Palestinian police, public officials, members of family tribal groups, civilian volunteers, and Palestinian and international aid workers who were known to be involved in or responsible for aid delivery and security. Attacks on aid personnel occurred at sites of aid delivery, receipt, transportation, and storage, and on vehicles or places of residence.

(e) **Attacks on markets:** All facilities where commercial vendors or volunteers were distributing food, during their time of operation.

(f) **Attacks on aid infrastructure:** Warehouses, distribution facilities, and water infrastructure (not bakeries, shelters, and markets, which are already accounted for in other categories).

(g) **Vigilante attacks on aid:** Instances where Israeli civilians disrupted aid truck convoys or attacked aid truck drivers, namely in the West Bank or in Israel.

17 Among these categories of attacks, we also consider which of them constitute:

(a) **Attacks on UNRWA:** UNRWA staff and employees, warehouses, and missions involved in the distribution of aid.

(b) **Attacks on deconflicted sites:** Facilities whose coordinates have been directly supplied to Israeli authorities to exempt them from military targeting.



Figure 7.2. A screenshot from our interactive platform documenting 322 Israeli attacks on aid for Gaza from 7 October 2023 to 16 September 2024 on a map (top) and in a timeline (bottom). Attacks are categorised by colour: red for attacks on civilians seeking aid; yellow for attacks on aid convoys; purple for attacks on aid personnel; orange for attacks on aid infrastructure; brown for attacks on bakeries; blue for attacks on shelters; green for attacks on markets; white for attacks by vigilantes on aid convoys (which are not depicted on the map since they did not occur within the territory of Gaza). When multiple attacks are located in the same general area, they are grouped together in pie chart 'clusters', where the colours show the breakdown of each attack type. Note that some attacks are visible in the timeline but not in the map because they have not been assigned a location.

E TIMELINE

19 Our analysis identifies the following phases in Israel's attacks on aid sites and systems in Gaza:

1 *First three Weeks of bombing: 7–27 October 2023*

20 Following 7 October, long queues of Palestinians were seen outside bakeries. Israeli bombing destroyed bakeries, primarily in the north of Gaza (e.g., Gaza City), and on three documented occasions directly after images of queues circulated online (see Section H-1: Attacks on bakeries).

21 The Rafah crossing was attacked in at least three strikes between 9 October and 16 October, disrupting the entry of aid from Egypt (see Section H-6: Attacks on aid infrastructure and Chapter 6: Destruction of Civilian Infrastructure).

2 *Ground Invasion of north of Gaza: from 27 October 2023*

22 The Israeli military continued to attack bakeries. By late October, an estimated 600,000 Palestinians were displaced to shelters, which by then had begun to function as places for receiving and distributing aid.[13] Israeli military bombing attacked shelters primarily during this period of critical reliance on them (see Section H-2: Attacks on shelters).

3 *Ceasefire: 24–30 November 2023*

23 By the start of the temporary ceasefire, all bakeries in northern Gaza went out of operation, multiple water facilities had been damaged by Israeli fire, including the only water desalination plant (see Section H-6: Attacks on aid infrastructure). Telecommunications blackouts also frustrated the delivery of aid; the fourth of which between 16 and 18 November 'brought the already challenging delivery of humanitarian assistance to an almost complete halt,' according to OCHA.[14]

24 Attacks on shelters continued after the ceasefire.

4 *Ground invasion of south Gaza: from 4 December 2023*

25 On 17 December, following the start of the ground invasion in the south of Gaza, the Israeli military submitted to international pressure and opened the Karem Abu Salem/Kerem Shalom crossing – a transit point for trucks located near Rafah. In the following weeks, the Israeli military attacked various aid personnel involved in facilitating the entry and distribution of aid into Gaza, including killing the director of the Karem Abu Salem/Kerem Shalom crossing (see Section H-3: Attacks on aid personnel – police escorting aid convoys and Section H-6 Attacks on aid infrastructure).

5 *ICJ Order for Provisional Measures: 26 January 2024*

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13 'UN Palestinian Refugee Agency: 600,000 Internally Displaced People in Gaza Are Sheltering in 150 UNRWA Facilities' *Reuters* (25 October 2023) <https://www.reuters.com/world/middle-east/un-palestinian-refugee-agency-600000-internally-displaced-people-gaza-are-2023-10-25/> accessed 25 September 2024.

14 'Hostilities in the Gaza Strip and Israel | Flash Update #42 [EN/AR/HE] - Occupied Palestinian Territory | ReliefWeb' (18 November 2023) <https://reliefweb.int/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-42-enarhe> accessed 25 September 2024.

26 Throughout January and February 2024, the Israeli military attacked Palestinian police officers escorting aid convoys, compelling humanitarian organisations to halt operations (see Section H-3).

27 By the date of the order, the Israeli military had finished constructing a militarised internal border to divide Gaza just north of Wadi Gaza, called the Netzarim corridor. The border had two checkpoints at its intersection with the two main north–south arteries – the coastal al-Rashid Road and Salah al-Din Road, which runs through the centre of the Strip. The checkpoints regulated the flow of aid trucks on routes that began at the Karem Abu Salem/Kerem Shalom crossing, passed through the south of Gaza travelling to northern Gaza.

28 Between January and March, we documented 37 different incidents, in which the Israeli military opened fire on civilians seeking aid, each time shortly after aid trucks passed through a Netzarim corridor checkpoint.

29 Throughout March, the Israeli military attacked Palestinian civil society organisations in northern Gaza, which issued statements that they were operating to facilitate aid (see Section H-5: Attacks on aid personnel – aid administrators).

30 In March, the Israeli military banned UNRWA from operating in the north.[15]

6 *ICJ Order for Additional Provisional Measures: 28 March 2024*

31 Four days after the order, on 1 April, the Israeli military launched a fatal attack on a World Central Kitchen convoy. After international pressure in the wake of the attack compelled Israel to allow more aid in on 5 April, and 9 April subsequently saw the highest volume of aid enter since 7 October 2023, the Israeli military attacked four markets the following week (see Section H-7: Attacks on markets).

7 *Ground invasion of Rafah: from 6 May 2024*

32 On 6 May, the Israeli military invaded Rafah, destroying aid warehouses there and seizing the Rafah border crossing with Egypt. Subsequently, the number of aid trucks entering Gaza fell to an all-time low since the total blockade in October 2023. The trucks that entered mostly comprised trucks belonging to the private sector. In May, following months of protests and blockades, Israeli vigilantes attacked aid trucks and drivers travelling to Gaza through the occupied West Bank and Israel in the presence of Israeli soldiers (see Section H-8: Vigilante Attacks on Aid).

8 *Order for the Modification of Provisional Measures: 24 May 2024*

33 Attacks on all the above-mentioned categories of aid have continued since.

[15] 'Israel's New Aid Ban on UNRWA in Gaza "a Wrong Move": UN Coordinator | UN News' (25 March 2024) <https://news.un.org/en/story/2024/03/1147961> accessed 26 September 2024.

F MATERIALS USED IN THE ANALYSIS

34 The primary sources of data include:

1 *Visual evidence:*

(a) **Photographs and videos**: Visual documentation from on-the-ground witnesses accessed through the social media accounts (Instagram, Telegram, TikTok) of civilians, aid workers, and media outlets, to confirm the occurrence of specific attacks. These materials were geolocated to match them with known locations of aid distribution points and infrastructure.

(b) **Satellite imagery:** High-resolution satellite images from Planet Labs PBC were utilised to identify and verify the locations of and the extent of damage to aid-related infrastructure, such as bakeries, shelters, and logistics facilities.

2 *Corroborated media reports:*

(a) **Reputable news sources:** Incidents were further validated through reports from credible international and regional news outlets, providing additional context and verification.

(b) **International organisations:** Reports from organisations such as UNRWA, Amnesty International, and others were used to corroborate and supplement visual evidence.

3 *Public statements*

(a) **Statements from Israeli officials and soldiers:** Public declarations indicating the intentions and tactics used in the attacks on aid.

4 *Testimonies:*

(a) **Interviews with aid workers and civilians:** First-hand accounts from those involved in aid distribution or affected by the attacks.

G METHODOLOGY

35 Our research involves a two-part analysis:

(a) Collection and verification of visual evidence and reports, and analysis of incidents where aid was targeted.

(b) Identification of changes to aid sites and systems over time, using open-source information and witness testimonies (see Chapter 1: Introduction for our criteria regarding credibility of sources).

36 For (a), we began collecting information about attacks on civilians seeking aid and collating them in the GCD (see Chapter 1: Introduction), specifying the availability of visual evidence, media sources, approximate location (neighbourhood or region), and approximate time. We subsequently investigated each incident to identify its precise geographic coordinates and time where possible. As a result, most incidents have a confirmed approximate location, while some are geolocated precisely.

37 Within our corpus of attacks, we include circumstances where the known presence of Israeli military personnel and infrastructure creates choke points for aid logistics where attacks on aid repeatedly and frequently occur. At these locations which are prone to repeated attacks, attacks from other armed Palestinian groups are possible, namely as different armed groups attempt to wrest control over aid systems. When the specific assailant of an attack is disputed, but when it still occurs at a location of repeated attacks by the Israeli military, we include it in our dataset.

38 We use mapping and geolocation techniques (see Methodology in Chapter 1: Introduction) to accurately locate incidents captured in visual evidence. This data is considered highly reliable as it allows for precise identification and mapping of affected areas, which is critical for analysing patterns in the attacks. We verify incidents using the incident verification criteria outlined in Chapter 1: Introduction. In this report, we do not identify the specific types of munitions used for each attack in question.

39 As outlined in Chapter 1: Introduction, we format data from the GCD relevant to our analysis and plot it on a timeline and map through our web-based visualisation platform.

40 Concurrently, for (b), we documented political decisions, announcements, and events pertaining to the administration of aid. This included statements from Israeli officials, humanitarian aid organisations, and Palestinian organisations, both formal and informal. We also received testimonies of aid workers in Gaza gathered by credible third-party sources.

41 We compared the data from areas (a) and (b) to identify relationships between attacks on aid and the understood level of reliance on the various types of aid sites and systems.

42 With the attacks collated into one database, we analysed spatial and temporal patterns alongside media and visual evidence, to identify any relationships between events. This led us to conceptualise attacks on aid according to discrete temporal phases of attack where different types of aid sites and systems were targeted in turn or where such attacks predominantly escalated (see the following subsection). This identification of discrete temporal phases, however, does not mean that the attacks in question only occur within a specific temporal phase; they occur elsewhere, but we have highlighted temporal periods where attacks of a certain nature are significant – namely because of other contextual information and factors that identify these periods as significant beyond the data itself. Also, there are

some types of attack on aid that do not fit neatly into temporal phases because they have occurred consistently since 7 October 2023. For example, attacks on UNRWA have occurred consistently (see Section H-10: Attacks on UNWRA and deconflicted sites).

H CHRONOLOGICAL ANALYSIS OF THE TARGETING OF AID

43 The following section details the phases we have observed of the Israeli military's targeting of aid.

44 The phases we have observed are the following:

(a) October–November 2023: Attacks on Bakeries

(b) October 2023–January 2024: Attacks on Shelters

(c) December 2023–February 2024: Attacks on aid personnel – police escorting aid convoys

(d) January–March 2024: Attacks on civilians seeking aid

(e) March 2024: Attacks on aid personnel – aid administrators

(f) October 2023–September 2024: Attacks on markets

(g) October 2023–September 2024: Attacks on aid infrastructure

(h) May 2024: Israeli vigilante attacks on aid destined for Gaza

(i) October 2023–September 2024: Attacks on UNRWA and deconflicted sites

45 While we have observed distinct phases of Israel's attacks on aid, attacks on each of these categories is not exclusively confined to the phase identified. Rather, each of the phases represents a particular period during which an acute escalation of attacks on a specific type of aid is documented.

46 Our identification of the described phases appears through a chronological analysis, through which we set out the character and scale of incidents within each phase. This chronological analysis enables us to observe broader patterns related to the targeting of aid – namely, their correlation with civilian presence and their relationship with displacement.

1 *October–November 2023: Attacks on bakeries*

47 **Bakeries in the north of Gaza were attacked when they played a critical role in aid distribution, from the beginning of hostilities until November, at which point none were operational in the north of Gaza.**

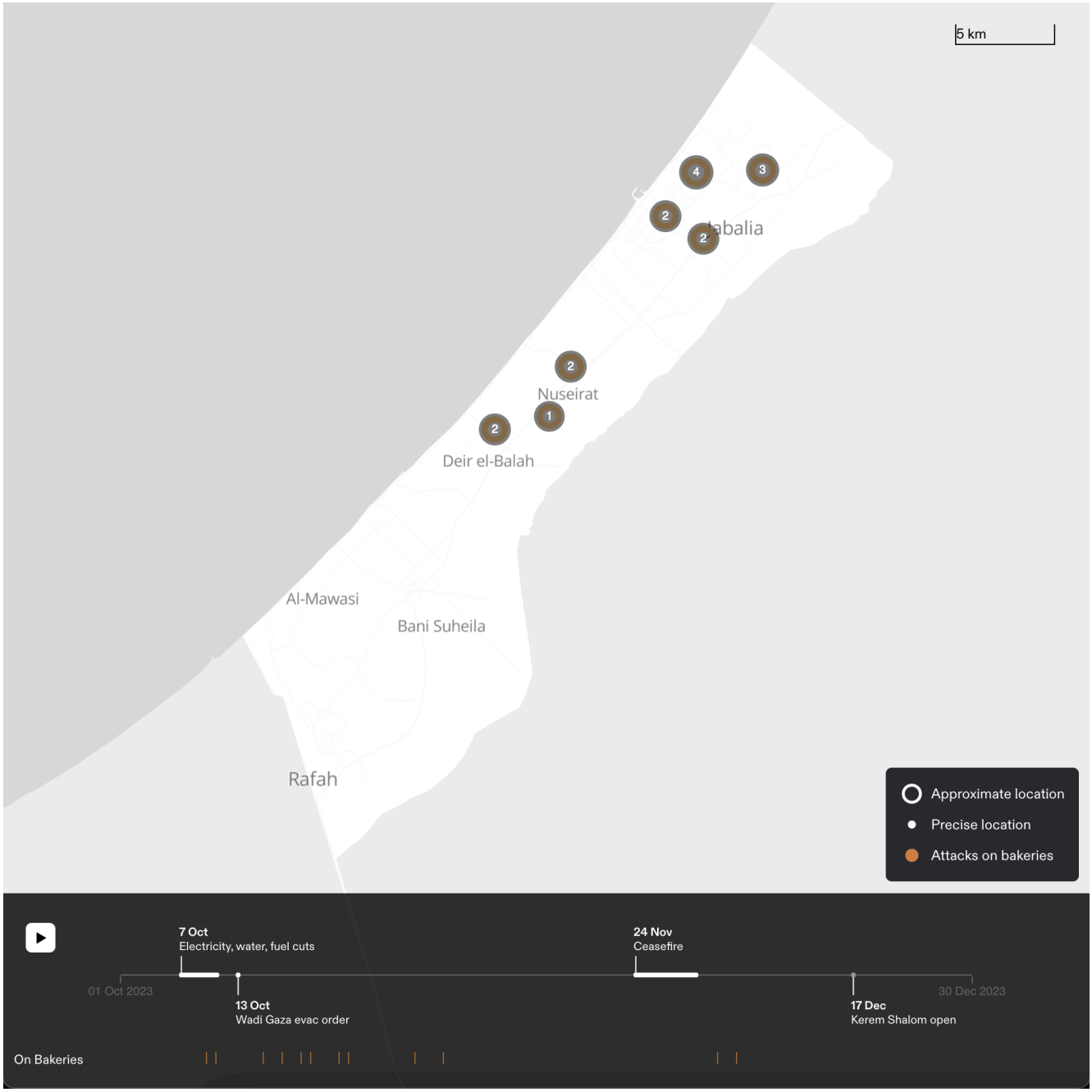

Figure 7.3. A map of attacks on bakeries: between 7 October and 30 December 2023 all the documented attacks were in northern Gaza; the two southernmost attacks in Deir al-Balah occurred later in December 2023. The number at the centre of the circle indicates the number of attacks in the approximate area (e.g., neighbourhood).

48 In October and early November, videos showed long queues of Palestinians waiting outside bakeries in Gaza. As a result of restrictions on basic goods, including water, electricity, and fuel, many civilians in Gaza became reliant on bakeries as a critical source of food, being unable to prepare food at home.[16]

49 We documented attacks on 14 bakeries in Gaza between October and early November. We also documented two attacks on bakeries in December, in Deir al-Balah, as Israel's ground operation moved southwards. On 14 November, the last functioning flour mill in Gaza was attacked and rendered inoperable.[17]

50 Bakeries were either directly hit, or otherwise destroyed as a result of bombardment of the surroundings. On other occasions, their solar panels or generators were hit. Four bakeries were targeted after images of Palestinians queuing outside them were posted online. A video taken on 17 October 2023 shows a queue at the Nuseirat bakery the evening before the bakery was attacked. [31018-62573][18] A video of the al-Sofara bakery was posted by Al Jazeera on the morning of 21 October 2023, while visual evidence shows the bakery was destroyed the following night. [31021-41258][19] Images of a queue outside the al-Maghazi al-Jadeed bakery were posted on the morning of 24 October 2023 and the bakery was destroyed shortly after. [31024-20340] A video of the al-Sharq bakery circulated on social media on 29 October 2023, and the bakery was attacked on 4 November. [31104-38923][20]

51 The al-Maghazi al-Jadeed bakery had reportedly received flour from UNRWA a few hours before being bombed.[21] By the end of October, UNRWA declared that 10 out of the 50 bakeries to which it had supplied flour had been bombed.[22]

52 We documented: eight cases, including al-Sharq bakery, in which the nearby area was bombed, damaging the building and injuring civilians; seven cases, including al-Nuseirat bakery, in which the target was the building in which the bakery was located – with a total of 55 people reportedly killed, including civilians and workers; and one case, that of Families Bakery Company, where the target was the solar panels the bakery relied on for electricity. [31104-49709]

53 During October and November 2023, bakeries were bombed north of Wadi Gaza and in central Gaza. This pattern of attacks is consistent with the Israeli military's order for Palestinians to evacuate from the north of Gaza to the south.

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16 'Anger and Despair as Palestinians Queue for Supplies during Truce' *BBC News* (29 November 2023) <https://www.bbc.com/news/world-middle-east-67566488> accessed 25 September 2024; Gaza Bakeries Targeted and Destroyed by Israeli Air Attacks | In Pictures News | Al Jazeera' <https://www.aljazeera.com/gallery/2023/11/2/gaza-bakeries-destroyed-by-israeli-strikes> accessed 25 September 2024.

17 'Israel-Gaza War: Limited Fuel to Be Allowed into Gaza, U.S. and Israeli Officials Say; Communications in Gaza Partly Restored' (*Washington Post*, 17 November 2023) <https://www.washingtonpost.com/world/2023/11/17/israel-hamas-war-gaza-news-palestine/> accessed 25 September 2024.

18 'فلسطين on TikTok' (TikTok) <https://www.tiktok.com/@palestine_2003/video/7291297337253612833?q=%D9%85%D8%AE%D8%A8%D8%B2%20%D8%BA%D8%B2%D8%A9&t=1718204590413> accessed 25 September 2024.

19 المركز الفلسطيني للإعلام [@PalinfoAr], 'عاجل .. استهداف محيط مخبز السفراء في مخيم النصيرات#' <https://x.com/PalinfoAr/status/1715786052399440060> accessed 25 September 2024; 'طوابير طويلة على المخابز ومحلات تجارية فارغة في ظل استمرار العدوان على قناة الجزيرة, 2023) (Directed by AlJazeera Arabic <https://www.youtube.com/watch?app=desktop&v=Bo1NI3ybq5Y> accessed 25 September 2024.

20 'Royanews on TikTok' (TikTok) <https://www.tiktok.com/@royanews/video/7295315193280728338?is_from_webapp=1&web_id=7379630444670912032> accessed 25 September 2024.

21 'Bakeries Under the Rubble: The Bombing of the al-Maghazi al-Jadeed Bakery | The Public Source' <https://thepublicsource.org/al-maghazi-bakery-bombing-gaza> accessed 27 September 2024.

22 Kaamil Ahmed and Elena Morresi, 'Airstrikes on Gaza Bakeries Add to "Catastrophic" Food Shortages' *The Guardian* (28 October 2023) <https://www.theguardian.com/global-development/2023/oct/28/airstrikes-on-gaza-bakeries-add-to-catastrophic-food-shortages> accessed 25 September 2024.

54 The bombing of the al-Maghazi al-Jadeed bakery, the only bakery in al-Maghazi on 24 October 2023, reportedly claimed the lives of ten civilians.[23] The attack created a crater approximately 13.65 m in diameter and 4.86 m in depth. Based on the size of the crater, and analysis from Armament Research Services, the explosion was likely caused by a 250–500lb (113–227kg) air-delivered munition.[24] Eyewitness accounts and satellite imagery confirm the extensive damage to the bakery and surrounding businesses and residential buildings, indicating the use of a large explosive weapon with high destructive capacity.

55 Figure 7.4 shows queue outside al-Maghazi al-Jadeed bakery and its destruction the morning after.[25] The frequency of attacks on bakeries was higher in October, when they were key sites of aid distribution in Gaza. The combination of direct targeting, along with shortages of flour and electricity – whether due to power cuts or the destruction of generators or solar panels – forced many bakeries to shut down.



Figure 7.4. Left: queue outside Maghazi bakery on 24 October 2023 the day before its destruction. Right: aftermath of Maghazi bakery destruction on the same day the footage of the queue was recorded. [31024-20340]

56 The home of a family that operated a prominent bakery in Gaza City was hit by an air strike on 19 October, which killed at least 30 members of the family. The strike reportedly occurred after a family member received a call warning them that the house would be bombed.[26]

23 'Telegram: Contact @muthanapress84' <https://t.me/muthanapress84/155057> accessed 25 September 2024; 'المكتب الإعلامي الحكومي, Facebook'< https://www.facebook.com/mediagovps/> accessed 25 September 2024.
24 'Explosive Weapons' https://armamentresearch.com/wp-content/uploads/2016/06/ARES-Special-Report-Explosive-Weapons-in-Populated-Areas-May-2016_web.pdf accessed 25 September 2024.
25 Ramy Abdu, رامي عبده [@RamAbdu], 'The Sole Bakery in Maghazi Refugee Camp, before and after. Eve of Wednesday. Https://T.Co/2UQWF487RC' <https://x.com/RamAbdu/status/1717203105102672211> accessed 25 September 2024.
26 'Photos: Israel Bombed Saqallah Family Home in Gaza' (*Al Jazeera*) <https://www.aljazeera.com/gallery/2023/10/20/israel-bombed-a-family-home-in-gaza-generations-of-saqallahs-were-inside> accessed 25 September 2024.

2 *October 2023–January 2024: Attacks on shelters*

57 Shelters were attacked when they began to play a central role in the receipt and preparation of food aid, following the destruction of bakeries.



Figure 7.5. A map of attacks on shelters from 7 October 2023 to 21 September 2024.

58 By 25 October, the UN reported that 600,000 individuals had taken refuge in 150 UNRWA shelters across Gaza.[27] By 19 November, the reported total was 884,000 in sites which had been identified by the UN as shelters for internally displaced people (IDPs).[28] 52 percent of internally displaced people, the majority of them in UNRWA shelters, relied on humanitarian aid by December.[29] UNRWA and UNICEF supply aid to the shelters that they administered.[30] Media evidence showed that hospital facilities also became sites for receiving aid and preparing food.[31]

59 When it declared a supposedly safe 'humanitarian zone' in al-Mawasi, the Israeli military reportedly proposed a list of approximately 150 shelters that it would designate as 'safe' and not attack.[32] It refused a UN counterproposal to deconflict further venues, including festival halls and stadiums.[33]



Figure 7.6. Medical supplies were delivered to Nasser Hospital on 9 November 2023. On this day, radiology equipment at the hospital was damaged during Israeli shelling of the surrounding area. The Israeli military escalated their attacks on the hospital throughout December.[34]

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27 'UN Palestinian Refugee Agency: 600,000 Internally Displaced People in Gaza Are Sheltering in 150 UNRWA Facilities' *Reuters* (25 October 2023) <https://www.reuters.com/world/middle-east/un-palestinian-refugee-agency-600000-internally-displaced-people-gaza-are-2023-10-25/> accessed 25 September 2024.

28 'UNRWA Situation Report #33 on the Situation in the Gaza Strip and the West Bank, Including East Jerusalem' (*UNRWA*) <https://www.unrwa.org/resources/reports/unrwa-situation-report-33-situation-gaza-strip-and-west-bank-including-east-Jerusalem> accessed 25 September 2024.

29 'WFP'<https://docs.wfp.org/api/documents/WFP-0000154766/download/?_ga=2.243117636.730956012.1725962456-851346402.1725475782> accessed 25 September 2024.

30 'UNRWA Situation Report # 5 on the Situation in the Gaza Strip' (*UNRWA*) <https://www.unrwa.org/resources/reports/unrwa-situation-report-5-situation-gaza-strip> accessed 25 September 2024.

31 'المسافر on TikTok' (*TikTok)* <https://www.tiktok.com/@hamada.gaza/video/7298651789497208097?q=%20percentD9%20percent85%20percentD8%20percentAE%20percentD8%20percentA8%20percentD8%20percentB2%20percent20%20percen%tD8%20percentBA%20percentD8%20percentB2%20percentD8%20percentA9&t=1718204590413> accessed 25 September 2024.

32 'Israel Says There Are 150 Shelters in Gaza That It Won't Target in Addition to al-Mawasi Safe Zone' <https://www.timesofisrael.com/liveblog_entry/israel-says-there-are-150-shelters-in-gaza-that-it-wont-target-in-addition-to-al-mawasi-safe-zone/> accessed 25 September 2024.

33 Crisis Group telephone interviews, UN humanitarian agency officials, November 2023

34 مراسل العربي صالح الناطور: وصول شاحنة مساعدات طبية إلى مستشفى ناصر في خانيونس جنوبي قطاع غزة (Directed by 2023 ,أخبار - العربي) <https://www.youtube.com/watch?v=lZlqKhBNi-Y> accessed 25 September 2024.

60 We understand that shelters that received displaced civilians are likely to be points of distribution or preparation of aid. Attacks on shelters that we documented involved the direct targeting of a shelter building. In the case of the al-Fakhoura school, for example, the bombing of the area around the shelter on 14 October, which reportedly killed 34 and injured more than 80, preceded the direct targeting of the building on 4 November [31104-18492] and 18 November [31118-76530] – the latter attack killing a total of 50 people – following a pattern of persistent and intensifying attacks consistent with attacks on hospitals (see Chapter 5: Destruction of Medical Infrastructure).[35]

61 In some cases, facilities within the shelters that were responsible for storing or preparing food came under direct fire:

62 On 4 and 18 November, al-Fakhoura school was struck while actively being used as a shelter [31104-18492 and 31118-76530]. Evidence, such as images of ovens at the site of bombardment alongside bloodied bread, suggests that aid had been stored and prepared at the shelter during the time of the attack (see Figure 7.7). A child whose witness testimony was posted on Instagram described bombs striking where food preparation and bread-baking were taking place.[36] In a room which has been pierced through the ceiling by a strike, a repository of grain is also visible (see Figure 7.8).

63 On 11 September, al-Jaouni school, which was being used as a shelter for displaced people by the UNRWA, was 'hit at a time when people were waiting for food'. [ID: 40911-43605]

64 During the period of near-total siege in October, the Israeli military attacked both bakeries and humanitarian shelters. While four shelters were attacked in October, when attacks on bakeries were at their highest, the frequency of attacks on shelters escalated in November. During this time, repeated telecommunications blackouts also frustrated the delivery of aid. The fourth such blackout, between 16 and 18 November, 'brought the already challenging delivery of humanitarian assistance to an almost complete halt', according to OCHA.[37] This underscores the importance of aid reserves like those provided by shelters during this period.

[35] 'Airwars Civilian Casualties' <https://airwars.org/civilian-casualties/ispt0194-october-14-2023/> accessed 27 September 2024; The New Arab Staff, 'Dozens Killed as Israel Strikes UN School in Northern Gaza' (https://www.newarab.com/, 18 November 2023) <https://www.newarab.com/news/dozens-killed-israel-strikes-un-school-northern-gaza> accessed 25 September 2024.

[36] 'أنس جمال الشريف on Instagram: "شهادة أحد الاطفال النا..جين من مجزرة مدرسة الفاخورة قبل قليل"' (Instagram, 4 November 2023) <https://www.instagram.com/anasjamal44/reel/CzOHKcXN-m4/> accessed 25 September 2024.

[37] 'Hostilities in the Gaza Strip and Israel | Flash Update #42 [EN/AR/HE] - Occupied Palestinian Territory | *ReliefWeb*' (18 November 2023) <https://reliefweb.int/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-42-enarhe> accessed 25 September 2024.



Figure 7.7. Bloodied bread at al-Fakhoura school after the strike on 4 November 2023.[38]



Figure 7.8. Grain repository in a room at al-Fakhoura school struck from the ceiling.[39]

[38] Admin, 'Jabaliya's Al-Fakhoura Massacre in Eight Photos' (Palestine Chronicle, 5 November 2023) <https://www.palestinechronicle.com/jabaliyas-al-fakhoura-massacre-in-eight-photos/> accessed 25 September 2024.

[39] 'الجزيرة – الأردن, Facebook' < https://www.facebook.com/AJA.HKJordan/videos/378126337932623/ > accessed 25 September 2024.

3 *December 2023–February 2024: Attacks on aid personnel – police escorting aid convoys*

65 Palestinian police were attacked when they played a critical role in escorting aid convoys.

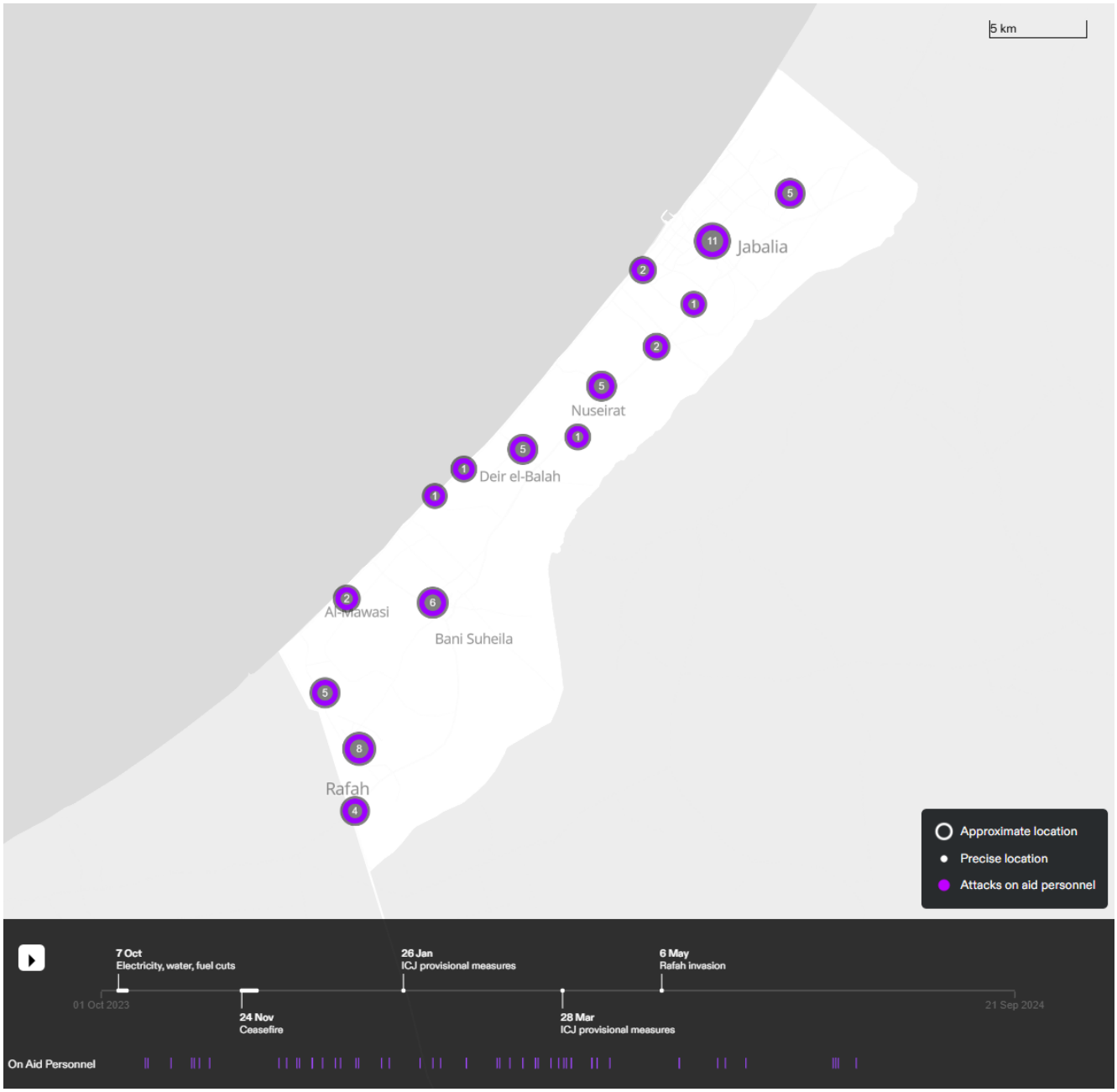

Figure 7.9. Attacks on all types of aid personnel, including Palestinian police, from 7 October 2023 to 21 September 2024.

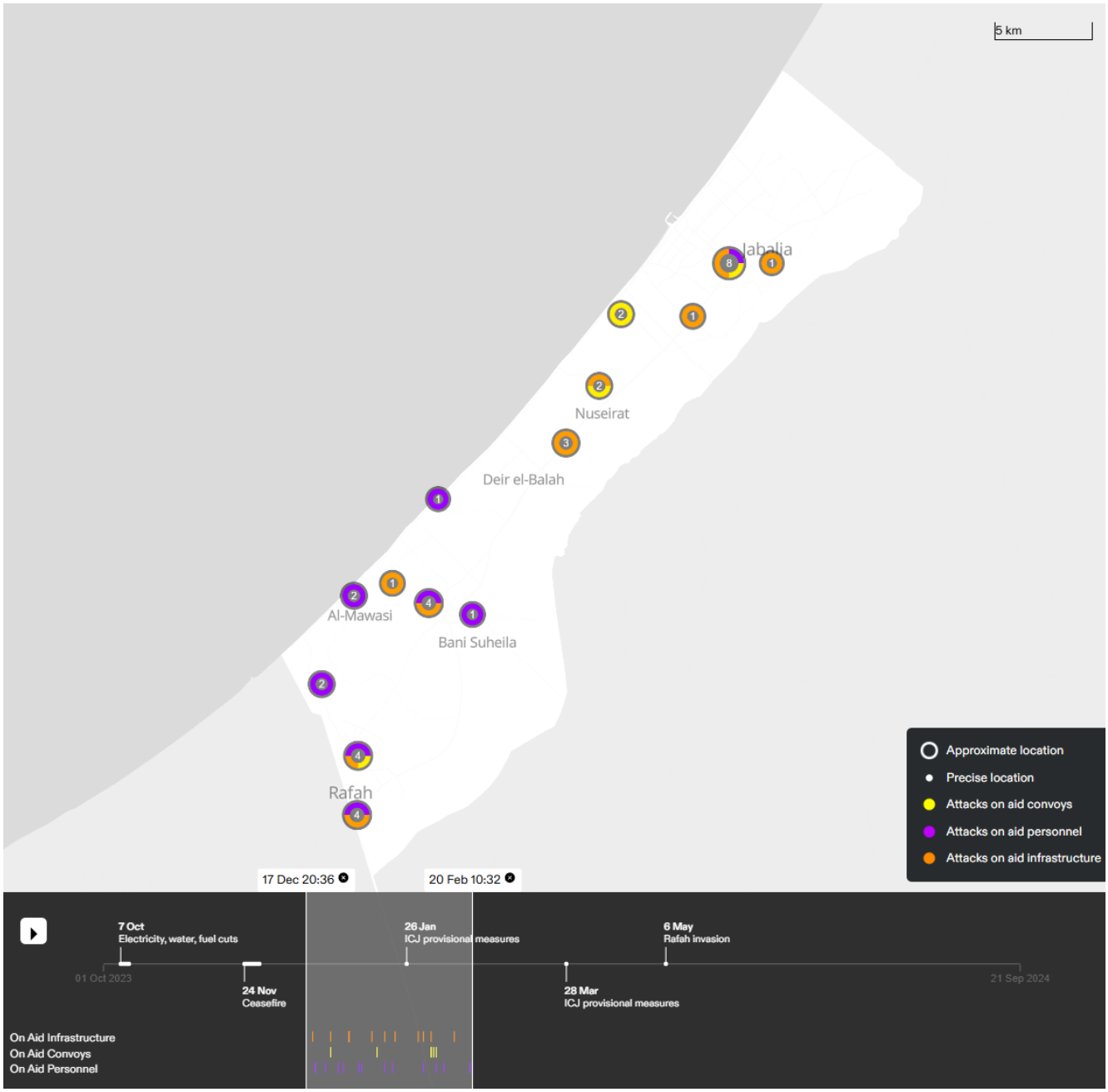

Figure 7.10 Attacks on aid convoys (yellow), Palestinian police escorting them (purple), and aid infrastructure (orange) from the time that Kerem Shalom crossing opened on 17 December 2023 to the time that World Food Programme was forced to suspend operations twice by 20 February 2024 due to these attacks.

66 When the Israeli military partially opened the Karem Abu Salem/Kerem Shalom crossing on 17 December, aid organisations began to transport aid into Gaza. An estimated 94 trucks per day entered Gaza in the period immediately following the partial reopening, a significant increase from the previous period, leading to changes in the logistics of aid distribution in Gaza.[40]

67 After the opening of Karem Abu Salem/Kerem Shalom crossing, Palestinian police began escorting aid convoys to their destinations to ensure their safe arrival. On 17 and 22 December 2023, the Israeli military attacked Palestinian police while they were escorting aid trucks that had entered Rafah crossing [31217-32095; 31222-79292]. On 21 December, the Israeli military attacked the Karem Abu Salem/Kerem Shalom crossing, killing three civilians and the director of the crossing [31221-64053]. On 26 December, the Israeli military attacked Palestinian civilian volunteers while they were escorting aid trucks that had entered the Rafah crossing [31226-40242].

68 In January 2024, the Israeli military attacked two aid convoys: one in Deir al-Balah Municipality [40115-86760] and one at the Rafah crossing [40122-34384]. This conduct made aid deliveries difficult or impossible even for UN agencies. The World Health Organisation was unable to deliver fuel to al-Shifa hospital in the north of Gaza after 22 January. UNRWA was unable to deliver food aid to the north of Gaza after 23 January.[41] The World Food Programme paused food deliveries for weeks in February because of 'a strike on a UNRWA truck and [...] the absence of a functioning humanitarian notification system'.[42] According to information shared with Forensic Architecture by UNRWA, on 5 February, Israeli naval fire directly struck an UNRWA food convoy while trucks were 'waiting at an agreed holding position prior to crossing the IDF checkpoint on the coastal road' [40205-93035].

69 On 6 February, the Israeli military attacked a police car escorting an aid convoy, killing six police officers [40206-84308]. The Israeli military later dropped flyers with a photo of the destroyed police car, with the statement: 'Our message is clear: the Israeli security services will not allow the security apparatuses of Hamas to continue working.'[43] The Israeli military also killed three police officers in Rafah on 10 February as they monitored food distribution in western Rafah, [40210-68105] and reportedly killed Magdy Abdel Aal, who was reportedly head of the police and order forces, on 7 February. [40210-41672]

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40 PRCS [@PalestineRCS], 'The Entry of Humanitarian Aid from 21/10/2023 to 1/2/2024 Witnessed 9,831 Aid Trucks Reaching #Gaza through the Rafah and Karm Abu Salem Crossings, Averaging 94.5 Trucks per Day. The Palestine Red Crescent Society Received 6,947 Trucks from the @EG_Red_Crescent via the #Rafah' <https://x.com/PalestineRCS/status/1754239103996969299> accessed 25 September 2024.

41 Margaret Besheer, 'UN: If No Cease-Fire, "Widespread Famine" in Gaza Is Near Certain' (*Voice of America*, 27 February 2024) <https://www.voanews.com/a/un-if-no-cease-fire-widespread-famine-in-gaza-is-near-certain/7505522.html> accessed 25 September 2024.

42 'UN Food Agency Pauses Deliveries to the North of Gaza | World Food Programme' (20 February 2024) <https://www.wfp.org/news/un-food-agency-pauses-deliveries-north-gaza> accessed 25 September 2024.

43 'Gaza aid disruption poses risk to Israel-Hamas hostage deal' <https://www.ft.com/content/8aa813fc-a87e-4002-9aaf-890c111aec35> accessed 25 September 2024.



Figure 7.11. Debris from 6 February attack on police officers.[44]

70 Reportedly, these attacks convinced police it was too dangerous to continue escorting convoys or guarding trucks, creating a vacuum in security that saw trucks and drivers attacked in the holding areas near crossings.[45] Subsequently, the World Food Programme attempted to resume its operations, but had to suspend them once again on 20 February, citing 'complete chaos and violence due to the collapse of civil order'. UNRWA followed suit days later.[46]

71 During this period, COGAT, the Israeli military office for Coordinating Government Activities in the Territories, published images of undelivered aid waiting to be picked up from the Karem Abu Salem/ Kerem Shalom crossing, in an effort to blame UN agencies and other organisations for not delivering aid in Gaza, even as Israel conducted operations against organisations responsible for facilitating it.[47]

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44 Quds News Network on X/Twitter: ' Israel's Military Has Targeted a Police Car in the Safe Area in Rafah Responsible for the Delivery of Humanitarian Aid, Killing Several Individuals' (6 February 2024) https://x.com/QudsNen/status/1754884001557332158 accessed 25 September 2024.

45 Quds News Network on X/Twitter: ' Israel's Military Has Targeted a Police Car in the Safe Area in Rafah Responsible for the Delivery of Humanitarian Aid, Killing Several Individuals' (6 February 2024) https://x.com/QudsNen/status/1754884001557332158 accessed 25 September 2024.

46 'UN Food Agency Pauses Deliveries to the North of Gaza | World Food Programme' (20 February 2024) <https://www.wfp.org/news/un-food-agency-pauses-deliveries-north-gaza> accessed 25 September 2024; Ruth Michaelson, 'UNRWA Suspends Aid to Northern Gaza amid "Collapse of Civil Order"' *The Guardian* (24 February 2024) <https://www.theguardian.com/world/2024/feb/24/unrwa-suspends-aid-to-northern-gaza-amid-collapse-of-civil-order> accessed 25 September 2024.

47 COGAT [@cogatonline], 'This Is the Content of 500 Trucks of Humanitarian Aid on the Gazan Side of Kerem Shalom, AFTER Israeli Inspection, Waiting to Be Picked up and Distributed by @UN Orgs. It Is the 3rd Day in a Row That Hundreds of Trucks Are Not Picked up. The UN Needs to Scale up Their Operations' <https://x.com/cogatonline/status/1758187447681155365> accessed 25 September 2024.

72 In late February, the United States administration reportedly asked Israel to stop targeting members of the civilian police force escorting aid trucks in Gaza, warning that a 'total breakdown of law and order' was significantly exacerbating the humanitarian crisis.[48] Nonetheless, Israeli attacks on key aid personnel continued, including a strike on a UNRWA-run food aid distribution centre close to the border with Egypt on 13 March 2024, which resulted in the deaths of six people, including Muhammad Abu Hasna, deputy head of police operations in Rafah, and a UNRWA aid worker, Hosni Yousef Abu Jazar [40313-42803]. 22 others were injured in the attack.[49] Philippe Lazzarini, UNRWA commissioner-general, said that the coordinates of the aid centre had been shared with the Israeli military repeatedly.[50] The Israeli military also struck a car on 13 March in Khirbat al-Adas, killing Nidal Musa Sheikh al-Eid and Muhammad Ibrahim Abu Hassoun, an aid worker. [51] [40313-68743]

73 The timing and distribution of the Israeli military's attacks on civilian police forces coordinating aid, as well as aid convoys, suggests that Israel targeted them when they were most relied on for delivering relief, in effect preventing international organisations and UN agencies from delivering aid by creating a demonstrable risk of their workers being killed by the Israeli military.

48 Barak Ravid Gottbrath Laurin-Whitney, 'U.S. Officials Warn: Gaza "Is Turning into Mogadishu"' (*Axios*, 24 February 2024) <https://www.axios.com/2024/02/24/gaza-humanitarian-aid-israel-hamas-police-biden> accessed 25 September 2024.

49 Nidal Al-Mughrabi, 'Israel Says Air Strike on Gaza UN Food Center Killed Hamas Militant' *Reuters* (13 March 2024) <https://www.reuters.com/world/middle-east/israeli-forces-kill-two-palestinians-west-bank-raid-after-deadly-night-2024-03-13/> accessed 25 September 2024.

50 'At Least One UNRWA Staff Killed When Israeli Forces Hit UNRWA Centre Used for Food and Lifesaving Supplies' (*UNRWA*) <https://www.unrwa.org/newsroom/official-statements/least-one-unrwa-staff-killed-when-israeli-forces-hit-unrwa-centre-used> accessed 25 September 2024.

51 Nidal Al-Mughrabi, 'Israel Says Air Strike on Gaza UN Food Center Killed Hamas Militant' *Reuters* (13 March 2024) <https://www.reuters.com/world/middle-east/israeli-forces-kill-two-palestinians-west-bank-raid-after-deadly-night-2024-03-13/> accessed 25 September 2024.

4 *January–March 2024: Attacks on civilians seeking aid*

74 Civilians were targeted when they gathered to receive aid in proximity to the Netzarim corridor



Figure 7.12. A map of attacks on civilians seeking aid between 9 January and 28 March 2024. The routes for incoming aid trucks are represented as brown lines with arrows indicating the direction of movement through crossings. During this period, the northernmost Erez crossings were not operational, and all aid trucks could move in only through the southern crossings, where imports were restricted. The Netzarim corridor is represented as a dashed line with three checkpoints on it (from west to east: al-Rashid Road checkpoint, Salah al-Din Road checkpoint, and Gate 96 crossing). Note that this date range focuses on attacks on civilians seeking aid specifically at the Netzarim corridor – other attacks of this type occurred outside the date range indicated here.

75 By February, Israeli attacks on police involved in aid coordination led to a vacuum in aid logistics in Gaza. This was particularly important in the south of Gaza, which had the only border crossing where aid was permitted to pass into Gaza. Aid trucks would enter in the south and then move north to deliver it.

76 The Netzarim corridor, which by this time divided Gaza into a north and a south, played a significant role in limiting aid crossing into northern Gaza. All other crossings leading into the north from Israel were closed from 7 October 2023 until 1 May 2024, so the only way that aid could reach there was by travelling from the south. (On 5 April, in response to a request for more aid by the US administration, Israel promised that the northern Erez crossing would open on 7 April, but that decision was later rescinded.)[52]

77 The Netzarim corridor (the outlines of which began to appear on satellite imagery as early as 15 November) intersects with the 'safe routes' that the Israeli military designated for the evacuation of displaced people who were ordered or forced to move south: Salah al-Din Road and al-Rashid Road. The first checkpoint processed Palestinians travelling southwards on foot.[53] However, as aid trucks began to arrive in Gaza, satellite imagery showed additional checkpoints appeared on the Israeli-imposed internal border, halting aid trucks from the south of Gaza.[54]

78 Aid trucks that managed to traverse the conflict area in the south now faced significant delays at the Netzarim corridor checkpoints.[55] Thus, even while COGAT issued reports that it was allowing more aid through the external border crossings into Gaza, this new internal border inhibited the delivery of aid.

79 The restriction on aid deliveries to northern Gaza, made worse by the closing of the northern crossings, the imposition of the Netzarim corridor, and the targeting of aid infrastructure forced many Palestinians to migrate south.

80 In testimony provided to Forensic Architecture by a Palestinian rights group, a civilian who was displaced from the Tuffah neighbourhood in northern Gaza in December 2023 explained that even when he was informed that he could return to Tuffah, food in northern Gaza was too scarce for his family to survive. 'We did not find food because it was prevented from reaching northern Gaza,' he said. 'We started eating barley, wheat, and soybeans, the food of cows, and because of the difficulty of converting and baking it, we would mix it with thyme and dukkah and fry it in oil because it was impossible to knead it. Even water, we would get a gallon of water for about (5–6) shekels, and because of the lack of money, I borrowed from my brother and the neighbours.' This scarcity of food compelled him to move south, he added. 'Because of this, we decided at the end of February 2024 to move to the south, as life became more difficult, the bombing intensified and the places around us became dangerous. We decided to move to the south because of hunger and the lack of food and water.'[56]

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52 Chris Lau Chowdhury Catherine Nicholls,Antoinette Radford,Maureen, 'April 7, 2024 - Israel-Hamas War' (*CNN*, 7 April 2024) <https://www.cnn.com/middleeast/live-news/israel-hamas-war-gaza-news-04-07-24/index.html> accessed 25 September 2024.

53 Aseel Mousa, '"Soldiers Started Shooting at My Feet": Palestinians Describe Fleeing Northern Gaza' The Guardian (26 November 2023) <https://www.theguardian.com/world/2023/nov/26/palestinians-describe-fleeing-northern-gaza> accessed 25 September 2024; '"They Shot Her Son in Her Arms and Forced Her to Throw His Body" Testimonies from the Death March on Salah al-Din Street' (*Mondoweiss*, 1 December 2023) <https://mondoweiss.net/2023/11/they-shot-her-son-in-her-arms-and-forced-her-to-throw-his-body-testimonies-from-the-death-march-on-salah-al-din-street/> accessed 25 September 2024.

54 Jake Godin [@JakeGodin], 'There's Also Been Some More Clearing Activity around the IDF's Salah al-Deen Road Checkpoint along "Route 749". What Looks like Some Newer Construction in the Area as Well. <https://x.com/JakeGodin/status/1780590556663468044> accessed 25 September 2024.

55 Lucy Rodgers and others, 'Tonnes of Food Is Stuck on Gaza's Border While the Enclave Nears Famine' (9 April 2024) <https://ig.ft.com/gaza-aid/> accessed 11 October 2024.

56 Testimony provided to al-Mezan Center for Human Rights and shared with Forensic Architecture.

81 A former resident of Beit Lahiya in northern Gaza also cited the difficulty of obtaining food due to scarcity and food prices as a reason to leave his home. 'At the beginning of February 2024, the prices of food began to rise significantly due to the unavailability of most of them in the market,' he said. 'A kilo of flour reached (180) shekels, a kilo of barley (100), and a kilo of corn (130), and things became very difficult for us, and due to the lack of cash, and many citizens do not have a fixed source of income, so the circumstances became complicated, and hunger began to appear among us, and many children were transferred to hospitals due to malnutrition.' Faced with these difficulties, this man also decided to leave his home. 'Due to my inability to provide food, my daughters were unable to manage without … food and bread. And so, because of the famine, I decided to move to the south, specifically to Rafah, where my family had previously been displaced.'[57]

82 Not all residents of northern Gaza left for the south, however, and those that remained suffered dire conditions which were exacerbated by restrictions on aid passing through the Netzarim corridor. Our data shows that between January and March 2024, civilians seeking aid in northern Gaza were attacked by the Israeli military 37 times at al-Kuwaiti and al-Nabulsi roundabouts, which are just north of the checkpoints where the two 'safe routes' cross the Netzarim corridor. The majority of these attacks occurred after the ICJ's first Provisional Measures Order on 26 January 2024.[58]

[57] Testimony provided to al-Mezan Center for Human Rights and shared with Forensic Architecture.

[58] Incident IDs: 40229-37742; 40226-52155; 40111-66760; 40114-57983; 40218-48954; 40219-48842; 40222-00760; 40223-87043; 40224-51918; 40225-48045; 40228-34395; 40229-41520; 40301-77405; 40304-47580; 40305-20471; 40306-90593; 40307-40148; 40309-94257; 40312-01190; 40302-66440; 40227-85262; 40122-47313; 40124-62670; 40130-30542; 40207-63171; 40303-44729; 40309-45555; 40311-84194; 40313-74966; 40314-85098; 40323-83966; 40324-40612; 40326-61798; 40315-98248; 40123-98588; 40125-53785; 40204-44732.

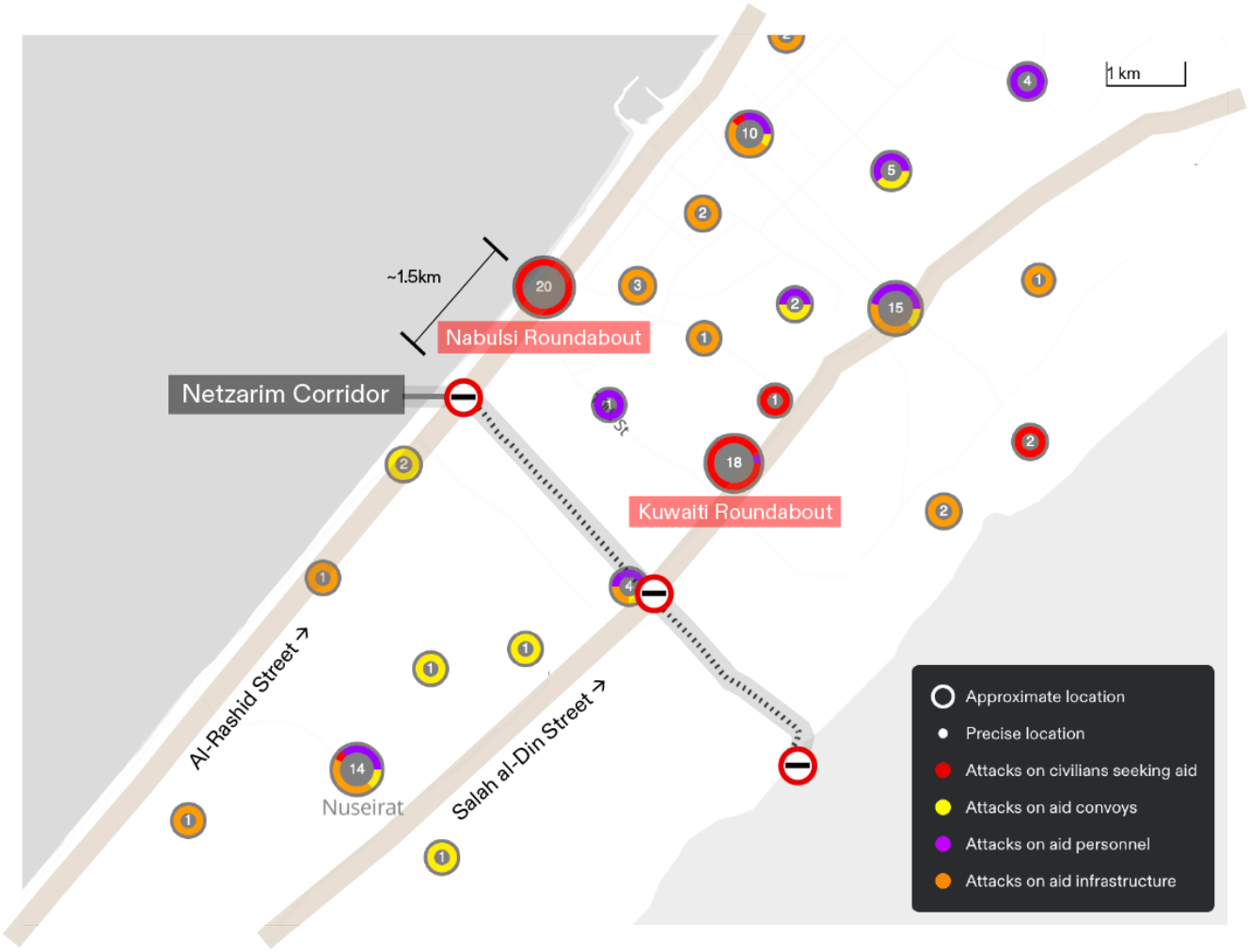

Figure 7.13. Attacks on civilians seeking aid (red) at the Nabulsi and Kuwaiti roundabouts, just north of the Netzarim corridor (dashed line). Attacks on aid personnel (purple) were also carried out at al-Kuwaiti roundabout. Aid trucks from the south are intercepted by the Netzarim corridor as they move north on Salah al-Din Road and al-Rashid Road, where Israeli attacks on aid convoys (yellow) have occurred.

83 In an interview conducted by the Bisan Center, a Palestinian research group, one Palestinian field coordinator for aid convoys explained: 'After the occupation searches the trucks, it orders us to pass through al-Rashid Road or Salah al-Din Road without prior warning, and because the occupation destroys these streets every day, whether by bulldozers or by building sand mounds or by throwing missiles and large bombs in the middle of these streets, we can only cross a few metres at al-Nabulsi roundabout or al-Kuwait roundabout. They also target all those who attempt to repair those streets. I stop either at al-Nabulsi roundabout, the 17th roundabout, or al-Kuwait roundabout, but there is no coordinating point to receive this aid. The dangerous thing about the matter is that the drones [quadcopters] and tanks of the occupation advance while we cross those areas and shoot at the people gathered to receive aid, often killing dozens and wounding dozens more.'[59]

84 According to the interview, the field coordinator also cited an incident where the Israeli military intercepted three aid truck drivers and ordered them to traverse the al-Rashid checkpoint at high speed under the threat of being bombed. This reportedly forced the drivers to run over people who could not get out of the way.[60]

85 The Netzarim corridor provides the Israeli military with immediate control over aid logistics, which it lacks elsewhere in Gaza. On 22 February, in the wake of the breakdown of aid operations caused by attacks on police officers, Israeli officials announced their plan for 'humanitarian pockets', which they described as areas secured by the Israeli military, in which cooperative Palestinian partners would oversee aid deliveries. They suggested the Zeitoun neighbourhood of Gaza City as a candidate for trialling the idea.[61] Israeli sources have so far not publicly described any areas in Gaza as officially constituting a 'humanitarian pocket'. However, attacks on Palestinian organisations facilitating aid near the Netzarim corridor (see next Section) and third-party reports[62] both suggest this idea was implemented in aid distribution near the Netzarim corridor throughout January and March 2024, whereby aid distribution was overseen and moderated by the Israeli military.

86 This form of aid distribution is also reflected in Israeli defence minister Yoav Gallant's stated plan for Gaza: 'We will isolate areas, remove Hamas operatives from these areas and introduce forces that will enable an alternative government to form – an alternative that threatens Hamas.' Israel's approach to such an alternative government is documented concretely in its day-after plans, which envision collaboration with cooperative Palestinian civic organisations.[63] Accordingly, Israel solicited Palestinian groups to cooperate in aid facilitation. For example, the aid convoy that precipitated the Flour Massacre

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59 'Flour Ambushes in Gaza: Chaos and Starvation Are Weapons Used by the Occupation against Civilians in the Gaza Strip' (15 April 2024) <https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/> accessed 25 September 2024.

60 'Flour Ambushes in Gaza: Chaos and Starvation Are Weapons Used by the Occupation against Civilians in the Gaza Strip' (15 April 2024) <https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/> accessed 25 September 2024.

61 Reuters and ToI Staff, 'Israeli Official Confirms Plan for Locals to Run "Humanitarian Pockets" in Gaza' <https://www.timesofisrael.com/israeli-official-confirms-plan-for-locals-to-run-humanitarian-pockets-in-gaza/> accessed 25 September 2024.

62 Aaron Boxerman, Adam Rasgon and Andy Newman, 'Israel Helped Organize Convoy That Ended in Disaster' *The New York Times* (2 March 2024) <https://www.nytimes.com/2024/03/02/world/middleeast/gaza-aid-convoy-israel-palestinians.html> accessed 25 September 2024.

63 'What Is Israel's Latest "Day after" Plan for Gaza?' (Al Jazeera) <https://www.aljazeera.com/news/2024/1/5/what-is-israels-latest-day-after-plan-for-gaza> accessed 25 September 2024; 'Israel's Defense Minister Discusses a "Governing Alternative" to Hamas, and Other News.' *The New York Times* (2 June 2024) <https://www.nytimes.com/live/2024/06/02/world/israel-gaza-war-hamas-rafah> accessed 25 September 2024.

was reportedly organised by Israeli officials as part of a plan to coordinate aid deliveries with local businessmen in Gaza without the help of international aid groups.[64] Groups that refuse to cooperate have been targeted by the Israeli military (as discussed in the next subsection).

87 It is notable that while the Israeli military attacked police in the south of Gaza, compromising aid logistics there, it solidified its control over the movement of aid into the north. On 12 March, the Israeli military announced a new crossing, Gate 96, on the eastern end of the Netzarim corridor, 'as part of a pilot to prevent Hamas from taking over the aid'.[65] On 12 March, COGAT posted online: 'UN orgs, you too should send aid trucks to the north, we will coordinate as usual. There is no limit to the amount and movement of aid to northern Gaza.'[66] This statement elides the conditions on the ground created by the Israeli military and the Netzarim corridor, which resulted in the killing of hundreds of civilians seeking aid and endangering the lives of aid truck drivers. The efficiency of the Gate 96 crossing was reportedly minimal in contrast to the normal throughput of the southern Gaza crossings.[67]

88 The Netzarim corridor also housed the temporary floating pier, built by the Israeli military's ally the US military, as an alternative means of supplying aid to Palestinians in north Gaza. However, the fact that the pier (which was removed in July) was installed in an Israeli military zone made aid workers reluctant to cooperate with deliveries originating there. According to a doctor working with an International Medical Corps mission in Gaza, aid workers began to avoid the area when Israeli helicopters were seen taking off from near the floating US pier in June, during a hostage rescue mission in which hundreds of Palestinians were killed.[68] This sighting of the Israeli military nearby the US pier raised concerns that the location of the pier in the Netzarim corridor meant that it could be used not only for aid administration but also for military logistics.

89 This dual use of the Netzarim corridor for aid and military logistics contextualises the attacks on civilians seeking aid there. The Israeli decision to concentrate these logistics in one place, in an apparent effort to control aid facilitation more thoroughly, has had lethal consequences for civilians reliant on this infrastructure for critical aid. It also undermined the notion that the US pier could effectively operate to administer aid to northern Gaza. Rather than optimising the administration of aid as such, the Netzarim corridor, the pier, and the checkpoints comprise one logistical complex for intercepting aid and replacing humanitarian aid delivery systems with systems controlled by the Israeli military and the US. Palestinian efforts to develop alternative aid systems are not only forbidden within this infrastructure but are directly attacked (see next subsection).

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64 Aaron Boxerman, Adam Rasgon and Andy Newman, 'Israel Helped Organize Convoy That Ended in Disaster' T*he New York Times* (2 March 2024) <https://www.nytimes.com/2024/03/02/world/middleeast/gaza-aid-convoy-israel-palestinians.html> accessed 25 September 2024.

65 Israel Defense Forces [@IDF], '6 Humanitarian Aid Trucks Containing Aid from the World Food Organization (WFP) Entered Northern Gaza. This Was Done as Part of a Pilot to Prevent Hamas from Taking over the Aid.' <https://x.com/IDF/status/1767667602178925012> accessed 25 September 2024.

66 COGAT [@cogatonline], 'Overnight, 11 Food Trucks Made Their Way to Northern Gaza. In the Last 24 Hours, 26 Trucks Traveled North, All Private Sector. @UN Orgs, You Too Should Send Aid Trucks to the North, We Will Coordinate as Usual. There Is No Limit to the Amount and Movement of Aid to Northern Gaza. Https://T.Co/PAgRvz9BCP' <https://x.com/cogatonline/status/1765671480724000911> accessed 25 September 2024.

67 'Gaza War: Gate 96, the New Crossing Where Aid Struggles to Get In' (*BBC News*, 25 March 2024) <https://www.bbc.com/news/world-middle-east-68659025> accessed 25 September 2024.

68 From a series of interviews conducted by Al Jazeera between May and July 2024 and provided to Forensic Architecture. See also: Phil Stewart, 'Pentagon Says Israel Did Not Use Gaza Pier in Hostage Operation' *Reuters* (10 June 2024) <https://www.reuters.com/world/middle-east/israeli-hostage-rescue-operations-came-near-us-pier-were-separate-pentagon-2024-06-10/> accessed 25 September 2024.

5 *March 2024: Attacks on aid administrators*

5.1 Palestinian organisations administering aid were targeted when they began to play a more prominent role in aid distribution. Attacks on these organisations were extensive enough to eliminate their key administrators or otherwise force them to discontinue aid operations.

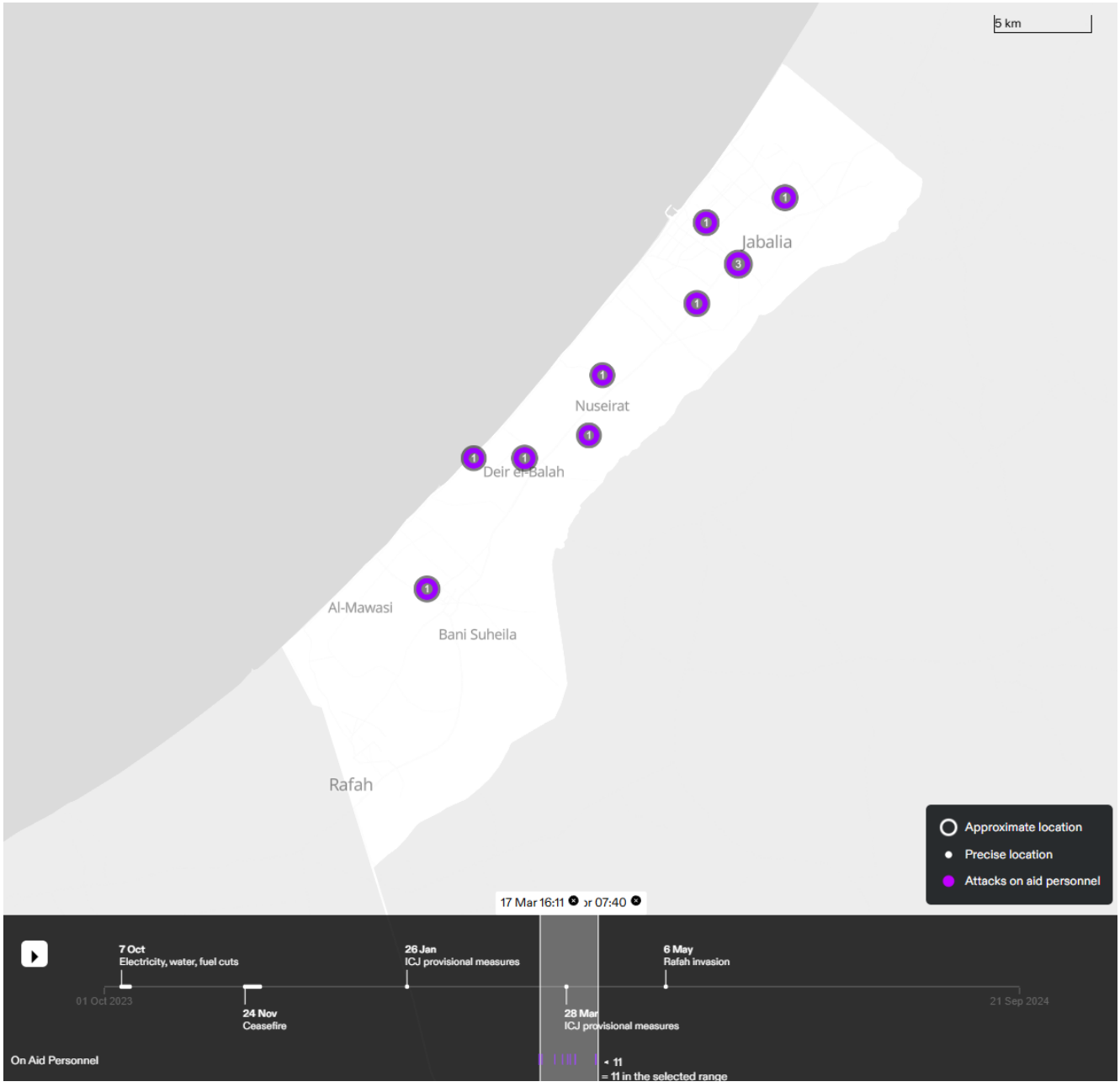

Figure 7.14 Attacks on aid administrators, as well as continued attacks on Palestinian police, from the day that aid was reported to successfully arrive in northern Gaza on 17 March to the third reported targeting of tribal family groups coordinating aid on 9 April 2024. Note that other attacks of this type occurred outside of the selected date range.

90 In response to the attacks on civilians seeking aid at the Netzarim corridor, on 16 March Palestinian Security Forces distributed flyers in northern Gaza instructing civilians not to seek aid at the roundabouts near the Netzarim corridor because of the danger. [69]

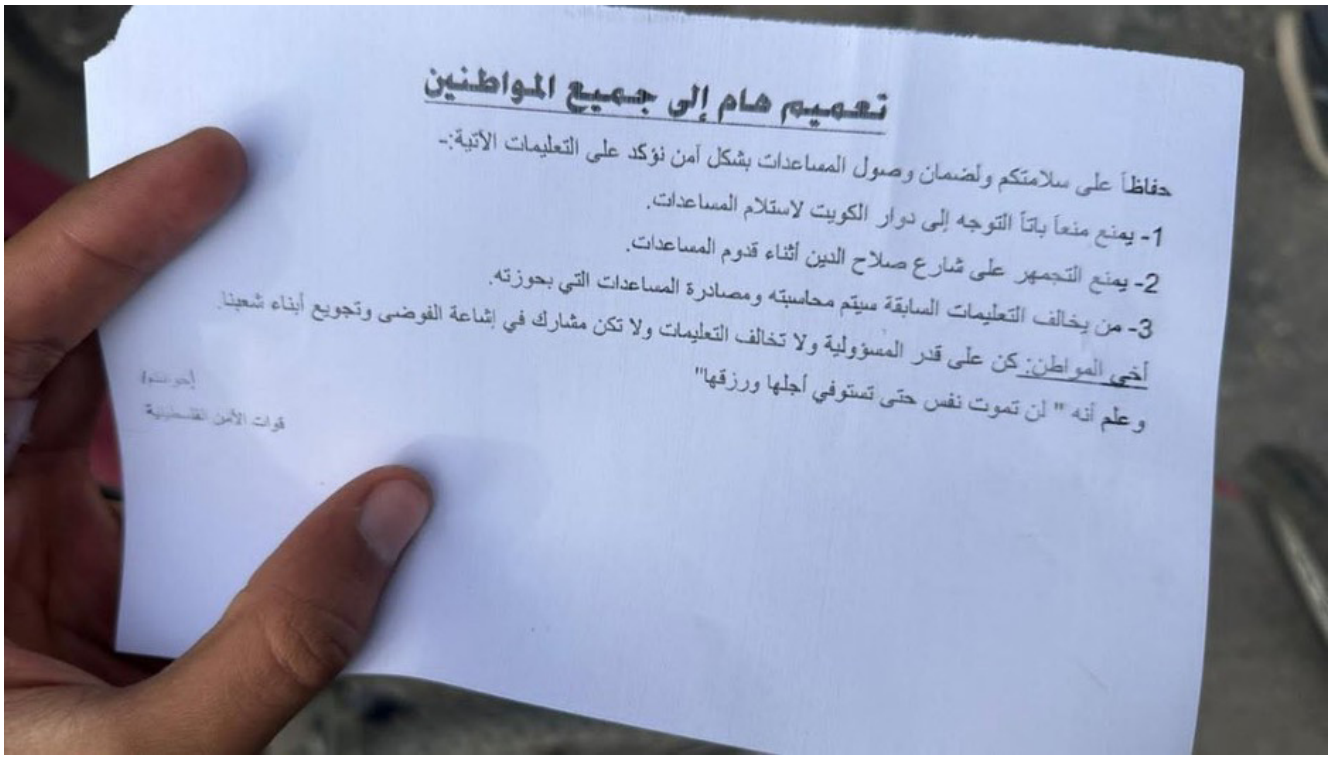

Figure 7.15 A translation of the flyer: 'Important Announcement to All Citizens: To ensure your safety and the secure arrival of assistance, please adhere to the following instructions: (1) It is strictly forbidden to go to Kuwait Circle [al-Kuwaiti roundabout] to receive aid. (2) It is forbidden to gather on Salah al-Din Road while receiving aid. (3) Anyone who violates the above instructions will have their aid confiscated. Dear citizens, please be as organised as possible, and do not contribute to chaos or encourage others to do so. Remember, Do not kill yourselves by your own hands, and do good."' Issued by: Palestinian Security Forces'.

69 متابعة صفا| قوات الأمن تصدر تعميمًا للمواطنين في مدينة غزة بشأن التوجه لدوار الكويت والتجمهر على طريق صلاح الدين أثناء مرور شاحنات ' وكالة صفا [@SafaPs], المساعدات' <https://x.com/SafaPs/status/1769046277403107674> accessed 25 September 2024.

91 On 17 March, media evidence showed aid being delivered at the UNRWA HQ in South Rimal Gaza, and 15 aid trucks arriving at al-Shifa Hospital over the course of two days.



Figure 7.16. 17 March 2024: Palestinians queue to receive flour in northern Gaza.[70]

[70] 'Telegram: Contact @AJPalestine' <https://t.me/AJPalestine/40484> accessed 25 September 2024.

92 Successful aid deliveries were reportedly escorted by what an Al Jazeera correspondent called, 'local committees and monitoring committees comprised of clans, notables, and elders, who oversaw the arrival of the aid'.[71] Civil service workers checking Palestinian IDs were also present at the scene (Figure 7.17, below). This evidence suggests that local Palestinian systems of aid facilitation operated effectively with a high level of organisation, while Israeli control over aid exchanges near the Netzarim corridor had repeatedly resulted in mass casualties. Together with the efforts by Palestinian Security Forces to divert aid receipt away from the Netzarim corridor, these successful aid deliveries demonstrate that there were competing regimes of aid administration. This helps to contextualise subsequent Israeli attacks.



Figure 7.17. An Al Jazeera report in March 2024 showed Palestinian civil servants checking IDs at an aid distribution site in northern Gaza.[72]

93 On 18 March 2024, Israel attacked al-Shifa Hospital for the second time (following the initial invasion of 11 November 2023), this time destroying it (see Chapter 5: Destruction of Medical Infrastructure). Significantly, the invasion of al-Shifa hospital included the killing of Faiq al-Mabhouh, a senior police official, who was said to be principally responsible for aid logistics, according to the Gaza government media office. [ID: 40318-40834]

94 On 18 March, as the Israeli military raided al-Shifa Hospital again and killed Mabhouh, the police coordinator of aid, it also began to kill several other key aid personnel in the northern region of Gaza, including Lt. Col. Raed al-Banna, the director of police investigations in northern Gaza who was responsible for securing the entry of aid into Jabalia. Al-Banna was killed alongside his wife and children in an airstrike on their home on 18 March. [ID: 40318-49809] The same day, the Israeli military also attacked an aid storage centre in Jabalia, killing aid workers Adel al-Ashkar and Ashraf Hamid. [ID: 40507-83805] The next day, 19 March, Lt. Col. Mahmoud al-Bayoumi, head of Nuseirat Police, was

[71] مراسل الجزيرة: 2700 كيس طحين وصلت لمناطق شمال قطاع غزة (Directed by AlJazeera Arabic قناة الجزيرة, 2024) <https://www.youtube.com/watch?v=FDHHAFawQPA> accessed 25 September 2024.

[72] 'The Real Reason Israel Stormed Al-Shifa Hospital yet Again' (*Mondoweiss*, 19 March 2024) <https://mondoweiss.net/2024/03/the-real-reason-israel-stormed-al-shifa-hospital-yet-again/> accessed 25 September 2024.

killed inside his car by an Israeli airstrike outside the UNRWA headquarters in Nuseirat. [ID: 40319-89886]. On 11 April, the Israeli military killed Hamed Muhammad Ali Ahmed and Radwan Radwann, police administrators operating in Jabalia, who were reportedly responsible for administering aid.[73] [ID: 40411-27952; 40411-65315]

[73] 'Hamas's Jabaliya Police Chief Killed in Northern Gaza Airstrike — IDF, Shin Bet' <https://www.timesofisrael.com/liveblog_entry/hamass-internal-security-chief-killed-in-northern-gaza-airstrike-idf-shin-bet/> accessed 25 September 2024.

95 Israel's targeting of aid personnel also included attacks on Palestinian family tribal groups. The family tribes, which have historically operated informal welfare systems and judicial systems, have also played a key role in aid administration. [74] Some groups have formed committees for aid administration, with others providing members of the People's Protection Committee, which sends volunteers to escort aid convoys.[75]

96 Tribe members are often present where aid is received north of the Netzarim corridor.[76] As outlined in Section H-3: Attacks on civilians seeking aid, Israel has attempted to solicit cooperative stakeholders to participate in its sole administration of aid and the so-called 'day-after plan'. But leaders of these groups, which together form the Supreme Council for Tribal Affairs, have been outspoken in their condemnation of these Israeli proposals for postwar administration in Gaza, which envisions Israeli security and aid coordination in collaboration with local organisations.[77]

97 The Supreme Council for Tribal Affairs issued statements rejecting the Israeli plans on 11 March and again on 13 March.[78] On 19 March, 24 March, and 9 April, tribal committees overseeing aid incoming north of the Netzarim corridor were attacked. On 19 March, at least 20 people were reportedly killed in an airstrike on an aid distribution centre. [ID: 40319-69896] One of the victims was reportedly Amjad Hathat, director of western Gaza's emergency committee.[79] On 24 March, one person was reportedly killed and two injured in an attack on a tribal committee facilitating aid at al-Kuwaiti roundabout. [ID: 40324-40612]

98 On 25 March, Israel announced that it would no longer approve aid shipments into northern Gaza by UNRWA.[80] On 31 March, a statement released by tribal aid committees declared that they would cease aid administration as a result of attacks against them.[81]

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74 'The Challenge of Clans and Families' <https://www.crisisgroup.org/sites/default/files/71-inside-gaza-the-challenge-of-clans-and-families.pdf > accessed 25 September 2024.

75 Aya Batrawy, 'People in Gaza Are Starving to Death. 5 Things to Know about Efforts to Feed Them' *NPR* (20 March 2024) <https://www.npr.org/2024/03/20/1239396713/gaza-famine-hunger-food-aid-israel-hamas-war> accessed 25 September 2024.

76 كيس طحين وصلت لمناطق شمال قطاع غزة 2700 مراسل الجزيرة: (Directed by AlJazeera Arabic 2024 ,قناة الجزيرة) <https://www.youtube.com/watch?v=FDHHAFawQPA> accessed 25 September 2024.

77 '13 مفوض العشائر في غزة: نحن رديف كفاحي لقوى شعبنا ولن نتعامل مع الاحتلال مطلقًا' (وكالة الصحافة الفلسطينية, March 2024) <https://safa.ps/post/367760/مفوض-العشائر-في-غزة-نحن-رديف-كفاحي-لقوى-شعبنا-ولن-نتعامل-مع-الاحتلال-مطلق-ا> accessed 27 September 2024; 'Palestinian Tribes Reject Israeli Plans to Devolve Gaza Administration' (Middle East Eye) <https://www.middleeasteye.net/live-blog/live-blog-update/palestinian-tribes-reject-israeli-plans-devolve-gaza-administration> accessed 27 September 2024; 'Admin, '"Not an Alternative" - Coalition Rejects Israel's Attempts at Tribal Rule in Gaza' (Palestine Chronicle, 11 March 2024) <https://www.palestinechronicle.com/not-an-alternative-coalition-rejects-israels-attempts-at-tribal-rule-in-gaza/> accessed 27 September 2024.

78 Ibid.

79 'Emergency Committee Chief in Western Gaza Killed in Latest Attack on Aid Seekers' (Middle East Eye) <https://www.middleeasteye.net/live-blog/live-blog-update/emergency-committee-chief-killed-latest-attack-aid-seekers> accessed 27 September 2024.

80 'Israel's New Aid Ban on UNRWA in Gaza "a Wrong Move": UN Coordinator | *UN News*' (25 March 2024) <https://news.un.org/en/story/2024/03/1147961> accessed 27 September 2024.

81 اللجان العشائرية بغزة تعلن وقف تأمين المساعدات'ت <https://www.aljazeera.net/news/2024/3/31/%d8%a7%d9%84%d9%84%d8%ac%d8%a7%d9%86-%d8%a7%d9%84%d8%b9%d8%b4%d8%a7%d8%a6%d8%b1%d9%8a%d8%a9-%d8%a8%d8%ba%d8%b2%d8%a9-%d8%aa%d8%b9%d9%84%d9%86-%d9%88%d9%82%d9%81-%d8%aa%d8%a3%d9%85%d9%8a%d9%86-2> accessed 27 September 2024.

6 *October 2023–September 2024: Attacks on aid infrastructure*

99 Israel has targeted sites of aid distribution and storage such as warehouses consistently since 9 October 2023; the Rafah crossing was attacked during three distinct periods when increased volumes of aid were entering Gaza.



Figure 7.18. Attacks on aid infrastructure throughout 7 October 2023 to 21 September 2024.

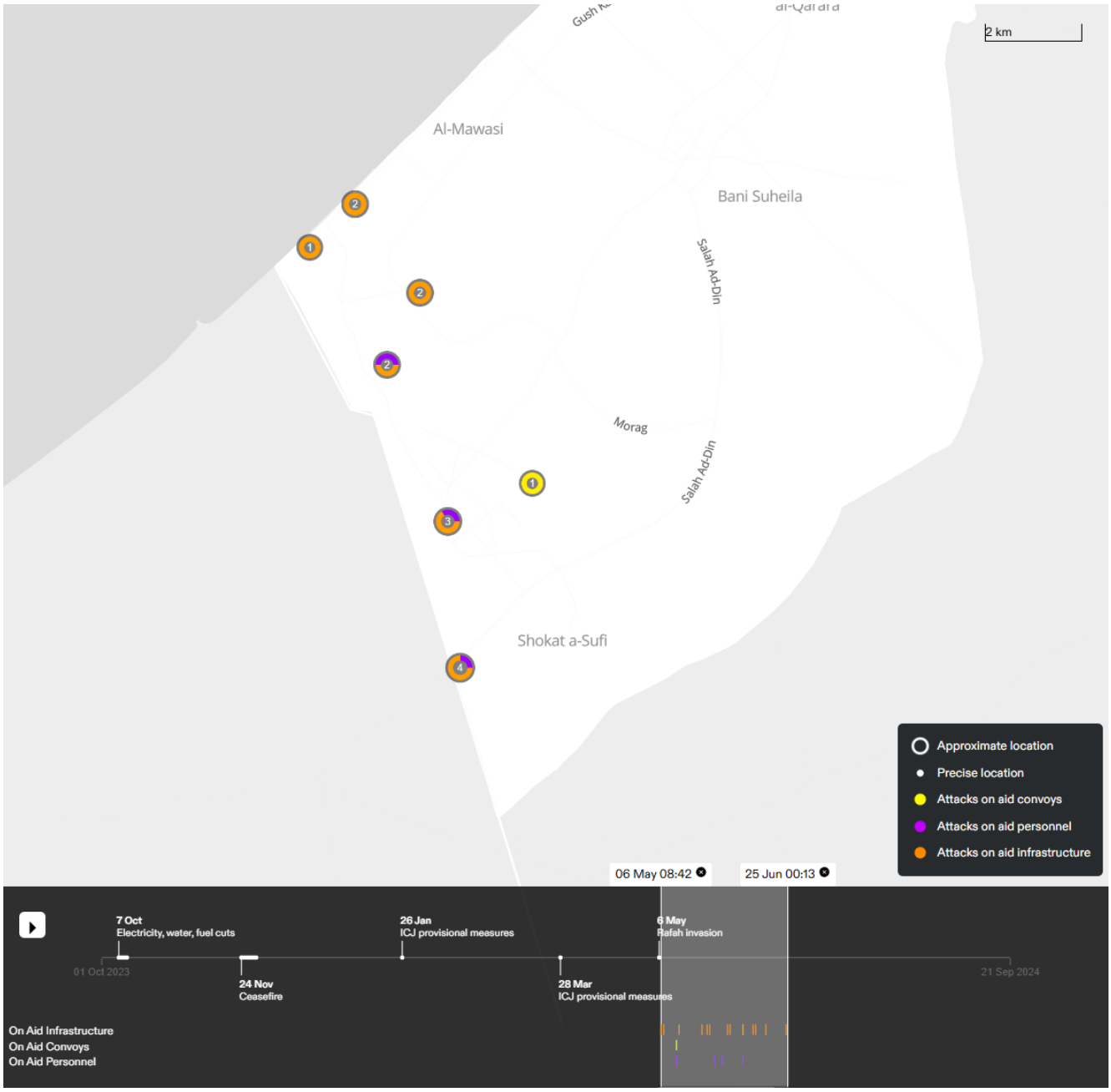

Figure 7.19. Attacks on aid infrastructure, personnel, and convoys in southern Gaza following the invasion of Rafah, from 6 May to 25 June 2024.

100 Our analysis suggests that attacks on aspects of aid infrastructure in Gaza began very soon after the commencement of Israel's military campaign in October 2023. The Rafah crossing was attacked during three distinct periods. The repeated attacks on the Rafah crossing are significant, because up until the last attack, the crossing was operated by Egypt.[82] While the other crossings could be closed by Israel, the Rafah crossing was more difficult to control due to Egyptian jurisdiction.

101 Between 9 and 16 October 2023, the Rafah crossing was struck at least three times.[83] On the other hand, other early attacks on aid infrastructure were concentrated north of Wadi Gaza, which coincided with Israeli evacuation orders directing civilians in the north to move south.[84] After the Rafah crossing was reopened on 21 October, attacks on aid infrastructure were seen in the south as well. [85]

102 On 21 December, days after Israel opened the Karem Abu Salem/Kerem Shalom crossing, the Israeli military attacked the crossing, killing its director. [ID: 31221-64053]

103 After April 2024, when aid intake was at its highest, attacks on aid infrastructure shifted primarily to the south, along with the Israeli invasion of Rafah.[86] These attacks included:

(a) On **6 May**, the Israeli military set fire to an aid warehouse near the Rafah crossing. [ID: 40507-24645] The Israeli military seized the Rafah crossing, which was operated by Egypt up until this point.[87]

(b) On **7–8 May**, the Israeli military attacked the Rafah East Distribution Centre operated by UNRWA. [ID: 40507-83806]

(c) On **3 June**, the Israeli military attacked the Rafah logistics base operated by UNRWA. [ID: 40603-06535]

(d) On **12 June**, the Israeli military destroyed a Humanity & Inclusion U.S. warehouse managed by Atlas Logistique in Rafah. [ID: 40612-74960]

104 From the invasion of Rafah on 7 May until 20 May, 'not a single WFP truck crossed from the southern corridors from Egypt,' according to the World Food Programme director for the Palestinian territories. WFP also lost access to its main warehouse in southern Gaza, because it was included within an evacuation zone.[88]

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82 Peter Beaumont, 'Israel and Egypt in Growing Diplomatic Row over Rafah Border Crossing' *The Guardian* (15 May 2024) <https://www.theguardian.com/world/article/2024/may/15/israel-egypt-diplomatic-row-rafah-border-crossing-gaza> accessed 26 September 2024.

83 3 Incident IDs: 31010-25053; 31009-21939; 31010-42259

84 6 Incident IDs: 31009-48673; 31015-25099; 31015-75260; 31020-67299; 31025-41597; 31016-21553

85 US Mission Israel, 'Security Alert #11: Rafah Border Crossing' (*U.S. Embassy in Israel*, 21 October 2023) <https://il.usembassy.gov/security-alert-11-rafah-border-crossing/> accessed 26 September 2024.

86 On 5 April 2024, Israel agreed to US demands to allow more aid to enter Gaza. This decision led to 468 aid trucks entering on 9 April, which was the highest one-day total of trucks entering since the start of the Israeli offensive, according to COGAT. COGAT [@cogatonline], '468 Humanitarian Aid Trucks Were Inspected and Transferred to Gaza Today (Apr. 9). This Is the Highest Number of Aid Trucks That Entered Gaza in One Day since the Start of the War. More than 1200 Aid Trucks Entered Gaza over the Last 3 Days.' <https://x.com/cogatonline/status/1777759857967268276> accessed 26 September 2024.

87 'Israel Seizes Gaza's Vital Rafah Crossing, but the US Says It Isn't the Full Invasion Many Fear' (AP News, 7 May 2024) <https://apnews.com/article/israel-palestinians-gaza-hamas-war-05-07-2024-113bf4ee5dad87dc5c003d76ed2785bf> accessed 14 October 2024.

88 'WFP Warns of "Apocalyptic" Scenes in Southern Gaza' (*Arab News*, 31 May 2024) <https://arab.news/ru7h2> accessed 26 September 2024.

105 Testimonies provided by aid workers suggest that the administrative and logistical processes put in place by Israel for aid deliveries in fact delay or prevent those deliveries. According to a UNICEF staff member, even when aid enters through a crossing into Gaza, aid organisations may still be denied access to it.[89] They also state that Israeli decisions to reroute aid convoys moving through Gaza tend to slow down these aid convoys and place them in danger more often than they protect them from conflict. According to a member of the United Nations OCHA staff, crossings may close and open arbitrarily without providing any rationale.[90] They state that while Israel depends on humanitarian organisations to explicitly indicate what is required to administer aid, at the same time it attacks and impedes these very organisations.

106 Critically, delays to aid convoys do not simply slow down aid deliveries but prevent them from being facilitated altogether. For example, the same UNICEF staff member cited a situation where a mission to deliver clean water to Kamal Adwan Hospital was granted five hours initially, but was then asked to complete its task in just 45 minutes, leading to the mission being entirely abandoned.[91] Other examples of similar circumstances have been reported.[92]

107 Another aid worker described the harm of the delays and detours: 'I suffered from severe panic and anxiety for many days following the shocking events on the night of 17 January 2024. We were targeted while transporting and unloading food and flour to the northern Gaza Strip, where the occupation army had forced us to circle around the outskirts of the central Gaza Strip near Juhr al-Deek, a distance of 32 kilometres, to reach the Kuwait roundabout near Gaza City, which delayed the delivery of this aid, mainly because of running out of fuel, which left these trucks exposed to looting by local armed groups.'[93]

[89] From a series of interviews conducted by Al Jazeera between May and July 2024 and provided to Forensic Architecture.
[90] From a series of interviews conducted by Al Jazeera between May and July 2024 and provided to Forensic Architecture.
[91] From a series of interviews conducted by Al Jazeera between May and July 2024 and provided to Forensic Architecture.
[92] 'تقرير بعثة منظمة الصحة العالمية: ستة أشهر من الحرب تحوّل مستشفى الشفاء إلى حطام وأطلال' <https://www.who.int/ar/news/item/27-09-1445-six-months-of-war-leave-al-shifa-hospital-in-ruins--who-mission-reports> accessed 26 September 2024.
[93] 'Flour Ambushes in Gaza: Chaos and Starvation Are Weapons Used by the Occupation against Civilians in the Gaza Strip' (15 April 2024) <https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/> accessed 26 September 2024.

7 October 2023–September 2024: Attacks on markets

108 **The Israeli military repeatedly targeted markets, vital centres of aid distribution and commercial food access across Gaza.**

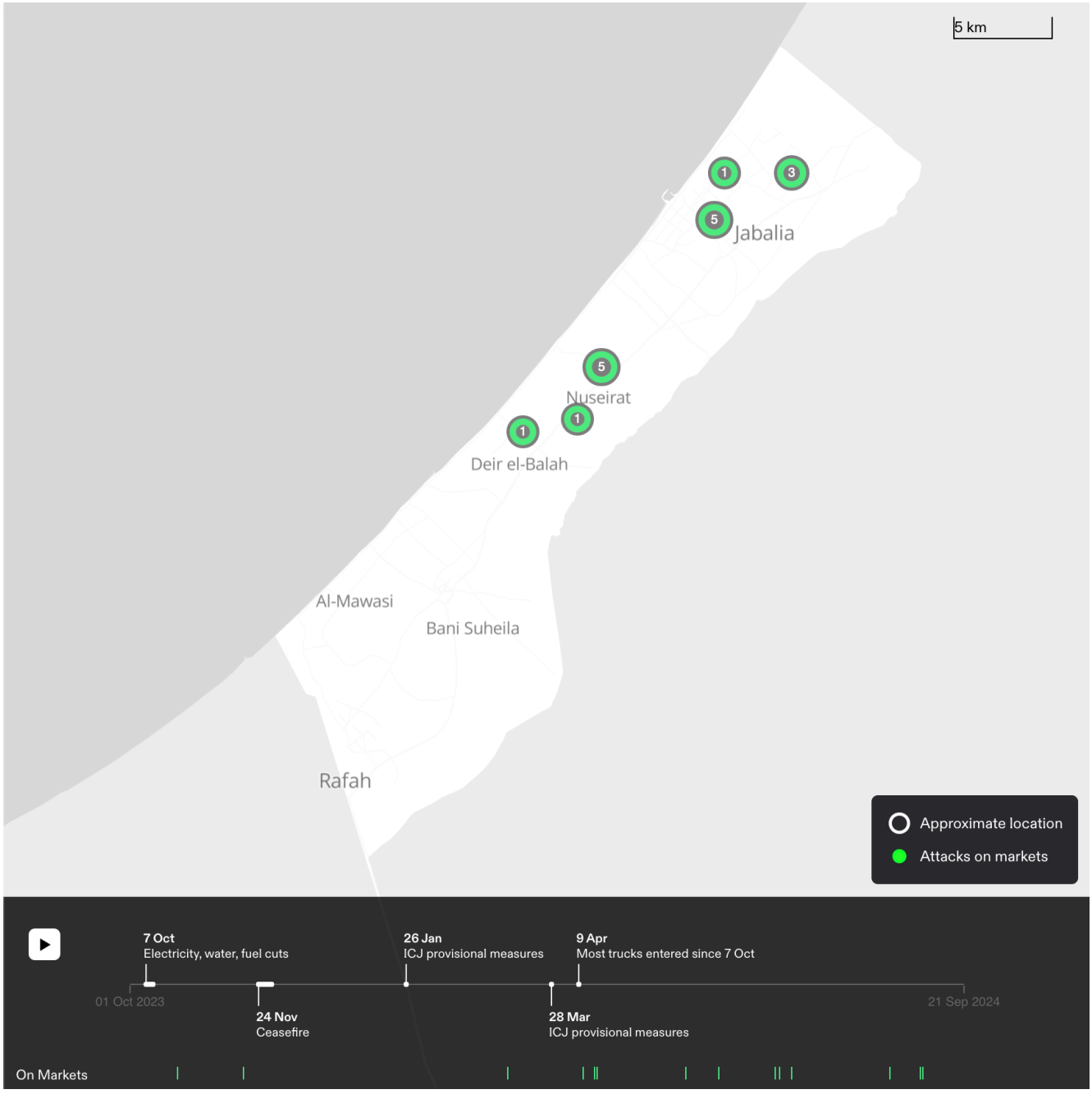

Figure 7.20. Documented attacks on markets from 7 October 2023 to 21 September 2024.



Figure 7.21. Documented attacks on markets in northern Gaza in the week after the highest volume of aid trucks entering on 9 April.

109 The successful aid deliveries in late March (outlined in Section H-5: Attacks on aid personnel – aid administrators) comprised what a member of the UK-based charity Medical Aid for Palestinians described as the 'golden age' of aid reaching the north of Gaza, at which point even vegetables could be found there. [94] Even as the Israeli military forced Palestinian organisations administering aid in the north during this period to stop working, some food remained available at markets.

110 On 11 March, COGAT posted a photograph of 'market scenes from Nuseirat' (Figure 7.22). Significant destruction at the same market is hidden from view in COGAT's post (Figure 7.23). On 29 March, the Israeli military attacked the Shuja'iyya neighbourhood, where one strike reportedly targeted police engaged in aid activities at the al-Shuja'iyya Sports Club, killing a total of 10 people, with police among them [ID: 40329-14922].



Figure 7.22 A picture posted by COGAT on 11 March 2024 of a market in Nuseirat (left), following an attack that reportedly killed eight civilians on 10 March.[95]

[94] From an anonymous interview shared to us by Al Jazeera
[95] COGAT [@cogatonline], 'Market Scenes from Nusierat and Al-Maghazi Markets, Today, Mar. <https://x.com/cogatonline/status/1767256594629136742> accessed 26 September 2024.



Figure 7.23 Pictures of the same market with significant destruction in view.[96]

(a) On **1 April 2024**, the Israeli military attacked a World Central Kitchen convoy of aid workers, killing seven people. [ID: 40401-39679]

(b) On **5 April 2024**, Israel agreed to US demands to allow more aid to enter Gaza. This decision led to 468 aid trucks entering on 9 April, which was the highest one-day total of trucks entering since the start of the Israeli offensive, according to COGAT.[97]

(c) In the week following this significant influx of aid, we documented five attacks on markets in north Gaza.[98]

(d) On **11 April 2024**, Firas Market in Zeitoun was targeted, killing at least six people and injuring 20. On the same day, seven people were reportedly killed when a market in al-Nuseirat refugee camp was struck. [ID: 40411-25044]

(e) On **16 April 2024**, the Israeli military bombed a market in al-Maghazi, killing 15. According to Amnesty International: 'The munition landed in the middle of a market street where children were playing around a foosball table. Amnesty International reviewed four videos and 22 photographs filmed by residents and journalists, and those taken at the scene by its fieldworkers. [...] The pattern of damage at the scene, and the electronic components in the recovered fragments, matched that of small precision-guided missiles and glide bombs launched by Israeli drones. No helicopter or planes were reported in the area that day, while drones were heard consistently according to witnesses interviewed by Amnesty International. [...] Responding to CNN, the Israeli military initially said it struck a "terror target" in al-Maghazi but declined to provide any additional details or evidence. They later said they had no record of the strike. The Israeli military also declined to answer questions regarding the nature of the target, or whether any fighters were killed.' [ID: 40416-32589]

(f) On **17 April**, the Palestinian news agency WAFA reported that six citizens were killed in an airstrike on Sheikh Radwan Market, north of Gaza City. [ID: 40417-21879]

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96 'Photos: First Day of Holy Month of Ramadan in Al Nuseirat Camp in Gaza' (AhlulBayt News Agency) <https://fa.abna24.com/story/1443873> accessed 26 September 2024.

97 COGAT [@cogatonline], '468 Humanitarian Aid Trucks Were Inspected and Transferred to Gaza Today (Apr. 9). This Is the Highest Number of Aid Trucks That Entered Gaza in One Day since the Start of the War. More than 1200 Aid Trucks Entered Gaza over the Last 3 Days. <https://T.Co/xfnQX1JdHT> accessed 26 September 2024.

98 5 Incident IDs: 40411-71948; 40417-21879; 40411-27955; 40820-63679; 40411-25044

111 Attacks on markets have continued since then, including:

(a) On **25 May**, during the three-week occupation of Jabalia, a local market was attacked in Jabalia camp. [ID: 40525-27435]

(b) On **8 June**, an airstrike hit a market in Nuseirat. [ID: 40608-43683]

(c) On **3 July**, direct Israeli tank fire on a busy market in Zeitoun reportedly killed 17. [ID: 40703-63757]

(d) On **9 July**, an airstrike hit a market in al-Nuseirat Refugee Camp. [ID: 40709-33190]

(e) On **16 July**, the Israeli military struck al-Attar Road in al-Mawasi, where Palestinians were gathering, some of them buying food from vendors, reportedly killing 17 and injuring 26. [ID: 40716-63807]

(f) On **20 August**, the Israeli military attacked a busy street leading to a market in Deir al- Balah, killing at least 8. [ID: 40820-63679]

(g) On **26 August**, at least three Palestinians were reportedly killed and others wounded after the Israeli military attacked al-Houja Street in Jabalia refugee camp. The attack occurred on a crowded market street. [ID: 40826-85383]

8 *May 2024: Israeli vigilante attacks on aid convoys and drivers*

112 We documented six instances of Israeli vigilantes attacking aid convoys travelling to Gaza through Israel or the occupied West Bank beginning on 1 May 2024, where in four cases Israeli soldiers were present but did not prevent the vigilantes from assaulting aid convoys, and in two cases the drivers were assaulted.

113 Blockades of aid convoys by Israeli civilians were documented as early as January 2024.[99] However, violent attacks on aid convoys by Israeli protesters erupted in May 2024, and were not stopped by Israeli soldiers who were present.[100]

114 These attacks followed months of disruptions and demonstrations by Israeli protesters against allowing any aid into Gaza. Vigilante groups, notably Tsav 9, formed and gradually mounted blockades in collaboration with other Israeli civilian organisations, such as Mothers of IDF Soldiers.[101] The blockades were reportedly organised on social media[102] and via WhatsApp, where the locations of incoming aid convoys were shared.[103] [104]

115 The first aid convoys to Gaza were blocked by Israeli protesters on 18 January 2024. At first, the protesters set up encampments to block the Karem Abu Salem/Kerem Shalom crossing, then the Nitzana crossing.[105] On 24 January 2024, protesters blocked 51 out of 60 trucks attempting to enter through the Karem Abu Salem/Kerem Shalom crossing.

116 On 28 January, Major General Yaron Finkelman, head of the Israeli military's Southern Command, announced an expanded military zone to prevent protesters from intercepting aid. Police arrested 13 protesters[106] and suppressed a crowd of 300.[107] From May onwards, video evidence emerged showing Israeli soldiers assigned to escort aid convoys to Gaza standing by while vigilantes blocked, vandalised, and destroyed aid and attacked truck drivers.[108] One truck driver reported that soldiers held him against a wall while an attack was in progress; another driver reported that police actively removed aid cargo from a truck.[109]

117 On **31 January**, even as police continued to intercept the protesters, National Security Minister Itamar Ben-Gvir called on Prime Minister Benjamin Netanyahu to cease sending aid to Gaza.[110] (Months later, he would announce that the Israeli government should stop the aid trucks, so protesters would not need to do so illegally.)[111]

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99 ישראל היום [@IsraelHayomHeb], 'יום שמיני ברציפות: פעילי תנועת צו 9 התייצבו על מנת לחסום משאיות אספקה שמיועדות לחמאס. גם אימו של אנדריי קוזלוב השבוי בעזה הגיעה' <https://x.com/IsraelHayomHeb/status/1752612514586603543> accessed 26 September 2024.

100 Loveday Morris, 'Far-Right Israeli Settlers Step up Attacks on Aid Trucks Bound for Gaza' *Washington Post* (26 May 2024) <https://www.washingtonpost.com/world/2024/05/26/west-bank-aid-trucks-gaza-settlers/> accessed 26 September 2024.

101 'יו"ר ארגון "צעדת אימהות הלוחמים": כך העזתים יתקוממו | חדשות מעריב' <https://www.maariv.co.il/news/israel/Article-1077091> accessed 26 September 2024.

102 '9@) 9 צו_tzav) / X' 26 September 2024) <https://x.com/9_tzav> accessed 26 September 2024.

103 '9@) 9 צו_tzav) / X' 26 September 2024) <https://x.com/9_tzav> accessed 26 September 2024.

104 Lorenzo Tondo and Quique Kierszenbaum, 'Israeli Soldiers and Police Tipping off Groups That Attack Gaza Aid Trucks' *The Guardian* (21 May 2024) <https://www.theguardian.com/world/article/2024/may/21/israeli-soldiers-and-police-tipping-off-groups-that-attack-gaza-aid-trucks> accessed 26 September 2024.

105 An inspection crossing further south on the Egyptian border about 40km away from Gaza

106 'היום ה-7 לחסימות: המפגינים הגיעו למעבר ניצנה ומונעים מעבר משאיות סיוע – מקור ראשון' <https://www.makorrishon.co.il/news/728081/> accessed 26 September 2024.

107 'תיעוד: פרש משטרתי דורס מבוגר בכרם שלום | ערוץ 7' <https://www.inn.co.il/news/627907> accessed 26 September 2024.

108 'Ultranationalist Youths Persist with Coordinated Campaign to Block Gaza Aid Trucks | The Times of Israel' <https://www.timesofisrael.com/ultranationalist-youths-persist-with-coordinated-campaign-to-block-gaza-aid-trucks/> accessed 26 September 2024.

109 Loveday Morris, 'Far-Right Israeli Settlers Step up Attacks on Aid Trucks Bound for Gaza' *Washington Post* (26 May 2024) <https://www.washingtonpost.com/world/2024/05/26/west-bank-aid-trucks-gaza-settlers/> accessed 26 September 2024.

110 'Ben Gvir to Netanyahu: "Stop Trucks to Gaza – It's Harming National Unity" | Israel National News - Arutz Sheva' <https://www.israelnationalnews.com/news/384492> accessed 26 September 2024.

111 'Ben Gvir: The Cabinet Should Be Stopping Gaza Aid Trucks -- Not Protesters | The Times of Israel' <https://www.timesofisrael.com/liveblog_entry/ben-gvir-the-cabinet-should-be-stopping-gaza-aid-trucks-not-protesters/> accessed 26 September 2024.

118 On 1 February, Knesset member Zvi Sukkot participated in the protesters' blockade at the Port of Ashdod.[112]

119 As the blockades continued, aid deliveries were severely impacted. By mid-February, the Karem Abu Salem/Kerem Shalom crossing saw a 'clear decline' in incoming aid since the beginning of the month (see Figure 7.24 below).[113] On **18 February**, according to reports, no trucks were able to enter through the Nitzana crossing.[114]

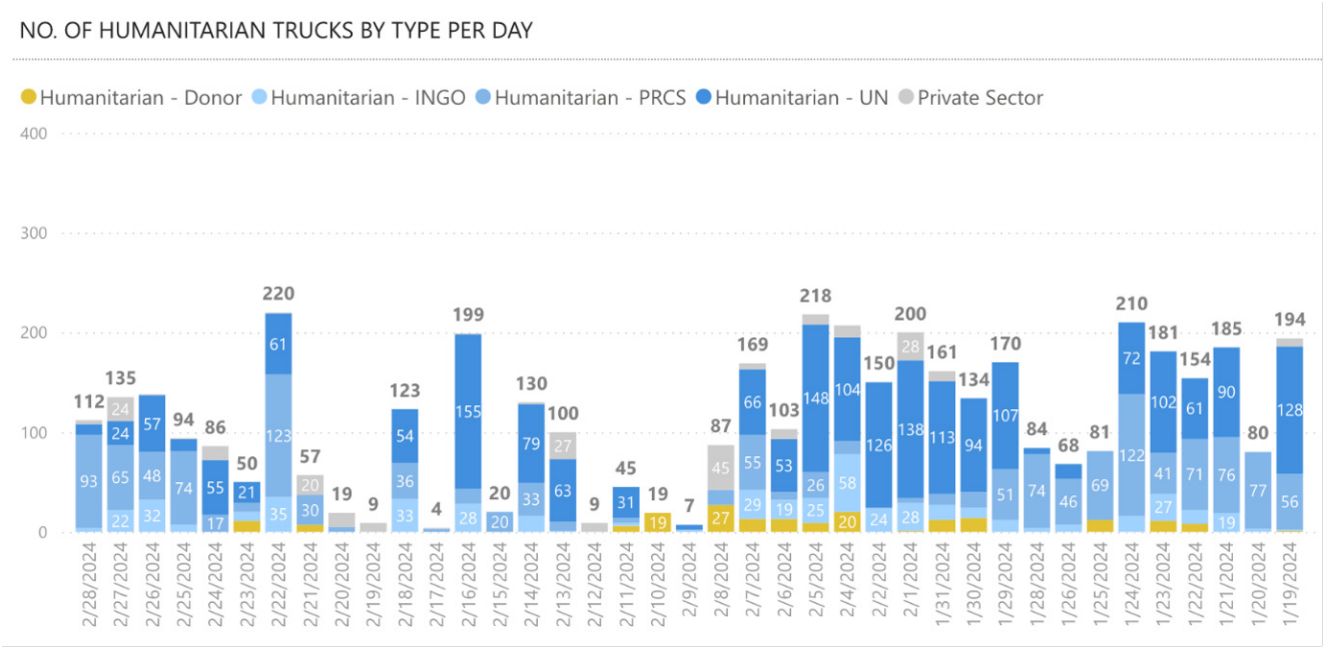

Figure 7.24. Data from UNRWA indicates that aid delivery into Gaza was lower after 8 February than in the previous weeks.[115] Note that time in the figure x-axis moves from right to left.

[112] Middle East Eye [@MiddleEastEye], 'Zvi Sukkot, an Israeli Politician from the Religious Zionist Party Joined Protestors Who Were Blocking Aid Trucks Bound for Gaza in the Port of Ashdod. <https://x.com/MiddleEastEye/status/1753526451209408873> accessed 26 September 2024.

[113] Usaid Siddiqui Osgood Brian, 'Hamas Says Israel "Not Serious" about Reaching Gaza Truce and Captives Deal' (*Al Jazeera*) <https://www.aljazeera.com/news/liveblog/2024/2/19/israels-war-on-gaza-live-food-trucks-surrounded-as-hunger-spreads-in-gaza> accessed 26 September 2024.

[114] 'Israeli Protesters Block Aid Convoys Bound for Gaza' <https://www.arabnews.com/node/2462751/middle-east> accessed 26 September 2024.

[115] 'Power BI Report' <https://app.powerbi.com/view?r=eyJrIjoiZTVkYmEwNmMtZWYxNy00ODhlLWI2ZjctNjIzMzQ5OGQxNzY5IiwidCI6IjI2MmY2YTQxLTIwZTktNDE0MC04ZDNlLWZkZjVlZWNiNDE1NyIsImMiOjI9&pageName=ReportSection3306863ad-d46319dc574> accessed 27 September 2024.

120 By **March**, Israeli officials were reportedly 'tipping off' civilians about the location of incoming aid trucks and allowing protesters to intercept aid at the Karem Abu Salem/Kerem Shalom crossing.[116]

(a) In **May**, Israeli civilians were recorded for the first time directly assaulting drivers.[117]

(b) On **1 May** and **6 May**, following the opening of the new Western Erez crossing into north Gaza, vigilantes targeted aid convoys within Israel while they were en route to the crossing. [118]

(c) On **13 May**, a convoy of 50-60 trucks carrying aid, crossing from Jordan through the occupied West Bank, were reportedly attacked by Israeli civilians, causing extensive damage. Video evidence appears to corroborate the testimony of witnesses interviewed by the *Guardian*, who reported that Israeli soldiers present at the scene did not intervene to stop the attacks. [ID: 40513-62074][119]

(d) On **16 May**, vigilantes at a makeshift roadblock reportedly intercepted a truck on the way to Kafr 'Aqab, attacking the driver and seriously injuring him. [ID: 40516-33010][120]

(e) On **23 May**, Israeli officials reportedly removed goods from a truck with a bulldozer, prevented the driver from reloading them, and destroyed the goods. [ID: 40523-63140]

(f) On **10 June,** civilian demonstrators attacked a truck carrying aid en route to Gaza. [ID: 40610-31799]

121 These latter four attacks on aid convoys appear to contradict Israel's claims that it was actively working to bring more aid into Gaza at this time.

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116 Lorenzo Tondo and Quique Kierszenbaum, 'Israeli Soldiers and Police Tipping off Groups That Attack Gaza Aid Trucks' *The Guardian* (21 May 2024) <https://www.theguardian.com/world/article/2024/may/21/israeli-soldiers-and-police-tipping-off-groups-that-attack-gaza-aid-trucks> accessed 26 September 2024.

117 'Husam Zomlot on X: "Israeli Gangs Attacking Aid Trucks at Gaza Borders to Prevent Flour from Reaching Starving People in #Gaza. When You Think It Can't Get Any Lower! Https://T.Co/aJsfvlLoET" / X' *(X (formerly Twitter)*, 1 May 2024) <https://x.com/hzomlot/status/1785806034818285745> accessed 26 September 2024.

118 'Jordan Says Israeli Settlers Attacked Jordanian Aid Convoys on Way to Gaza | Reuters' <https://www.reuters.com/world/middle-east/jordan-says-israeli-settlers-attacked-jordanian-aid-convoys-way-gaza-2024-05-01/> accessed 26 September 2024; 'Six Israelis Arrested for Attacking, Damaging Aid Convoy Heading to Gaza | The Times of Israel' <https://www.timesofisrael.com/six-israelis-arrested-for-attacking-damaging-aid-convoy-heading-to-gaza/amp/> accessed 26 September 2024.

119 Lorenzo Tondo, Sufian Taha and Jason Burke, '"Barbaric": Palestinian Lorry Drivers Recount Settlers' Attack on Gaza Aid Convoy' The Guardian (16 May 2024) <https://www.theguardian.com/world/article/2024/may/16/palestinian-lorry-drivers-israeli-settlers-attack-gaza-aid-convoy> accessed 26 September 2024.

120 i24NEWS, 'Israelis Attack Truck Driver Suspected of Driving Aid into Gaza' (*i24NEWS*, 17 May 2024) <https://www.i24news.tv/en/news/israel-at-war/artc-israelis-attack-truck-driver-suspected-of-driving-aid-into-gaza> accessed 26 September 2024.

9 *October 2023–September 2024: Attacks on UNRWA and deconflicted sites*

122 The Israeli military repeatedly targeted UNRWA infrastructure, lodging, vehicles, and personnel while they were facilitating the distribution of aid. The targets included sites whose coordinates were shared with Israeli authorities and 'deconflicted' in order to exempt them from military targeting.



Figure 7.23. Attacks on UNRWA infrastructure, personnel, and convoys from 7 October 2023 to 9 September 2024.

123 According to reports shared by UNRWA with Forensic Architecture, and additional evidence gathered by Forensic Architecture, UNRWA personnel, facilities, and vehicles have been attacked by the Israeli military on at least 39 occasions. Those attacks have killed 195 UNRWA personnel, among them, 177 UNRWA staff members and 18 other aid personnel. The Israeli military has detained 40 UNRWA staff members. (Quotations throughout this subsection are from the UNRWA reports shared with Forensic Architecture.)

124 On eight occasions, the reports show, Israeli military targeted UNRWA aid convoys and missions:

(a) On **7 November 2023**, 'five UNRWA and WHO trucks, escorted by two vehicles of the ICRC, came under fire on their way to deliver medical supplies to two hospitals. Two trucks were damaged, and a driver injured. The convoy ultimately reached one of the hospitals to deliver the medical supplies.' [ID: 31107-19723]

(b) On **8 November 2023**, the Israeli navy opened fire on a driver and two workers participating in a sanitation mission, and the mission had to be aborted. [ID: 31108-42260]

(c) On **17 December 2023**, an Israeli airstrike reportedly 'targeted a UN truck while it was inside Khan Younis landfill. A UNRWA JCP labourer was injured by shrapnel and the truck sustained severe damage.' [ID: 31217-19240]

(d) **On 28 December 2023**, 'during a UNRWA food aid delivery mission, two Israeli soldiers threw a smoke grenade bomb towards a UNRWA [armoured vehicle] in Gaza City and two Israeli tanks opened fire on the vehicle, causing a hole in the oil tank which resulted in damage and caused the vehicle to stop working.' [ID: 31228-72978]

(e) On **5 February 2024**, Israeli naval fire directly struck a UNRWA food convoy while the trucks were 'waiting at an agreed holding position prior to crossing the Israeli military checkpoint on the coastal road'. [ID 40205-93035]

(f) On **6 February 2024**, 'a UNRWA NFI mission was impacted when the Israeli air force reportedly targeted a local police vehicle northeast of Rafah, resulting in six persons being killed.' [ID: 40206-84308]

(g) On **6 February 2024**, 'UN staff reported harassment and intimidation by Israeli soldiers on them and other convoy members at a checkpoint. When the convoy, including UNRWA personnel, was later asked to depart from the checkpoint, Israeli soldiers pointed a telescopic laser on each of the humanitarian personnel, one by one, aiming the laser sight from the weapon onto their chests. They then started to shoot warning shots when all were back inside the vehicles to make the convoy start moving.' [ID: 40206-43609]

(h) On **21 July 2024**, 'Israeli Forces opened heavy fire on a UN convoy heading to Gaza City. The car was severely damaged and left the convoy. The teams reassembled and finally reached Gaza City. Like all other similar UN movements, this movement was coordinated and approved by the Israeli authorities.' [ID 40721-32028]

125 On at least seven occasions, documented in UNRWA reports, the Israeli military targeted UNRWA guesthouses housing international humanitarian workers:

(a) On **8 December 2023**, 'a deconflicted UNRWA guesthouse was hit by Israeli naval gunfire'. [ID: 31208-66649]

(b) On **9 December 2023**, the Israeli navy fired 20mm cannon rounds at adjacent UNRWA guesthouses in Rafah, damaging the west side of the buildings. Ten staff were asleep inside when the attack occurred. UNRWA stated that it shared the coordinates with the Israeli authorities, was not aware of any military targets in the area at the time, and received no warning about the attack. Following the attack, the deputy commander of the Israeli Southern Command told UNRWA that the attack was an error. [ID: 31209-63891]

(c) On **12 November 2023**, 'one of UNRWA's deconflicted guesthouses was hit by three shells fired by the Israeli navy. Fortunately, no one was injured, as the team had left the residence at the time of the incident, however, a guard was in the building at the time and had to directly evacuate.' [ID: 31112-47368]

(d) On **2 June 2024**, 'the Israeli navy fired a shell at a deconflicted UNRWA guesthouse.' [ID: 40602-44540]

(e) On **8 June 2024**, 'shrapnel came inside a deconflicted UNRWA guesthouse from heavy Israeli airstrikes nearby.' [ID: 40608-20919]

(f) On **8 June 2024**, 'an Israeli air force quadcopter drone fired and hit the rooftop water tanks of a deconflicted UNRWA guesthouse.' [ID: 40608-46721]

(g) On **25 June 2024**, 'the Israeli navy fired two shells at a deconflicted UNRWA guesthouse.' [ID: 40525-39598]

126 On 17 occasions, the Israeli military targeted UNRWA warehouses and humanitarian aid distribution centres, according to the reports.

(a) On **16 October 2023**, 'the [Israeli air force] targeted Sabra Distribution Centre, causing severe damage to the installation, and surrounding area.' [ID: 31016-21553]

(b) On **18 November 2023**, relief aid warehouses of the UNRWA in al-Shati refugee camp and Jabalia refugee camp were targeted in two distinct strikes. [ID: 31118-02837] [ID: 31118-52260]

(c) On **4 January 2024**, 'two tank shells targeted the Zawayda NFI Store. This caused a fire in the store, trapping two UNRWA guards inside. Israeli tanks surrounded the location and instructed the trapped guards to evacuate.' [ID: 40104-99234]

(d) On **18 January 2024**, 'the Israeli air force targeted the Deir el-Balah distribution centre. Fortunately, no injuries were reported, however, damages were reported.' [ID: 40124-19041]

(e) On **22 January 2024**, 'Khan Younis West Store was completely burned out due to Israeli shelling. Fortunately, no deaths or injuries were reported.' [ID: 40122-52404]

(f) On **13 March 2024**, 'an Israeli air force drone targeted the inside yard between the Rafah NFI Store and the Rafah East distribution centre. There were seven fatalities (two of them UNRWA staff members) and 23 injured persons as a result of the incident (among them UNRWA personnel: eight UNRWA staff, fourteen [participants in UNRWA's Job Creation Programme] ... To provide just one example of how an incident such as those above practically impacts the provision of humanitarian assistance in Gaza, we note that, following the Israeli air force's striking of Rafah east distribution centre on 13 March 2024, the incident halted the receipt of

trucks of humanitarian aid coming from Rafah crossing to the distribution centre and halted the dispatch of humanitarian aid to thirty-five designated emergency shelters in the area, serving more than one million IDPs. Aid operations were further impeded by the impact of the incident, including direct impacts on UNRWA personnel working at the installation, who were traumatised by it. In addition, flour distribution was brought to a halt as beneficiaries were terrified to come to receive aid assistance following the incident. The number of beneficiaries who received assistance following this incident was reduced by 55%. Following the incident, including the following day on 14 March 2024, no families received aid assistance from the installation as a result of the Israeli air force's direct targeting of it.' [ID: 40313-74065]

(g) On **18 March 2024**, 'an Israeli air force drone targeted Al-Mqayyad distribution centre, east Jabalia.' [ID: 40507-83805]

(h) On **19 March 2024**, the director of the Nuseirat police station, Mahmoud Al-Bayoumi, was killed in an Israeli bombing that targeted a car in front of the UNRWA headquarters in Nuseirat, in central Gaza. Three civilians were also killed in the attack. [ID: 40319-89886]

(i) On **7 May 2024**, 'the Israeli military targeted east Rafah distribution centre by artillery shell, targeting inside the northern courtyard, and another shell outside the eastern wall. No injuries were reported.' [ID: 40507-83806]

(j) On **8 May 2024**, 'an Israeli quadcopter opened fire towards east Rafah warehouse, impacting the building wall. No injuries were reported'.[ID: 40508-75305]

(k) On **17 May 2024** (estimated date), 'the Israeli military targeted Jabalia distribution centre with two tank shells, resulting in damages, and fire inside the building.' [ID: 40617-73055]

(l) On **23 May 2024**, 'an Israeli air force quadcopter opened fire in Lazord Hall warehouse, fortunately causing no injuries. However, the guards had to flee towards the Emirati Hospital.' [ID: 40523-99705]

(m) On **25 May 2024**, 'the Israeli air force fired two missiles targeting the guards' room in al-Nuseirat distribution centre (DC) and a women's activity centre nearby the DC. No injuries were reported in the DC, while six persons were killed in the women's activity centre. The guards' room was destroyed, and three offices in the DC sustained damaged due to the air strike.' [ID: 40525-67957]

(n) On **3 June 2024**, 'an Israeli quadcopter drone opened fire and fired several smoke bombs inside Rafah logistics base. Damages were reported, while fortunately there were no injuries reported.' [ID: 40603-06535]

(o) On **23 June 2024**, 'an Israeli air strike on a UNRWA training college near Gaza City being used to distribute aid, and previously used as an UNRWA headquarters, killed eight Palestinians.' [ID: 40623-20468]

(p) On **11 July 2024**, 'two [unexploded tank shells] and [explosive remnants of war] were found inside Nuseirat warehouse, resulting in access being restricted to the area for operations'. [ID: 40711-36052]

127 On seven occasions, indirect attacks damaged or endangered UNRWA facilities. (On five additional occasions, nearby conflict put those facilities in danger, but these five events have been excluded from our tallies as they cannot credibly be confirmed as attacks by the Israeli military.)

(a) 'On **16 December 2023**, shrapnel fell inside the warehouse in Khan Younis Training College (KYTC). Fortunately, no injuries were reported.' [ID: 31216-41553]

(b) 'On **28 December 2023**, tens of live ammunition hit the metal pillars inside Khan Younis Training College (KYTC) non-food item warehouse, where the distribution process was stopped.' [ID: 31228-96223]

(c) 'On **30 December 2023**, [unexploded ordnance] was found near Rafah warehouse. The UXO was outside the installation, creating dangers for UN vehicles and staff'. [ID: 31230-12414]

(d) 'On **13 January 2024**, a house was targeted by the Israeli air force adjacent to Nuseirat distribution centre (approximately 100 m away). Shrapnel from the ceiling caused damage to rooms inside the DC.' [ID: 40113-57039]

(e) 'On **5 February 2024**, the Israeli air force carried out a strike on a house located adjacent to the Deir El Balah distribution centre. Damage was reported to the stores of the [distribution centre]'. [ID: 40205-83647]

(f) 'On **24 February 2024**, the Israeli air force targeted a house next to Rafah west distribution centre. Shrapnel fell inside the maintenance office of the DC. Fortunately, no casualties were reported, however collateral damage was reported.' [ID: 40224-10223]

(g) 'On **26 May 2024**, the Israeli air force targeted the vicinity of Rafah logistics base, with shrapnel falling inside the installation.' [ID: 40526-35114]

128 On 17 documented occasions, sites operated by UNRWA or other humanitarian organisations, whose coordinates had been shared with Israel, or officially deconflicted by coordinating with Israel, have been targeted by the Israeli military.

I PATTERN FINDINGS

1 *The Israeli military targeted aid sites and systems of aid distribution when and where they became the main mode of aid facilitation. We observed that this targeting followed a pattern of overlapping phases, during which attacks on the specified aid categories intensified.*



Figure 7.24. Annotated map of attacks targeting aid and the phases in which they occur. Each row displays a category of aid attacks (e.g., attacks on aid infrastructure), and it highlights a significant period in time, which is explained by an accompanying annotation. Note that some categories of attack – aid infrastructure and aid personnel – are repeated in two distinct rows.

129 In October 2023, as our database and timeline above demonstrate, bakeries were targeted when they played a critical role in aid distribution at the beginning of the Israeli military campaign. The attacks on bakeries corresponded to high volumes of people having been seen queuing outside of them. Bakeries in the north of Gaza were targeted first, and in Deir al-Balah, further south, subsequently. Following this destruction, all bakeries in the northern governates of Gaza were no longer operational. By 27 November, the five mills in Gaza were no longer operating due to fuel shortages.[121] The last of these mills was directly bombed by the Israeli military on 15 November.[122] Access to food in the north of Gaza was severely restricted.

130 In November, as our database and timeline above demonstrate, shelters were targeted as they began to play a central role in housing people displaced by Israeli attacks, as well as in the receipt and preparation of aid following the destruction of bakeries. The highest concentration of attacks on shelters was during this month. Facilities for storage and preparation of food at the shelters came under fire. Telecommunications blackouts impeded the delivery of aid, bringing it to a near halt in mid-November.[123]

131 Police were targeted when they played a critical role in escorting aid convoys following the opening of the Karem Abu Salem/Kerem Shalom crossing. Attacks targeted officers in their cars while they were escorting aid convoys or en route to facilitate aid, as our timeline shows. This targeting prompted a breakdown of aid administration that compelled international humanitarian organisations to suspend their operations. These attacks on police happened while Israel was consolidating its control over the passage and administration of aid through the Netzarim corridor.

132 Civilians were attacked when Israel assumed control over aid exchanges by building the Netzarim corridor and the two checkpoints through it on al-Rashid and Salah al-Din Roads (see Chapter 2: Spatial Control). The corridor's role in sieving aid is consistent with the stated aims of Israeli officials to establish 'humanitarian pockets' that would be amenable to Israeli control. The points at which the Israeli-designated 'safe routes' met areas of Israeli control became the most lethal places for civilians seeking aid in Gaza.

133 Aid administrators, such as the senior police official Faiq al-Mabhouh, who led the civil administration for crisis management, and politically powerful families, who played a key role in escorting and receiving aid trucks, were killed when they began to play prominent roles in aid distribution and offer alternatives to frequently attacked Israeli aid administration at the Netzarim corridor (see Figure 7.24, line 5, 'Civilians seeking aid near Netzarim corridor …').

134 Israeli vigilante protests and blockades on aid convoys were not confronted effectively and were reportedly supported in some cases by Israeli soldiers, as our analysis addresses (see Section H-8: Israeli vigilante attacks on aid convoys and drivers). We documented six attacks on aid convoys by Israeli vigilantes, involving two instances of violent attacks on aid delivery workers.

135 Overall, attacks on each of these facilities were extensive and severe enough to compromise their operations, force them out of operation, or compel organisations to issue statements that they could no longer continue their aid operations, even after they had publicly declared their intent to operate as aid facilitators.

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121 'WFP' <https://docs.wfp.org/api/documents/WFP-0000154766/download/?_ga=2.243117636.730956012.1725962456-851346402.1725475782> accessed 25 September 2024.

122 'Hostilities in the Gaza Strip and Israel | Flash Update #40 [EN/AR/HE] - Occupied Palestinian Territory | *ReliefWeb*' (16 November 2023) <https://reliefweb.int/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-40-enarhe> accessed 26 September 2024.

123 'Hostilities in the Gaza Strip and Israel | Flash Update #42 [EN/AR/HE] - Occupied Palestinian Territory | *ReliefWeb*' (18 November 2023) <https://reliefweb.int/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-42-enarhe> accessed 26 September 2024.

2 ***The periods after which Israel increased the flow of humanitarian aid into Gaza (late December 2023; late March and early April 2024; early May 2024) coincide in time and space with an increase of Israel's targeting of the means of distributing that aid, including the logistics, personnel, and infrastructure necessary.***

136 When Israel opened the Karem Abu Salem/Kerem Shalom crossing on 17 December, for the first time since 7 October, following pressure from the US, a higher volume of aid trucks began to enter Gaza.[124] Days later, on 21 December, the Israeli military attacked the Karem Abu Salem/Kerem Shalom crossing, killing the director of the Karem Abu Salem/Kerem Shalom crossing. Also, in the subsequent months of January and February, the Israeli military attacked aid personnel, which forced humanitarian organisations to suspend their operations, citing the danger of operating in Gaza.

137 In late March and early April, particularly following international pressure in response to the deadly Israeli attack on the World Central Kitchen convoy, Israel shifted its policy to permit higher volumes of trucks to enter Gaza. More food diversity was seen for the first time in northern Gaza, and 9 April 2024 saw the highest number of trucks enter Gaza since 7 October 2023. In the week after, we documented significant attacks on markets, at a time when they were distributing food and civilians were heavily depending on them.

138 On 6 May 2024, three days after incoming aid reached an all-time high since the beginning of the invasion – 340 trucks in one day – the Israeli military invaded Rafah, seized the Egyptian-controlled Rafah crossing, bringing the number of incoming aid trucks to an all-time low.

139 On 13 May, in response to international pressure, the Israeli military opened checkpoints for aid trucks at the Jordanian border. The first inbound trucks, crossing from Jordan into the occupied West Bank, were escorted by the Israeli military, which failed to prevent vigilantes from committing violent attacks on aid trucks and drivers.

140 Overall, aid workers at humanitarian organisations cite the difficulty of getting aid to civilians in Gaza during Israel's ongoing military campaign, even after it is allowed through a crossing from Israel.

[124] 'Israel to Reopen Karem Abu Salem to Allow Humanitarian Aid into Gaza | Israel-Palestine Conflict News | *Al Jazeera*' <https://www.aljazeera.com/news/2023/12/15/israel-to-reopen-karen-abu-salem-to-allow-humanitarian-aid-into-gaza> accessed 26 September 2024.

3 The targeting of aid occurred in tandem with Israeli military's evacuation orders and coincides with its attempts to force Palestinian civilians to displace from the north of Gaza. The construction of the new internal border in the Netzarim corridor and the checkpoints within it supporting a one-way (north to south) movement of civilians coincided with the restriction of aid as a means of displacement.

141 **Shifting aid to the south:** Attacks on bakeries were predominantly in the north of Gaza and followed Israeli evacuation orders instructing all Palestinians to move south. As the bakeries were eliminated, the necessity for civilians to move south was enhanced. Israel also opened the southern crossings for aid while keeping the northern Erez crossing closed, which increased the relative availability of aid in the south compared to the north.

142 **Restricting aid in the 'north':** As aid came into the south, the Israeli military attacked police escorting aid convoys to the north. Israeli attacks on aid convoys made the transportation of aid through Gaza more dangerous. During the same period, Israel established the Netzarim corridor (see Chapter 2: Spatial Control), which delayed trucks moving north from the southern crossings, aggravating the lack of aid in the north. Family organisations that attempted to facilitate the distribution of aid north of this border were attacked at the same time.

143 **Impairing aid in the south:** In the first eight months of the campaign, Rafah was the main destination for displaced Palestinian civilians. With the 6 May 2024 invasion of Rafah, the Israeli military restricted access to aid coming from the southern crossings by seizing the Rafah crossing and attacking aid infrastructure. It was also at that time that attacks by vigilantes on aid convoys moving through the Israeli-occupied West Bank and Israel occurred despite the presence of Israeli soldiers.

144 Notably, the al-Mawasi 'humanitarian zone' has no direct access to aid crossings, making aid supply reliant on Israeli control. With the offensive in Rafah starting on 6 May 2024, aid to this zone was restricted.

145 This analysis challenges Israeli claims about their efforts to facilitate the provision of humanitarian aid to civilians in Gaza, such as those posted frequently on COGAT's X/Twitter account.[125] While COGAT has reported on the quantity of aid trucks permitted to enter Gaza's external crossings and criticised humanitarian organisations for failing to distribute aid that has entered Gaza, this partial view focuses only on the most superficial aspects of aid administration, distorting the reality of aid logistics within Gaza, which the Israeli military has compromised on all fronts.[126] An additional problem with COGAT's count of trucks allowed into Gaza is that, according to a spokesperson for UN OCHA, the Israeli military insists that trucks of aid presented for inspection at the crossings are often half full.[127]

125 'COGAT (@cogatonline) / X' *(X (formerly Twitter)*, 25 September 2024) <https://x.com/cogatonline> accessed 26 September 2024.
126 'IDF: UN and Aid Groups "failing to Utilize" Israeli Aid Provision Measures in Gaza | *The Times of Israel*' <https://www.timesofisrael.com/idf-un-and-aid-groups-failing-to-utilize-israeli-aid-provision-measures-in-gaza/> accessed 26 September 2024.
127 'Israel Says More Aid Is Entering Gaza, but Figures Disputed | *Reuters*' <https://www.reuters.com/world/middle-east/israel-says-more-aid-is-entering-gaza-figures-disputed-2024-04-09/> accessed 27 September 2024.

J APPENDIX

1 *Incident IDs*

ID	Date	Latitude	Longitude	Source
40111-66760	2024-01-11	31.5056277	34.4176981	https://www.lemkininstitute.com/single-post/booby-traps-and-ambushes-how-israel-s-sadistic-hunger-games-target-starving-gazans
40114-57983	2024-01-14	31.5056277	34.4176981	https://www.instagram.com/p/C2FprV3t-3nO/?hl=en
40122-47313	2024-01-22	31.47977	34.44226	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9ljwa5nht7a4B/view
40123-98588	2024-01-23	31.484028	34.446167	https://www.instagram.com/p/C2b1jMttNeS/
40124-62670	2024-01-24	31.4799912	34.4425298	https://www.instagram.com/p/C2fTQdZt_xv/?hl=en-gb
40125-53785	2024-01-25	31.484028	34.446167	https://www.instagram.com/p/C2h1NLFt-Dws/
40130-30542	2024-01-30	31.47977	34.44226	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9ljwa5nht7a4B/view
40204-44732	2024-02-04	31.484028	34.446167	https://www.instagram.com/p/C27XyCet8TQ/?hl=en-gb
40205-93035	2024-02-05	31.48281778	34.3951527	https://palestine.un.org/en/259747-food-convoy-waiting-move-northern-gaza-was-hit-israeli-naval-gunfire
40206-84308	2024-02-06	31.28554	34.27128	https://twitter.com/AJEnglish/status/1764480895916941450
40207-63171	2024-02-07	31.47977	34.44226	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9ljwa5nht7a4B/view
40210-41672	2024-02-10	31.30922065	34.24144254	https://twitter.com/AJEnglish/status/1764480895916941450
40218-48954	2024-02-18	31.5056277	34.4176981	https://twitter.com/muhammadshehad2/status/1763657116273762341
40219-48842	2024-02-19	31.5056277	34.4176981	https://twitter.com/muhammadshehad2/status/1763656663456792797
40222-00760	2024-02-22	31.5056277	34.4176981	https://twitter.com/muhammadshehad2/status/1763654543248674997
40223-87043	2024-02-23	31.5056277	34.4176981	https://x.com/muhammadshehad2/status/1763653724990316729
40224-51918	2024-02-24	31.5056277	34.4176981	https://twitter.com/muhammadshehad2/status/1763653334014038076
40225-48045	2024-02-25	31.5056277	34.4176981	https://twitter.com/muhammadshehad2/status/1763652792772694503
40226-52155	2024-02-26	31.50553505	34.41758193	https://twitter.com/RamAbdu/status/1762093459035537612
40227-85262	2024-02-27	31.509056	34.420694	https://twitter.com/RamAbdu/status/1762469599155486744
40228-34395	2024-02-28	31.5056277	34.4176981	https://twitter.com/muhammadshehad2/status/1763651267237216587
40229-37742	2024-02-29	31.504222	34.415417	https://twitter.com/JalalAK_jojo/status/1763195107904229557
40229-41520	2024-02-29	31.5056277	34.4176981	https://twitter.com/muhammadshehad2/status/1763241385778413591
40301-77405	2024-03-01	31.5056277	34.4176981	https://www.instagram.com/p/C3-poleMqug/
40302-66440	2024-03-02	31.506	34.417139	https://twitter.com/RamAbdu/status/1763871459892473895
40303-44729	2024-03-03	31.47977	34.44226	https://twitter.com/AJEnglish/status/1765006853040148745

40305-20471	2024-03-05	31.5056277	34.4176981	https://twitter.com/AJEnglish/status/1765006853040148745
40306-90593	2024-03-06	31.5056277	34.4176981	https://twitter.com/AJENews/status/1765418556869464414?s=20
40307-40148	2024-03-07	31.5056277	34.4176981	https://twitter.com/QudsNen/status/1765821235051597824
40309-94257	2024-03-09	31.5056277	34.4176981	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9Ijwa5nht7a4B/view
40309-45555	2024-03-09	31.47977	34.44226	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9Ijwa5nht7a4B/view
40311-84194	2024-03-11	31.47977	34.44226	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9Ijwa5nht7a4B/view
40312-01190	2024-03-12	31.4798	34.4423	https://twitter.com/RamAbdu/status/1767387733545148494
40313-42803	2024-03-13	31.28554	34.27128	https://www.bbc.com/arabic/articles/ce5e1z-ze0eeo#:~:text=%20حماس%20حركة%20أعلنت%20عبر%20حسابها،في%20غارات%20إسرائيلية%20فجر%20الخميس.
40313-74065	2024-03-13	31.27818926	34.26033955	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9Ijwa5nht7a4B/view
40313-74966	2024-03-13	31.47977	34.44226	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9Ijwa5nht7a4B/view
40314-85098	2024-03-14	31.47977	34.44226	https://twitter.com/EyeonPalestine/status/1768404361191751963
40315-98248	2024-03-15	31.483686	34.445638	https://www.instagram.com/p/C4hzac-0qm3u/?hl=en
40318-40834	2024-03-18	31.52435798	34.44283029	https://www.middleeastmonitor.com/20240318-israel-storms-Shifa Medical Complex-again-forcing-patients-to-flee/
40507-83805	2024-03-18	31.537222	34.496389	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9Ijwa5nht7a4B/view
40318-49809	2024-03-18	31.52932385	34.47973692	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9Ijwa5nht7a4B/view
40319-69896	2024-03-19	31.49165485	34.45319486	https://twitter.com/EyeonPalestine/status/1770174685407248533?s=20
40319-89886	2024-03-19	31.4498684	34.39295137	https://drive.google.com/file/d/1P7yQYp7K-C2eG711baOY9Ijwa5nht7a4B/view
40323-83966	2024-03-23	31.47977	34.44226	https://twitter.com/i/status/1771620910002270360
40324-40612	2024-03-24	31.47977	34.44226	https://twitter.com/AJABreaking/status/1771948656842723594
40326-61798	2024-03-26	31.47977	34.44226	https://twitter.com/i/status/1772414660299325478
40329-14922	2024-03-29	31.50055188	34.46696577	https://www.middleeastmonitor.com/20240329-10-palestinians-killed-in-israeli-drone-attack-on-sports-club-in-gaza/
40401-39679	2024-04-01	31.411568	34.322921	https://wck.org/news/gaza-team-update
40411-25044	2024-04-11	31.50711965	34.45816741	https://t.me/AjaNews/259422
40411-27952	2024-04-11	31.52932385	34.47973692	https://www.timesofisrael.com/liveblog_entry/hamass-internal-security-chief-killed-in-northern-gaza-airstrike-idf-shin-bet/
40411-65315	2024-04-11	31.52932385	34.47973692	https://www.instagram.com/mothersagainst-genocide/p/C5pHNr4qkuV/
31009-48673	2023-10-09	31.52216247	34.44130183	https://t.me/ShehabTelegram/400571
31015-75260	2023-10-15	31.54693061	34.50011712	https://t.me/ShehabTelegram/403322
31015-25099	2023-10-15	31.53294017	34.49543436	https://t.me/ShehabTelegram/403322

40507-24645	2024-05-07	31.4724504	34.3881292	Planet Satellite Image of Damage
31209-63891	2023-12-09	31.29651172	34.24326281	https://www.hrw.org/news/2024/05/14/gaza-israelis-attacking-known-aid-worker-locations
31107-19723	2023-11-07	31.50169	34.46684	https://www.icrc.org/en/document/israel-and-occupied-territories-icrc-decries-shooting-its-humanitarian-convoy-gaza
40623-20468	2024-06-23	31.50169	34.46684	https://www.reuters.com/world/middle-east/israeli-tanks-edge-rafahs-mawasi-refuge-zone-residents-say-2024-06-23/
40703-63757	2024-07-02	31.51761072	34.44957528	https://www.aljazeera.com/program/news-feed/2024/7/3/distressing-images-aftermath-of-a-strike-on-a-market-in-gaza-city
40721-32028	2024-07-21	31.46955367	34.43149675	https://www.unrwa.org/newsroom/official-statements/heavy-shooting-israeli-forces-un-convoy-heading-gaza-city
40612-74960	2024-06-12	31.2485	34.2582	https://www.hi-us.org/en/gaza--destruction-of-hi-s-warehouse-in-rafah
40526-35114	2024-05-26	31.3176208	34.24940342	UNRWA
40711-36052	2024-07-11	31.440931	34.39235	UNRWA
40525-67957	2024-05-25	31.44789771	34.38895502	UNRWA
40523-99705	2024-05-23	31.304398	34.248268	UNRWA
40508-75305	2024-05-08	31.27670504	34.25900542	UNRWA
40104-99234	2024-01-04	31.42501551	34.37509524	UNRWA
31016-21553	2023-10-16	31.501909	34.430172	UNRWA
40820-63679	2024-08-20	31.418995	34.349442	https://www.aljazeera.com/news/2024/8/20/israel-strikes-market-and-school-in-gaza-killing-at-least-20-palestinians
40416-32589	2024-04-16	31.42197	34.38353	https://www.amnesty.org/en/latest/news/2024/05/israel-opt-israeli-air-strikes-that-killed-44-civilians-further-evidence-of-war-crimes-new-investigation/
40716-63807	2024-07-16	31.34842383	34.25618215	https://www.ochaopt.org/content/humanitarian-situation-update-193-gaza-strip?_gl=1*vggrq*_ga*ODU5NTQzNzU-2LjE3MjExMjcyMTI.*_ga_E60ZNX2F68*MTcyNDg0OTA2OS42LjEuMTcyNDg1MDQ4MC42MC4wLjA.
31018-62573	2023-10-18	31.45023665	34.38909686	https://www.youtube.com/watch?v=kuCVD-Go5Rt8
31021-41258	2023-10-21	31.45546676	34.39084388	https://x.com/PalinfoAr/status/1715786052399440060?s=20
31024-20340	2023-10-24	31.42197	34.38353	https://t.me/AlrayChannel/210109
31104-49709	2023-11-04	31.52269884	34.44614576	https://www.facebook.com/watch/?v=1062060518299252
31104-38923	2023-11-04	31.53549092	34.5039148	https://x.com/FatimaEyad15/status/1720815596697231701
31104-18492	2023-11-04	31.5423	34.4956	https://www.tiktok.com/@m.najjar/video/7300461148514569480

31118-76530	2023-11-18	31.5423	34.4956	https://twitter.com/fdov21/status/1725879865004466199
31231-02885	2023-12-31	31.395793	34.303604	https://www.aidworkersecurity.org/incidents/search?start=2023&end=2024&detail=1&country=PS&sort=asc&order=Location
40210-68105	2024-02-10	31.2725	34.258611	https://www.washingtonpost.com/world/2024/02/22/gaza-aid-deliveries-looting-police-hamas/
40411-27955	2024-04-11	31.449527	34.393638	https://reliefweb.int/report/occupied-palestinian-territory/hostilities-gaza-strip-and-israel-flash-update-153-enarhe
40513-62074	2024-05-13	N/A	N/A	https://www.washingtonpost.com/world/2024/05/26/west-bank-aid-trucks-gaza-settlers/, https://www.theguardian.com/world/article/2024/may/16/palestinian-lorry-drivers-israeli-settlers-attack-gaza-aid-convoy
40516-33010	2024-05-16	N/A	N/A	https://www.i24news.tv/en/news/israel-at-war/artc-israelis-attack-truck-driver-suspected-of-driving-aid-into-gaza
40523-63140	2024-05-23	N/A	N/A	https://www.washingtonpost.com/world/2024/05/26/west-bank-aid-trucks-gaza-settlers/
40610-31799	2024-06-10	N/A	N/A	https://www.cbsnews.com/news/israel-right-wing-settler-attacks-gaza-aid-whos-behind-them-whos-suffering/
31020-67299	2023-10-20	31.50598961	34.43045347	https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/#_ftnref6
31025-41597	2023-10-25	31.51761072	34.44957528	https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/#_ftnref6
31118-02837	2023-11-18	31.533701	34.448318	https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/#_ftnref6
31118-52260	2023-11-18	31.5423	34.4956	https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/#_ftnref6
31217-32095	2023-12-17	31.515886	34.469303	https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/#_ftnref6
31222-79292	2023-12-22	31.515886	34.469303	https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/#_ftnref6
31226-40242	2023-12-26	31.515886	34.469303	https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/#_ftnref6
40115-86760	2024-01-15	31.449527	34.393638	https://www.bisan.org/2024/04/flour-ambushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/#_ftnref6

40122-34384	2024-01-22	31.2725	34.258611	https://www.bisan.org/2024/04/flour-am-bushes-in-gaza-chaos-and-starvation-are-weapons-used-by-the-occupation-against-civilians-in-the-gaza-strip/#_ftnref6
40411-71948	2024-04-11	31.50352922	34.46308919	https://x.com/ytirawi/status/1778537313347473501
40417-21879	2024-04-17	31.53719635	34.46781255	https://english.wafa.ps/Pages/Details/143296
40525-27435	2024-05-25	31.5423	34.4956	https://x.com/Abdullah_Om3r03/status/1794337220289315113
40608-43683	2024-06-08	31.449527	34.393638	https://x.com/AnasAlSharif0/status/1799392206324904346, https://x.com/EyeonPalestine/status/1800036633988792454
40709-33190	2024-07-09	31.449527	34.393638	https://www.reuters.com/world/middle-east/israeli-forces-step-up-military-pressure-gaza-amid-new-ceasefire-bid-2024-07-09/
40826-85383	2024-08-26	31.534777	34.498062	https://x.com/MiddleEastEye/status/1828231298508538057
40911-43605	2024-09-11	31.449527	34.393638	https://www.aljazeera.com/news/2024/9/11/at-least-14-palestinians-killed-in-israeli-strike-on-gaza-school
31108-42260	2023-11-08	31.44996934	34.39287683	UNWRA DATA
31217-19240	2023-12-17	31.34602968	34.30330708	UNWRA DATA
31228-72978	2023-12-28	31.50823896	34.46191789	UNWRA DATA
40206-43609	2024-02-06	N/A	N/A	UNWRA DATA
40525-39598	2024-06-25	31.335597	34.23588	UNWRA DATA
40608-46721	2024-06-08	31.335597	34.23588	UNWRA DATA
40608-20919	2024-06-08	31.450369	34.368391	UNWRA DATA
40602-44540	2024-06-02	31.32771	34.226785	UNWRA DATA
31208-66649	2023-12-08	31.32771	34.226785	UNWRA DATA
31112-47368	2023-11-12	31.32841	34.227746	UNWRA DATA
40603-06535	2024-06-03	31.3176208	34.24940342	UNWRA DATA
40617-73055	2024-06-17	31.53265505	34.49503996	UNWRA DATA
40507-83806	2024-05-07	31.27670504	34.25900542	UNWRA DATA
40122-52404	2024-01-22	31.355514	34.279989	UNWRA DATA
40124-19041	2024-01-04	31.41599952	34.36680789	UNWRA DATA
40224-10223	2024-02-24	31.28325172	34.25125598	UNWRA DATA
40113-57039	2024-01-13	31.44789771	34.38895502	UNWRA DATA
31230-12414	2023-12-30	31.27821348	34.26045099	UNWRA DATA
31228-96223	2023-12-28	31.36411708	34.29513955	UNWRA DATA
31216-41553	2023-12-16	31.36411708	34.29513955	UNWRA DATA
31221-64053	2023-12-21	31.246861	34.255275	https://t.me/AlarabyTelevision/52597
31009-21939	2023-10-09	31.246861	34.255275	https://x.com/m_osint/status/1711428379675631764
31010-25053	2023-10-10	31.248342	34.259032	https://airwars.org/civilian-casualties/ispt0086-october-10-2023/
31010-42259	2023-10-10	31.25148	34.262103	https://x.com/EjShahid/status/1711752140039807293

8. Cross-sectional Analysis

1 This chapter is a synthesis of the findings in each of this report's chapters. It seeks to establish patterns and relations between different types of attacks and evaluate their cumulative effect.

2 Each of the chapters above offer a view into the organised way in which different types of attack (on medical infrastructure, aid, agriculture and water resources, and civilian infrastructure), and other acts (displacement and the construction of elements of spatial control) were performed.

3 In addition to the findings within each chapter, cross-referencing and 'layering' spatial data within the GCD, pertaining to different categories of incidents and action, offers new observations, based on how those different incidents and actions overlap in time and space.

4 With these cartographic layers, our researchers could:

(a) Analyse the compounded effects of different types of acts.

(b) Determine whether relations between different types of acts repeat across time and space.

(c) Determine whether these relations are haphazard or display an organised design.

(d) By layering the mapping of these acts over meteorological and soil-type maps, determine the relation between military acts and the natural characteristics of Gaza.

5 By layering data derived from the different categories of acts, analysed in the chapters of this report, we documented repeated relations that recur in time and space, demonstrating their wide and interrelated patterns.

(1) We determine that the harm caused by different types of acts was aggravated when performed in concert and in relation to others, resulting in a cumulative harm.

(2) The patterns suggest that the relation between the observed acts is not haphazard or random.

(3) The compounded destruction documented on the ground, brought about by the Israeli military campaign, has been organised and designed.

6 Our analysis of the relation between the categories of Israeli military conduct as well as the natural characteristics of the landscape indicates the following:

(1) The elements of spatial control, the buffer zone, raid routes, and corridors (see Chapter 2: Spatial Control) were utilised in tandem with the Israeli military's evacuation orders to concentrate civilians in parts of Gaza. The Netzarim corridor became an unpassable border, with checkpoints that denied the return of civilians who were displaced to the south back into the north and restricted the amount of aid coming into the north (see Chapters 2, 7: Spatial Control, Targeting of Aid, Figure 8.7, and Figure 8.8).

(2) When layering the patterns of displacement and those of the construction of the system of spatial control, outlined in point 1 above, further with the targeting of aid, particularly in the north, we noticed that attacks on civilians seeking aid were more concentrated in proximity to the Netzarim corridor. This element of spatial control created a division that put the delivery of aid, and civilians seeking aid, at risk. Acts of displacement, segregation, and targeting combined to aggravate the conditions of life (see Chapter 7: Targeting of Aid, Figure 8.11, and Figure 8.12).

(3) When we layered the above patterns, outlined in 1 and 2, with the extent of urban destruction, including the destruction of civilian infrastructure, we could determine that areas from which most Palestinian civilians were displaced in the north deprived those that remained there from essential means to maintain life and put them at an ongoing risk or forced their displacement to the south (see Chapter 3: Displacement, Chapter 5: Destruction of Medical Infrastructure, Figure 8.4, and Figure 8.28).

(4) The direct destruction of roads in these urban centres, due to direct bombing or the creation of rubble from destroyed buildings on the roads, made the use of vehicles to evacuate along approved routes more difficult. Pedestrian movement was a more precarious means of movement under fire. We have observed a repeated pattern of targeting 'safe routes' after they have been designated as such by the Israeli military (see Chapter 6: Destruction of Civilian Infrastructure and Figure 8.25).

(5) When we layered the evacuation orders received by Palestinian civilians with the destruction of agriculture, we observed another correlation: the agricultural parts in the east parts of Gaza received evacuation orders and the fields there were subsequently and thoroughly destroyed. The elements of spatial control were then constructed over the areas from which civilians were displaced, suggesting displacement and the destruction of agriculture were an organised result of the plan to construct the elements of spatial control (see Chapters 2, 3, 4: Spatial Control, Displacement, Destruction of Agriculture, Figure 8.15, Figure 8.16, Figure 8.17, and Figure 8.18).

(6) Overlaying the elements of spatial control with 'evacuation arrows' (see section A (Glossary) in Chapter 3: Displacement) found in the Israeli military's evacuation orders, we could determine that displaced Palestinian civilians were channelled through checkpoints functioning as control points. This correlation suggested to us that one of the aims of displacement was to enable the military to surveil Palestinian civilians, including reportedly using biometric data collection and checks exercised via facial recognition software (see Chapters 2, 3: Spatial Control, Displacement, Figure 8.8, Figure 8.9, and Figure 8.10).

(7) The destruction of agriculture in Gaza and the targeting of aid aggravated each other and produced food scarcity and famine. Studying the destruction of agriculture in relation to the targeting of aid, reveals another compounded effect: the destruction of agriculture – fields, orchards, greenhouses – restricted the possibility for Palestinians in Gaza to grow and obtain food independently, and the targeting of aid restricted and controlled food coming from the outside. With food sources inside Gaza destroyed, food could only arrive though Israeli checkpoints, where its distribution was controlled and restricted by the Israeli military. Food distribution infrastructure was directly targeted, limiting the amount of aid available for Palestinian civilians (see Chapters 2, 3, 4: Spatial Control, Displacement, Destruction of Agriculture and Water Resources, and Figure 8.13).

(8) Evacuation occurred from areas with higher annual precipitation (up to 500 mm) levels in the north, to the more arid south nearing 200 mm and from areas with fertile soil (loess and clay) to the area of coastal sand dunes (see Chapters 2, 3, 4 Spatial Control, Displacement, Destruction of Agriculture and Water Resources, Figure 8.23, and Figure 8.24).

7 In the following pages we present relations between incidents and actions documented in the different chapters of this report.



Figure 8.1. Evacuation arrows attached to evacuation orders from 2 December 2023 to 5 May 2024. The arrows point from the north to the direction of the Egyptian border. At this time the border between Gaza and Egypt was open. This direction of evacuation aligns with official statements in favour of the displacement of Palestinians to Egypt.



Figure 8.2. Evacuation arrows between 6 May and 30 August 2024. The arrows shifted to point in the direction of the al-Mawasi 'humanitarian zone' after Israel took over the border with Egypt and the exit of Palestinians from Gaza was no longer available.



Figure 8.3. Layering of all evacuation arrows from 2 December 2023 to 30 August 2024, showing all the directions Palestinian civilians were displaced. The changes in the directions of evacuation illustrate the fact that Palestinian civilians were displaced several times and in different directions.

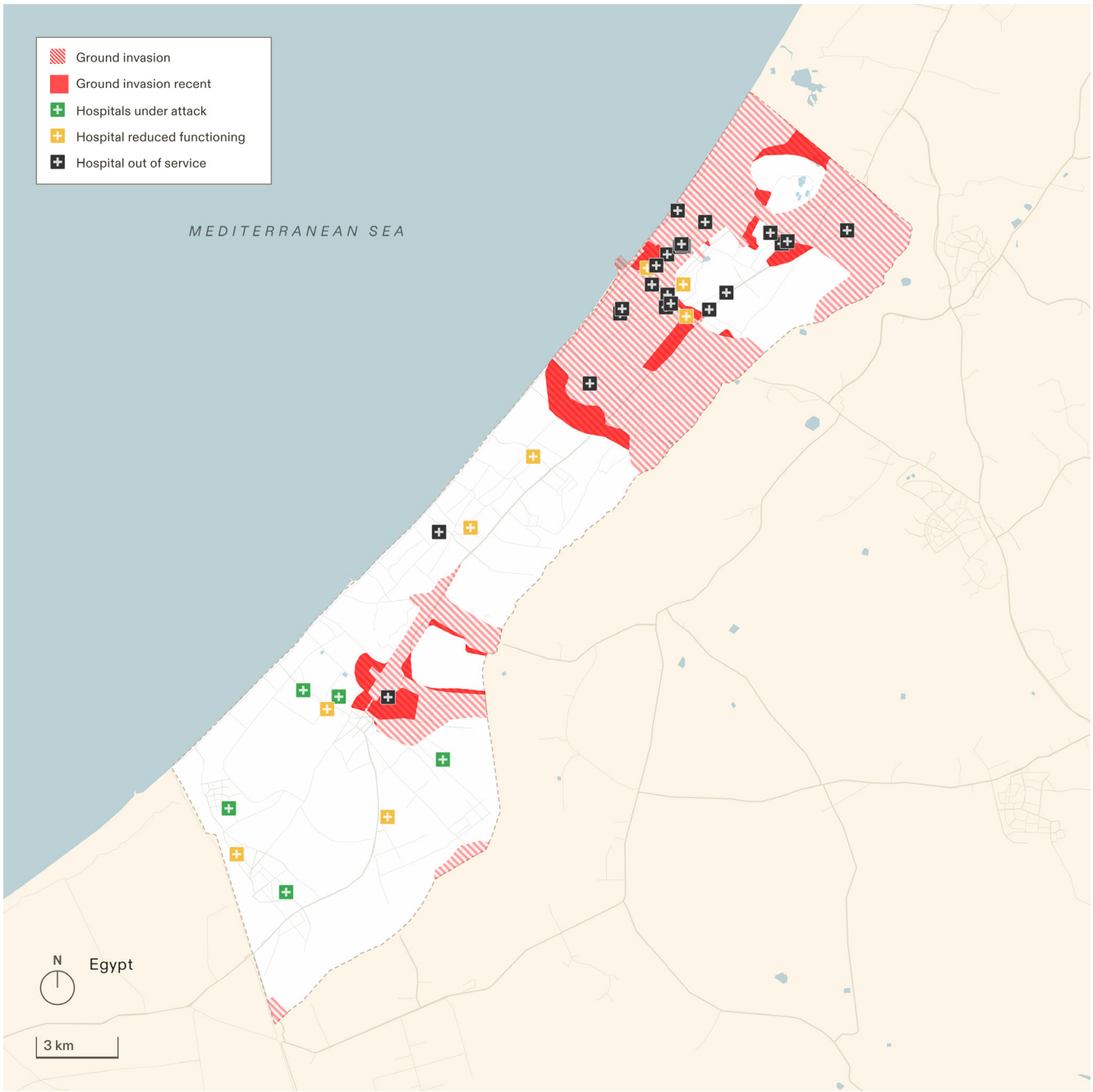

Figure 8.4. The status of medical infrastructure on 20 December 2023 layered over the areas captured during the Israeli ground invasion from 7 October until 20 December 2023. The position of the Israeli ground forces correlates with where hospitals were subsequently forced out of service.

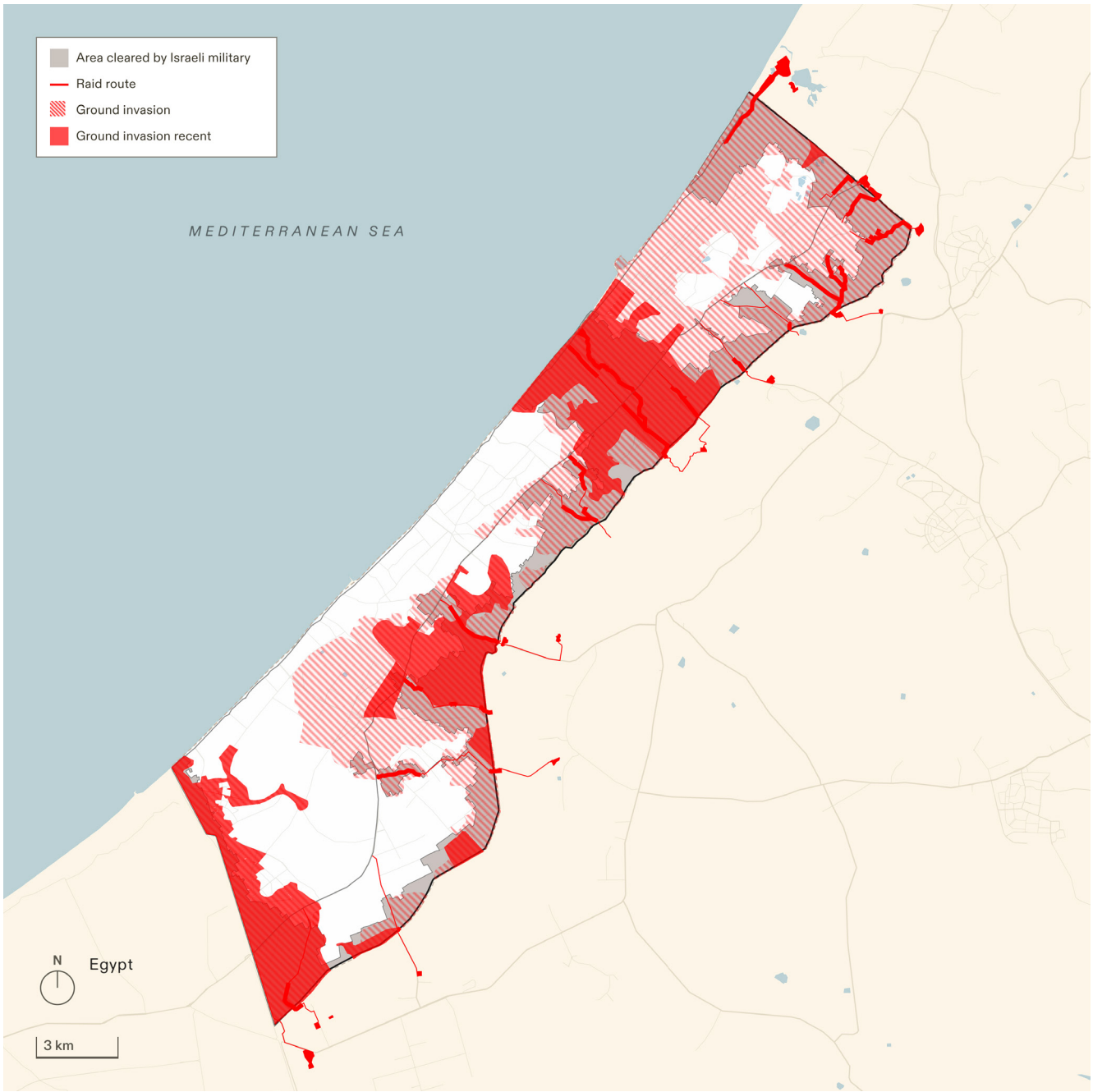

Figure 8.5. Area cleared for the elements of spatial control (grey), including the raid routes (red lines) and areas invaded by the Israeli military on 27 August 2024 (red surfaces). This layering, in this and the following page, suggests that the raid routes have been repeatedly used for ground invasion, and may suggest that they are meant for long-term presence.

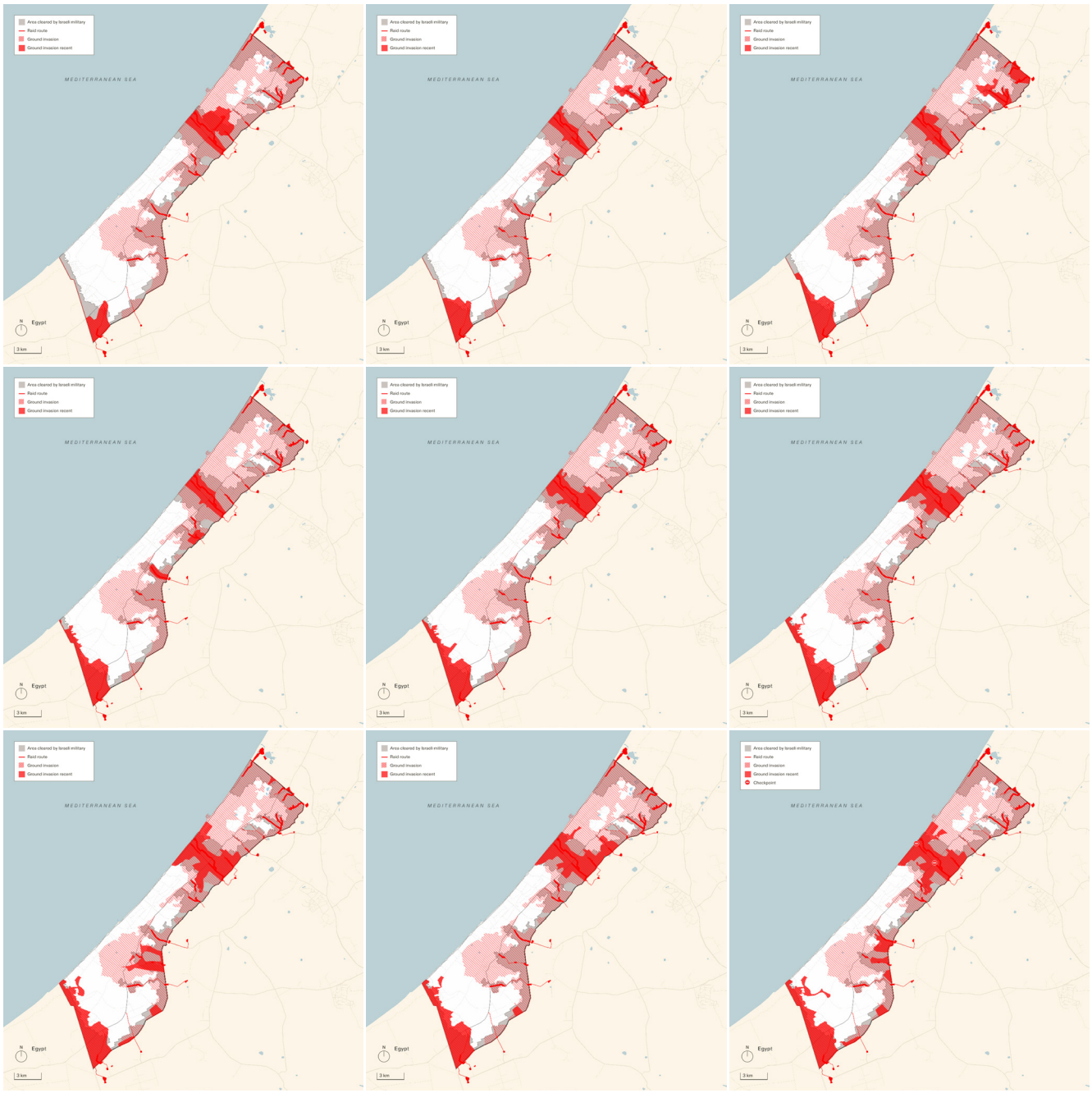

Figure 8.6. This sequence shows the repeated use of the raid routes in facilitating repeated invasion into the eastern part of Gaza between May and August 2024. Image dates: upper row, left to right: 11 May, 21 May, 28 May. Middle row, left to right: 8 June, 21 June, 29 June. Lower row, left to right: 6 July, 9 July, 11 August.

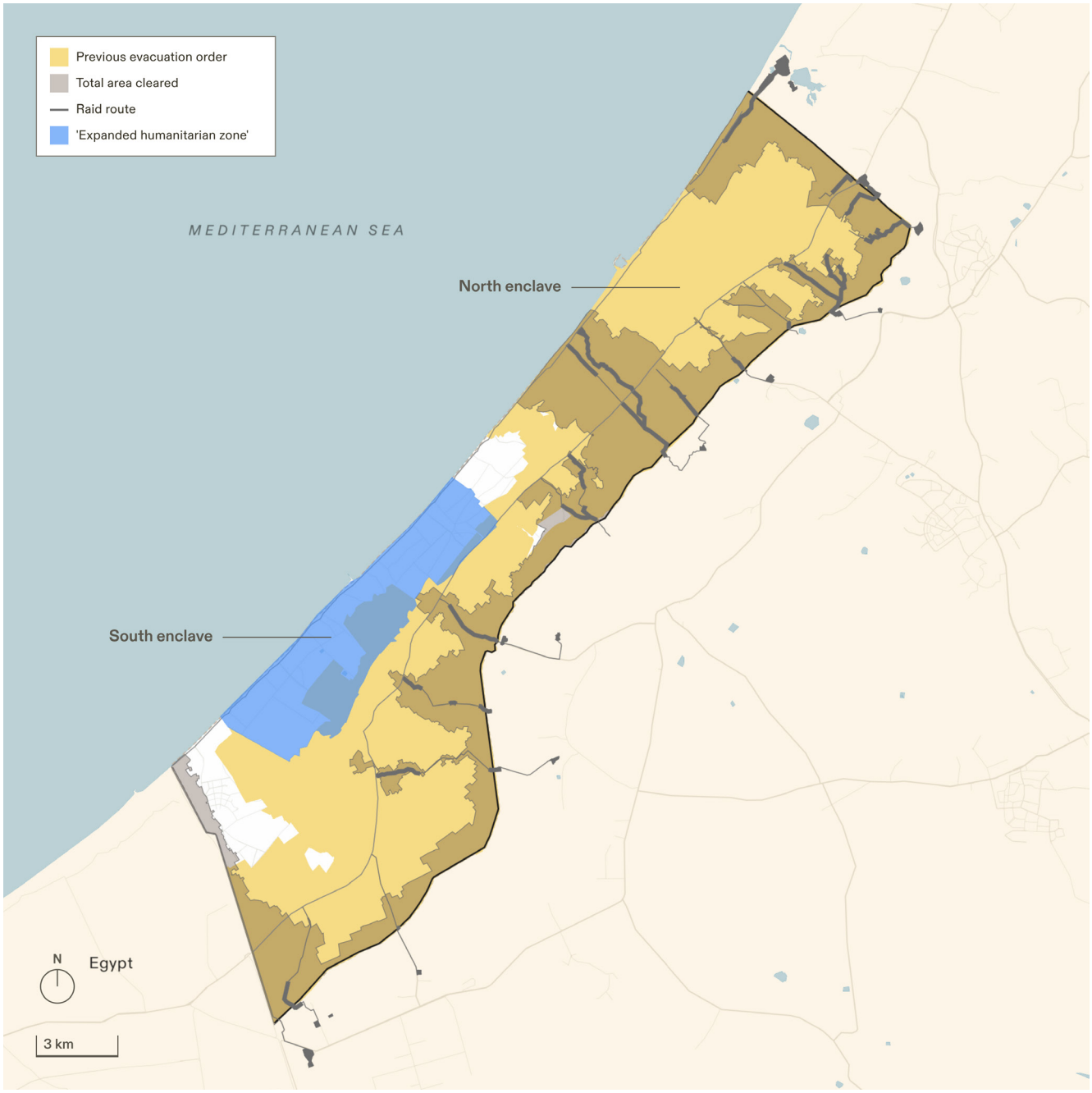

Figure 8.7. Areas cleared by the Israeli military for the construction of the elements of spatial control (grey), including the Netzarim corridor and the raid routes, overlayed over areas that received evacuation orders (yellow), and the destination area of the al-Mawasi 'humanitarian zone' (blue). This map shows the situation on 30 August 2024, demonstrating the way that spatial elements of control created two zones: the north above the Netzarim corridor, and the al-Mawasi 'humanitarian zone', which occupies some of the area south of it. Prior to October 2023, the north, including Gaza City, was the cultural, political, and business centre of Gaza. 1.1 million of its inhabitants received evacuation orders and the area was largely destroyed (see Chapter 6: Destruction of Civilian Infrastructure'). The population that remained lives in damaged homes or in public buildings acting as shelters. Aid is restricted by the two checkpoints along the Netzarim corridor (see Chapter 7: Targeting of Aid). Prior to October 2023, al-Mawasi, in the southwest (labelled 'south enclave'), was an underdeveloped area of dunes and small-scale cultivation. Since October 2023, it has been increasingly overcrowded with tents and other temporary structures that do not provide sufficient shelter from the weather and offer no privacy. The two areas have a one-way link between them - from the north, south towards al-Mawasi - but not in the opposite direction.



Figure 8.8. The elements of spatial control – including the expanded buffer zone, the Netzarim corridor, and the raid routes – segregated Palestinians in the north from those in the south. The induced exit of Palestinian civilians from the north became a way to filter and surveil movement from north to south. Palestinian civilians must pass through two checkpoints across the Netzarim corridor, both of which operate facial recognition technology.

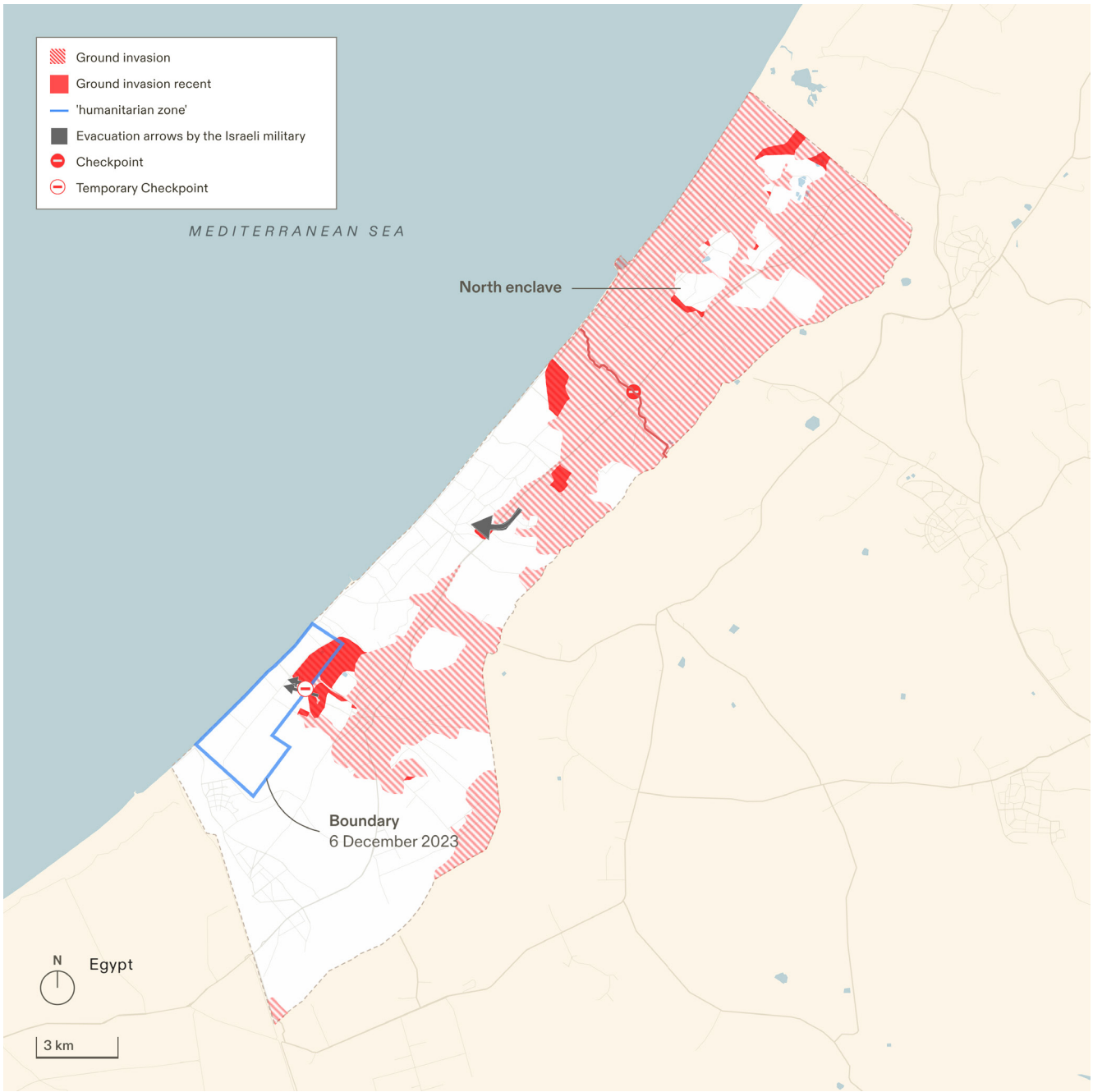

Figure 8.9 Layering of military invasion (red and red hatch) with evacuation arrows in January 2024. The arrows lead Palestinian civilians into a temporary checkpoint at the threshold of al-Mawasi 'humanitarian zone' (blue outline), demonstrating the way the ground invasion and evacuation orders funnelled Palestinian civilians into checkpoints, where they are surveilled using facial recognition technologies. Note also that the military has invaded the 'humanitarian zone'.

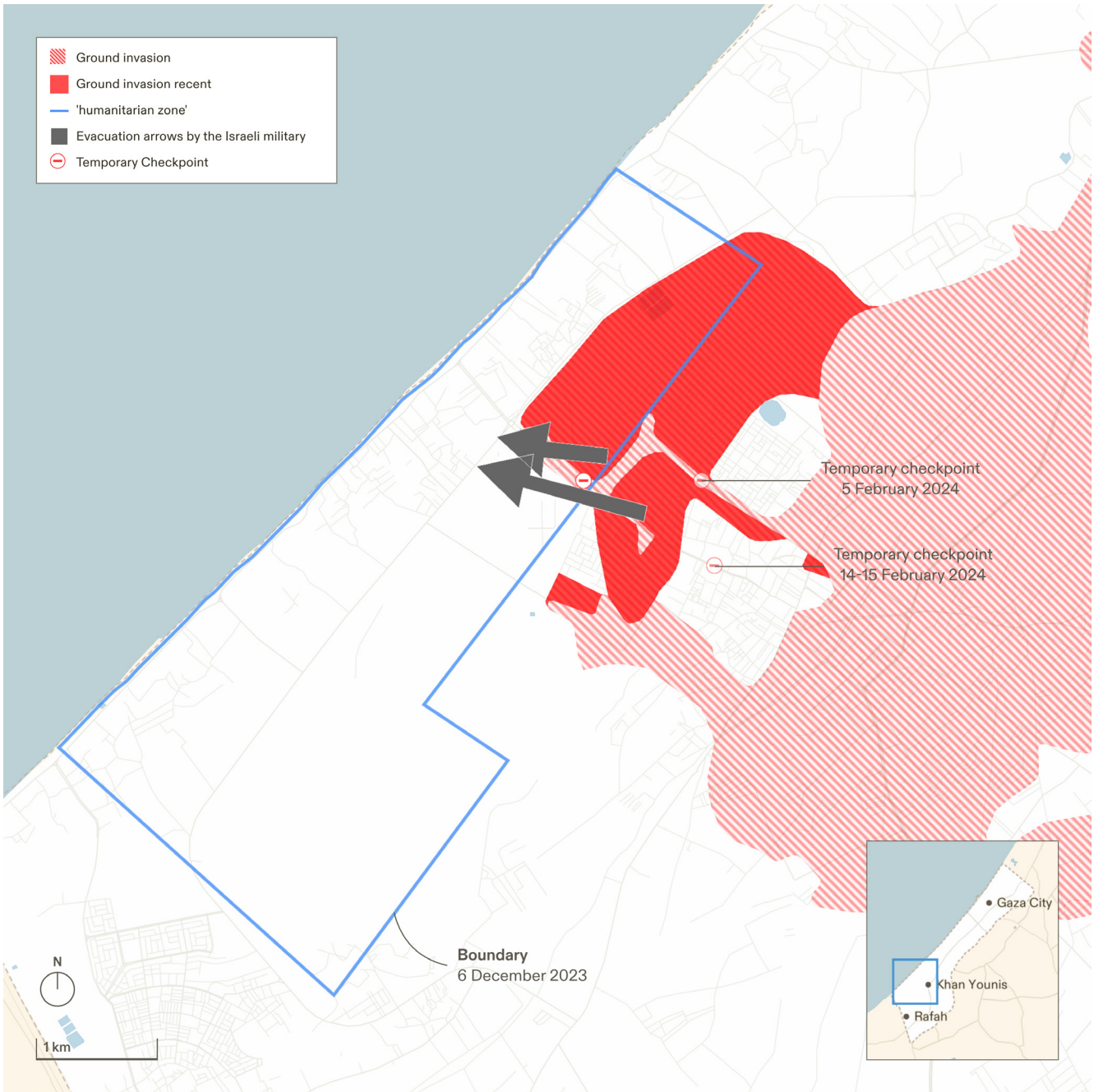

Figure 8.10 Detail of Figure 8.9.

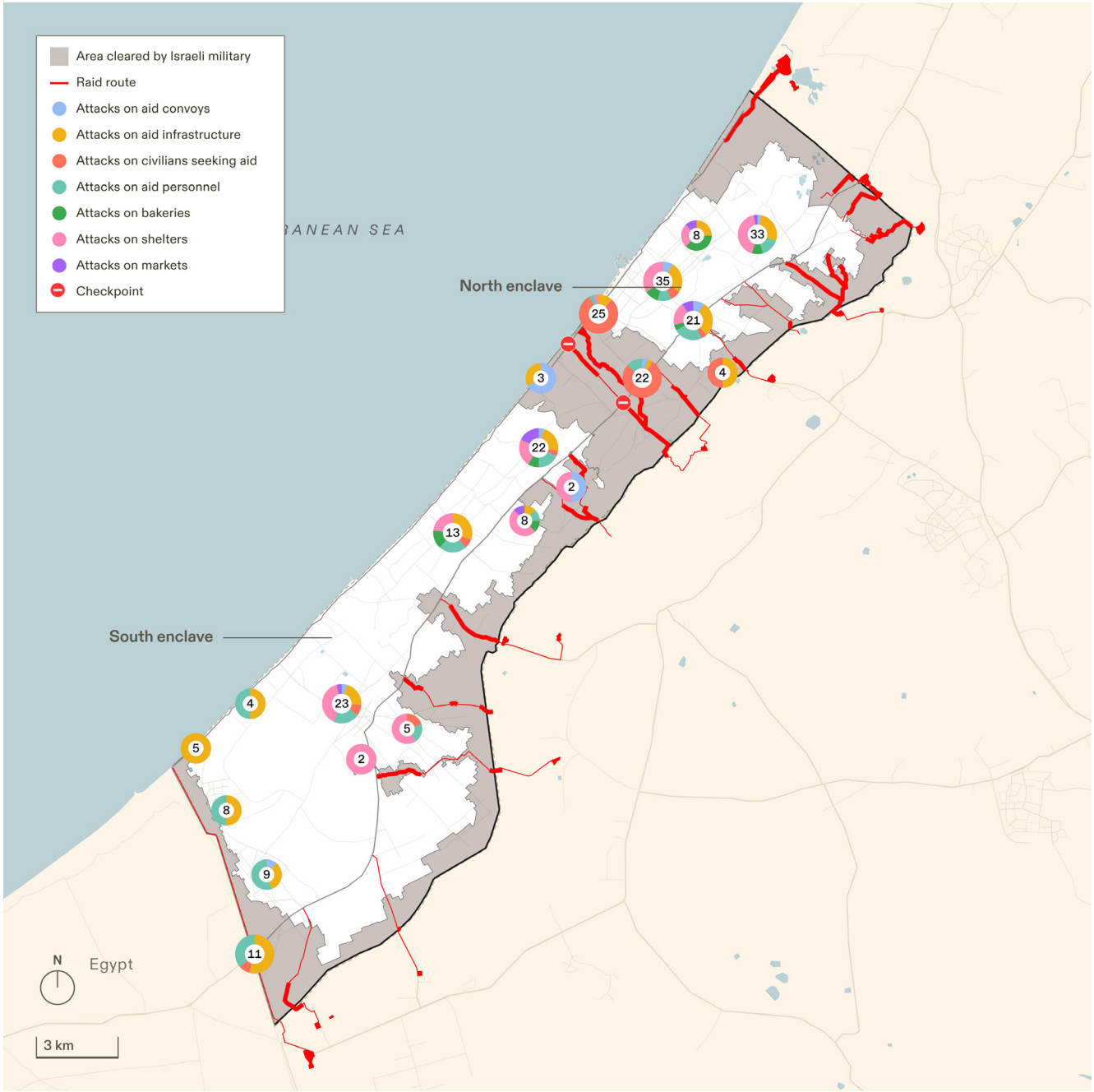

Figure 8.11. Many of the attacks on civilians seeking aid occurred close to and north of the checkpoints through the Netzarim corridor. The attacks on the map are until 30 June 2024. (see Chapters 7, 2: Targeting of Aid, Spatial Control).

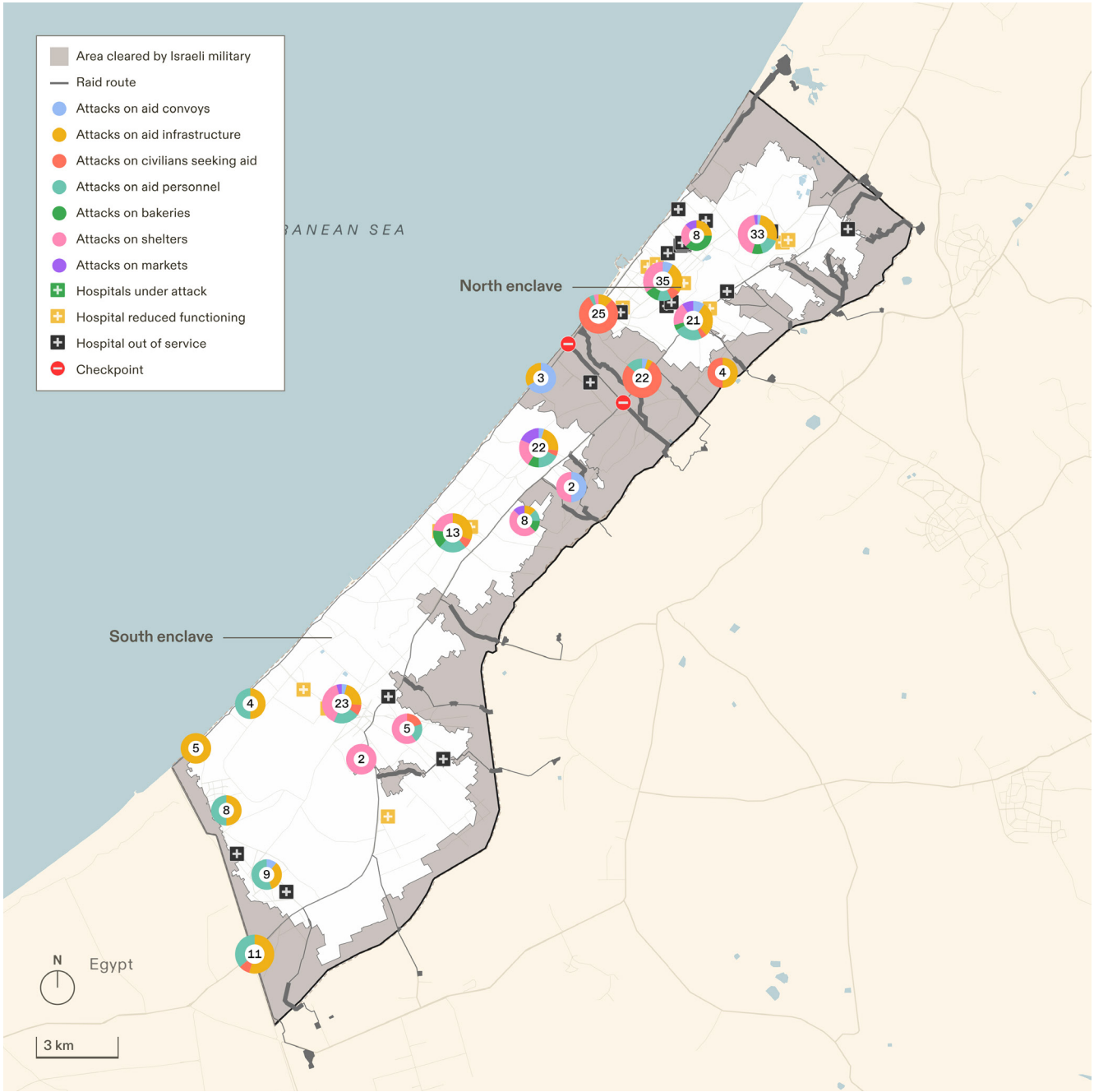

Figure 8.12. The status of hospitals on 30 June 2024 overlayed with the attacks on aid between 7 October 2023 and 30 June 2024. This layering demonstrates a spatial and temporal condition by which the targeting of aid and the destruction of medical infrastructure was most severe in the north. The effects of the destruction of medical infrastructure are aggravated by severe restriction on the availability of aid, resulting in a zone with a lack of life-sustaining infrastructure and aggravated risk to life.

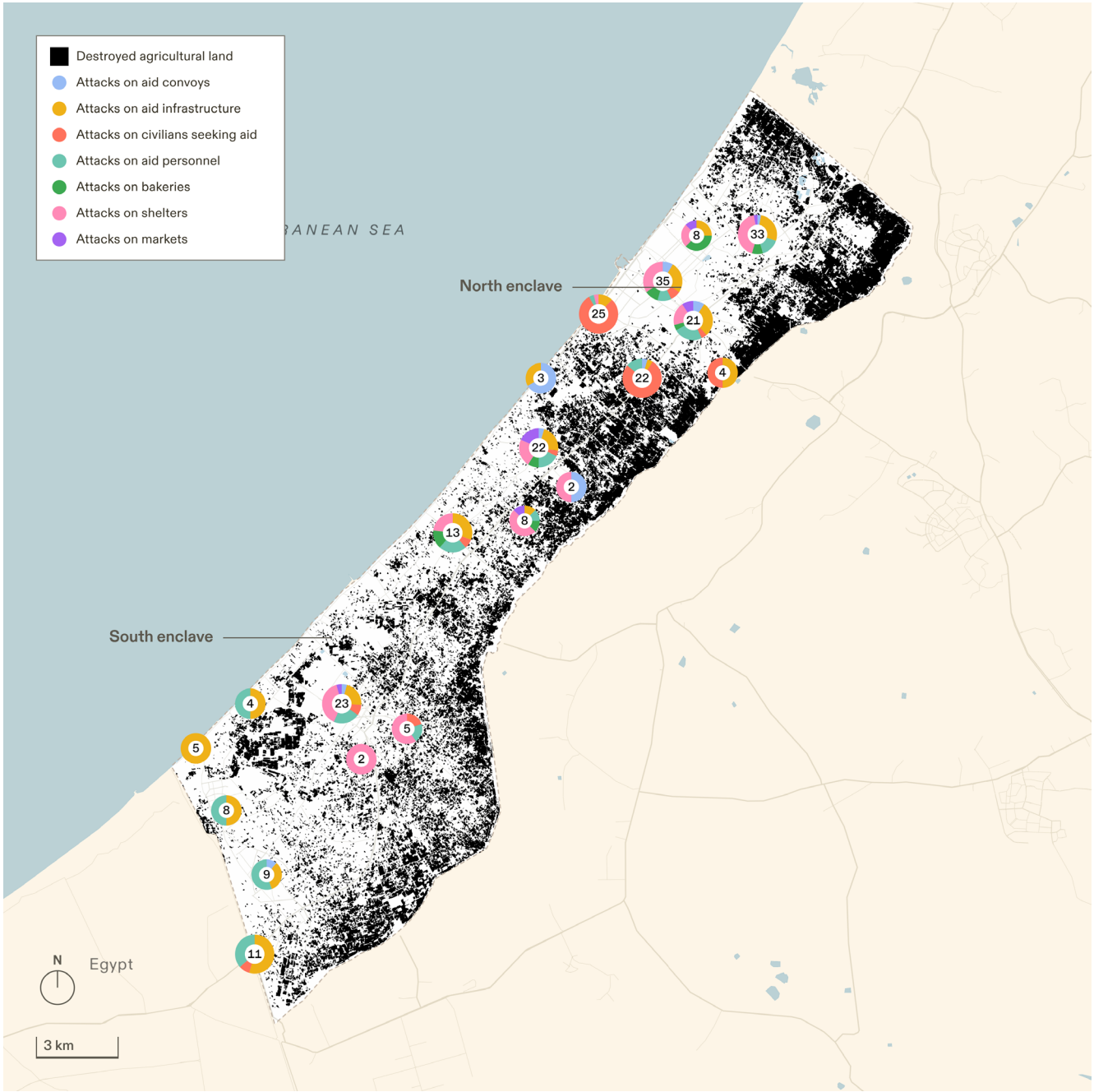

Figure 8.13. Agriculture destruction until 30 June 2023 (shown here in black), superimposed over clusters of attacks on aid (the number at the centre denotes the number of attacks). This map shows the compounded effect on food availability. In the north, agriculture has been almost completely destroyed and most attacks on aid are recorded. The systematic destruction of agriculture across Gaza contributed to food scarcity. This effect was aggravated by the Israeli military restricting and targeting aid, including food aid coming from outside Gaza through the terminals and checkpoints in the Netzarim corridor. The compounded effect of these two patterns is most visible in the north, though it exists also in the south. The compounded effects contributed to famine (see Chapters 4, 7: Destruction of Agriculture and Water Resources, Targeting of Aid).

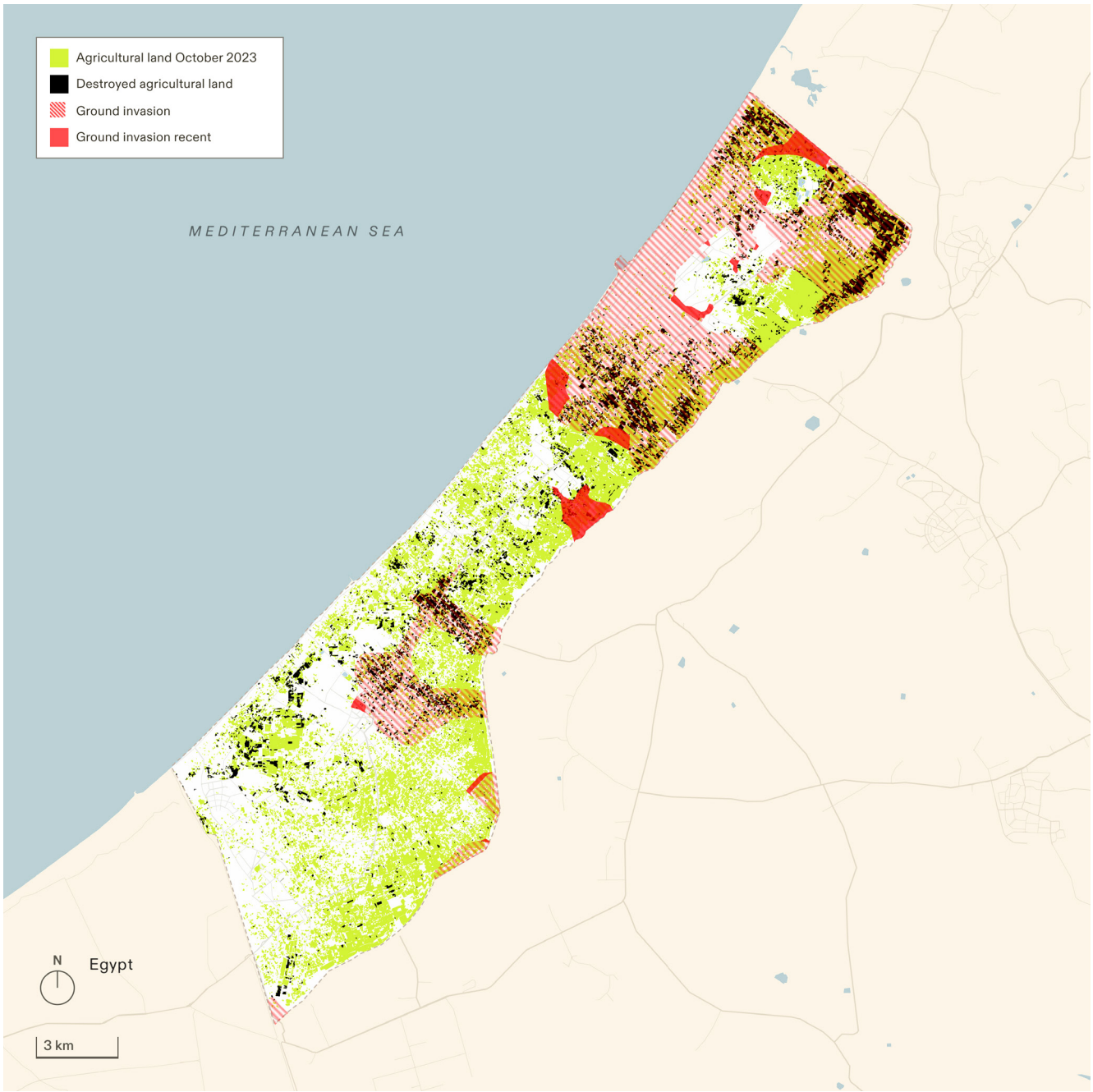

Figure 8.14. Areas that fell under the control of the military (red and red hatch) were those where most agriculture has been destroyed (black). The ground invasion allowed the military to send its fleet of D9 bulldozers to plough and destroy agricultural fields, orchards, and installations. The dates of analysis are November and December 2023. The mosaic that forms the bases of analysis includes satellite imagery from 1, 16, 21 and 26 November and 1, 6, 11, 16 and 26 December (see Chapter 4: Destruction of Agriculture and Water Resources).

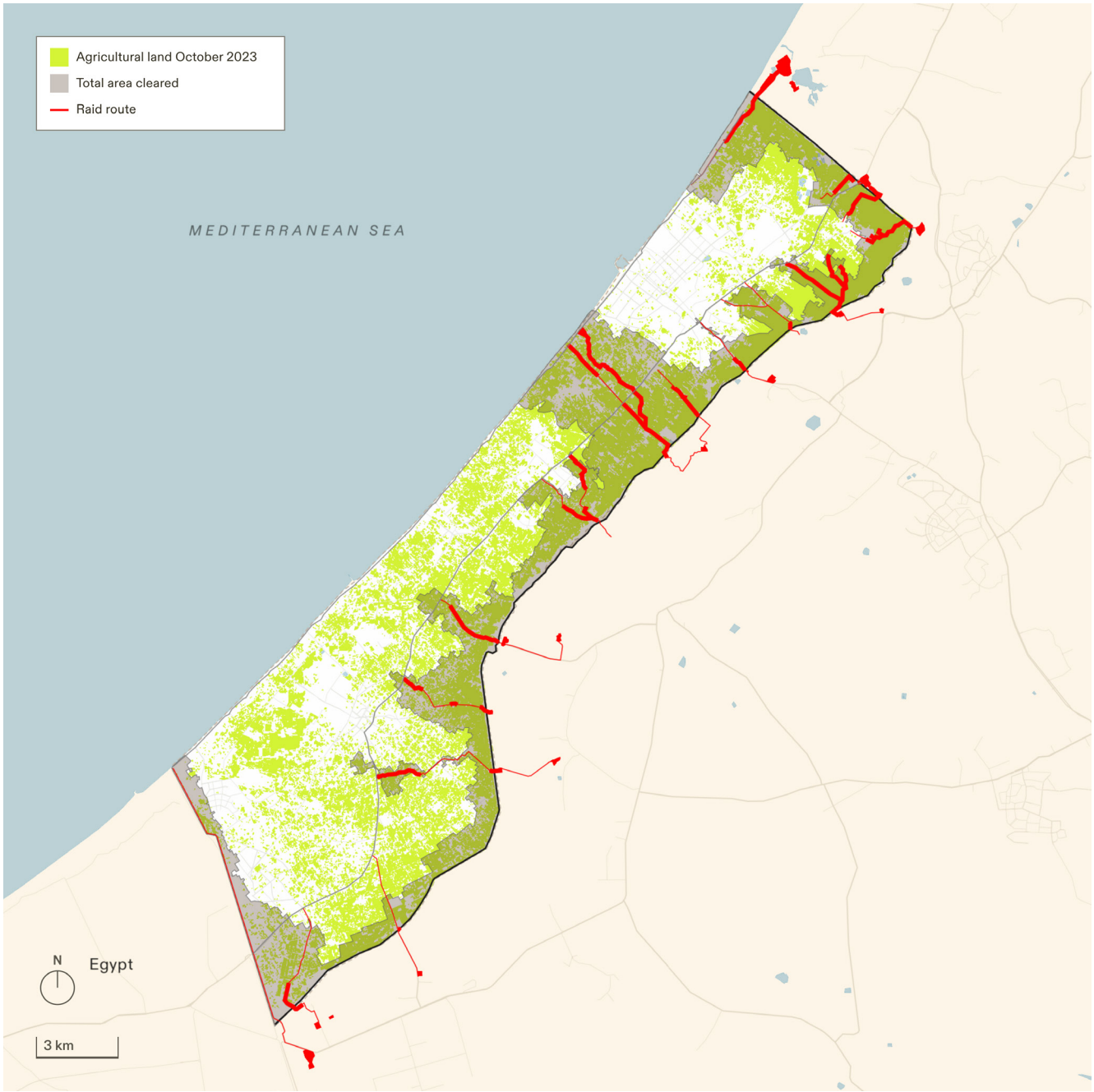

Figure 8.15. The spatial elements of control including the expanded buffer zone, the Netzarim corridor, and the raid routes are shown to occupy some of the most fertile areas where agricultural production was highest before October 2023 (grey).



Figure 8.16. The pattern of destruction of agricultural areas (up until 30 June 2024), including orchards and fields (black), largely coincides with the areas cleared for the construction of an expanded buffer zone, the Netzarim corridor, and the raid routes. The destruction was focused on intensively cultivated agricultural areas on the most fertile soil of Gaza. The rubble from destroyed agricultural infrastructure and buildings contaminates the soil and ground water with long-term effects (see Chapters 4, 2: Destruction of Agriculture and Water Resources, Spatial Control).



Figure 8.17. Evacuation arrows from the area cleared for the spatial elements of control made it impossible for Palestinians to access what remained of their agriculture, and further facilitated crop destruction. Evacuation orders (here showing evacuation arrows for the period of 6 May to 30 August 2024) further contributed to the destruction of the agricultural sector (up until 30 June 2024) because farmers were forced to abandon cultivated areas (see Chapters 2, 4, 3: Spatial Control, Destruction of Agriculture and Water Resources, Displacement).



Figure 8.18. Prior to October 2023, the north and eastern perimeter of Gaza contained the most active agricultural zones. The coastal area and the al-Mawasi 'humanitarian zone' had far less agricultural activity. The destruction of Gaza's agricultural areas coincides with the elements of spatial control (grey). Evacuation arrows (here from 6 May to 30 August 2024) demonstrate the displacement of Palestinian civilians towards the southwest of Gaza. Evacuation orders have affected most of the agriculture-producing zones, forcing the abandonment of cultivated land.

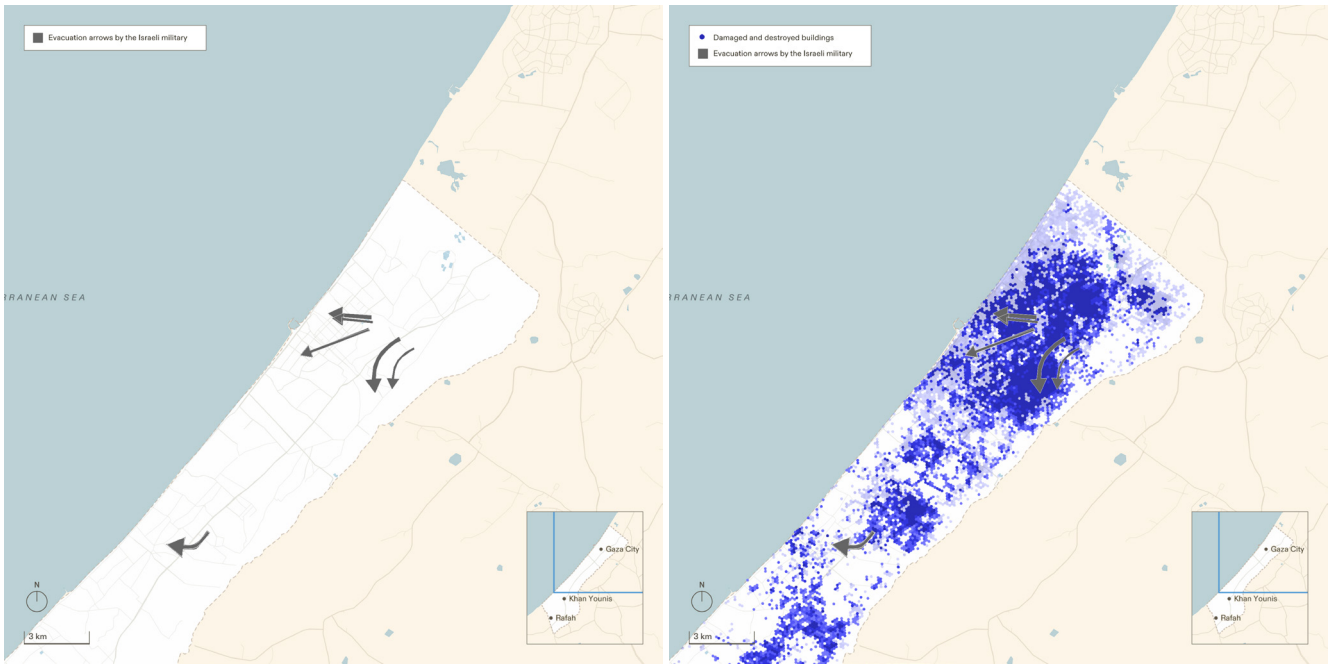

Figure 8.19. These maps overlay the extent of urban destruction with evacuation arrows. Left: evacuation arrows between 26 November 2023 and 7 January 2024. Right: evacuation arrows and urban destruction over the same period.

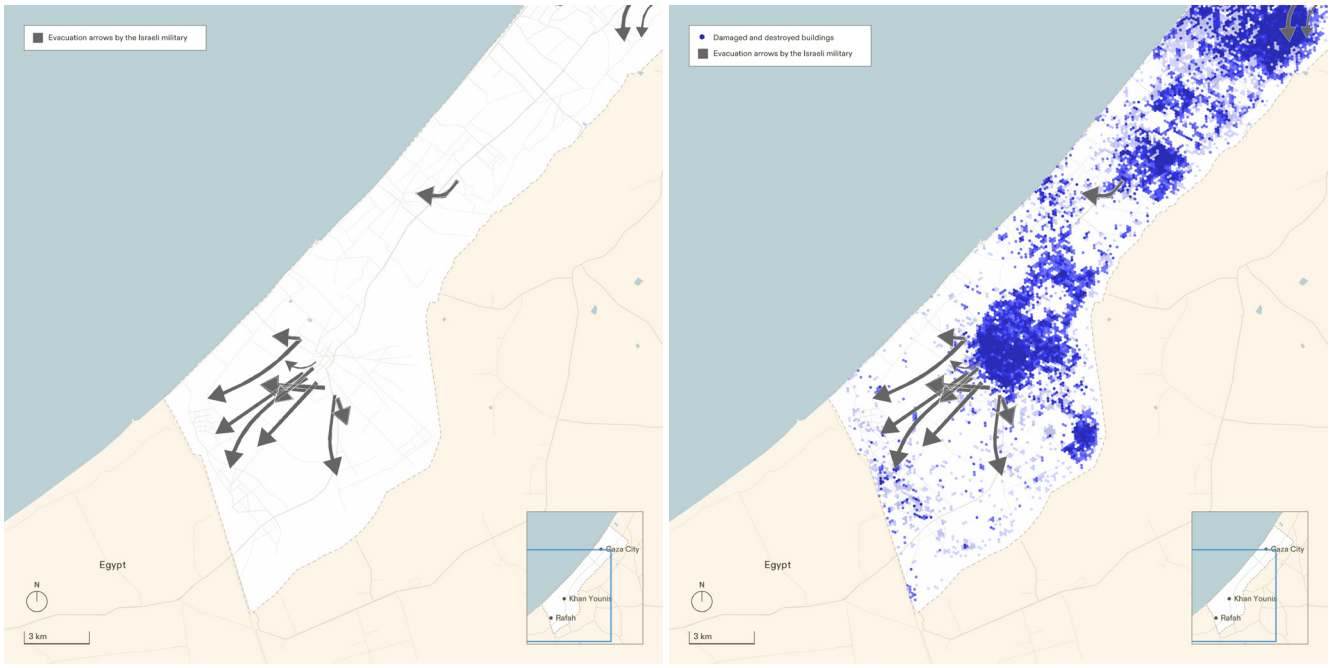

Figure 8.20. These maps overlay the extent of urban destruction with evacuation orders and arrows. Left: evacuation arrows between 26 November 2023 and 7 January 2024. Right: evacuation arrows and urban destruction over the same period.

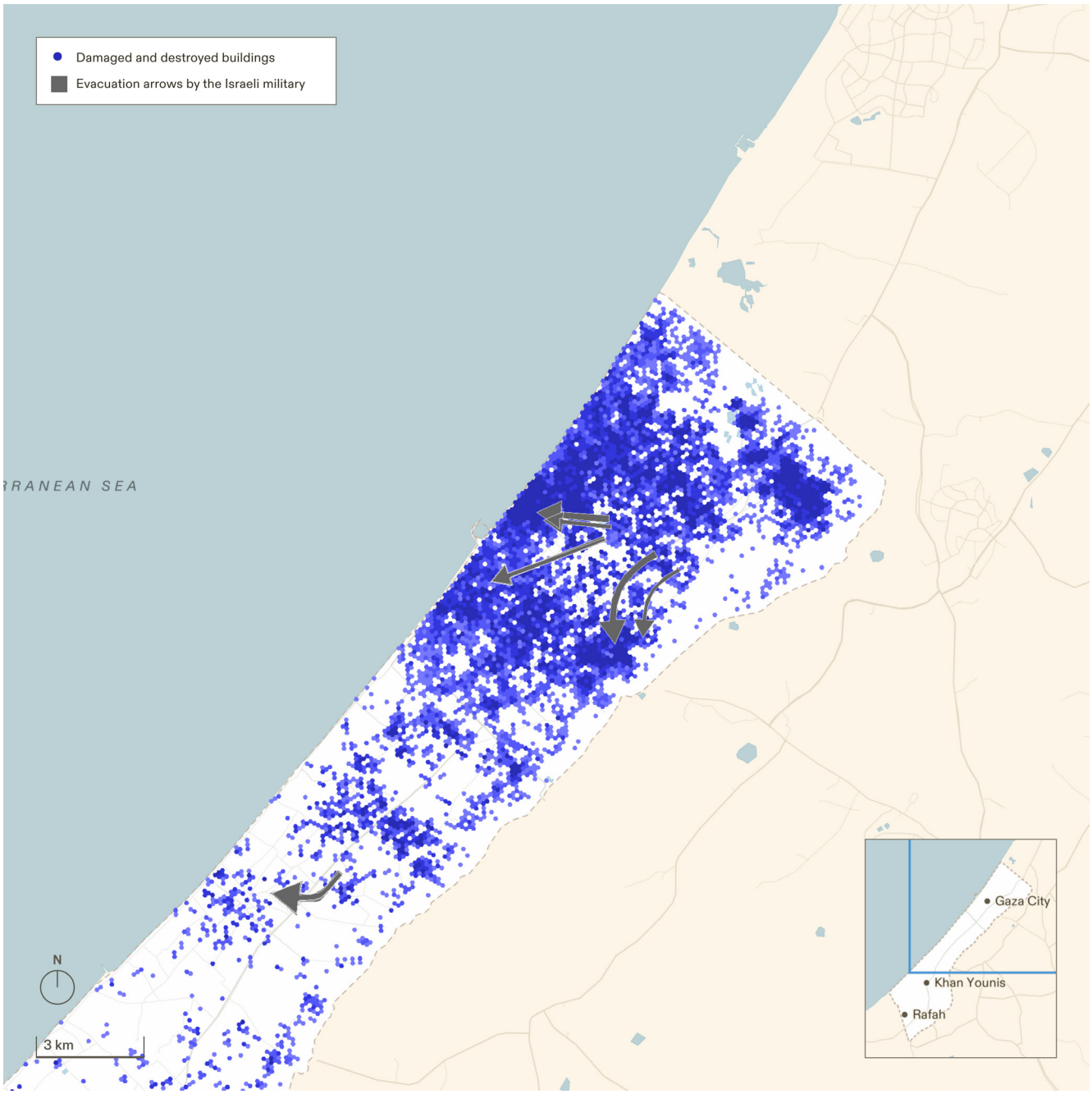

Figure 8.21 A layering of the extent of urban destruction with evacuation arrows. In blue are areas destroyed before 26 November 2023. The evacuation arrows pertain to evacuation orders from 26 November 2023 to 7 January 2024. This demonstrates that civilians were ordered to evacuate into areas that had been recently destroyed and that were not suitable to accommodate displaced persons and lacked functioning infrastructure. .

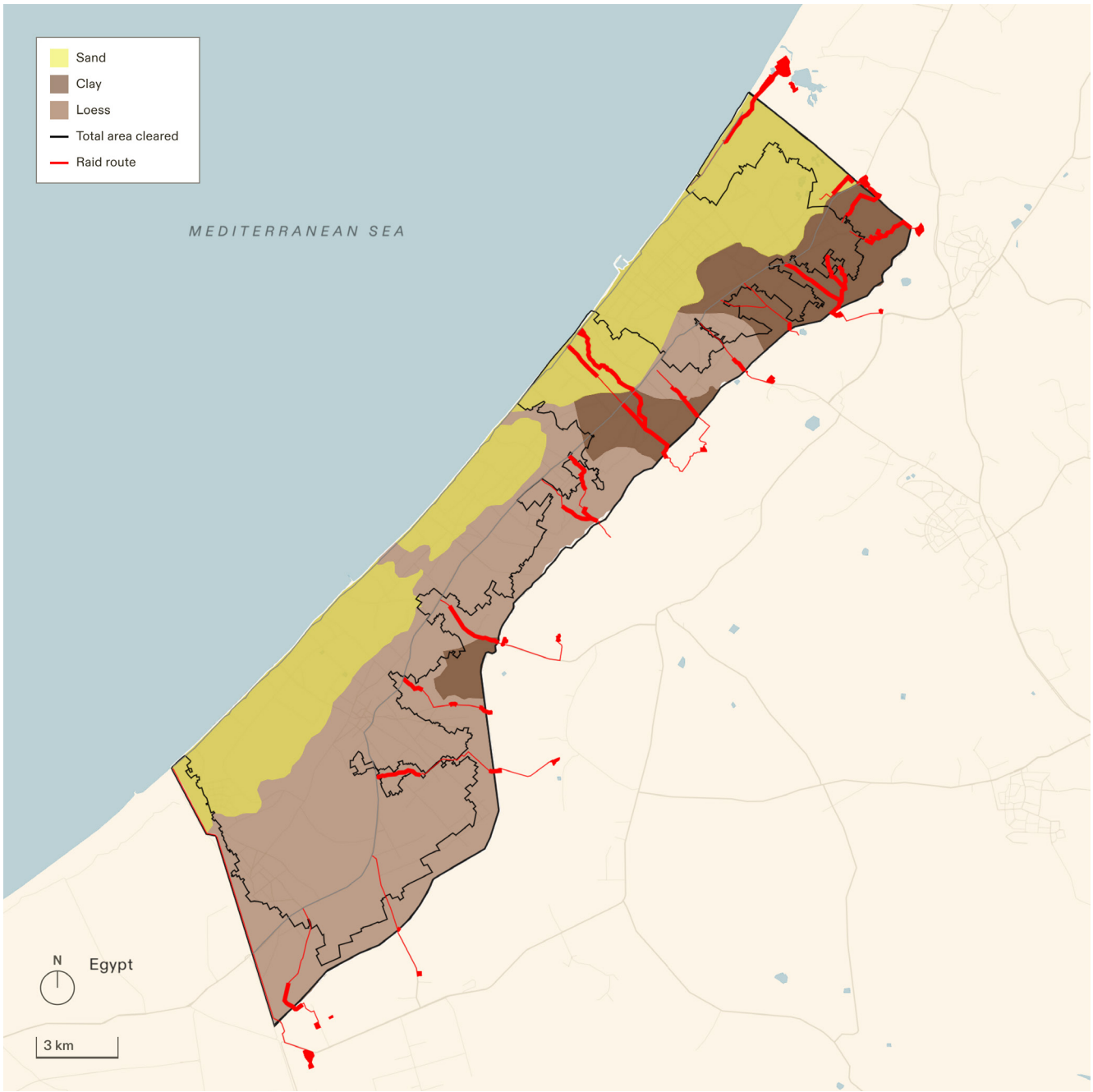

Figure 8.22. The elements of spatial control coincide with the areas of the most fertile soil (loess and clay in shades of brown). The Netzarim corridor is on the clay fields north of Wadi Gaza, while the clay fields of Beit Hanoun have also been taken over by the buffer zone and raid routes in this area.

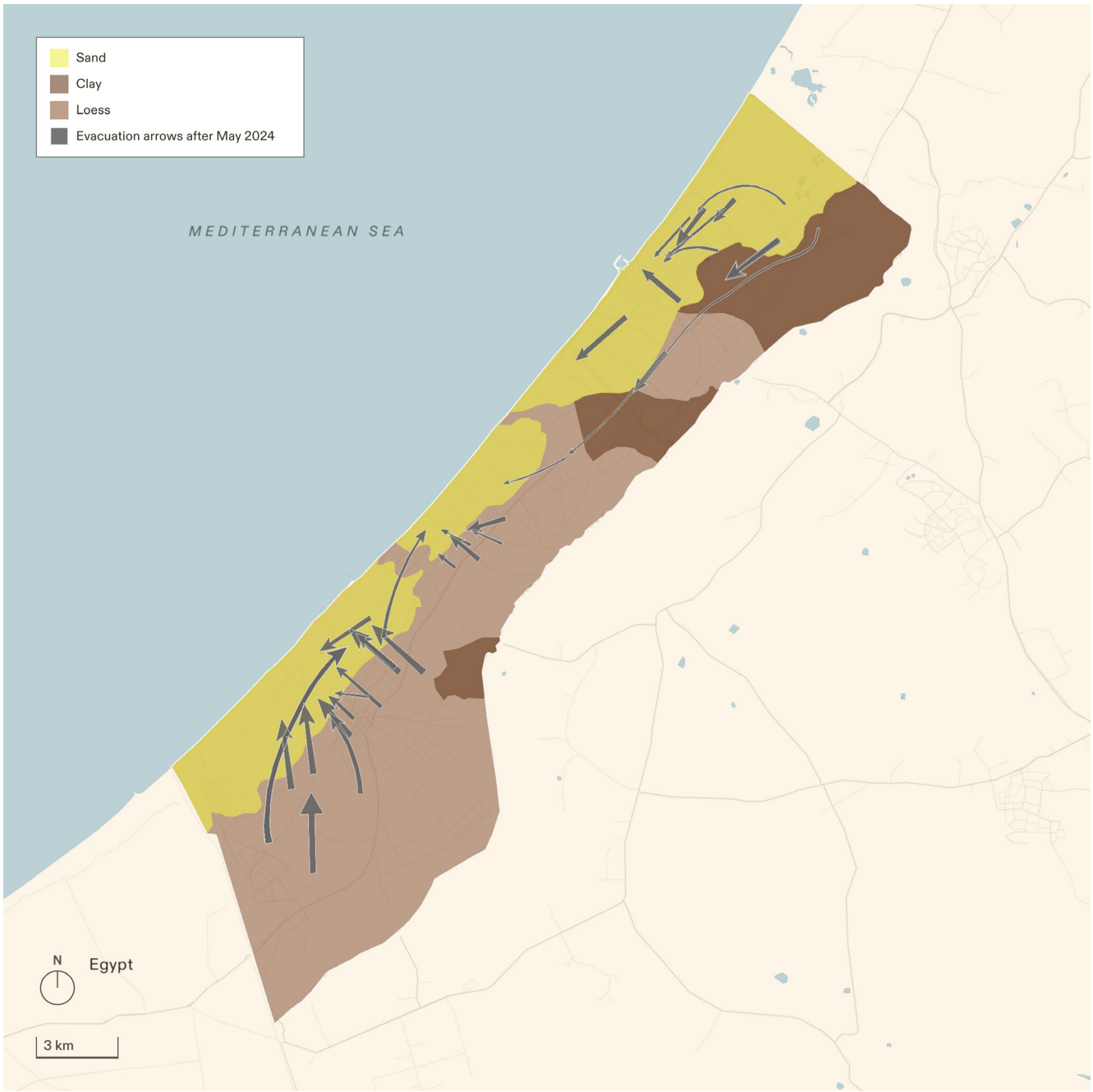

Figure 8.23. Evacuation arrows derived from military evacuation orders between 6 May and 30 August 2024. Displacement occurs from areas with the most fertile soil (loess and clay) in the east towards the sand dunes in the west (see Chapters 2, 4: Spatial Control, Destruction of Agriculture and Water Resources).

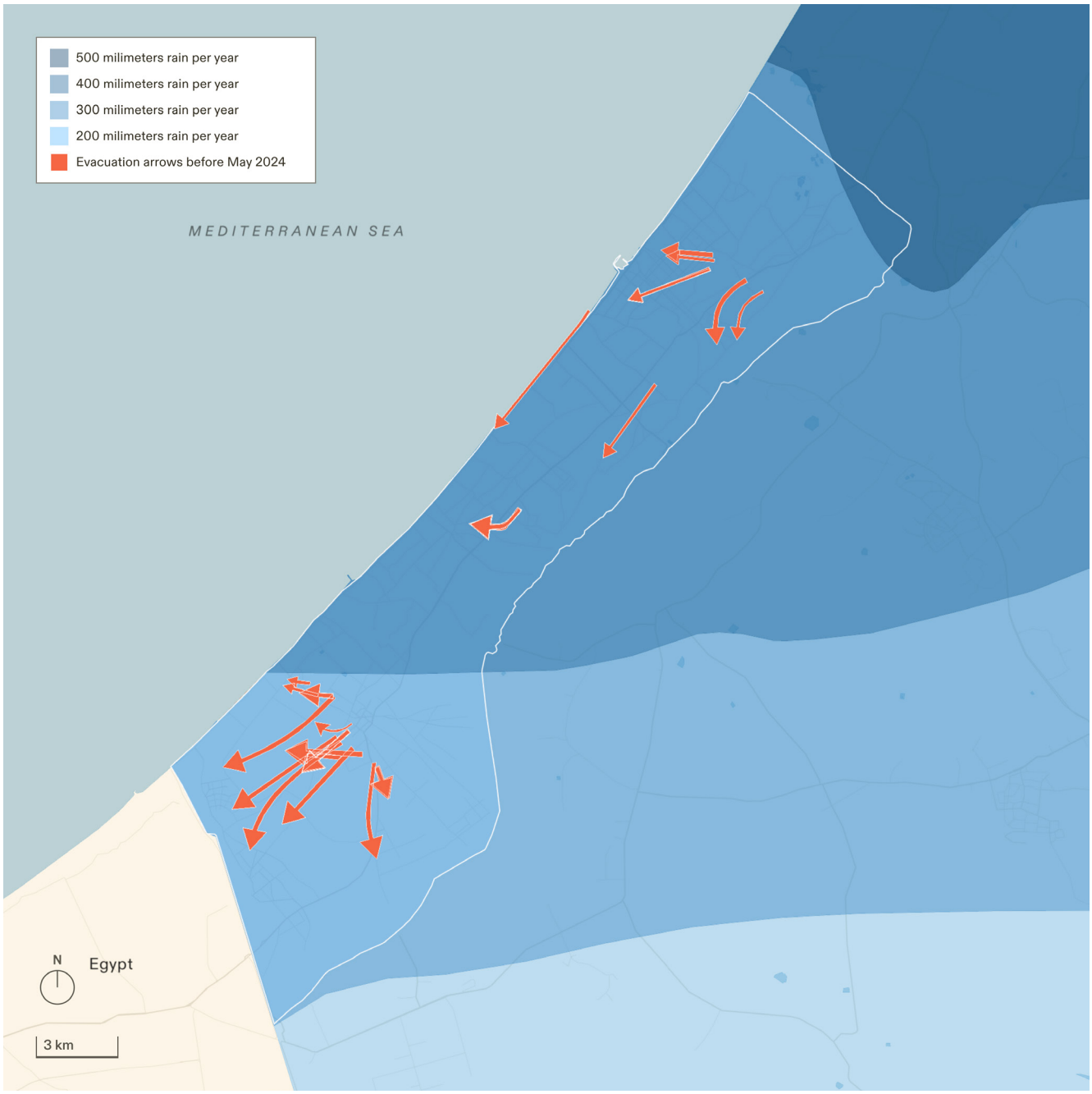

Figure 8.24. Evacuation arrows from 7 October 2023 to 6 May 2024 over annual precipitation levels. Displacement occurred from areas with higher precipitation to the more arid south (see Chapters 2, 4: Spatial Control and Destruction of Agriculture and Water Resources).

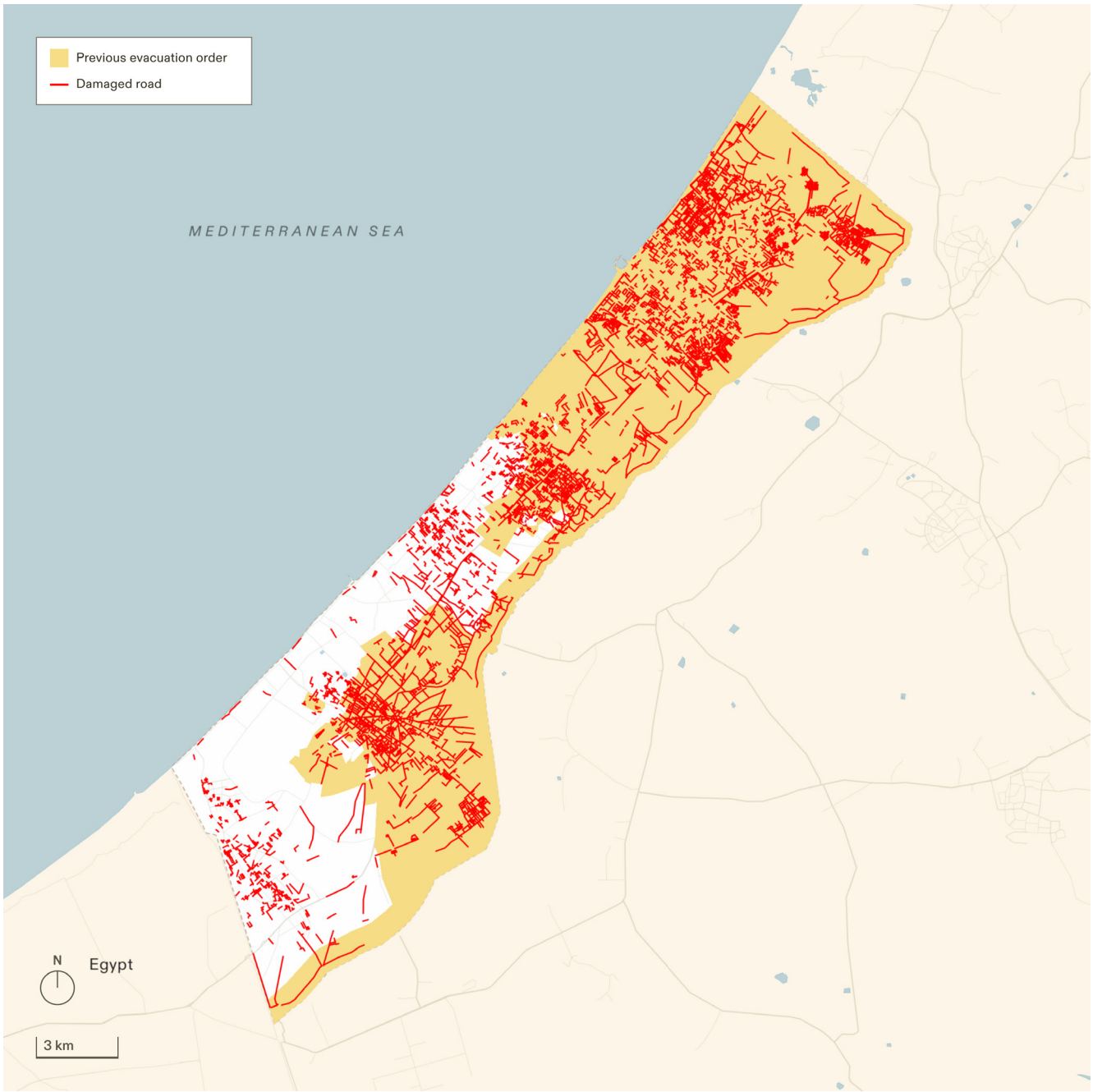

Figure 8.25. Areas ordered to evacuate (yellow) between 7 October 2023 and 7 January 2024 coincide with substantial destruction of the street network (red), which made it more difficult to evacuate. The destruction of roads in the north, Khan Younis, and Rafah, even before it was invaded, created an obstruction to vehicular movement. Roads were bombed and rubble from bombed buildings was often piled on the roads. These obstructions interfered with the movement of civilians trying to follow evacuation orders along approved routes. It also made it harder for civilians to use their vehicles for evacuation. Pedestrian movement was a precarious means of movement under fire.

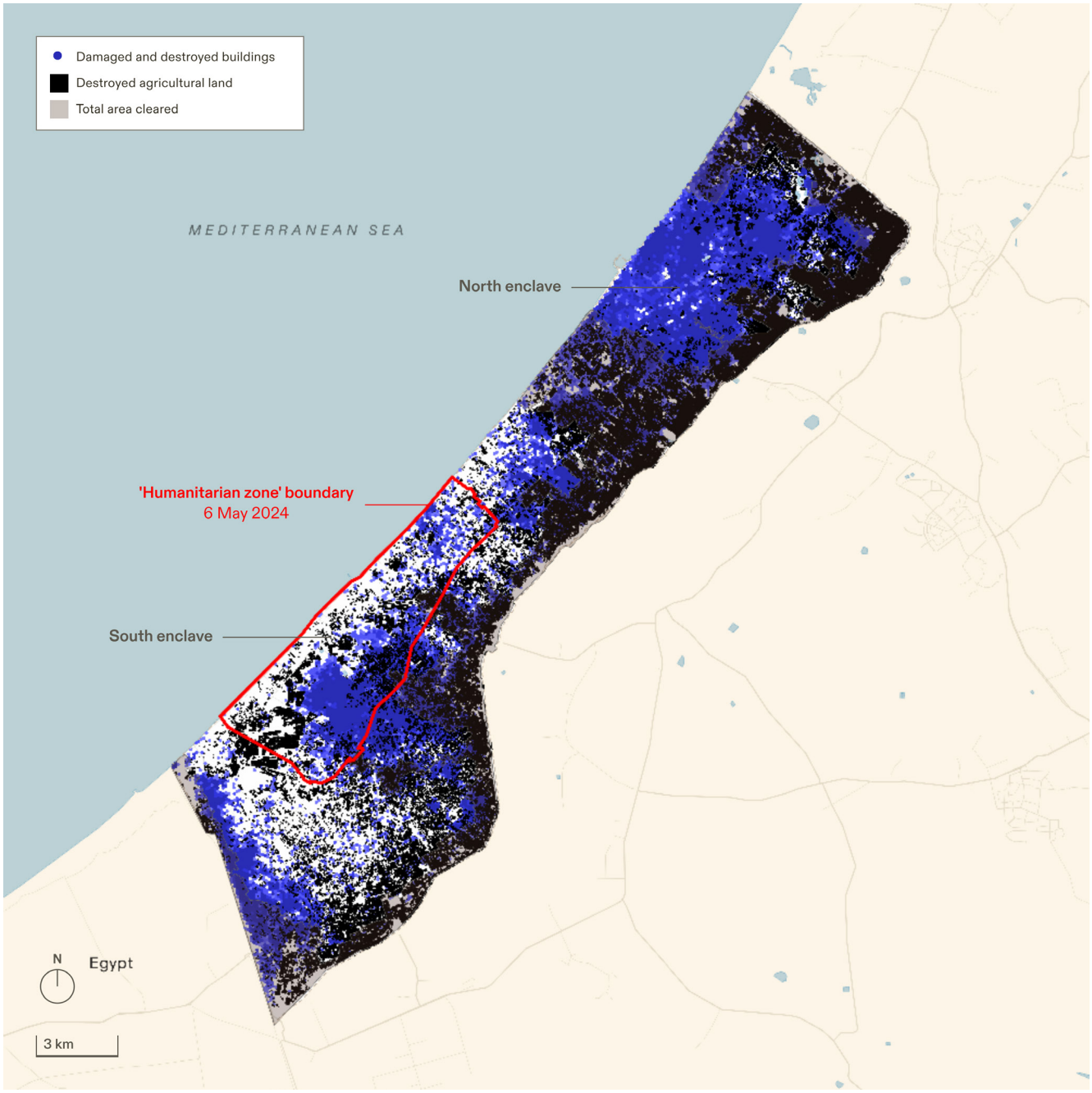

Figure 8.26. The overall destruction of agriculture and urban fabric between 7 October 2023 and 30 August 2024 within the borders of al-Mawasi 'humanitarian zone' (in red and with its 6 May 2024 boundary). As this map shows agricultural areas are naturally those in between and at the margins of built fabric. By overlaying the destruction of buildings (blue) with the destruction of agricultural areas (black) we can see the totality of ground level destruction brought about in Gaza. Only the more sparsely inhabited and less agriculturally used coastal dunes of al-Mawasi exhibit slightly lighter levels of destruction (white). Destruction within the 'humanitarian zone' is almost complete mainly in its eastern parts (the centre of Khan Younis). The western part of the 'humanitarian zone' was not a highly developed area in terms of agriculture and urban fabric before October 2023. Until 2005 it was isolated by the presence of the largest bloc of Jewish settlements – the Katif bloc. (see Figure 1.1) It has small-scale agriculture (see Chapter 1: Introduction) and few public services.



Figure 8.27 All areas ordered to evacuate since October 2023 (in yellow), and evacuation arrows between 6 May and 30 August 2024, showing the way in which Palestinian civilians were channelled into the al-Mawasi 'humanitarian zone' (in red and with its 6 May 2024 boundary).

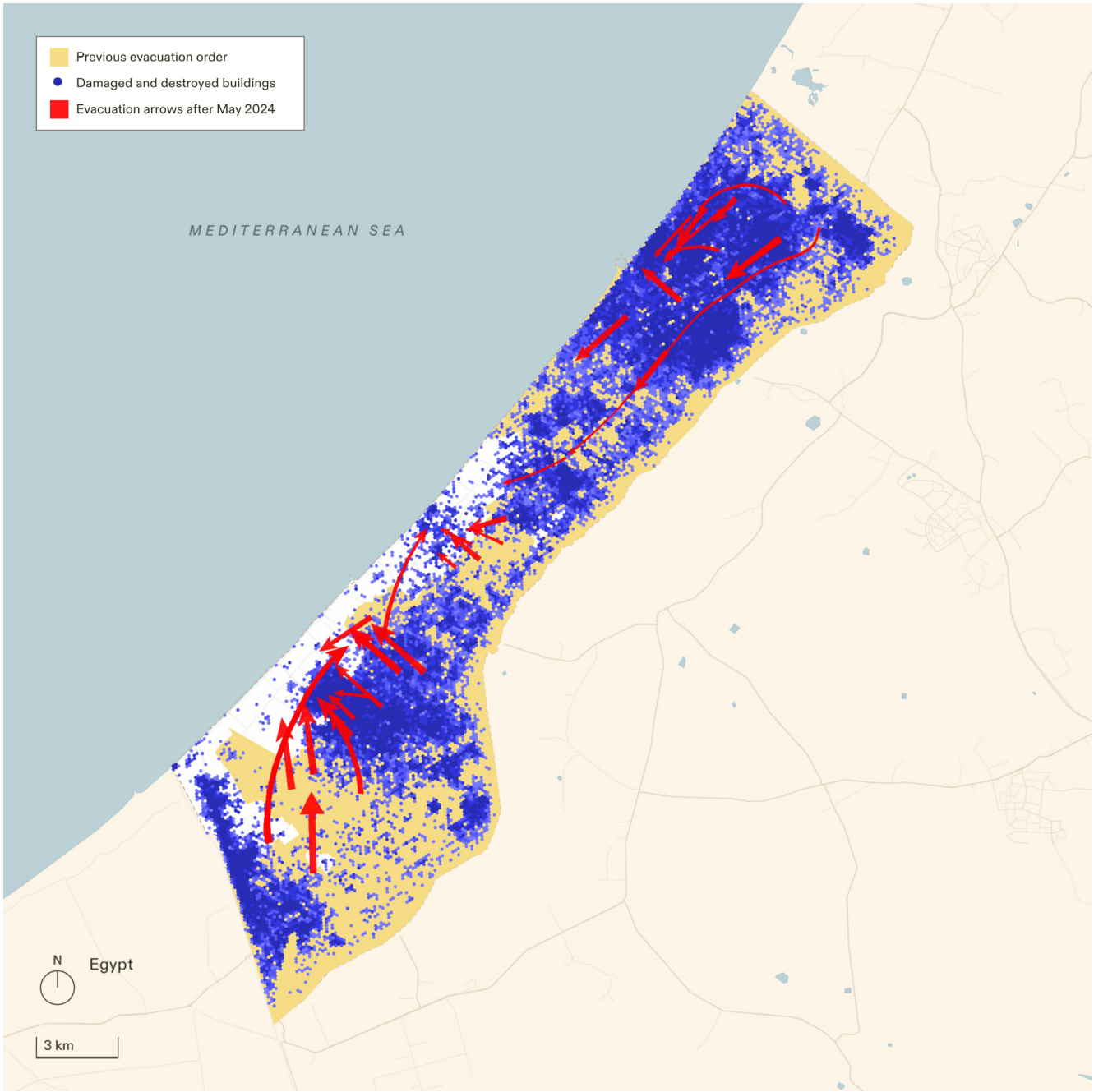

Figure 8.28 The level of destruction superimposed over the evacuation orders and evacuation arrows leading to the al-Mawasi 'humanitarian zone'. Areas from where Palestinian civilians were ordered to evacuate suffered widespread destruction, but so were destination areas – areas civilians were evacuated to. Destruction in these destination areas occurred both before civilians were displaced into them and after they took refuge there.



Figure 8.29. The area of overall urban and agricultural destruction between 7 October 2023 and 30 August 2024 almost completely overlaps with the areas ordered to evacuate (in yellow). In red is the al-Mawasi 'humanitarian zone' with its 6 May 2024 boundary.

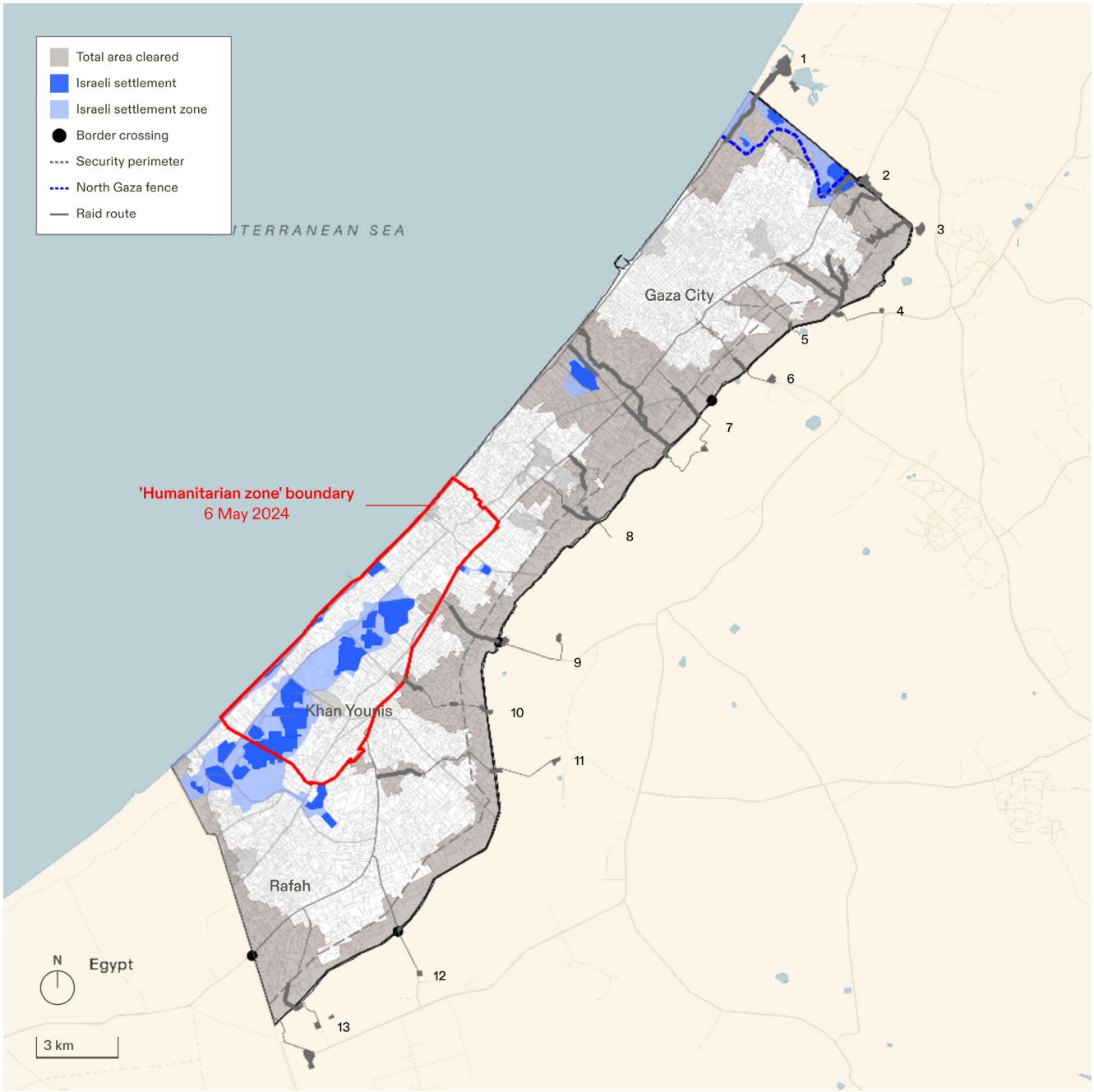

Figure 8.30. An overlay of Israel's elements of spatial control (August 2024) in grey and the Jewish settlements in Gaza before their evacuation in 2005 (shades of blue), shows some correlations. The buffer zone in the north corresponds to the location of the northernmost settlement bloc. The Netzarim corridor overlaps with the location of the Netzarim settlement and the security corridor that led to it. The area of the al-Mawasi 'humanitarian zone' (here with its 6 May 2024 borders) largely overlaps with the Katif settlement bloc. The reason for the latter correlation is that the area of the evacuated Katif bloc was by October 2023 only relatively sparsely inhabited by Palestinians. Raid route numbers 9, 10, 11 have been security roads leading to the Katif bloc.

9. Conclusion

1 This report investigates the consequences of Israel's establishment of a system of spatial control, the Israeli-designated 'humanitarian zones' and other destination areas (where people are ordered to evacuate to).

2 This report interrogated the scale and nature of these acts and the extent of damage caused.

3 This report identified 'patterns' within these acts of violence, by which we mean the repetition of same, similar or related acts, at different times and places.

4 Such patterns indicated to us that these attacks are organised and designed rather than occurring at random or in a haphazard way.

5 The interface of the GCD allowed our researchers to delineate a geographic region (within Gaza), a time period, or both, and retrieve information about all incidents we collected within that delineated domain. In this way, the GCD provided our researchers with the raw data with which to analyse potential relations and patterns between incidents.

6 The GCD was also conceived as both a tool of presentation and allowed us to extract and present different maps.

7 The effect of military acts on the civilian population in Gaza was revealed by studying the simultaneous, or proximate, application of different types of acts in the same territory. We established the existence of relations between incidents of more than one category.

8 We found that military actions are multifaceted and that relations between different types of actions exist. These, we established, generated cumulative and compounded harm, with the consequence of each act aggravating those of others.

9 The establishment of patterns out of a large multiplicity of individual acts allowed us to determine the extent to which the level of death and destruction inflicted across Gaza was organised.

Appendix: Study of the relationship between Israeli public statements and Israeli military conduct in the occupied Gaza Strip

1 This study considers the relationship between a series of statements made by Israeli state and military officials, spokespersons, officers, soldiers and public figures between 7 October 2023 and 30 June 2024, and the patterns and nature of the Israeli military's conduct in Gaza observed in this report.

2 We examined two databases of hundreds of statements by the above government and military personnel: One was compiled and shared with us by the Forensic Architecture Investigative Unit at the Palestinian human rights organization Al-Haq.[1] The other was published online by the human rights organisation Law for Palestine.[2]

3 For the purposes of this study, we organised a set of statements derived from the two databases within the following categories:

(a) Statements concerning humanitarian aid, food, water, electricity, and fuel.

(b) Statements concerning targeting of essential infrastructure, including medical, cultural, economic and agricultural infrastructure, as well as sites of shelter, sanitation and hygiene.

A SUMMARY OF FINDINGS

4 Our analysis suggests that the statements within the two categories outlined above are consistent with the patterns, nature, and conduct of Israel's military campaign in Gaza as outlined in this report.

B MATERIALS USED

5 Our study relies on information within the following two databases compiled from publicly available sources by:

(a) The Forensic Architecture Investigative Unit at the Al-Haq Center for Rights provided Forensic Architecture with a list of Israeli statements made in the period from October 2023 to June 2024.

(b) The human rights organisation Law for Palestine published online on 15 January 2024 with Israeli statements made in the period from October 2023 to January 2024.

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[1] The Forensic Architecture Investigation Unit (FAI) is part of the Monitoring and Documentation Department of the Al-Haq Center for Rights based in Ramallah. It is an independent office from Forensic Architecture's office in London.

[2] 'Database of Israeli Incitement to Genocide' <https://law4palestine.org/wp-content/uploads/2024/02/Database-of-Israeli-Incitement-to-Genocide-including-after-ICJ-order-27th-February-2024-.pdf > accessed 27 September 2024.

6 These databases are two of the most comprehensive collections of Israeli public statements made available at the time of writing, though the organizations that complied them do not claim they represent *all* such statements.

C FINDINGS

1 *Statements concerning humanitarian aid, food, water, electricity, and fuel*

7 On 7 October 2023, and in the three weeks following, statements calling for the cutting of humanitarian aid, fuel, electricity, food, and water were made by at least seven Israeli government ministries and senior figures, including the Prime Minister and the Israeli Security Cabinet.

8 A sample of such statements include:

(a) **On 7 October 2023, then Israeli Minister of Energy (presently Minister of Foreign Affairs) Israel Katz** posted on X/Twitter: 'I have instructed for electricity to be cut off immediately in tandem with the Attorney General.'[3]

(b) **On 8 October 2023, Israel's Security Cabinet** decided the following: 'The Security Cabinet convened this evening and made a series of operational decisions,' [...] Prime Minister Benjamin Netanyahu concluded the discussion and said [translated from Hebrew]: '[...] At the same time, we have begun the offensive phase, which will continue with neither limitations nor respite until the objectives are achieved. We will restore security to the citizens of Israel and we will win. Among the decisions made by the Security Cabinet is halting the supply of electricity, fuel, and goods.'[4]

(c) **On 9 October 2023, Israel Katz** posted on X/Twitter that he had issued: an 'order [...] to immediately cut off the water supply from Israel to Gaza. Electricity and fuel were cut off yesterday. What once was will be no more.'[5]

(d) **On 9 October 2023, Israeli Minister of Defense Yoav Gallant** in an Israeli military 'situation update' advised that Israel was 'imposing a complete siege on Gaza. No electricity, no food, no water, no fuel. Everything is closed. We are fighting human animals and we are acting accordingly.'[6]

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3 Moriya Asraf Wolber, 'Ministers In Cabinet Meeting: 'This Is An Intelligence [Directorate] Failure; What Happened Here?'', *13 TV* (7 October 2023), https://13tv.co.il/item/news/politics/k6d6k-903737400/ (informal translation provided).

4 'Security Cabinet Convenes and Makes Series of Operational Decisions Ministry of Foreign Affairs' <https://www.gov.il/en/pages/security-cabinet-convenes-and-makes-series-of-operational-decisions-8-oct-2023> accessed 27 September 2024. In English translation checked by N., corresponds; 'דברי ראש הממשלה נתניהו בתום דיון הקבינט המדיני-ביטחוני משרד ראש הממשלה' <https://www.gov.il/he/pages/spoke-cabinet081023> accessed 27 September 2024. original in Hebrew

5 ישראל כ"ץ Israel Katz [@Israel_katz], 'הוריתי לנתק מיידית את אספקת המים מישראל לעזה. חשמל ודלקים נותקו שלשום. מה שהיה לא יהיה.' <https://x.com/Israel_katz/status/1711332854070640935> accessed 27 September 2024.

6 'Defense minister announces 'complete siege' of Gaza: No power, food or fuel', The Times of Israel (9 October 2023), <https://www.timesofisrael.com/liveblog_entry/defense-minister-announces-complete-siege-of-gaza-no-power-food-or-fuel/ > accessed 11 October 2024; Statement by Yoav Gallant, 9 October 2023,'שר - אנחנו נלחמים בחיות אדם- ואנחנו נוהגים בהתאם. אנחנו מטילים מצור על העיר עזה' יואב גלנט, הביטחון (Directed by 2023 ,ערוץ כנסת) <https://www.youtube.com/watch?v=1nxvS9VY-t0> accessed 11 October 2024.

(e) **On 9 October 2023, Israeli Major General Ghassan Alian** in a video statement addressed to Hamas and Gaza residents, published by **COGAT**'s official channel, stated: 'Hamas became ISIS and the citizens of Gaza are celebrating instead of being horrified. Human animals are dealt with accordingly. Israel has imposed a total blockade on Gaza, no electricity, no water, just damage. You wanted hell, you will get hell.'[7]

(f) **On 10 October 2023, Israel Katz** posted on X/Twitter: 'Up until now we have transferred to Gaza 54,000 cubic meters of water and 2,700 megawatts of electricity per day. This is over. Without fuel, the local electricity will also shut down within days and the pumping wells will stop [being active] within a week. This is what will be done to a nation of murderers and children slaughterers. What once was will be no more.'[8]

(g) **On 12 October 2023, Israel Katz** posted on X/Twitter: 'Humanitarian aid to Gaza? No electrical switch will be turned on, no water hydrant will be opened, and no fuel truck will enter until the Israeli abductees are returned home. Humanitarianism for humanitarianism. And no one will preach us morality.'[9]

(h) **On 13 October 2023, Israel Katz** posted on X/Twitter: 'The UN opposes the IDF's evacuation notice for residents of northern Gaza to evacuate to the south of the Strip for [military] operational reasons and warns of devastating humanitarian consequences. What hypocrisy! We will not provide an ounce of water and electricity to those who do not evacuate. We will work in full force to eliminate the Hamas-ISIS murderers and restore security. What once was will be no more.'[10]

(i) **On 13 October 2023, Israel Katz** stated – after Israel ordered 1.1 million Palestinians, including patients and staff in hospitals, to leave northern Gaza in the space of 24 hours: 'All the civilian population in [G]aza is ordered to leave immediately. We will win. They will not receive a drop of water or a single battery until they leave the world.'[11]

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[7] 'COGAT head, Maj Gen Ghassan Alian speaking to Hamas and the residents of Gaza: #ISrael_under_attack' <https://www.youtube.com/shorts/5a0EWv-o7mE > accessed 11 October.

[8] Nicola Slawson, 'First Thing: No Power, Water or Fuel for Gaza until Hostages Are Freed, Israel Says' *The Guardian* (12 October 2023) <https://www.theguardian.com/us-news/2023/oct/12/first-thing-no-power-water-fuel-gaza-until-hostages-freed-israel-says> accessed 27 September 2024; ישראל כ״ץ Israel Katz [@Israel_katz], 'סיוע הומניטרי לעזה? אף מתג חשמל לא יורם, שיבר מים לא יפתח ומשאית דלק לא תיכנס עד להשבת החטופים הישראלים הביתה. הומניטרי תמורת הומניטרי. ושאף אחד לא יטיף לנו מוסר.' <https://x.com/Israel_katz/status/1712356130377113904> accessed 27 September 2024.

[9] ישראל כ״ץ Israel Katz [@Israel_katz], 'סיוע הומניטרי לעזה? אף מתג חשמל לא יורם, שיבר מים לא יפתח ומשאית דלק לא תיכנס עד להשבת החטופים הישראלים הביתה. הומניטרי תמורת הומניטרי. ושאף אחד לא יטיף לנו מוסר.' <https://x.com/Israel_katz/status/1712356130377113904> accessed 27 September 2024.

[10] ישראל כ״ץ Israel Katz [@Israel_katz], 'האויים יוצא נגד הודעת צה״ל לתושבי צפון עזה להתפנות לדרום הרצועה מסיבות מבצעיות, ומתריע מהשלכות הומניטריות הרסניות. איזו צביעות! לא נספק גרם מים וחשמל למי שלא יתפנה. נפעל בכל העוצמה לחיסול מרצחי חמאס-דעא״ש והשבת הביטחון. מה שהיה לא יהיה.' <https://x.com/Israel_katz/status/1712717454047113692> accessed 27 September 2024. (Informal translation provided) (emphasis added).

[11] ישראל כ״ץ Israel Katz on X: "Indeed, Madam Congresswoman. We Have to Draw a Line. We Will Not Tolerate Murdering Children and Burning Families. The Line Has Been Crossed. We Will Fight the Terrorist Organization Hamas and Destroy It. All the Civilian Population in Gaza Is Ordered to Leave Immediately. We" / X' *(X (formerly Twitter)*, 12 October 2023) <https://x.com/Israel_katz/status/1712876230762967222> accessed 27 September 2024. Translation at South Africa v. Israel, Provisional Measures, Order of 26 January 2024, p. 18, para. 52.

(j) **On 15 October 2023, Israel Katz** posted on X/Twitter: 'The decision to open the water to the south of the Gaza Strip, which was agreed between Prime Minister Netanyahu and President Biden, will result in pushing the civilian population to the south of the Gaza Strip and will make it possible to tighten the general siege on Gaza in the areas of electricity, water, and fuel, and will make it easier for the IDF to operate and annihilate the Nazi Hamas infrastructure.'[12]

(k) **On 17 October 2023, Israeli Minister of National Security Itamar Ben-Gvir** posted on X/Twitter that 'as long as Hamas does not release the hostages in its hands – the only thing that should enter Gaza is hundreds of tons of Air Force explosives, not a gram of humanitarian aid.'[13]

(l) **On 18 October 2023, Israeli Prime Minister Benjamin Netanyahu**, in an address from Israel's military headquarters in Tel Aviv to Israeli citizens, stated: 'we will not allow humanitarian assistance in the form of food and medicines from our territory to the Gaza Strip'.[14]

(m) **On 23 October 2023, Israeli Minister of Communications Shlomo Karhi** published that: '[T]here is an ongoing examination and preparation for the shutting down of cellular communications and Internet services to Gaza.'[15]

9 The breadth of government figures whose statements directly speak to the cutting of essential needs, including humanitarian aid, food, water, electricity, and fuel suggests that the disruption of aid and essential services was a governmental and military policy.

10 Our findings on the patterns of the Israeli military's conduct in Gaza with regards to the targeting of aid are outlined in **Chapter 7: Targeting of Aid.** They include attacks on bakeries, civilian shelters, aid personnel, aid convoys, aid distribution and storage sites, and civilians accessing aid.

11 The targeting of aid that we analyse in Chapter 7 occurs during, and subsequently to, the period in which the above statements were made.

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12 Israel Katz [@Israel_katz], 'ההחלטה על פתיחת המים לדרום רצועת עזה, שסוכמה בין רה"מ נתניהו לנשיא ביידן, תביא לדחיפת האוכלוסייה האזרחית ישראל כ"ץ לדרום הרצועה ותאפשר להדק את המצור הכללי על עזה בתחומי החשמל, המים והדלק, ותקל על צה"ל לפעול ולהשמיד את תשתיות החמאס הנאצים.' <https://x.com/Israel_katz/status/1713572621994828188> accessed 27 September 2024. (Informal translation provided) (emphasis added).

13 איתמר בן גביר [@itamarbengvir], 'כל עוד חמאס לא משחרר את החטופים שבידיו - הדבר היחיד שצריך להיכנס לעזה הם מאות טונות חומר נפץ של חיל האוויר, לא גרם של סיוע הומינטרי.' <https://x.com/itamarbengvir/status/1714340519487176791> accessed 27 September 2024. (informal translation provided) (emphasis added).

14 'Statement by PM Netanyahu Ministry of Foreign Affairs' <https://www.gov.il/en/pages/pm-netanyahu-statement-18-oct-2023> accessed 27 September 2024. (informal translation provided: 'Israel will not allow any humanitarian aid from its territory to the Gaza Strip as long as our abductees are not returned').

15 'Summary of the Activities of the Ministry of Communications – Ten Days into the War Ministry of Communications' <https://www.gov.il/en/pages/17102023> accessed 27 September 2024.

2 *Statements concerning targeting of essential infrastructure, including medical, cultural, economic, and agricultural infrastructure, as well as sites of shelter, sanitation, and hygiene.*

12 From 7 October 2023, and throughout the months following until June 2024, a series of statements were made relating to the destruction of civilian infrastructure by a wide range of Israeli state and military officials, senior officers, Knesset members, and public figures. Such statements were posted on social media, made in press interviews, or made in official capacities.

13 These statements often reference targeting essential infrastructure including medical, cultural, economic, and agricultural infrastructure, as well as sites of shelter and sanitation and hygiene.

14 A sample of such statements include:

(a) **On 7 October 2023, member of the Israeli Knesset (Likud) Revital Gottlieb** stated on X/Twitter: 'Bring down buildings!! Bomb without distinction!! Stop with this impotence. You have ability. There is worldwide legitimacy! Flatten Gaza. Without mercy! This time, there is no room for mercy!'[16]

(b) **On 9 October 2023, Colonel Tsachi Fenton** posted on Facebook that 'all of the Gaza Strip and Lebanon' will look like a picture of a totally destroyed neighbourhood.[17]

(c) **On 10 October 2023, Israeli military senior officer, Major and Deputy Commander of the 35th Paratrooper Brigade, Amit Deri**, posted on Facebook: 'Gaza should be destroyed. All of it. Every building, every house, every school, and also the Shifa Hospital … Giving a short number of hours for Gaza residents to evacuate themselves to Egypt or to the coastline outside of the houses and immediately begin work. It doesn't take long!! With intensive Air Force activity, it is a matter of a few days. There is no other way."[18]

(d) **On 17 October 2023, Israeli politician and leader of Zehut (Centers for Deepening the Jewish Identity), Moshe Feiglin**, stated on X/Twitter: '[I]f the goal of this operation is not destruction, occupation, deportation and settlement, we have done nothing. In the end, the whole country will be [Kibbutz] Be'eri.'[19] Feiglin also posted: 'It is not Hamas that should be eliminated. Gaza should be razed and Israel's rule should be restored to the place. This is our country.'[20]

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16 Yehuda Shaul [@YehudaShaul], ' Bring down Buildings!! Bomb without Distinction!! Stop with This Impotence. You Have Ability. There Is Worldwide Legitimacy! Flatten Gaza. Without Mercy! This Time, There Is No Room for Mercy!' <https://x.com/YehudaShaul/status/1714301964886917631> accessed 27 September 2024.

17 Younis Tirawi, يونس [@ytirawi], 'He Vows to Wipe out Gaza. Attaching a Picture of a Totally Destroyed Neighborhood in Gaza City and Ending with "THIS IS HOW EVERY INCH OF GAZA AND LEBANON WILL LOOK." <https://x.com/ytirawi/status/1799750494937555326> accessed 27 September 2024.

18 Now deleted Facebook post, https://www.facebook.com/amit.deri.9/posts/pfbid021fh8gZU jdpjeYY1EAZ2vg65pvZjHJBXBvfH-421FDxryS3oLbFnfdeLvn8mBG1ynYl, archived by Younis Tirawi, يونس [@ytirawi], '[@CIJ_ICJ] (1/3) Israeli Major Amit Deri, a Deputy Commander within the 35th Paratrooper Brigade. "Gaza Must Be Destroyed. All of It. Every Building, Every Home, Every School, and Also Shifa Hospital.' <https://x.com/ytirawi/status/1792891418370781395> accessed 27 September 2024.

19 Yehuda Shaul [@YehudaShaul], '"if the Goal of This Operation Is Not Destruction, Occupation, Deportation and Settlement, We Have Done Nothing. In the End, the Whole Country Will Be [Kibbutz] Be'eri" Moshe Feiglin' <https://x.com/YehudaShaul/status/1714301995002020296> accessed 27 September 2024.

20 Yehuda Shaul [@YehudaShaul], '"It Is Not Hamas That Should Be Eliminated. Gaza Should Be Razed and Israel's Rule Should Be Restored to the Place. This Is Our Country." Moshe Feiglin <https://x.com/YehudaShaul/status/1714301999703814288> accessed 27 September 2024.

(e) **On 28 October 2023, the Head of the Israeli military's Air Operations Group, Lieutenant Colonel Gilad Kinan** described the Israeli Air Force as: 'work[ing] together with all the bodies in the IDF when the goal is clear – to destroy everything that has been touched by the hand of Hamas.'[21]

(f) **On 4 November 2023, Israeli Brigadier General and former Deputy Head of COGAT, now deputy defense establishment comptroller, who fought in Gaza, Yogev Bar-Sheshet**, speaking in a video filmed in Beit Lahia and broadcast on Israeli television stated: '[w]hoever returns here, if they return here after, will find scorched earth. No houses, no agriculture, no nothing.'[22]

(g) **On 11 November 2023, in a television interview, Israeli Minister of Agriculture and member of the Security Cabinet Avi Dichter** recalled the Nakba of 1948, stating that '[w]e are now actually rolling out the Gaza Nakba'. Soldiers on the ground in Gaza have themselves repeatedly referred to the aims and effects of the Israeli military operation in Gaza as being a 'second Nakba'.

(h) **On 17 November 2023, Givati Brigade Special Operations Unit Officer Shlomi Warmstein**, posted on his Facebook page to: '... settle in Gaza, today! ... each one in his rank and position we are all united as one fist for the war to destroy Gaza. There are no questions here, just a joint and united desire to erase this terrible evil and wickedness ... [We are] walking around the ruined streets, in houses, schools and hotels and looking to see the open sea at every opportunity, which grants a momentary view, pure and profound, of clean nature ... They could have established a place of sea and tourism and life and residence and *advanced* agriculture, and business centres, literally a global centre, but they chose evil and death. There is nothing left in the places we walk through, God willing. Everything is broken and destroyed, courtesy of the Air Force and the Armoured Corps ... A pleasure to behold! ... Everything must be ours. For real. Everything is empty here and there is no reason in the world that we let them return ... Gaza must be ... a light that shows that sometimes you have to be the most aggressive and the most determined and eliminate ['kill'] and take revenge and evict. We really have to pray for our stay here, it will be a reform [Tikkun] for everything ... How beautiful it will be, if we make a decision, [we] wipe out, eliminate and destroy all the houses in Gaza, and build and rehabilitate the Envelope settlements, and in a long human chain, we will wait on the day of their return with flags and with a smile and a look that we've destroyed the enemy and now it is safe and everything is calm forever and we can sleep peacefully at night and live a peaceful life during the day.'[23]

(i) **On 24 November 2023, Israeli Major Asaf Fred**, posted a picture of Jabalia on fire on Facebook, saying: 'In the picture, the division's activity in Jabaliya tonight. To anyone who's worried about the return of enemy population to the northern Strip, don't worry, they have nowhere to return to.'[24]

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[21] 'צבא ההגנה לישראל [@idfonline], רמ"א (ראש להק מבצעי אוויר), תת-אלוף גלעד קינן: "במטס התקיפה הלילה כמאה מטוסי קרב הטילו מאות חימושים והשמידו מאות מטרות של ארגון הטרור חמאס. חיל האוויר ערוך להמשך התפתחות המערכה, ופועל יחד עם כלל הגופים בצה"ל כאשר היעד ברור - להשמיד כל דבר שנגעה בו יד חמאס"' <https://x.com/idfonline/status/1718136442805686351> accessed 27 September 2024.

[22] 'תיעוד מיוחד מלב עזה: כך כוחותינו נלחמים בעומק שטח האויב - YouTube' <https://www.youtube.com/watch?v=fqEj3DzadiM> accessed 27 September 2024; 'מתכונים ראש השנה ווידט' <https://story.now14.co.il/oY5q5mng5> accessed 27 September 2024.

[23] Younis Tirawi, يونس [@ytirawi], 'Meet Israeli Military Officer from Sereyet Givati, Shlomi Warmstein. He Is Currently in Rafah! This Is What He Wrote on November. Explicit Genocidal Posts to Wipe out Gazans from Face of the Earth and Emptying Gaza after Destroying Everything in It: "Settle in Gaza' <https://x.com/ytirawi/status/1788897079642689855> accessed 27 September 2024. (partial translation).

[24] אסף פריד <https://www.facebook.com/permalink.php/?story_fbid=7583361598346553&id=100000183658777> accessed 27 September 2024. Archived at https://archive.ph/kw3zl; Younis Tirawi, يونس [@ytirawi], 'On 24 of Nov He Writes, While He Is in Gaza: "For Those Who Fear the Enemy Population Returning to the Northern Gaza Strip, Don't Worry, They Have Nowhere to Return to."' <https://x.com/ytirawi/status/1799904553757811162> accessed 27 September 2024.

(j) **On 13 December 2023, Israeli Minister of Defense Yoav Gallant** on a visit to the Israeli city Sderot, said: 'the work in the north of the [Gaza] Strip, with all its cost and pain, is of the kind that crushes the surrounding infrastructure, like Beit Hanoun and its surroundings and its tunnels and the houses in the officers' neighborhood, in Tel al-Hawa [a neighbourhood in Gaza city] – it's all been erased, this has significance.'[25]

(k) **On 13 December 2023, Israeli soldier Sharon Ohana** stated: ''Together we will flatten' is not a joke, but an unequivocal statement written in blood by the best security-minded IDF officers & not for naught ...'[26]

(l) **On 8 January 2024, Israeli soldier Aviad Yisraeli** described the destruction by the Israeli military of the Palestinian village of Khirbet Khuza'ah, posting on Facebook: 'It was Khirbet Khuza'ah's turn to bear the consequences of their decision to attack the Jewish people ... For 1st time, I understood the value of the piles of concrete & iron that became a symbol of the war. This village ... should no longer exist. Destroyed buildings, burnt greenhouses, and even dead terrorists are not a strategic achievement. They are the most basic consequence that anyone who dared to lend a hand or even looked the other way regarding October 7th must bear. In the past two weeks, we conquered and destroyed Khireat Khuza'ah. We hung the Israeli flag and the Nir Oz flag on the municipality building, the school, and the mosque. Then we blew them up.'[27]

(m) **On 17 February 2024, Israeli Sergeant Major of the 84th (Givati) Brigade, Rabbi Avrahim Zarbiv** stated that he was 'awaiting the [ten] plagues that God will send', and that 'victory' for Israel would be the whole of Gaza's infrastructure being annihilated. His 'ten plagues' refers to the biblical plagues sent by God to Egypt, including: turning water to blood, rendering it undrinkable; the plagues of lice, pestilence, boils, darkness, and the deaths of all firstborn sons.[28]

(n) **On 3 March 2024, Israeli Minister of Defense Yoav Gallant** stated: 'we are taking apart neighbourhood after neighbourhood.'[29]

(o) **On 30 March 2024, Lieutenant General Herzi Halevi** stated – following the Israeli military's siege and destruction of al-Shifa Hospital in March 2024: 'Here is the realization of an impressive strategy. There is a very, very important message here, a hospital is not a safe place'. Halevi described the operation as a 'very high achievement'.[30]

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[25] ' 7 ערוץ | אלון דוידי לשר גלנט: "התושבים לא יחזרו עד שירגישו שיש ביטחון" <https://www.inn.co.il/news/623085> accessed 27 September 2024.

[26] Younis Tirawi, يونس [@ytirawi], '(1/2) Meet Israeli Military Officer from Sereyet Givati, Shlomi Warmstein. <https://x.com/ytirawi/status/1788897079642689855> accessed 27 September 2024. (partial translation).

[27] Younis Tirawi, يونس [@ytirawi], 'This Village Shall No Longer Exist' <https://x.com/ytirawi/status/1794113236708573451> accessed 27 September 2024. The original statement has since been deleted, however an archived version is above. <https://www.facebook.com/aviad.yisraeli/posts/pfbid025CTvvSiy3VEhEnM9iTY3w9h3ps2JDukg3WSV8bJeH6DY75WXeewxxAtKZ7ZUWf7jl>

[28] 'Exodus 7:14' <https://www.sefaria.org/Exodus.7.14?lang=bi&vside=Tanakh:_The_Holy_Scriptures,_published_by_JPS%7Cen&with=Translation%20Open&lang2=en> accessed 27 September 2024.

[29] 'באוגדה 98 < גלנט: "לא נסיים את המלחמה הזו בלי לחסל את החמאס" | המחדש | כל החדשות והעדכונים' <https://hm-news.co.il/451577/> accessed 27 September 2024.

[30] כאן חדשות [@kann_news], 'הרמטכ"ל הרצי הלוי: "ההישגים הם הישגים מאוד גבוהים יש כאן מימוש של רעיון תחבולני שהוא מאוד מרשים, יש כאן מסר מאוד מאוד חשוב, בית חולים הוא לא מקום בטוח"' <https://x.com/kann_news/status/1774118267734434074> accessed 27 September 2024.

(p) **On 4 April 2024, Sergeant Major of the 84th (Givati) Brigade, Rabbi Avrahim Zarbiv** shared footage of Gaza, stating: '[J]ust look at how destroyed the city is. Here was a school. You see, there is a school there, and there's no school! There's no school this week in Al-Amal, Khan Younis. There's no school. Everything is destroyed.'[31]

(q) **On 7 April 2024, Sergeant Major of the 84th (Givati) Brigade, Rabbi Avrahim Zarbiv** posted on Facebook: 'wherever the IDF soldiers passed through, the earth was left scorched'.[32]

(r) **On 30 May 2024, Israeli Minister of Finance, Bezalel Smotrich, leader of the National Religious Party–Religious Zionism**, affirmed the policy being pursued by the Israeli government in Gaza and sought to expand it to the West Bank on 30 May 2024, stating: 'We will turn you into rubble like we are doing now in the Gaza Strip.'[33]

15 A significant number of such statements were made by senior military officials and soldiers either while they were deployed in Gaza, or after they had recently completed their military rotation in Gaza.

16 The above statements from October 2023–June 2024 correspond in time and subject to the findings from our analysis of Israeli military conduct in the same period, as outlined in the following chapters of this report:

(a) **Chapter 2**: Spatial Control: Large tracts of territory including agricultural areas and buildings were destroyed by the Israeli military, reshaping Gaza's cultivated and built environment.

(b) **Chapter 4**: Destruction of Agriculture and Water Resources: The Israeli military repeatedly destroyed agriculture and water resources in Gaza, likely contaminating them in the process.

(c) **Chapter 5**: Destruction of Medical Infrastructure: The Israeli military repeatedly targeted medical infrastructure and medical personnel across Gaza in a manner which causes damage to Gaza's medical system.

(d) **Chapter 6**: Destruction of Civilian Infrastructure: The Israeli military destruction of civilian infrastructure was repeated and cumulative. The Israeli military also disrupted access to critical infrastructure including hospitals, shelters, and road networks.

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[31] Younis Tirawi, يونس [@ytirawi], 'Amal School, Khan Younis | "No School" Israeli Military Officer Cpt.Avraham Zrbeb Mocking Destruction of a Palestinian School: "Everything Is Destroyed. There's No School This Week in Al-Amal, Khan Younis. Just Look at How Destroyed the City Is.. There's No School!"' <https://x.com/ytirawi/status/1776218707494089139> accessed 27 September 2024; 'Middle East Eye | "There's No School This Week in al-Amal, Khan Younis" An Israeli Soldier, Reportedly Identified as Avraham Zrbeb, Has Uploaded a Video On... | Instagram' <https://www.instagram.com/reel/C5afub9vR08/> accessed 27 September 2024.

[32] Younis Tirawi, يونس [@ytirawi], "خان يونس | النازيين الجدد في إعترافات صريحة "في كل مكان يمشي فيها جنود الجيش الإسرائيلي، تتحول المكان إلى أرض محروقة" هكذا وصف الضابط في لواء جيفعاتي النقيب ابراهام زرڤيڤ الإبادة الجماعية الذي يرتكبه جيشه في منشور له قبل قليل بعد عودته فجر اليوم من خان يونس.' <https://x.com/ytirawi/status/1777108859464700055> accessed 27 September 2024; 'אברהם זרביב ' <https://www.facebook.com/permalink.php/?story_fbid=2123584504686943&id=100011062416421> accessed 27 September 2024.

[33] Bezalel Smotrich [@bezalelsm], 'אני מסיים סיור עם ראשי הרשויות בקו התפר המסר שלנו לשכנים מעבר לגדר, בטולכרם, נור א-שאמס, שוויקה וקלקיליה, אנחנו נהפוך אתכם לעיי חורבות כמו ברצועת עזה אם הטרור שאתם מפעילים על היישובים יימשך. הטרור על אזרחי ישראל חייב להיפסק. המסר לאזרחי ישראל הוא שאם חלילה תקום מדינה פלסטינית, <https://x.com/bezalelsm/status/1796124951088337026> accessed 27 September 2024.