



GAZA STRIP INTERIM DAMAGE ASSESSMENT

SUMMARY NOTE
MARCH 29, 2024



Preliminary estimates - October 2023 to January 2024



GAZA STRIP - INTERIM DAMAGE ASSESSMENT

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Destruction of a residential complex following airstrike in Al-Shati refugee camp, Gaza City, October 2023. *By Ahmad Zaqout*

A Palestinian girl running in front of a destroyed house in the Nuseirat camp, Gaza Strip, January 2024. *By Majdi Fathi*

Disclaimer

This interim damage assessment note provides a preliminary estimate of the impact of the ongoing conflict in the Gaza Strip up to the end of January 2024. It depicts a mapping of the Gaza Strip with an estimate of the cumulative damage for critical sectors, expressed in both physical and monetary terms, along with an initial assessment of the human and social impacts. Current sectors being assessed include Housing, Health, Education, Cultural Heritage, Water, Sanitation and Hygiene (WASH), Energy, Transport, Information and Communication Technology (ICT), Municipal Services, Commerce, Industry, and Services, Finance, and Agriculture. The assessment also includes cross-sectoral themes, such as social and environmental impacts and an overall macro-economic impact assessment. While the physical and economic impact assessments are based on data mostly covering the period of October 7, 2023, to January 26, 2024, figures related to the casualties and human impact are current to March 14, 2024.

This interim damage assessment is not a full-fledged Rapid Damage and Needs Assessment (RDNA) which will be carried out when the situation permits. The subsequent RDNA will, in addition to the physical and monetary damages estimated in this interim assessment, include the economic and social losses incurred as a result of the conflict, as well as the needs and costs associated with the restoration of service delivery and recovery and reconstruction across a broader array of sectors.

The assessment is based on quantitative and qualitative data provided by IPSOS, a market vendor contracted by the World Bank since early November 2023, which has been further triangulated and validated by joint World Bank, UN and EU sector teams through other sources. IPSOS has been a regular contractor with the World Bank assisting in remote baseline and damage data collection in support of Disaster and/or Conflict Damage and Needs Assessments (e.g., Gaza 2021, Syria earthquake in 2023, Libya floods in 2023). These assessments are based on Synthetic Aperture Radar (SAR), multi-spectral, high resolution optical and infrared satellite imagery, traditional and social media reporting, ground partner information where possible, and data triangulation from various sources, including publicly available non-governmental organization (NGO) and humanitarian information.

We note some limitations on the analysis provided in this note. First, the assessment covers only the Gaza Strip at this stage, and not the West Bank; a full-fledged RDNA to be undertaken after a cessation of hostilities will also cover the West Bank. Second, the estimated scale of the damages is expected to increase because the conflict is still ongoing. Third, on-the-ground teams are currently unable to assess damages directly, due to the security situation. Fourth, the assessment covers the most critical sectors but does not include all affected sectors, again because the conflict is ongoing. It is also based on preliminary available baseline data on assets which will be refined and expanded to other sectors for the full-fledged RDNA. Fifth, the assessment focuses on conflict-induced physical damages to infrastructure and assets but does not include the cost of damaged equipment that are critical to make infrastructure functional, nor the conflict induced economic and social losses. Note that the ultimate funding needs for recovery and reconstruction tend to be several multiples higher based on various RDNA experiences (e.g., for the Gaza conflict in 2014, damages were US\$1.4 billion, while needs were US\$3.9 billion; for the Türkiye/Syria Earthquake in 2022: US\$3.7 billion damages versus US\$7.9 billion needs ; for the Libya floods in 2023: US\$1 billion damages versus US\$1.7 billion needs).

1. Executive Summary

The ongoing conflict in the Gaza Strip has caused loss of life, forced displacement, and damages to social, physical, and productive infrastructure at an unprecedented speed and scale. The United Nations (UN), European Union (EU) and other humanitarian and development partners have repeatedly called it an extremely severe humanitarian crisis.¹

While physical destruction in Gaza is severe in every sector of the economy, the housing sector and population centers have sustained the majority of damages. As of end of January 2024, direct damage of around US\$18.5 billion has been inflicted on the built infrastructure of Gaza, equivalent to 97% of the total Gross Domestic Product (GDP) of West Bank & Gaza in 2022. Over four fifths of damages are concentrated in the two sectors of residential buildings (72% of the total) and the commerce, industry, and services sector (9% of the total) with the remaining 19% of damages sustained on other critical infrastructure and services such as education, water, sanitation and hygiene (WASH), health, energy, Information and Communication Technology (ICT), municipal services, and transport. Nearly 80% of total damage occurred in the governorates of Gaza, North Gaza, and Khan Younis.

The conflict has caused an unprecedented and rapidly deteriorating humanitarian crisis in Gaza.² As of March 14, reportedly more than 31,000 people have been killed in Gaza of which approximately 70% are women and children; 1.7 million people have been displaced.³ According to projections from the latest Integrated Food Security Phase Classification (IPC) food insecurity classification, more than half the population of Gaza is on the brink of famine and the entire population is experiencing acute food insecurity and malnutrition.⁴ Palestinians in Gaza now make up 80 percent of all people facing famine or severe hunger worldwide.⁵ Palestinians in Gaza are receiving less than half the daily water rations they need for short-term emergency survival⁶ and further reductions are likely as fuel supplies dwindle. More than 1 million people have lost their homes.⁷ Health service delivery is experiencing major disruptions as nearly 84% of health facility buildings have been destroyed or damaged and those remaining lack access to medicines, ambulances, basic lifesaving treatments, electricity and water. The education system has completely collapsed, with all children out of school and most schools being used as shelter for internally displaced people (IDP). An estimated 17,000 children have been separated from their families,⁸ rendering them particularly vulnerable to various forms of exploitation and abuse. Owing to pervasive trauma linked to the ongoing violence mental health has deteriorated severely especially among the vulnerable including women, children, the elderly, and persons with disabilities.

1 UN News. World must not look away from humanitarian catastrophe in Gaza, UN chief tells Security Council. <https://news.un.org/en/story/2023/11/1144102>

2 Ibid.

3 Gaza Ministry of Health (MoH) . The United Nations is currently unable to verify the casualty figures issued by the Gaza MoH. Displacement figures are from UNRWA.

4 IPC Global Initiative - Special Brief. 18 March 2024. https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Gaza_Strip_Acut

5 OHCHR. Press Release. <https://www.ohchr.org/en/press-releases/2024/01/over-one-hundred-days-war-israel-destroying-gazas-food-system-and>

6 The Gaza population is receiving on average only 3 to 7 liters per capita per day, below the minimum WHO estimates short-term emergency requirements of 7.5 to 15 liters per capita per day in humanitarian emergencies, and far less than with 50-100 liters needed to ensure basic needs are met and health concerns are minimized.

7 World Bank/Ipsos. 7th Bi-weekly report – 27th February.

8 Unicef. Press Release. 02 February 2024. <https://www.unicef.org/press-releases/stories-loss-and-grief-least-17000-children-are-estimated-be-unaccompanied-or>

The shock to Gaza's economy as a result of the ongoing conflict is one of the largest observed in recent economic history. The majority of Palestinians in Gaza are now multidimensionally poor⁹ and 74% are unemployed. Gaza's GDP dropped by 86% in the last quarter of 2023, equivalent to a 24% year-on-year (y-o-y) drop.¹⁰ Based on the damage data and if reconstruction starts after 2024, the economic contraction in Gaza is forecasted to worsen significantly this year, exceeding 50 percent (y-o-y in 2024), as the effects of the capital destruction linger.¹¹

While recovery and reconstruction will require substantial, years-long effort¹², early recovery actions should begin as soon as the situation allows and complement scaled up humanitarian assistance. Priority early recovery actions that should be considered include enabling access to, and the resumption of, essential health and education services, to reestablish a sense of normalcy and provide direly needed psychosocial support. The provision of shelter and rapid, cost-effective, and scalable rehousing solutions for displaced people, combined with the resumption of basic services in energy, water and telecom sectors should also be prioritized. In addition to humanitarian assistance and food aid, first stage interventions should focus on improvements in food production, and the restoration of livelihoods, including through cash for work programs. To enable the private sector to respond to urgent needs and create jobs, priority actions may include setting up temporary structures for enterprises providing essential goods and services (e.g., bakeries, pharmacies, retailers, distributors), setting up digital payment systems to enable electronic transactions, and restoring partially damaged facilities. Finally, priorities also include identifying and removing Unexploded Ordnances (UXO), as well as clearing (and recycling) of approximately 26 million tons of rubble.¹³ The feasibility of most of these actions will be highly dependent on entry of materials and equipment, safe access to sites and clarity of governance and security arrangements.

Global experience and best practices have shown the following principles should be considered as recovery plans are developed: (i) balancing urgent needs with medium- and long-term goals, (ii) ensuring an approach of building back better and more resiliently, (iii) targeting the most vulnerable, and (iv) ensuring inclusive and participatory planning through a whole-of-society approach. Financing and support from development partners, including from the region, will be necessary to anchor these efforts. The sheer scale of the needs will require significant private sector investment. A minimum set of conditions for operations will need to be defined in consultation with relevant authorities and donor partners. Transitioning from humanitarian to recovery interventions will depend on a favorable operating environment in Gaza.

9 Multidimensional poverty includes the dimensions of access to health and education, employment, housing, safety and personal freedom, and monetary poverty.

10 According to preliminary year-end estimates: PCBS, «The Performance of the Palestinian Economy during 2023 and the economic forecasts for 2024», January 2024 https://www.pcbs.gov.ps/portals/_pcbs/PressRelease/Press_En_ForecastingPCBSE.pdf.

11 The capital stock shock observed in each sector was integrated into a Computable General Equilibrium (CGE) model tailored for Gaza, enabling the estimation of its impact on real GDP (Annex 1). These projections are based on assumptions and may be subject to revisions given the ongoing volatility of the situation.

12 This interim damage assessment does not address funding needs for recovery and reconstruction, and a full recovery framework will only be developed when a complete RDNA can be carried out.

13 World Bank/Ipsos. 7th Bi-weekly report – 27th February.

2. Introduction

The hostilities since October 7, 2023, have resulted in loss of life at an unprecedented scale and a deep humanitarian crisis in Gaza. As of March 14, fatalities include over 1,200 Israelis and foreign nationals, and more than 31,000 Palestinians in Gaza.¹⁴ In addition, some 250 people, including both Israelis and foreign nationals, were abducted and taken as hostages into Gaza, some of whom have been subsequently released, while others have died in captivity. Approximately 1.7 million people (or around 75 percent of the population) are internally displaced in Gaza. Overall, the period of violent conflict from October 2023 to the present is the most deadly and destructive episode in the history of the Israeli-Palestinian conflict by orders of magnitude.

Hospitals, schools, UN facilities, and other protected sites continue to be severely impacted by the conflict, as a result service delivery as well as the delivery of humanitarian aid is impeded or halted. The acute shortage of electricity supply or fuel for backup electricity generators has had a severe impact on patient care, including for newborns. A sharp increase in infectious diseases has been observed,¹⁵ due to overcrowding in hospitals, destruction of water and sanitation systems, and decreased availability of health services.

The minimal availability of food, drinking water, and cooking gas across Gaza is causing severe levels of food insecurity as families run out of ways to cope while living in extremely dire conditions. The amount of humanitarian aid that is reaching Palestinians in Gaza is deeply inadequate relative to the needs. According to projections from the latest IPC food insecurity classification, about 2.13 million people across the Gaza Strip faced high levels of acute food insecurity classified in IPC Phase 3 or above (crisis or worse) between 15 February and 15 March, including nearly 677,000 experiencing catastrophic food insecurity (IPC Phase 5)¹⁶ characterized by lack of food, starvation, and exhaustion of coping capacities. The current available water supply is estimated to be around 3 to 7 liters per capita per day (lcd) for the internally-displaced population.¹⁷ Desperation and scarcity have led to a near total breakdown in law and order. Heavy rains flooded the makeshift tent camps, forcing children, parents, and the elderly to sleep in the mud.

The UN and its humanitarian partners are working to deliver humanitarian support at an unprecedented cost in terms of human lives lost. The focus of the UN is on providing food, shelter, medicine, and water/sanitation – but the capacity to deliver depends on coordinated humanitarian movements, effective deconfliction with the parties, and greater access to the necessary supplies and equipment. Over 161 UN staff have been killed in Gaza so far – the largest single loss of life in the history of the organization. UN facilities, partner facilities, and related member state facilities have been severely damaged, considerably slowing down the humanitarian response. Given the overall destruction of road infrastructure, more crossings into Gaza need to be opened to allow humanitarians to reach all people in need.

In February 2024, UN OCHA and the Humanitarian Country Team extended its US\$1.23 billion “Flash Appeal for the Occupied Palestinian Territory” through March 2024.¹⁸ Additional appeals are planned on a quarterly basis. The current Flash Appeal supports

14 UNOCHA. Flash update. 14 March 2024. <https://www.ochaopt.org/content/hostilities-gaza-strip-and-israel-reported-impact-day>

15 WHO. Lethal combination of hunger and disease to lead to more deaths in Gaza. <https://www.who.int/news/item/21-12-2023-lethal-combination-of-hunger-and-disease-to-lead-to-more-deaths-in-gaza>

16 IPC Global Initiative - Special Brief. 18 March 2024. https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Gaza_Strip_Acute_Food_Insecurity_Feb_July2024_Special_Brief.pdf

17 WASH Cluster State of Palestine. Preliminary Findings of the First and Second Round of Rapid WASH Assessment for IDP sites in Rafah. February 2024

18 UN OCHA. Flash Appeal for the Occupied Palestinian Territory. February 2024. <https://www.ochaopt.org/content/flash-appeal-2023-extension-through-march-2024>

INTRODUCTION

Palestinians in the Gaza Strip and the West Bank, including East Jerusalem, and requests US\$1.23 billion to meet critical needs of 2.7 million people (2.2 million in the Gaza Strip and 500,000 in the West Bank, including East Jerusalem). As of February 26, 2024, member states disbursed nearly US\$907 million against the Appeal (74 per cent). Additional details are available through the Flash Appeal Financial Tracking dashboard. Member states are strongly encouraged to provide additional funding to the humanitarian system supporting operations in Gaza and the West Bank, including East Jerusalem, given the unprecedented scale and intensity of the crisis. Supporting the humanitarian response must be a strong focus of the international community for the foreseeable future. However, in parallel, it will be also critical to undertake timely planning and preparation for the recovery, in order to be ready for implementation as soon as conditions on the ground permit.

The World Bank, EU, and UN have conducted the Interim Damage Assessment, the results of which are presented in this report, to provide a comprehensive preliminary analysis of the damages from the conflict to date and their human and economic impacts. While reports have highlighted the extensive scale of the crisis and its human and socio-economic impact,¹⁹ this report provides a comprehensive analysis of the unprecedented scale of destruction in terms of infrastructure, productive assets, and service delivery, linking them to the overall human and economic impacts. The purpose of the assessment is to inform national stakeholders and the international community of the preliminary extent of damage caused by the conflict both in physical and monetary terms, to serve as a ready basis for supporting and facilitating the forthcoming RDNA as well as the subsequent process of developing a roadmap for recovery. This exercise also supports the goals of the partners and the international community of remaining engaged during conflict and crisis situations, and to provide financing and analytical support in contexts affected by fragility, conflict, and violence.²⁰

This interim damage assessment provides a preliminary estimate of the impact of the ongoing conflict in the Gaza Strip up to the end of January 2024. It depicts a mapping of the Gaza Strip with an estimate of the cumulative infrastructure damages²¹ for critical sectors, expressed in both physical and monetary terms, along with an initial assessment of the human and social impacts. Current sectors being assessed include Housing, Health, Education, Cultural Heritage, WASH, Energy, Transport, ICT, Municipal Services, Commerce, Industry, and Services, Finance, and Agriculture. The assessment also includes cross-sectoral themes, such as social and environmental impacts, and an overall macro-economic impact assessment. While the physical and economic impact assessments are based on data mostly covering the period of October 7, 2023, to January 26, 2024, figures related to the casualties and human impact are current to March 14, 2024. This interim damage assessment is not a full-fledged Rapid Damage and Needs Assessment (RDNA), which will be carried out when the situation permits. The subsequent RDNA will, in addition to the physical and monetary damages estimated in this interim assessment, include the economic and social losses incurred as a result of the conflict, as well as the needs and costs associated with the restoration of service delivery and recovery and reconstruction across a broader array of sectors. The limitations of the methodology are noted in the disclaimer at the beginning of this publication. The World Bank, EU, and UN believe that this assessment provides a critical, if interim, anchor for recovery planning for post-conflict Gaza.

¹⁹ UNDP. Gaza war: Expected Socio-economic Impacts on State of Palestine. November 9, 2023. <https://www.undp.org/arab-states/publications/gaza-war-expected-socio-economic-impacts-state-palestine>.

²⁰ World Bank Group Strategy for Fragility, Conflict, and Violence 2020-2025 <https://thedocs.worldbank.org/en/doc/699521582773856417-0090022020/original/FCVStrategyDigital.pdf>

²¹ Damage refers to complete or partial destruction of physical assets and is estimated at the pre-conflict replacement values of damaged assets.

3. Summary of Assessment

a. Overview

Prior to the conflict, years of Israeli closures in Gaza and recurring economic and conflict-related shocks had resulted in persistently high levels of poverty, unemployment, and low economic development. Preliminary assessments indicate that more than 63% of the population in Gaza was living in poverty on the eve of the conflict, with 8 out of 10 individuals receiving some form of aid. Unemployment rates in Gaza were alarming, reaching 45.1% in September 2023, with youth unemployment at 59.5%. The Israeli closure regime severely limited the flow of people and goods, private sector activity, and access to finance. While agriculture offered employment opportunities and provided food to a substantial share of the population, the sector faced numerous challenges, including limited access to arable land, water resources, and fertilizers and other inputs, as well restrictions on movement. Prior to the conflict, over half of the population in Gaza was structurally dependent on humanitarian food assistance.²² Around 1.5 million people in Gaza are registered refugees who have historically received education, health, poverty benefits, employment, and other services from the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA).²³

Gaza's isolation and poverty, combined with rapid population growth, created a situation where a significant share of the population was unable to access basic services. The education sector was facing a learning crisis driven by systemic challenges and suffering from a lack of sufficient school buildings, leading to the practice of double shifts. The health system in Gaza was not able to serve the health needs of the population as a result of the closures, which limited the availability of medical expertise and the entry of spare parts for medical equipment, constrained fiscal space for health²⁴, and limited the ability of patients in Gaza to access medical facilities in the West Bank and East Jerusalem. The Gaza Strip also experienced a significant housing shortage and overcrowding. Severe electricity and water shortages had resulted in very low levels of basic service delivery, while undermining human capital development and slowing economic growth. Less than 35% of the Gaza Strip's electricity demand was provided for through the local power plant with limited capacity and electricity imports from Israel, both of which ceased immediately after the conflict began in October 2023. Availability of water in Gaza was estimated at 90 Liters Per Capita Per day, well below the conventional definition of water scarcity. Moreover, the water was of poor quality, which translated to only 6% of the Gaza population having access to safely managed, piped drinking water. Gaza is the only place in the world that still relies on obsolete 2G technology and has no mobile broadband coverage. The road network was also deteriorating, due to years of insufficient budgets for maintenance and periodic rehabilitation, recurring conflict, and major constraints in the entry of construction materials.

22 WFP. Gaza Food Security Assessment. December 2023. https://docs.wfp.org/api/documents/WFP-0000154766/download/?_ga=2.266037894.848320036.1706814030-1864791366.1696958122

23 <https://www.unrwa.org/where-we-work/gaza-strip>

24 World Bank (2023). Overcoming the Obstacles on the Path to Universal Health Coverage: An Analysis of the Palestinian Health System. Health- Public Expenditure Review & Health Cluster, World Health Organization, 2022.

Overall damage costs/ and breakdown by sector

This interim damage assessment estimates that around US\$18.5 billion in direct damages has been caused to the built infrastructure of the Gaza Strip by end of January 2024. This is equivalent to around 97% of the total 2022 GDP of the West Bank and Gaza Strip²⁵. The results show that the physical and the corresponding monetary impacts caused by the conflict are dominated by damages to residential buildings (72% of the total), followed by damages to the physical assets of the Commerce, Industry, and Services sector (9% of the total), while effects on other critical infrastructure such as education, WASH, health, energy, ICT, municipal services, transport account for the remaining 19% (figure 2). The sectors with the highest estimated damage include housing with approximately US\$13.29 billion and the Commerce, Industry, and Services sector with US\$1.65 billion followed by agriculture with US\$629 million, Health at US\$554 million, WASH at US\$503 million, environment (incl. the removal of rubble) at US\$411 million, transport at US\$358 million, and education at US\$341 million (figure 1).

Sector	US\$	
Housing	\$	13,298,711,000
Commerce, Industry, and Services	\$	1,655,486,000
Agriculture	\$	628,780,000
Health	\$	553,666,000
WASH	\$	502,711,000
Environment	\$	411,300,000
Transport	\$	357,972,000
Education	\$	341,240,000
Cultural Heritage	\$	319,397,000
Energy	\$	278,522,000
ICT	\$	90,225,000
Municipal Services	\$	19,647,000
Finance	\$	8,174,000
Total	\$	18,465,831,000

Figure 1: Estimated damages in monetary terms (US\$) by sectors

²⁵ <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=PS>

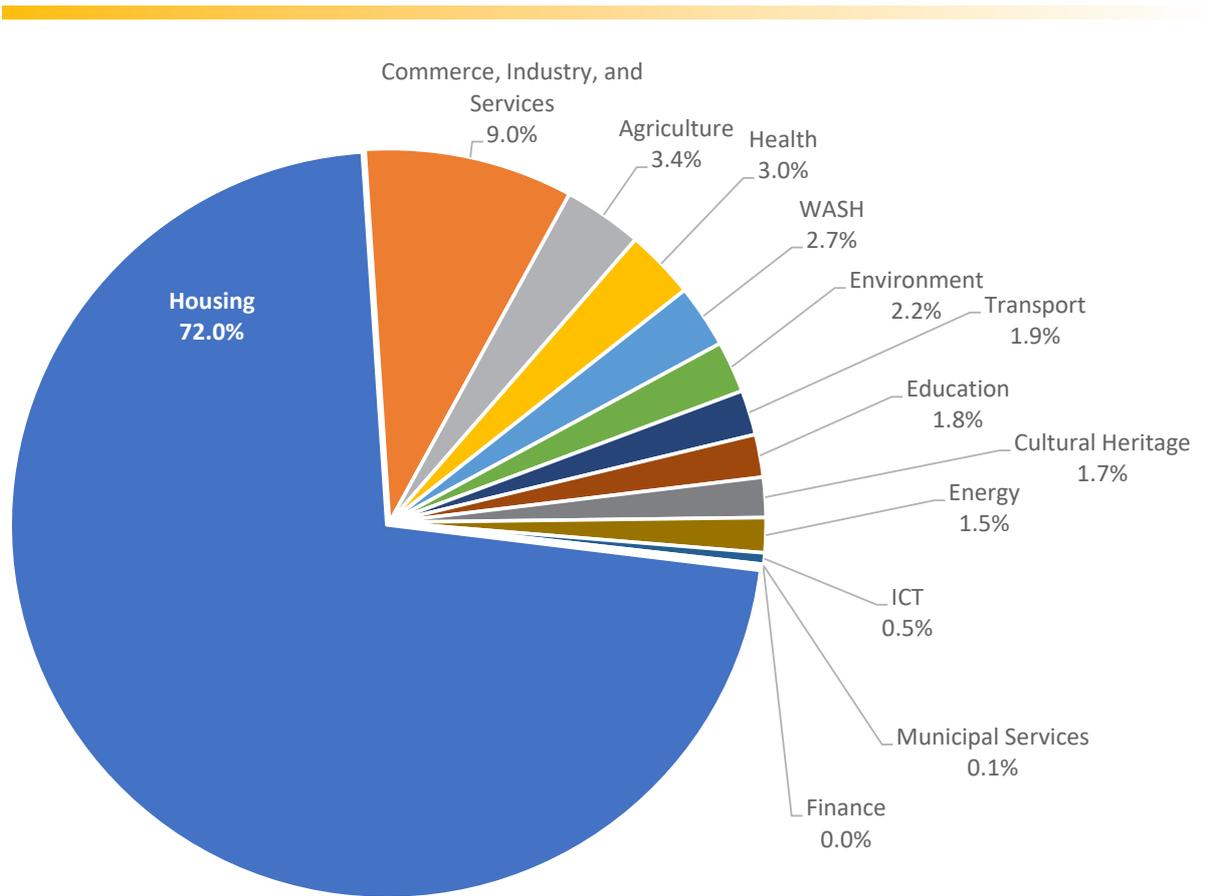


Figure 2: Proportion of estimated total damages per sector

Breakdown by Governorate/Municipalities

To date, 80 % of total damages were concentrated in the governorates of Gaza, North Gaza, and KhanYounis (figure 3). The most severely affected municipalities are Gaza (including the Gaza Industrial Estate), Jabalya, and KhanYounis (figure 4). However, significant damages are also observed in other municipalities, including Beit Lahiya and Rafah. The municipality of Gaza alone accounted for US\$7.29 billion of total damage, with Jabalya following at US\$2.01 billion, KhanYounis at US\$1.82 million, and Beit Lahiya accounting for US\$1.08 billion of the total. The estimated costs presented in this note are expected to increase substantially along with the magnitude of damages as the conflict continues. This is particularly true in the south of the Gaza Strip which has seen greater destruction in recent weeks. The upcoming RDNA, to be carried out when conditions allow, will update the information provided in this report.

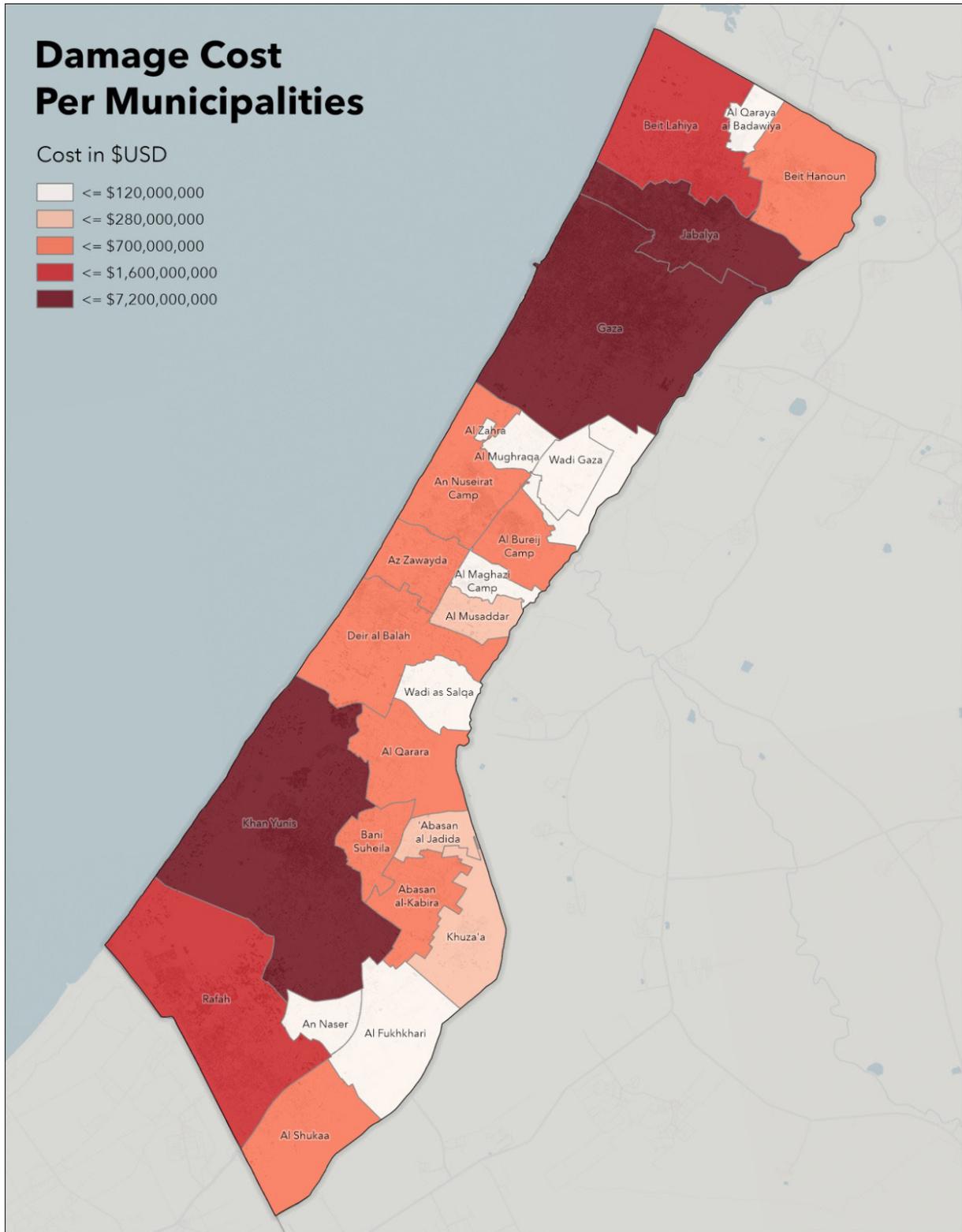


Figure 3: Share of total damage (US\$) in each municipality

Governorate	Municipality	US\$
Khan Younis	Abasan al Jadida	152,525,000
Khan Younis	Abasan al-Kabira	365,411,000
Deir Al-Balah	Al Bureij Camp	316,292,000
Khan Younis	Al Fukhkhari	116,244,000
Deir Al-Balah	Al Maghazi Camp	87,017,000
Gaza	Al Mughraqa	81,959,000
Deir Al-Balah	Al Musaddar	183,503,000
Khan Younis	Al Qarara	300,270,000
North Gaza	Al Qaraya al Badawiya	49,808,000
Rafah	Al Shukaa	305,661,000
Gaza	Al Zahra	41,779,000
Rafah	An Naser	113,715,000
Deir Al-Balah	An Nuseirat Camp	285,604,000
Deir Al-Balah	Az Zawayda	286,033,000
Khan Younis	Bani Suheila	657,064,000
North Gaza	Beit Hanoun	627,292,000
North Gaza	Beit Lahiya	1,082,401,000
Deir Al-Balah	Deir al Balah	417,889,000
Gaza	Gaza (incl GIE)	7,287,472,000
North Gaza	Jabalya	2,008,262,000
Khan Younis	Khan Yunis	1,824,869,000
Khan Younis	Khuza'a	186,504,000
Rafah	Rafah	987,560,000
Deir Al-Balah	Wadi as Salqa	43,051,000
Gaza	Wadi Gaza	52,126,000
Unallocated	Unallocated	605,520,000
Total		18,465,831,000

Figure 4: Share of total damage (US\$) by municipalities

Comparison with the 2021 and 2014 conflicts

The level of destruction in the Gaza strip since October 2023 is unprecedented. In the social sectors alone, damages are more than 90 times higher than damages during the 2021 conflict and 17 times higher from the 2014 conflict (figure 5). The total cost of damages as of end of January, 2024, is approximately US\$18.5 billion compared to the US\$338 million in damages caused during the 2021 conflict and US\$1.38 billion during the 2014 conflict. Housing sector damages, at US\$13.29 billion, have been particularly extreme so far compared to previous episodes, such as the US\$144 million estimated following the 2021 conflict. In the Commerce, Industry, and Services sector, the cost of US\$1.65 billion, are over 41 times greater in the present conflict than the US\$40 million estimated after the 2021 conflict. Damage to infrastructure sectors during this ongoing conflict is more than nine times greater than following the 2014 conflict.

SUMMARY OF ASSESSMENT

SUMMARY			
Damages (US\$)			
Sector	2014	2021	2024
Social Sectors			
Housing	\$780,000,000	\$144,874,400	\$13,298,711,000
Health	\$24,000,000	\$12,869,276	\$553,666,000
Education	\$35,000,000	\$3,063,111	\$341,240,000
Cultural Heritage	\$1,200,000	\$-	\$319,397,000
Social Sectors Total	\$840,200,000	\$160,806,787	\$14,513,014,000
Infrastructure Sectors			
Municipal Services	\$-	\$24,972,143	\$19,647,000
Transport	\$42,000,000	\$19,549,400	\$357,972,000
Water and Sanitation	\$33,000,000	\$13,540,400	\$502,711,000
Energy	\$58,000,000	\$15,145,000	\$278,522,000
ICT	\$-	\$3,550,181	\$90,225,000
Infrastructure Sectors Total	\$133,000,000	\$76,757,124	\$1,249,077,000
Productive Sectors			
Finance	\$-	\$450,904	\$8,174,000
Commerce, Industry, and Services	\$144,000,000	\$40,000,000	\$1,655,486,000
Agriculture	\$266,000,000	\$42,500,000	\$628,780,000
Productive Sectors Total	\$410,000,000	\$82,950,904	\$2,292,440,000
Cross-Cutting Sector			
Environment	\$-	\$17,500,000	\$411,300,000
Cross-Cutting Sector Total	\$-	\$17,500,000	\$411,300,000
Grand Total	\$1,383,200,000	\$338,014,814	\$18,465,831,000

Figure 5: Summary table depicting comparison of per sector damage in monetary terms in 2014, 2021 and 2024²⁶

Damage Trends – Monthly Progression of Physical Damage across Sectors (October 2023 to January 2024)

As of end of January, more than 60% of the physical infrastructure in all sectors, except WASH, has been damaged or destroyed (figure 6). In WASH, 57% of infrastructure has been damaged, while more than 70% of the physical infrastructure in the Health sector, Commerce, Industry, and Services sector, ICT sector, and Municipal services sectors has been damaged or destroyed. Physical damages across all critical sectors rose sharply over the first two months of the conflict. In recent months, the pace of destruction has attenuated, but, as the conflict remains active, damages are likely to continue increasing significantly. In several sectors, the rate of damage appears to be leveling off due to the fact that a majority of assets have already been damaged or destroyed.

²⁶ For the purposes of this assessment, the municipal sector excludes municipal WASH and roads infrastructure which are currently covered in the respective sectors, while it was included in 2021 and 2014. The scope of the sector assessment will be refined in the upcoming RDNA

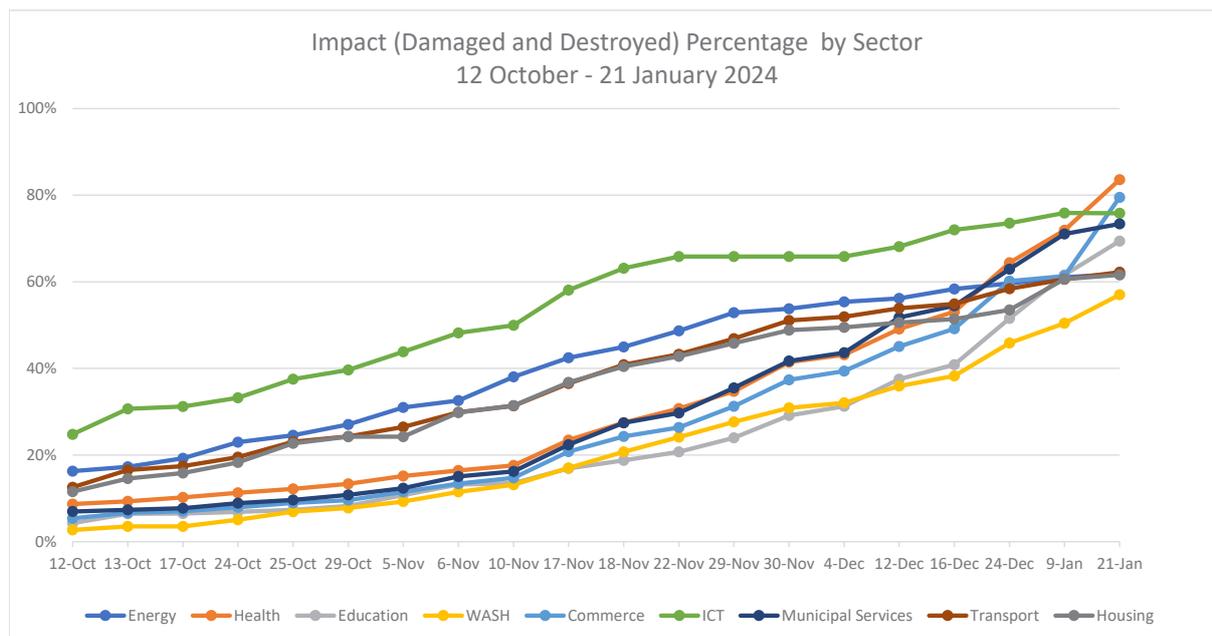


Figure 6: Impact Percentage by Sector since beginning of Conflict (Source: World Bank/IPSOS)

b. Snapshot by sector

Housing

The ongoing conflict has damaged or destroyed approximately 62% of all homes in Gaza, equivalent to 290,820 housing units, at an estimated value of US\$13.3 billion. Housing sector damages constitute 72% of the total damages incurred from the ongoing hostilities. Among the affected housing units, 76% are fully destroyed, and 24% are partly damaged. Damages to apartments constitute 82% of the total damage. Nearly 75% of the total damage cost is concentrated in Gaza City, Jabalya, Khan Younis, Beit Lahiya and Rafah Municipalities. A temporal analysis highlights a spike in destroyed housing units in Gaza and North Gaza Governorates as well as Khan Younis from mid-November onwards. As a result, by end-January 2023, more than 1.08 million people will not be able to return to their homes as they have been destroyed or rendered otherwise uninhabitable. This number continues to increase²⁷ leading to further short and long-term economic impoverishment, heightening safety, and security risks, and causing a loss of dignity (figure 7).

27 World Bank/Ipsos. 7th Bi-weekly report – 27th February.

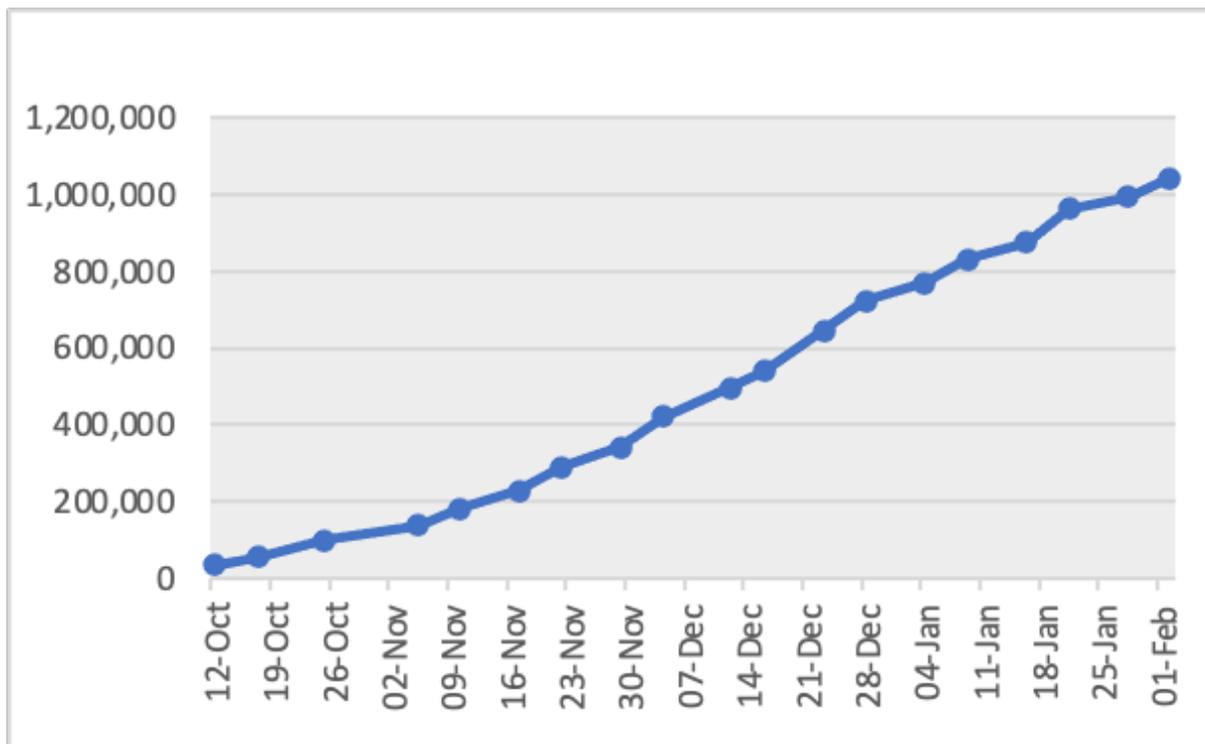


Figure 7: Population of Gaza without a Home

Health

The conflict has damaged or destroyed 84% of all health facilities at a cost of US\$554 million²⁸ severely impacting Gaza’s health system. 649 health facilities have been affected. 29 hospitals, representing more than three quarter of the hospitals, have suffered over US\$222 million in damage. Health centers, clinics, and pharmacies have also incurred significant damages, exacerbating the challenge of providing medical services. Remaining functional health facilities and hospitals continue to face the lack or shortage of electricity supply or fuel for backup electricity generators. The municipality of Gaza City bears the highest burden of the destruction with an estimated US\$276 million worth of damages. In combination with the extreme levels of violent deaths and injuries, and the mass displacement, and overcrowding, this has caused extremely concerning health consequences. Destruction and continuing hostilities are gravely obstructing ambulance access to the injured and health facilities. 659 people have been killed in attacks on healthcare, 843 injured and 98 ambulances destroyed or damaged.²⁹

Education

For a 15-year-old student living in Gaza, the current conflict would be the fifth and most devastating conflict she or he has lived through with the education system coming to a complete halt. Damage to education infrastructure amounts to US\$341 million. The education system in Gaza has effectively collapsed, impacting all of the 625,000 students and 22,564 teachers. An estimated 56 school facilities have been destroyed, and 219 have been partially damaged. Many remaining schools are being used as shelters for IDPs. Tertiary education institutions have significantly suffered too, with an estimated 17 universities

²⁸ This conservative figure excludes the cost of health machinery and equipment, and medication stocks.

²⁹ WHO, oPt Emergency Situation Update.as of 20 February 2024. https://www.emro.who.int/images/stories/Sitrep_-_issue_23.pdf

and college campuses, 63% of the assessed campuses, destroyed or partially damaged. Casualties among students and teachers continue to rise, emphasizing the profound human impact of the crisis. Children, including those living in shelters, are exhibiting alarming signs of emotional distress and trauma. The psychosocial impact of the conflict on children and youth are summarized in sections below.

Cultural Heritage

Numerous sites of significant heritage value, representing diverse historical periods and cultures, have been destroyed or severely damaged. An initial assessment of the impact on significant heritage properties indicates an estimated damage of US\$319 million³⁰. Notable sites destroyed or damaged include the Anthon Harbor—included on the tentative Palestinian list³¹ in 2012 for potential nomination for inscription on UNESCO's World Heritage List; the Roman cemetery in Gaza City; Al Pasha Palace Museum; the ancient Samaritan Bathhouse, and other landmarks. About 63% of all heritage sites have sustained damage, out of which 31% have been destroyed.³² Of the assessed cultural properties, 15 out of 17 buildings of significant heritage value have been partially damaged, with 124 historic residences damaged and 34 destroyed. Additionally, 4 out of 10 identified archaeological sites have been damaged, while 2 incurred large scale destruction. Furthermore, 11 out of 12 assessed religious heritage sites are damaged, including Saint Porphyrios Orthodox Church Complex, considered the world's third oldest church, and the Great Al Omari Mosque, Gaza's oldest mosque. Two national monuments have also been destroyed, including the Rashad Ash-Shawwa cultural center.³³ In addition, the activities of several cultural centers in the Gaza Strip have been suspended, which has direct impact on the livelihoods of artists and cultural professionals, many of whom have also lost their lives.



Figure 8: The 17th Century Al'Pasha Palace Museum has been destroyed

³⁰ With regards to archaeological sites specifically, it should be noted that as the unit cost was applied to the total area of these sites and not only to the area of visible archaeological remains, therefore the estimated damage costs may be a high estimate which will be refined in the upcoming RDNA.

³¹ A tentative List includes properties which the concerned party consider to be cultural and/or natural heritage of potential outstanding universal value and therefore suitable for possible nomination to the World Heritage List. The publication of the Tentative Lists does not imply the expression of any opinion whatsoever of the World Heritage Committee or of the World Heritage Centre or of the Secretariat of UNESCO concerning the legal status of any country, territory, city or area or of its boundaries.

³² Baseline for the Cultural Heritage Sector is shared by UNESCO for this assessment.

³³ While the present assessment remains interim, UNESCO, in partnership with UNITAR/UNOSAT, has identified additional and significant damages to cultural heritage sites, including religious sites, buildings of historical or artistic interest, depositories of movable cultural property, monuments, museums, and archaeological sites. These damages will be reflected in future assessments.

Commerce, Industry, Services and Financial sector

Nearly four in five Commerce, Industry, and Services sector establishments have been damaged or destroyed at a cost of US\$1.65 billion impacting all industries, forcing economic activities to a halt, and driving a more than 50% rise in unemployment. There are an estimated 56,000 Commerce, Industry, and Services establishments in Gaza employing 173,000 people (e.g., wholesale and retail trade activities, services sectors, industry sector, construction, transport and storage, telecommunications, and finance and insurance). Nearly 80% of the 49,000 assessed facilities, i.e. 39,000 establishment have been destroyed or damaged. The widespread destruction and damage to businesses has significantly disrupted economic activity and caused short-to-medium term business closures that have led to a rise in unemployment, loss of livelihoods, and decline in income levels. Loss of incomes also places additional burdens on women, affecting their economic opportunities, safety, and well-being. The informal economy, already quite widespread in Gaza pre-conflict, is expected to become more prevalent as people seek alternative means of income generation. This increased competition for livelihoods could lead to increased vulnerability and reduced job security for workers already engaged in the informal sector. The private sector's capacity to produce and distribute goods and services has been significantly disrupted by the conflict. With supply chains severed, availability of essential goods and services is at present almost non-existent in many parts of Gaza.



Figure 9. Satellite image showing the complete destruction of the Gaza Industrial Estate (Gaza Governorate). Source: UNOSAT-UNIDO Joint Assessment, February 3, 2024

Agriculture

The agricultural sector shows substantial levels of destruction, with overall estimated damages of US\$629 million, threatening livelihoods and aggravating food insecurity of the entire population. Most of the monetary damages are related to the destruction of trees, agricultural holdings, greenhouses, retail establishments and irrigation infrastructure. More than 60% of the damages have occurred in the North Gaza and Khan Younis Governorates. The production of agricultural products, and thus food, has virtually ceased, forcing the entire population to depend on food aid, which faces severe delivery challenges related both to the entry inspections regime and the destruction of infrastructure within the strip. A large share of critical retail business in Gaza's food value chain, such as bakeries and food shops, have also been destroyed. Given that most assets and infrastructure relevant for the agricultural sector have been damaged or destroyed, the sector's functionality and service delivery is dramatically impacted, threatening food security and the livelihoods of the entire population. Those who depend on the agri-food value chain for their livelihoods can no longer rely on it, fueling a cycle of unemployment, poverty, and food insecurity.

Basic services: WASH, Energy, Municipal Services

The energy, water and municipal sectors³⁴ have been affected by damages estimated at nearly US\$800 million, forcing basic service delivery to a halt and hindering relief activities with rapidly increasing multi-dimensional poverty as a result. The electricity sector suffers severe damage, with an initial estimate of US\$279 million, primarily affecting electricity grid distribution networks as well as off-grid distributed rooftop solar photovoltaic systems that are deployed across Gaza in public buildings like schools, hospitals and health facilities, water supply facilities, cultural buildings, as well as residential buildings. An estimated 510 km of the electricity distribution network has been destroyed or damaged (61.5% of the total). The Gaza Power Plant has been impacted but it is difficult to know the severity of the damage due to limited access and low data availability. An almost total power blackout since the first week of the current conflict has had a widespread and devastating ripple effect on day-to-day life in Gaza as it has affected almost all other vital sectors such as health, water, communication, municipal services and the private sector. Around 57% of water infrastructure and assets have been destroyed or partially damaged, including the desalination plants in the northern and middle areas, 162 water wells, and two of the three connections with Mekorot, Israel's national water company that supplies water to Gaza, resulting in a loss of over US\$503 million. The WASH system has almost completely collapsed, and the current water production capacity is estimated at below 5% of the usual output and progressively decreasing every day. Gaza's municipal infrastructure including 5 out of 6 solid waste management facilities bears substantial damage, estimated at US\$19.6 million, with Gaza City alone accounting for 37% of this total.

Connectivity: Transport, ICT

The damages to the transport and ICT sectors are estimated at US\$448 million, affecting communication, mobility, and the provision of humanitarian aid to the population. Transport sector damages amount to around US\$358 million, affecting 62% of roads, including 92% of primary roads, and a significant proportion of vehicles. This has a profound effect not only on the mobility of the population but also on the ability of relief aid and necessary social services to reach vulnerable populations. The loss of both vehicles and key infrastructure will also make reconstruction and recovery in other sectors more challenging. The ICT sector damages are estimated at US\$90 million. This includes damages to about 75% of the mobile

³⁴ For the purposes of this assessment, the municipal sector includes solid waste landfills, and transfer stations, municipal buildings, parks, and markets, and excludes municipal WASH and roads infrastructure which are currently covered in the respective sectors. The scope of the assessment will be refined in the upcoming RDNA.

and fixed communications networks as well as nearly all facilities and warehouses of the telecom operators. This has resulted in massive interruption of mobile and internet connectivity services in Gaza with severe impacts on the daily life of the population in Gaza, by making it impossible to reach emergency and rescue services. It also affected operational activities of the humanitarian aid organizations working in Gaza, jeopardizing the already constrained provision of life-saving assistance. The psychological impact on civilians unable to reach their relatives cannot be underestimated.

Environment (Cross cutting theme)

Environmental damages are estimated at US\$411 million, adversely affecting physical assets such as coastal areas, water, soil, agricultural fields, and the Wadi Gaza nature reserve, along with vital ecosystem services. Key areas of damages include (i) groundwater contamination; (ii) pollution and hazardous wastes including UXO, medical waste and industrial pollution, (iii) coastal zone destruction (e.g., Port Gaza), damages to the marine environment, and destruction of fishing boats/equipment and landing sites. Gaza's wastewater networks, 3 out of 6 treatment facilities, and 5 out of 6 waste management sites have been damaged or destroyed, causing high levels of pollution of surface and groundwater, coastal waters, and soils with severe impacts on human health. According to World Bank/IPSOS, more than 25% of Wadi Gaza, a wetland area, is destroyed and with it the ecosystem services it provided. Munitions and chemicals severely pollute the soil air, and water, with implications for human health, agriculture, and food safety. They also further contaminate Gaza's scarce water resources, which have already been described as largely unsuitable for human consumption even prior to the conflict. Because of the bombardments, there is an enormous volume of debris, estimated at 26 million tons (almost two times than in Aleppo, Syria: 14 million tons – source: UNEP), destroyed facilities now leaking petrol and other hazardous materials, and high levels of air, water, and land pollution to which people in Gaza are now exposed on a daily basis. The removal of rubbles alone would cost around US\$327 million and would require a years-long effort. The destruction does not only negatively impact the physical environmental assets but also hinders vital services and source of livelihood that ecosystems provide to the population of Gaza. The impact on fishing boats and landing sites is resulting in losses of income for fishermen and those involved in value-addition as well as increased food insecurity.

c. Human and Social Impact

Human toll

Beyond damages to physical assets, the current conflict is exacting a heavy human toll in Gaza. All of Gaza's population has seen its physical, economic, and psychosocial well-being directly and profoundly affected by the conflict. As of March 14, 2024, more than 31,000 (70% of those killed are women and children)³⁵ have reportedly been killed with more civilians under the rubble or reported missing.³⁶ There are reports of thousands of children and adults acquiring life-long impairments due to injuries. However, with the scale of injuries and the devastation faced by the health system, the actual number of newly acquired disabilities is unknown at this time.³⁷ Approximately 1.7 million people (75% of Gaza's population) are estimated to be internally displaced, many of them have been displaced multiple times and living in conditions with no basic human necessities.³⁸

35 Gaza Ministry of Health

36 WHO. oPt Emergency Situation Update, As of 20 February 2024. https://www.emro.who.int/images/stories/Sitrep_-_issue_23.pdf

37 ACAPS, Palestine: Impact of the conflict on people with disabilities in the Gaza Strip, February 2024. Atfaluna Society for Deaf Children: Inclusive Needs Assessment, Situation of the conflict-affected person with and without disabilities in the Gaza Strip, March 2024.

38 Ibid. WHO. oPt Emergency Situation Update, As of 20 February 2024. https://www.emro.who.int/images/stories/Sitrep_-_issue_23.pdf.

Human capital accumulation in Gaza suffered extremely high setbacks. For students in Gaza, this year marks the third year out of the last four that their education has been severely disrupted and or completely interrupted. Currently, 100% of children in Gaza are out of school (approximately 625,000 students).³⁹ To date, half a year of schooling is effectively lost, leaving school-aged children missing critical instructional hours and losing foundational skills essential to achieve a better livelihood in their future. Likely at least a full year of schooling will be lost, putting the education system at significant risk of massive dropouts as students become unable to return to school even after the current conflict ends. The education system will take years to operate even at pre-conflict levels. Surviving students and teachers are experiencing psychosocial trauma with varying levels of severity.

The conflict has caused major disruption to health service delivery and inflicted widespread trauma, imperiling physical and mental health against a backdrop of increased needs. Around 350,000 residents with chronic disease have extremely limited access to their medications and essential medical procedures such as dialysis.⁴⁰ Due to overcrowding and poor sanitary conditions in UNRWA and other shelters and informal settlements, particularly in the south, syndromic disease surveillance has demonstrated increases in infectious diseases, including acute respiratory infections, diarrheal disease, chickenpox, and acute jaundice syndrome and meningitis. Acute malnutrition is becoming a very serious health concern. Severe stressors for mental health, such as the ongoing bombardment and imposed effective siege, are affecting the whole population. Crucially, since children are more susceptible to the effect of fear and trauma, the conflict is more likely to derail the life trajectory for those who experience it early in life.

Social inclusion and mental health

The ongoing conflict has unleashed unprecedented devastation, causing severe social and mental health consequences for women, youth, and vulnerable populations. Trauma pervades Palestinian society in Gaza today due to the large number of people killed and injured, multiple forced displacements, a continuing lack of security and safety, limited access to basic needs and facilities. Men and boys are more exposed to physical danger in the public sphere and frontline emergency response efforts and generally face increased risks of injury and death from armed confrontations and UXO. Women and girls are especially vulnerable in living conditions with limited privacy that increase the potential of gender-based violence in the absence of risk mitigation measures that are currently unavailable. Even prior to the conflict, young Palestinians in Gaza faced high unemployment, recurrent conflict, and mental health challenges, all of which had limited their prospects. The conflict has terminated any dignified, safe, and stable career/job prospects for youth, due to its punishing toll on Gaza's economy, infrastructure, and education system affecting 80,000 higher education students. The widescale destruction of built cultural heritage and the inability to resume cultural practices has an additional important impact on youth and the broader social fabric by impacting collective identity and memory, connections with places, and social cohesion.

³⁹ Save the Children. Life in Gaza: What's It Like for Children Growing Up in Conflict? <https://www.savethechildren.org/us/charity-stories/life-for-children-growing-up-conflict-gaza>

⁴⁰ HelpAge. The Long Road Ahead: Rebuilding the Health Sector in Gaza. 15 February 2024.

Of the approximately 980 registered NGOs in Gaza,⁴¹ the majority have ceased operations.

While the full extent of the impacts of the conflict is yet to be determined, it has disrupted ongoing programs and activities, and inflicted significant damage on facilities, affecting physical infrastructure and organizational capacities. This includes the loss of headquarters, displacement of staff, and interruptions in communications. Vulnerable groups, particularly children, women, and persons with disabilities that relied heavily on services provided by the NGO sector, are not only bearing the brunt of these disruptions but are in fact in even more dire and expanded need of services provided by the NGO sector.

Direct and indirect impact of the hostilities on women and children and the most vulnerable

An estimated 17,000 children have been separated from their families, rendering them particularly vulnerable to various forms of exploitation and abuse.⁴²

Such 'Unaccompanied and Separated Children/(UASC) may also be burdened with adult responsibilities far beyond their years including seeking basic necessities and essential services on their own and caring for younger siblings. Before the conflict, it was estimated that a total of 25,000 orphans between the age of 0 and 18 lived in Gaza. As a result of the conflict additional 17,000 children have been separated from their families, many of who are new orphans.⁴³ There were only four orphanage homes available in Gaza prior to the conflict, with a combined capacity of 2,800. More than 690,000 menstruating women and adolescent girls in Gaza are suffering from the lack of menstrual hygiene supplies and water which negatively affects their hygiene and health, raising the risk of infection. Additionally, thousands of pregnant women will give birth in the coming months and have no access to adequate medical care for themselves or their newborn babies. Mental health issues among children have escalated significantly, with over a million now in dire need of psychological support. Constituting 2.6% of Gaza's population prior to the conflict (including 22% children and 1.7% young people), challenges for persons with disabilities have worsened, including difficulties in evacuation, unsuitable shelters, and loss of assistive devices. Children with disabilities who have lost caregivers face greater challenges in accessing essential services and protection from violence. The elderly in Gaza, representing 4% of the total population in 2019, and particularly those with disabilities or chronic illnesses, face heightened vulnerability exacerbated by displacement, loss of support networks and destruction of health facilities.

The direct and indirect impact of the hostilities on women is of particular concern.

Women and girls are especially vulnerable in living conditions with limited privacy. The risks of violence against women and girls are heightened in shelters, with reports of increased emotional/psychological violence and harassment. Such risks are further exacerbated for those with disabilities and especially in overcrowded shelters. The ongoing conflict continues to tear families apart, leaving deep socioemotional consequences at the community, family, and individual levels.

41 Raed Awashreh. "Palestinian NGO Sector: Development & Major Characteristics." 2020. *Journal of Asian Multicultural Research for Social Sciences Study*. Vol. 1 No. 2, 2020 (page 025-036)

42 WHO. oPt Emergency Situation Update as of 20 February 2023.

43 Ibid.

Food insecurity

The food security crisis in Gaza has reached tragic levels and people are turning to severe coping mechanisms to manage the lack of food. According to projections from the latest IPC food insecurity classification, about 2.13 million people across the Gaza Strip faced high levels of acute food insecurity classified in IPC Phase 3 or above (crisis or worse) between 15 February and 15 March, including nearly 677,000 experiencing catastrophic food insecurity (IPC Phase 5). Palestinians in Gaza now make up to 80 per cent of all people facing famine or severe hunger worldwide.⁴⁴ According to UNICEF, nearly 16 percent- or 1 in 6 children under 2 years of age - are acutely malnourished. Similar screenings conducted in Rafah, where aid has been more available, found 5 per cent of children under 2 years are acutely malnourished.⁴⁵ Projections from the IPC Famine Review Committee indicate that between 16 March and 15 July the Gaza Governorate and North Gaza Governorate will be in famine conditions.⁴⁶ Malnutrition among children, and pregnant and breastfeeding women is very concerning. People are turning to severe coping mechanisms to manage the lack of food. A World Food Programme (WFP) report⁴⁷ of December 2023, focusing on southern Gaza, shows that 96% of the households in the southern governorates are resorting to such mechanisms, including transitioning to unconventional dietary sources, or consistently skipping meals. The critically needed humanitarian aid falls short of the needs and is hindered by the ongoing hostilities and destruction of infrastructure.

d. Macro-Economic Impact

The shock borne by the Gaza economy as a result of the ongoing conflict is one of the largest observed in recent economic history. The magnitude of loss of life⁴⁸ and the rapid and extensive damage to infrastructure surpass any benchmarks set by historical precedents both within the region and in recent global conflicts.⁴⁹ The conflict has caused widespread and enduring damage, affecting virtually all economic sectors, with severe consequences on tangible assets, incomes, and human capital. The consequences of this shock are expected to exert a prolonged and substantial burden on economic activities for several years ahead.

According to preliminary year-end estimates,⁵⁰ Gaza's GDP contracted by 24% in 2023, year-on-year (y-o-y). The statistics for the fourth quarter (Q4) of 2023 paint a considerably more distressing picture, indicating an estimated 86% contraction in the Gaza economy for that quarter alone, compared both to the same period of the previous year and to the previous quarter.

The adverse repercussions are poised to escalate in 2024, due to lagging effects. The assessment aims to gauge the growth effects of the conflict on the Gaza economy in 2024, by analyzing the impacts on the capital stock of sectors contributing to Gaza's GDP. This approach encompasses social, infrastructure, productive and cross cutting sectors. The cumulative estimated damages incurred from the conflict as of late January 2024 amount to US\$18.5

44 <https://www.ohchr.org/en/press-releases/2024/01/over-one-hundred-days-war-israel-destroying-gazas-food-system-and>

45 <https://www.unicef.org/press-releases/statement-adele-khodr-unicef-regional-director-middle-east-and-north-africa-0> <https://www.unicef.org/press-releases/statement-adele-khodr-unicef-regional-director-middle-east-and-north-africa-0>

46 IPC Global Initiative - Special Brief. 18 March 2024. https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Gaza_Strip_Acute_Food_Insecurity_Feb_July2024_Special_Brief.pdf

47 https://docs.wfp.org/api/documents/WFP-0000155014/download/?_ga=2.267198727.848320036.1706814030-1864791366.1696958122

48 Euro-Med Human Rights Monitor, <https://euromedmonitor.org/en/article/5903/Number-of-Gazan-children-killed-in-under-a-month-is-10-times-higher-than-that-of-Ukrainian-children-killed-in-entire-first-year-of-Russia%E2%80%99s-ongoing-war>

49 World Bank, Note on the Impacts of the Conflict in the Middle East on the Palestinian Economy, 2024; available at <https://thedocs.worldbank.org/en/doc/db985000fa4b7237616dbc501d674dc-0280012024/original/PalestinianEconomicNote-Feb2024-Final.pdf>

50 PCBS, «The Performance of the Palestinian Economy during 2023 and the economic forecasts for 2024», January 2024 https://www.pcbs.gov.ps/portals/_pcbs/PressRelease/Press_En_ForecastingPCBSE.pdf

billion. The capital stock shock observed in each sector was integrated into a Computable General Equilibrium (CGE) model tailored for Gaza, enabling the estimation of its impact on real GDP. **Based on the damage data and if reconstruction starts after 2024, the economic contraction in Gaza is forecasted to worsen significantly this year, exceeding 50 percent (y-o-y in 2024), as the effects of the capital destruction linger.**⁵¹

Before the conflict, Gaza was already grappling with severe unemployment and the situation has deteriorated. The unemployment rate in the Strip was 45%, and youth unemployment was nearly 60% before hostilities commenced.⁵² The situation has significantly deteriorated, with approximately 74% of Gaza's workforce being unemployed as of end-January 2024.⁵³ This unemployment stems from factors such as permanent job loss due to a combination of the unprecedented destruction of physical assets, personal injuries, internal displacement, and the halt of economic activity.

The poverty impact is expected to be severe. A vast number of Palestinians in Gaza were pushed into poverty due to a multi-layered shock affecting productive capacity, on account of the destruction of agricultural land, fishing ports and local fleets, the destruction or inoperability of food shops and markets, the scarcity of water, flour, fuel and electricity, as well as starving livestock that is unable to provide sustenance or serve as a food source.⁵⁴ These factors were compounded by the extensive internal displacement, and the destruction of homes and assets, coupled with a steep recession. These developments altogether have intensified the poverty levels for those who were already vulnerable. Multidimensional poverty in Gaza has also skyrocketed due to the hostilities which resulted in the discontinuation of school access for children, as well as difficulties related to accessing health and other basic services. The substantially large majority of Palestinians in Gaza are estimated to be living in poverty at present and at least for the short term.

Consumer price inflation (CPI) in Gaza increased by 33% in Q4 2023 compared to the previous quarter, largely owing to supply disruptions stemming from the conflict. Massive shortages of basic products have severely limited the capacity of hundreds of thousands of households to purchase them, regardless of whether they can afford them. Food prices in Gaza increased by 39%, quarter-on-quarter (q/q), in Q4 2023, driven by reduced access to food, heightened transportation costs, and lower volumes of aid. The complete cessation of fuel and gas supplies through the crossings resulted in a 143% increase in transportation price in Gaza in Q4 2023, q/q.

51 Notably, these projections are based on assumptions and may be subject to revisions given the ongoing volatility of the situation.

52 PCBS Labor Force Survey, September 2023.

53 PCBS, «The Performance of the Palestinian Economy during 2023 and the economic forecasts for 2024», January 2024 https://www.pcbs.gov.ps/portals/_pcbs/PressRelease/Press_En_ForecastingPCBSE.pdf.

54 United Nations Office of the High Commissioner for Human Rights; 16 January, 2024 <https://www.ohchr.org/en/press-releases/2024/01/over-one-hundred-days-war-israel-destroying-gazas-food-system-and>.

Table 1: Gaza Selected Macroeconomic Indicators, 2023-2024

	Estimate	Projections
	2023	2024
Real GDP growth rate	-24.0	-51.4
Real GDP demand side, annual percent change		
Private Consumption	-20.3	-37.3
Government Consumption	-18.1	-55.0
Gross Fixed Investment	-28.8	-99.5
Exports, Goods and Services	-7.6	-50.7
Imports, Goods and Services	-13.5	-37.3
Real GDP supply side, annual percent change		
Agriculture	-23.6	-68.3
Manufacturing, Mining, Electricity and Water	-25.7	-40.1
Construction	-25.6	-63.0
Services	-24.2	-47.3
Public Administration and Defense	-19.9	-54.9
Private Households with Employed Persons	-26.8	-36.5
CPI %	9.9	4.6
Fiscal account balance % of GDP	-55.2	-47.6
Current account balance % of GDP	-7.5	-20.2

Source: World Bank estimates based on CGE modeling

Note: The fiscal data relates to the Palestinian Authority's finances in Gaza and not to the de facto authority.

5. Preliminary Consideration for Early Recovery Interventions

This interim assessment does not identify or take stock of the multi-sectoral needs associated with Gaza's recovery from the conflict. Such a recovery and needs assessment will be undertaken in due course as part of the upcoming RDNA. However, while the humanitarian response continues, it is also critical to undertake timely planning, preparation, prioritization, and coordination, through a Conflict Recovery Framework (CRF) so that an integrated recovery response is ready for implementation as soon as conditions on the ground permit. A minimum set of conditions for operations will need to be defined in consultation with relevant authorities and donor partners. Transitioning from humanitarian to recovery interventions will depend on a favorable operating environment in Gaza.

The CRF will be developed to guide the institutional, financing, policy framework, and prioritization to deliver timely, coordinated, harmonized and sustainable recovery and reconstruction. While the CRF will guide the prioritization of medium- and long-term recovery activities, some key early recovery efforts can begin rapidly after the cessation of hostilities. Such early recovery activities may include:

- **Clearing the huge volume of rubble and debris** from main streets, intersections, and secondary and tertiary roads for easier access to essential services such as health facilities, shelters, and schools in accordance with a debris management plan that needs to be urgently developed (including debris disposal locations). This should include innovative use of rubble as reconstruction material, to mitigate material access issues, as has been done in the past, with appropriate sensitivity to the presence of human remains.
- **Rapidly conducting mine action** to identify areas with absence of contamination, remove UXO, educate the population about ordnance and explosives, and provide technical advice to organizations and personnel on risks. Debris removal and mine action will be particularly important as a prerequisite for the establishment of safe places for shelter.
- **The immediate restoration of social services, such as health, education, cash support.** This would entail the repair of relevant facilities, provision of medical supplies and equipment, as well as provision of essential services, including mental health and psycho-social support services (MHPSS). Establishing additional medical points in and around currently designated IDP shelters, as well as in other areas where transitional decent shelter solutions would be deployed, will be key to improve and expand access to healthcare. Multi-purpose cash transfers, as well as provision of food and non-food items, can also be an integral part of social protection. Restoration of key, in-person education services would serve to resume a sense of normalcy and provide direly needed psychosocial support for both students and teachers. Students would receive education services in temporary learning spaces (for example, school tents), as well as in less impacted schools that require minor rehabilitation leveraging portable classrooms, also called school-in-a-box solution.
- **In the short-term, the provision of shelter and rapid, cost-effective, and scalable rehousing solutions for displaced people could be considered.** This could be complemented by subsidies for host family support where feasible. The huge scale of damages in the housing sector requires the development of unique solutions to rebuild or repair the impacted housing units, and overcome the loss of housing for over a million people. To prevent additional social tensions, it is critical that there is one agreed housing recovery strategy, that all the donors agree to abide by, which specifies who is eligible and for what amount of support.
- **Resumption of basic services in energy, water, and telecom sectors.** As with building materials, the ability to restore basic services will be determined by the ability to import needed parts and equipment, solar panels, and fuel for electricity generation (from Gaza Power Plant and diesel generators). The restoration of services will also depend on the resumption of electricity and water imports, and the ability to guarantee secure access of operators' crews to priority sites for repair to achieve the most basic level of service. Immediate support to recurrent expenditures of municipalities and Joint Service Councils, especially fuel, other supplies, and labor-intensive operations and maintenance for sustaining service delivery will also be essential.

- **In addition to humanitarian assistance and food aid, first stage interventions should focus on improvements in food production and distribution**, with a focus on staple foods complemented with the need to ensure nutritious diets. Priority actions in the agri-food sector includes targeted rehabilitation of damaged food shops, bakeries and flour mills and provision of energy sources (e.g., solar panels) for their operation, and provision of critical agricultural inputs (e.g., fuel, animal vaccines, plastic shed materials, animal fodder and irrigation needs) to support agricultural holdings/producers which could restart production capacity swiftly.
- **Regarding the private sector, the following priorities may be considered:** (i) setting up temporary structures for enterprises providing essential goods such as pharmacies, retailers, distributors etc. (ii) in the absence of access to cash in Gaza, setting up digital payment systems to enable electronic transactions, assuming internet service and cell phone connectivity would be restored. Such a system could be set up in cooperation with Palestinian banks and telecommunications companies, (iii) restoring partially damaged enterprises which still have structurally functional facilities in critical sectors such as retail, wholesale, logistics, construction, manufacturing that can contribute actively to humanitarian and early reconstruction efforts.
- In addition to the environmental sustainability considerations in early recovery interventions, as well as the debris removal and broader waste-management dimensions, **specific efforts will be required to address environmental impact of the conflict in Gaza**, including contamination of the land and aquifer which have a long-lasting and detrimental effect on water supplies, food production and the health of Palestinians in Gaza. Considerations on environmental sustainability in the context of urban planning will also need to inform early recovery planning and interventions focused on transitional shelter solutions, as well as housing rehabilitation and reconstruction.

ANNEX 1: METHODOLOGY AND LIMITATIONS

For most sectors, the physical impact assessment is based on damage data covering the period of October 7 to January 26. But for the housing sector, damage data covers a longer period up to Feb 2, and for cultural heritage up to February 16. The data sources for damage analysis include: (i) Sentinel-Synthetic Aperture Radar (SAR) and High-Resolution Optical imagery, and (ii) social/traditional media which provides daily geo-located damage incident count. Where possible, data has been triangulated through limited ground information available from various sources, including through local authorities, partners, publicly available NGO and relief organization information. Thirty-one SAR images were utilized covering 12 October – 14 February 2024. Baseline data for the areas of interest (AOI – Gaza Strip) was collected and combined by utilizing different data sources.⁵⁵

The World Bank, European Union, and United Nations have noted some of the limitations of the current assessment in the disclaimer. The organizations have learned lessons from the Interim Damage Assessment exercise and will continue to refine and update the methodology and data sources in the coming weeks, in preparation for a full-fledged RDNA when conditions permit. We note that in some cases, when IPSOS data on asset baselines and/or damages were unavailable, UN data sources were used, such as from UNOSAT, FAO, UNESCO, and others.

Estimating Damage

Overall, the damage value is calculated based on: (i) the pre-conflict replacement cost per asset; (ii) number of assets damaged in each category assessed within the sector; and (iii) physical status of the damaged assets. Any asset that has seen damage to around 40% of its pre-conflict physical size or more is considered destroyed. Facilities that sustain at least 20% damage and less than 40% are considered partially damaged. The determination of unit prices of replacement and repair are based on adapting and updating unit rates used in previous similar assessments conducted by the World Bank and its partners, including through IPSOS and UNOPS, and any other relevant sources.

⁵⁵ Some of these data sources include – Building footprints: Open Street Map and open sourced Microsoft Global Building Footprint database Municipal Services – OSM, PCBS, Hydroplan; WASH – OSM, UNOSAT; Power – OSM, PENRA, World Bank provided feeder lines; ICT – Paltel, Ooredoo; Health – OSM, WHO, UNRW; Commerce – OSM, PCBS 2019; Education – UNRWA, Ministry of Education, UN Education Cluster; Cultural Heritage – UNESCO; Transport/Roads – OSM, OCHA

Box 1: Example of Housing damage calculation methodology and limitation

Given housing sector has incurred the highest number of damages, below is a snapshot of the methodology used to calculate the damage.

The baseline housing stock in the Gaza Strip in October 2023 is estimated at 472,660, calculated based on the 2017 Palestine Central Bureau of Statistics (PCBS) Establishment, Housing and Population Census and the 2023 population estimates. The 2017 ratios were calculated to determine persons per buildings, per housing unit and housing units per building and the 2017 buildings were extrapolated to 2023 estimates using each area's 2017 to 2023 population growth rates. The structural damage to buildings was calculated based on the changes in the coherence of the SAR signal obtained from the ESA's sentinel-1 satellite. The structural changes across Gaza are calculated at a 40x40 meter resolution. This is combined with building footprint data from OpenStreetMap to estimate the damage to the housing stock and across housing typologies. The structural damage to buildings was calculated based on the changes in the coherence of the SAR signal obtained from the ESA's sentinel-1 satellite. The structural changes across Gaza are calculated at a 40x40 meter resolution. This is combined with building footprint data from OpenStreetMap and building height from EU's Joint Research Center Global Human Settlement Layer to estimate the damage to the housing stock and across housing typologies. According to the SAR the 60% of damage benchmarked for partly damaged categories is roughly equivalent to 40% according to the satellite imagery, which is the benchmark used in this assessment. SAR data is further calibrated with high resolution satellite imagery (30-50cm) and augmented with geo-referenced traditional/social media analysis that provides further areas of damage that may not be observable via high resolution satellite imagery. The actual damage could be higher than these preliminary estimates because the structural stability and usability of the residential buildings could not be determined without detailed ground level technical damage assessments. The damage cost for apartments is estimated based on the weighted average housing replacement unit cost across high, medium, and low-income apartment typologies accessed from the UNOPS for the Gaza Strip.

The main limitations of this assessment are the assumptions used to determine the structure and form of physical damage without conducting field based technical damage assessments, particularly for determining the structural stability of partly damaged units and their livability. Due to the absence of granular housing profile, the apartment housing typology and replacement costs could not be detailed out into high, medium, and low-income apartments. Another limitation is the standardized conversion rate used for estimating the number of housing units per residential building based on SAR based estimates. The method used to differentiate multistoried residential buildings from other damaged multistoried buildings also requires ground level revalidation.

Use of Satellite imagery for damage estimation

Synthetic Aperture Radar (SAR) signals obtained from the European Space Agency's Sentinel-1 satellite were utilized to assess structural damage to infrastructure to calculate changes in the coherence of the SAR signal. Coherence is a measure of the "randomness" of the SAR

signal, which allows analysts to separate out stable structural features of the landscape. It is calculated by comparing the similarity of the radar signal from two different pre-conflict snapshots against the similarity of the radar signal from a post-conflict snapshot to a snapshot right before the outbreak of conflict. Landscape features that returned a stable signal before, but not after, the conflict, are classified as either damaged or destroyed depending on how much the stability of the signal decreased. For example, a building will usually reflect a similar radar signal at different points in time; a body of water or a street with a lot of traffic will not. If the radar signal suddenly takes a longer time to bounce back from the building, this suggests probable damage. For in-depth technical explanations, see Bolorani et. al. (2021) and Plank (2014).⁵⁶

This measure of structural damage was calculated across Gaza strip at a 40x40 meter resolution. This was then combined with building footprint data from Open Street Map (OSM) and open-sourced Microsoft global footprint of buildings database, and sectoral baseline location data to assess asset damages. Buildings' height was calculated based on Palestinian Central Bureau of Statistics (PCBS) and Global Human Settlement Layer (GHSL) 2018.

SAR imagery is further cross-validated with high-resolution 30-50cm satellite imagery from multiple providers. High-resolution imagery analysis involves manual object detection and identification, delineating individual buildings, and ground features from acquired high-resolution imagery. To assess building damage, imagery analysts rely on visual interpretation – where trained analysts visually inspect imagery to identify structural damage, roof collapse, and other signs of building degradation. Additionally, analysts use change detection methods, comparing pre- and post-event imagery to identify changes in building structure and appearance. Damage assessments entail distinguishing between different categories of damage, such as structural damage, debris accumulation, and vegetation loss. The categories described are known to change depending on the type of damage being observed/discerned.

Use of Social/traditional media analytics

Between 30 October 2023 and 16 February 2024, analysts have reviewed more than 2500 open-source social and traditional media reports, including 2084 housing, 97 health, 88 education, 64 agriculture, 50 commerce, 32 transport, ten WASH, nine ICT, and two power damage incidents.

⁵⁶ Bolorani, Ali Darvishi, Mehdi Darvishi, Qihao Weng, and Xiangtong Liu. "Post-war urban damage mapping using InSAR: the case of Mosul City in Iraq." *ISPRS International Journal of Geo-Information* 10, no. 3 (2021): 140. Plank, S. "Rapid damage assessment by means of multi-temporal SAR—A comprehensive review and outlook to Sentinel-1, Remote Sens., 6, 4870–4906." (2014).

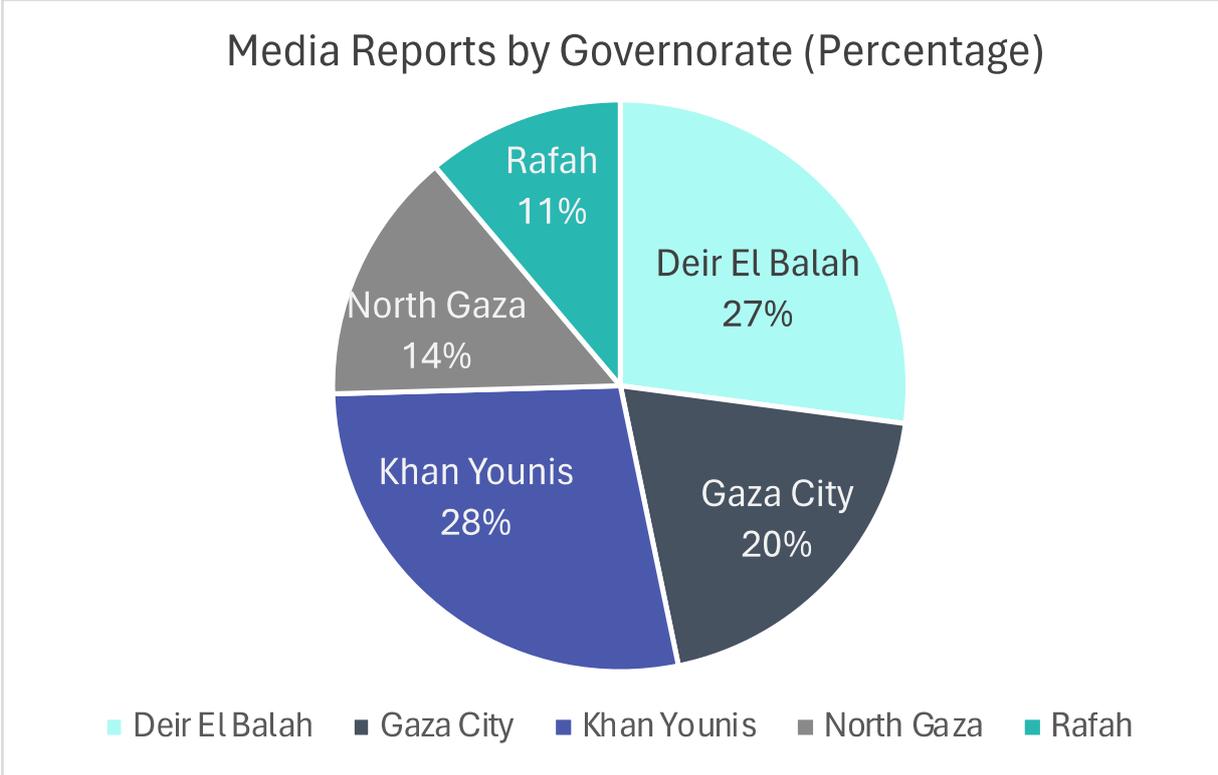


Figure 10: Media Reports by Governorate (Percentage)

Macro-economic assessment

Box 2: Overview of the General Equilibrium Model for Gaza

Computable General Equilibrium (CGE) models offer nuanced simulations of complex economic interactions. These models, grounded in real economic data sourced from Social Accounting Matrices (SAMs), provide a multi-dimensional view of an economy, capturing the intricate interplay among various sectors and agents.

In the context of Gaza's economy, the CGE model represents a framework encompassing a spectrum of economic activities. It spans 17 diverse productive sectors, ranging from agriculture to advanced services, and integrates the dynamics of household behavior, government operations, and external trade relations. This approach ensures a holistic understanding of the economic landscape.

The model also encompasses market conditions and fiscal policies. By incorporating elements such as indirect taxes and energy subsidies, it reflects the intricacies of pricing mechanisms and the broader fiscal environment. This is crucial in understanding both market behaviors and policy impacts.

Central to the CGE model is its depiction of producer and consumer behavior. Producers are modelled to adjust their input demands and outputs in response to various economic stimuli, using cost minimization strategies under constant

returns to scale. On the flip side, the model delves into household economics, examining income generation, savings, and consumption patterns through utility maximization principles, thus shedding light on consumer behavior.

Government financial operations are another critical aspect of the model. It scrutinizes government revenue sources, including taxes and non-tax revenues, and contrasts them with government expenditures, such as consumption, investment finance, and transfers. This analysis is pivotal in assessing the government's role in the economy.

The model also pays close attention to investment and capital dynamics, linking investment levels to savings and economic conditions. This approach allows for a detailed understanding of capital formation and investment trends across different sectors.

In the realm of international trade, the model employs the Armington assumption to balance import demands against domestic production capabilities, offering a perspective on Gaza's trade relationships and import dependencies.

Lastly, the CGE model's balance of payments analysis provides insights into Gaza's financial interactions with the global economy. It examines the impact of changes in exports, imports, and financial flows on the overall economic health.

It is important to note that despite the model's sophistication, the ongoing volatility of the context requires that projections generated by the model are continuously revised to reflect ongoing changes on the ground.