

# WATER WAR CRIMES:

How Israel has weaponised  
water in its military campaign  
in Gaza



**OXFAM**

## ACKNOWLEDGEMENTS

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This paper is part of a series of papers written to inform public debate on development and humanitarian policy issues.

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## LIST OF ACRONYMS

CLA	Coordination and Liaison Administration
CMWU	Coastal Municipality Water Utility
COGAT	Coordination of Government Activities in the Territories
GPS	Global Positioning System
ICC	International Criminal Court
ICJ	International Court of Justice
IHL	International Humanitarian Law
IPC	Integrated Food Security Phase Classification
ISF	Israeli Security Forces
NGO	Non-governmental organization
OCHA	Office for the Coordination of Humanitarian Affairs
OPT	Occupied Palestinian Territory
UAE	United Arab Emirates
UN	United Nations
UNEP	United Nations Environment Programme
UNESCWA	United Nations Economic and Social Commission for West Asia
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNOSAT	United Nations Satellite Centre
UXO	Unexploded Ordnance
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

## EXECUTIVE SUMMARY

This report presents a detailed analysis of how the Government of Israel has systematically weaponized water against the Palestinians in its latest assault on Gaza, raising grave concerns of human rights violations and breaches of international law. It highlights ongoing violations of international laws, showing how the Government of Israel has used water deprivation to dehumanize and ultimately threaten Palestinian lives since the 1993 Oslo Accords. This culminates, in a brutal fashion, in the current military operation in Gaza.

The UN Commission of Inquiry finds that Israel's military operations and civilian policies relating to water in Gaza, following the attacks by Palestinian armed groups on Israel on 7 October 2023, are indiscriminate and disproportionate.<sup>1</sup> The 'total siege' which the Government of Israel is using to collectively punish the entire civilian population in Gaza, including restrictions on water, electricity, fuel deliveries and the entry of essential supplies, has compounded the suffering of a population that is now on the brink of famine. The Israeli military's continuous and extensive bombardment, which has destroyed key roads and essential civilian infrastructure, has further debilitated humanitarian efforts, leaving the population in dire conditions.

### **Oxfam's own analysis reveals that:**

- Since the Israeli offensive began following 7 October 2023, people in Gaza have had only 4.74 litres of water per person per day<sup>2</sup> for all uses including drinking, cooking, and washing, which is a dramatic 94% reduction in the amount of water available before. This is significantly below the internationally accepted minimum standard of 15 litres of water per person per day for basic survival in emergencies.<sup>3</sup>
- Since the start of the blockade in 2007, the Government of Israel has severely tightened restrictions on movement and access. In addition to the total siege imposed on Gaza on 9 October 2023, it means that entry of critical water and sanitation supplies is at times indefinitely delayed. It has taken Oxfam several months to receive Israeli 'pre-clearance' for 3 desalination units and pipes needed for repairing damaged infrastructure, but this does not guarantee entry. To date, these supplies have not entered Gaza. 'Pre-clearance' for 3 other desalination units and spare parts remains pending.
- Water supplied via the three Israeli Mekorot lines have been providing water to Gaza at only 22% of total supply capacity; from October 2023 to May 2024, the lines supplying Khan Younis and Gaza City were completely cut for 81% and 95% of the time, respectively.<sup>4</sup>



- By 26 May 2024, water production from sources within the whole Gaza Strip had reduced by 84%<sup>5</sup> due to destruction of water infrastructure and restrictions on fuel, electricity, and water and sanitation spare parts entering Gaza.
- By 3 June 2024, five water and sanitation infrastructures had been taken out of service every three days (1% per three days) by the bombardment.<sup>6</sup>
- By 3 June 2024, Gaza City had lost nearly all its water production capacity, with 88% of its water wells, 100% of its brackish water desalination plants and 100% of its seawater desalination plants damaged or destroyed and put out of service.<sup>7</sup>
- The Israeli military has destroyed the two main water quality testing laboratories (the first in November 2023 and the second on 21 March 2024) inside Gaza and restricted the entry of Oxfam water testing equipment.
- By 3 June 2024, the Israeli military had destroyed 100% of all water and sanitation warehouses in Gaza City and Khan Younis.<sup>8</sup>
- By 3 June 2024, the Israeli military had destroyed 70%<sup>9</sup> of all sewage pumps and by 26 June 2024, 100% of all wastewater treatment plants in Gaza.<sup>10</sup>
- In the event that a million people seek shelter from bombardment in the Israeli-designated 'Al Mawasi safe zone', the area could become the most densely populated in the world with the potential to provide a mere 2.48 litres per person per day.

**Key findings include:**

**The systematic destruction and obstruction of Gaza's water and sanitation infrastructure has led to severe water shortages, widespread, and health crises. Oxfam's detailed breakdown shows significant damage to water production wells, storage reservoirs, desalination plants and wastewater facilities, drastically reducing water availability and creating unsanitary conditions. Oxfam's attempts to import critical supplies like water desalination units and repair materials have been obstructed by Israeli restrictions.<sup>11</sup>**

**The systematic destruction of water facilities, bureaucratic hurdles blocking humanitarian supplies, and inflammatory statements by Israeli officials<sup>12</sup> show that Israel is at best reckless as to the humanitarian crisis and its IHL duty to protect civilians. Israel's military approach has created conditions of destruction and widespread suffering, underscoring the severe nature of the crisis in Gaza resulting from a policy of deprivation and denial.<sup>13</sup>**

**The impact on public health has been catastrophic, with reported cases of waterborne diseases skyrocketing. Oxfam's analysis of health data shows that more than a quarter of the population has fallen seriously ill from water and sanitation related diseases, despite these illnesses being preventable with sufficient and safe water and sanitation.<sup>14</sup>**

**This Oxfam report shows it is vital:**

1. The Government of Israel and Palestinian armed groups agree to an immediate and permanent ceasefire.
2. The Government of Israel ends its siege and lift its blockade on Gaza to allow unhindered and sustainable access to humanitarian assistance, particularly for food, clean water, sanitation, and shelter.
3. The international community supports an independent investigation into potential violations of international humanitarian law and international human rights law by the Government of Israel and Palestinian armed groups, including the destruction of essential civilian infrastructure such as water and wastewater infrastructure, to ensure that those found to have committed such violations are held to account.
4. The Government of Israel bears the costs of Palestinian-run repair and reconstruction of water and sanitation infrastructure that has been damaged or destroyed during the conflict.
5. The international community upholds International Humanitarian Law and other international law in all circumstances end the current culture of impunity for war crimes and other international crimes.

In conclusion, the report highlights the urgent need for the international community to take decisive action to uphold justice and human rights, prevent further suffering and protect the rights of Palestinians in Gaza, including those enshrined in the Geneva and Genocide Conventions.



Displaced people in Rafah in South Gaza using the newly installed desalination units Oxfam and local partners provided. These units provide clean drinking water for free with no risk of contamination.

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## INTRODUCTION

This report provides crucial context for understanding the broader humanitarian crisis in Gaza, underscoring how the deprivation of water and sanitation, amidst relentless bombardment, is part of a systematic campaign that impacts all aspects of life. The blockade and ongoing military actions not only violate international law but also create insurmountable barriers to accessing basic human needs, including water, exacerbating the humanitarian disaster.

For the past 17 years, Israel has imposed a crippling land, sea, and air blockade on Gaza, impacting every aspect of daily life, depriving 2.3 million people of fundamental rights. In February 2024, the UN Special Rapporteur on the Right to Food stated, 'Every single person in Gaza is hungry right now',<sup>15</sup> and in March the World Food Programme declared that Palestinians in Gaza are 'starving to death', with the highest levels of hunger ever recorded.<sup>16</sup> UNICEF reported the same month that one in three children aged under two in northern Gaza suffers from acute malnutrition.<sup>17</sup> In July 2024, UN experts declared a famine has spread throughout Gaza.<sup>18</sup>

Medical services in Gaza have been decimated by the Government of Israel's military campaign, undermining the conditions necessary for life. As of 8 July 2024, only 13 of Gaza's 36 hospitals were partially functioning.<sup>19</sup> The healthcare system has collapsed, unable to treat the wounded and sick. Attacks on hospitals and healthcare facilities contravenes Article 18 of the Fourth Geneva Convention, which mandates their protection during armed conflict.<sup>20</sup>

By April 2024, 80% of Gaza's schools were damaged or destroyed.<sup>21</sup> Every university in Gaza has been demolished.<sup>22</sup> Additionally, 227 mosques, and 195 cultural heritage sites have been obliterated.<sup>23</sup> UN Experts estimate 60-70% of homes in Gaza have been fully or partially destroyed,<sup>24</sup> and over one third of agricultural lands including irrigation infrastructure have been damaged.<sup>25</sup> The economic impact of damage to infrastructure is staggering, estimated at \$18.5bn as of January 2024, equivalent to 95% of the combined GDP of the West Bank and Gaza.<sup>26</sup> Continuous bombardment and such levels of destruction have forcibly displaced 1.9 million people within Gaza, creating a state of perpetual crisis.<sup>27</sup>

Since 13 October 2023,<sup>28</sup> the Government of Israel has issued numerous evacuation orders demanding that Palestinians abandon their homes to evacuate.<sup>29</sup> Instead of protecting civilians from harm and enabling greater access to humanitarian assistance in accordance with international law, these evacuations exposed civilians to further displacement, deprivation, and intense bombardment. Despite calls for rescindment, the evacuations continue.<sup>30</sup>

Israel's military campaign has created conditions that the UN High Commissioner for Human Rights concluded 'may amount to the use of starvation as a method of war, which is a war crime'.<sup>31</sup> The International Court of Justice has found that allegations of genocide are plausible.<sup>32</sup> Humanitarian actors face extreme danger with far too many personnel killed: 500 health workers<sup>33</sup>, over 200 UN staff members<sup>34</sup>, seven Coastal Municipality Water Utility staff members<sup>35</sup> and seven World Central Kitchen workers<sup>36</sup> have been killed. Despite these dangers, humanitarian efforts to provide services and save lives continue.

From an already severe humanitarian crisis, the conditions of life in Gaza have deteriorated to catastrophic levels due to what the UN Independent International Commission of Inquiry on the Occupied Palestinian Territory described as indiscriminate and disproportionate military actions by Israel, amounting to severe violations of international humanitarian law.<sup>37</sup>

In response to the 7 October attacks led by Palestinian armed groups, the Government of Israel intensified its 16-year blockade of Gaza on 9 October 2023. Since then, Israel has imposed a 'total siege,' systematically depriving the population of essential resources, including food, water, and electricity, leading to acute food insecurity and alarming levels of starvation.<sup>38</sup> Israel's relentless air and land bombardment in response to these attacks, which resulted in the deaths of approximately 1,200 Israeli and foreign nationals and the capture of 250 individuals, has created unliveable conditions in the Gaza Strip, with at least 38,000 Palestinians killed by Israeli attacks in Gaza.

## **Water and sanitation in Gaza following 7 October 2023**

The Israeli military's near-total destruction of Gaza's water and sanitation infrastructure has contributed significantly to the catastrophic deterioration of conditions of life in Gaza. This has drawn the attention of many international legal and water experts, several of whom have asserted that the Government of Israel has weaponized water with military tactics and policies that have deprived the civilian population of water and sanitation.<sup>39</sup> This comes at a time when Israel's government has also been accused of using starvation as a weapon of war,<sup>40</sup> which if established would itself be a war crime. Israel's actions have deprived the entire population of Gaza of lifesaving water and sanitation services, creating unavoidable immediate and long-term threats to people's health and survival.

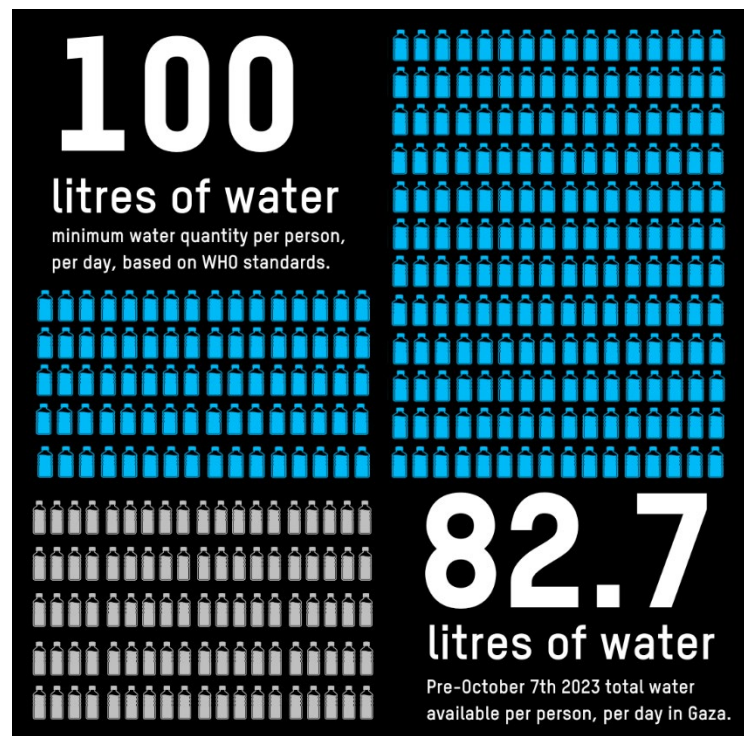
On 9 October 2023, the Government of Israel announced its intention to cut off water and electricity. That threat was followed in the subsequent months by an unprecedented level of destruction to critical water and sanitation infrastructure, including access roads. Israel's government has also applied a policy that blocks the delivery of fuel and essential water and sanitation supplies. These acts collectively, and

combined with continuous bombardment by Israel, have obliterated the capacity of humanitarian actors to provide even minimal lifesaving emergency services to the people of Gaza, and crippling efforts to restore water production. They have also caused widespread contamination by sewage, threatening the lives of Palestinians.

## Water and sanitation in Gaza prior to 7 October 2023

It is important to emphasize that the Government of Israel has long maintained control over water across the Occupied Palestinian Territory (OPT), particularly in Gaza and the West Bank (incl. East Jerusalem), both in times of relatively low-intensity conflict and in times of escalations. In fact, Israel and the OPT share abundant water resources including the Jordan River, the Mountain Aquifer, and the Coastal Aquifer, which under any other circumstances not involving Israeli military occupation would be governed by international water law.

Following the 1967 Six-Day War, Israel, under military orders (such as Military Order 158 of November 1967 and Military Order 498 of 4 November 1974) incorporated Palestinian water systems into Israeli control. This meant that Palestinians in both the West Bank and Gaza could not construct any new water installation without first obtaining a permit from the Israeli army. Since then, the extraction of water from any new source or the development of any new water infrastructure has required permits from Israel, which are nearly impossible to obtain.<sup>41</sup>



By 1982, the Palestinian water infrastructure in the West Bank was handed over to Israel's national water company, Mekorot.<sup>42</sup> The 1993 Oslo<sup>43</sup> and 1995<sup>44</sup> Oslo II Accords, which included provisions on Israeli-Palestinian cooperation on water resource management and recognition of Palestinian water rights, respectively, disadvantaged Palestinians and strengthened Israel's control.<sup>45</sup> The Oslo Accords granted the Government of Israel 87% of groundwater resources in the West Bank, allowing Palestinians only 13%,<sup>46</sup> quantities that remain unchanged despite a significant increase in the Palestinian population.<sup>47</sup> The Government of Israel also maintained

complete control over the waters of the Jordan River. For Gaza, the Accords did not stipulate any cooperation on the shared Coastal Aquifer between Israel and Gaza. Consequently, both Gaza and Israel over-extract from the Coastal Aquifer, but given Gaza's limited relative area coverage compared to that of Israel, Gaza gets 25% of the water while Israel gets 75% of the total. Furthermore, the Government of Israel prohibits water transfers from the West Bank<sup>48</sup> and restricts entry of materials and equipment for the development of alternative water resources.<sup>49</sup> This has resulted in decades of severe water shortages throughout the Gaza Strip.

Gaza, along with the West Bank including East Jerusalem, has been occupied by the Government of Israel since the Six-Day War in June 1967. Although the Government of Israel withdrew its military forces and dismantled its settlements in Gaza in 2005, it maintained control over Gaza's borders, airspace, and maritime access, effectively continuing its occupation under international law. A series of Israeli military assaults over the decades since the First Palestinian Intifada (uprising) in 1987<sup>50</sup> saw the destruction of water and sanitation infrastructure and the ongoing military occupation resulted in continued restrictions on permits for developing water resources and importing construction materials.

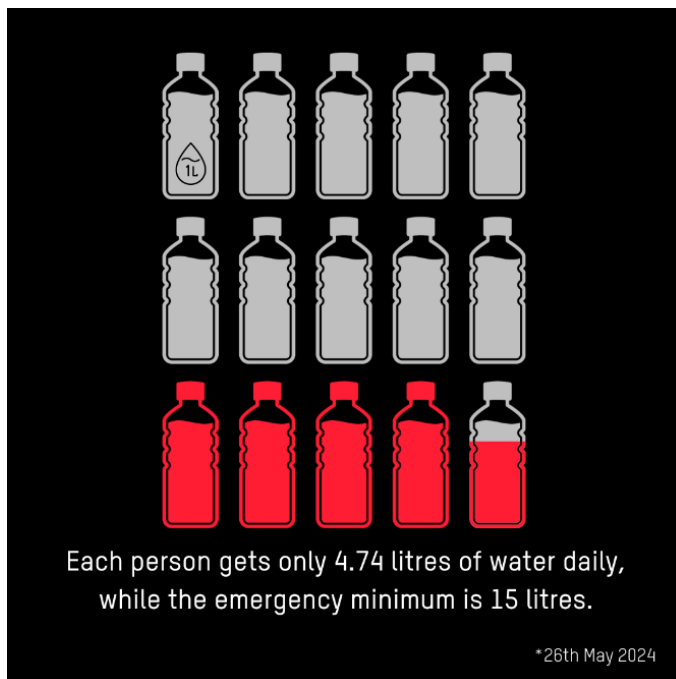
By March 2023, Palestinians still lacked sufficient and safe water quantities. In the West Bank Palestinians had 89 litres per person per day, while in Gaza Palestinians had 82.7 litres per person per day<sup>51</sup> (186,902m<sup>3</sup> per day available for the entire population), both of which are below the World Health Organization (WHO) recommended daily quantity of 100 litres per person (226,000m<sup>3</sup> per day for the entire population<sup>52</sup>). In comparison, Israelis, including those living in West Bank settlements, consume a daily average of 247 litres of water per person.<sup>53</sup> In Gaza, groundwater had become severely contaminated due to over-extraction and contamination from seawater intrusion and sewage infiltration,<sup>54</sup> leaving 97% of it polluted.<sup>55</sup> Groundwater accounted for 81% of the total water available to the population, 3% was supplied by the three seawater desalination plants along the coastline, 3% municipal desalination plants, and approximately 12% was bought from Mekorot.<sup>56</sup> In 2021, the Palestinian Water Authority in Gaza bought 96.1 million cubic metres<sup>57</sup> of water at a rate of 3.78 shekels per cubic metre,<sup>58</sup> which totals 364,219,000 shekels – equivalent to approximately USD 98,000,000.

Mekorot, the Israeli state-owned national water company, is actively involved, according to many rights-based organizations, in "aiding and abetting" the occupation of Palestinian territory.<sup>59</sup> The company has a monopoly over water resources in the OPT, significantly impacting Palestinian communities. The Palestinian Water Authority's ability to transfer water to areas facing shortages is severely hindered by territorial fragmentation. Deep water drilling by Mekorot in the Jordan Valley has caused Palestinian wells and springs to dry up, with 80% of the water consumed by Israel and Israeli settlements. This lack of availability has historically led to chronic shortages and



a dependence on Mekorot, which supplies almost half of the drinking water consumed by Palestinian communities.<sup>60</sup> In the event of shortages, valves supplying Palestinian communities are turned off, while Israeli settlements continue to receive water. The UN has denounced Mekorot's role in supporting the settlement enterprise, noting, as above, that Mekorot inherently benefits from or contributes to illegal settlement.<sup>61</sup>

## SYSTEMATIC WEAPONIZATION OF WATER



Water can be weaponized in different ways in armed conflict. Actions such as the destruction of dams can use water as a physical weapon to kill and injure, and to deny the enemy the use of territory. This report illustrates how the Government of Israel weaponizes water, denying it to the civilian population in Gaza through the widespread and systematic destruction and pollution of aquifers, wells, groundwater sources, and desalination and wastewater treatment plants. The UN Independent International

Commission of Inquiry on the OPT stated that, 'Statements from Israeli officials show their intent to instrumentalize the provision of basic necessities, including food, medicine, water, fuel and electricity, to hold the entire population of the Gaza Strip hostage to pursue political and military objectives.'<sup>62</sup>

The Israeli military's operations in Gaza have repeatedly committed violations of international humanitarian law depriving people of access to water, an indispensable resource for their survival, by damaging or destroying water infrastructure, contaminating water sources, and blocking supplies needed to enable water production. These actions have paralysed the water system, restricted access for repairs and supplies, littered Gaza with unexploded ordnance<sup>63</sup> making it difficult to carry out repairs but also creating a serious public health threat and an increased risk of morbidity and mortality due to the high risk of waterborne diseases.

An Oxfam analysis of quantities of water in Gaza from all sources (Mekorot lines, groundwater wells and springs, and water desalination plants) between 1 November 2023 and 26 May 2024 estimates an average production of 47,634m<sup>3</sup> per day.<sup>64</sup> However,

of that quantity produced, only 10,714m<sup>3</sup> per day reaches the population, as approximately 80% water is lost in leakages.<sup>65</sup>

**This equates to only 4.74 litres per person per day<sup>66</sup> for each person in Gaza to drink, cook with, wash, launder and more.**

This is a significantly low amount, even when compared to the internationally accepted minimum water standard required in acute emergencies, of 15 litres per person per day<sup>67</sup> – roughly the amount used in two toilet flushes. To provide the entire population with this minimum water quantity would require 33,900m<sup>3</sup>/day.<sup>68</sup> Figure 1 shows the actual amount of water available to the population of Gaza compared to pre-7 October quantity, the WHO-recommended quantity, and the recommended minimum quantity in emergencies.

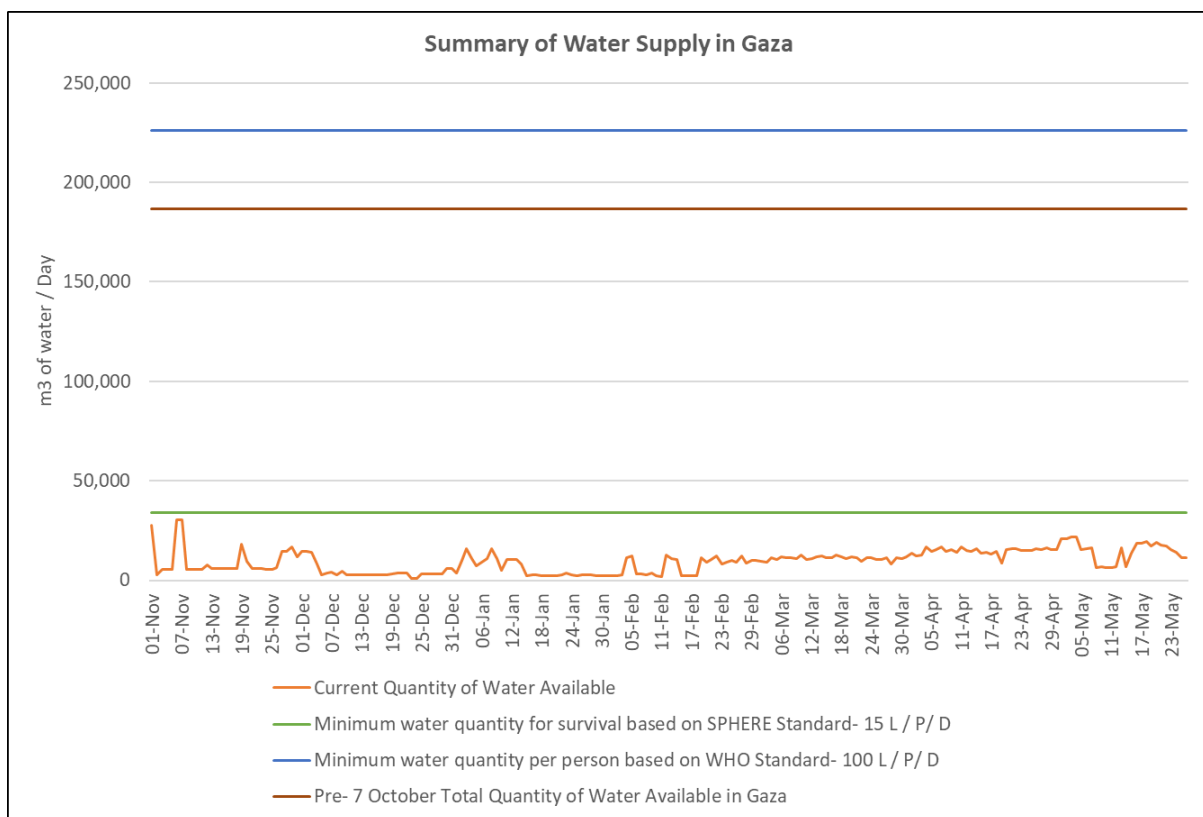


Figure 1. Summary of total available water quantity in Gaza before and after 7 October 2023,<sup>69</sup> and compared with SPHERE and WHO minimum standards

**The decrease in water from the pre-7 October 2023 quantity of 82.7 litres<sup>70</sup> to the current 4.74 litres per person per day represents a dramatic 94% reduction. That means that people in Gaza are now surviving with only 6% of the water they had before 7 October, which already fell short of WHO standards.**

The United Nations Satellite Centre (UNOSAT) reported on 3 June 2024 that 400 of Gaza's 592 water and sanitation infrastructure sites – 67% – had been damaged or destroyed by military action,<sup>71</sup> leaving them non-functional and out of service. This means that five water and sanitation infrastructure sites were taken out of service by military action every three days (1% per three days).<sup>72</sup>

The following sections present details of water deprivation, infrastructure damage and other types of attacks and restrictions by the Government of Israel on Gaza that appear to constitute breaches of international humanitarian law.

## Intentional water deprivation by cutting off Mekorot supply

On 9 October 2023, Defence Minister Yoav Gallant said: 'I have ordered a complete siege on the Gaza Strip. There will be no electricity, no food, no fuel, everything is closed.'<sup>73</sup> True to their word, the Government of Israel did impose a 'total siege' of Gaza, depriving Palestinians of essential lifesaving services. Energy Minister Israel Katz executed Gallant's orders two hours later, cutting off the Mekorot water supply to Gaza,<sup>74</sup> violating the requirement under international humanitarian law to provide items essential to the survival of civilians, and its prohibition of collective punishment. Mekorot water supply contributed 12% of Gaza's total available water prior to 9 October 2023.<sup>75</sup> Oxfam's analysis of Mekorot water supply from 9 October 2023 to 26 May 2024 (231 days) shows how, along with infrastructure damage, Israel deprived Gaza's citizens of water (see Figure 2):

- **On 9 October 2023, all three Mekorot lines of Al Montar, Bani Suhaila and Bani Saeed that supply water to the Governorates of Gaza City, Khan Younis and Deir El Balah, respectively, were cut off.**
- **On 31 October 2023, the Government of Israel announced the reactivation of the Mekorot lines of Bani Suhaila and Bani Saeed.**
- **Having sustained significant damage, the Bani Suhaila line supplying Khan Younis was interrupted from 5 December 2023 to 16 May 2024, depriving huge numbers of people of water for 188 out of 231 days between 9 October 2023 and 26 May 2024 (i.e., 81% of the duration).<sup>76</sup>**
- **The Al Montar line was only resupplied with water on 16 May 2024, depriving Gaza City of water for 219 days over the same period (95% of the duration).<sup>77</sup>**

All three Mekorot lines supplied water on average for 8 hours a day, and not the 24 hours that would have been the case had the Government of Israel intended to boost the quantity of water available to the population. The Government of Israel has adopted a

similar approach in the West Bank, where water supply via the Mekorot lines was reduced by more than 30% to southern areas.<sup>78</sup>

**“The three Mekorot lines to Gaza have a total supply capacity of 55,200m<sup>3</sup>/day, but from 9 October 2023 to 26 May 2024, water supply averaged just 12,168m<sup>3</sup>/day – less than a quarter (22%) of their capacity,<sup>79</sup> – together with the military’s destruction of water infrastructure described below, effectively depriving the civilians of Gaza of sufficient water (Figure 1) and contributing to them not having nearly enough water to meet their basic daily needs.”**

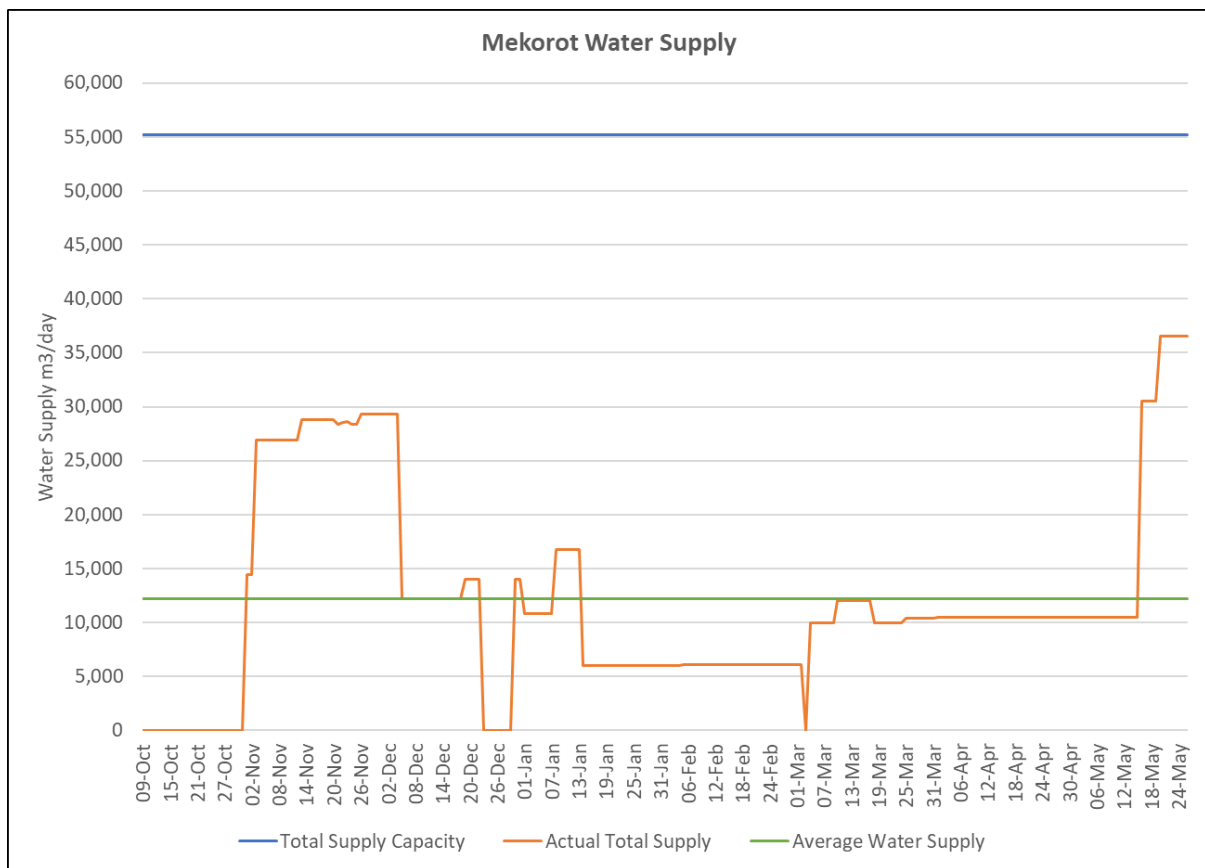
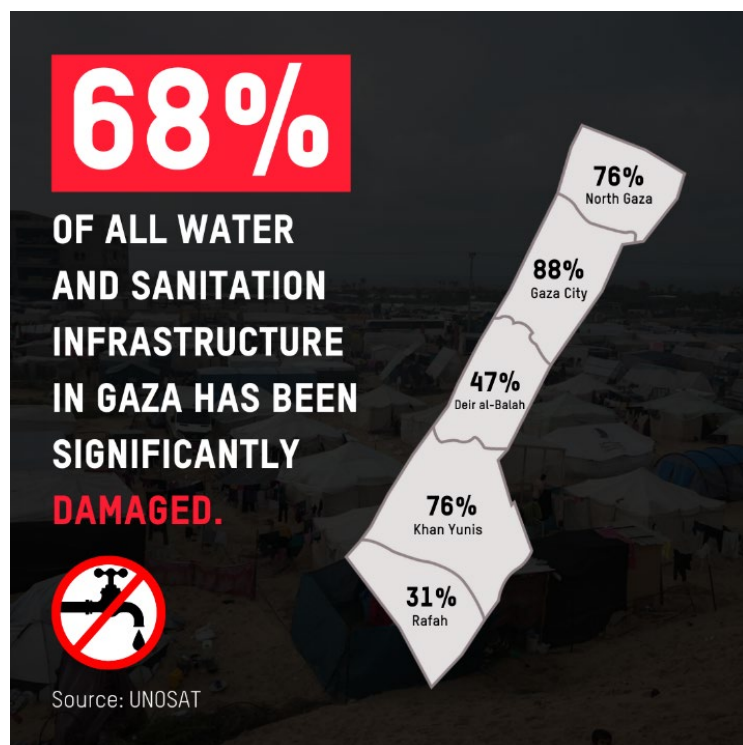


Figure 2. Oxfam’s analysis of Mekorot water supply data analysis covering period 9 October 2023 – 26 May 2024 (231 days).<sup>80</sup>



## Lethal combination – destruction and blockade

Despite the Government of Israel cutting off the Mekorot water supply to Gaza, local water production could still have met SPHERE minimum water quantities (15 litres per person per day)<sup>81</sup> had it not been for the widespread destruction of water infrastructure. Prior to 7 October 2023, Gaza water production capacity from its groundwater wells, springs and water desalination plants was estimated at 278,907m<sup>3</sup>/day (potable and non-potable water), which is well above the SPHERE minimum quantity of 33,900m<sup>3</sup>/day.<sup>82</sup> However, the systematic destruction of water infrastructure, the cutting-off of electricity supplies and severe restrictions on fuel needed to operate the remaining water systems, along with damaged roads preventing timely water trucking, resulted in people receiving water (i) inconsistently,<sup>83</sup> (ii) in quantities well below the internationally accepted emergency minimum quantity of 15 litres per person per day,<sup>84</sup> and (iii) of poor quality, unfit for human consumption.<sup>85</sup>



The 23 April 2024 UNOSAT water and sanitation infrastructure damage assessment report indicates significant damage to 63% of all water and sanitation infrastructure in Gaza.<sup>86</sup> By 23 April 2024, Rafah Governorate – the southern area of the Gaza Strip to which 1.7 million Palestinians had been forcibly displaced<sup>87</sup> by Israel’s military action – was the least affected area inside Gaza, with less than 6% damage and destruction,<sup>88</sup> but this quickly changed. A UNOSAT report dated 3 June 2024 indicates an increase in significant damage, to 67.6% of all water and sanitation infrastructure throughout the Strip (a 4.6 percentage points increase).<sup>89</sup>

**“Over the seven weeks between the two reports, Rafah Governorate sustained the most damage to infrastructure, with a marked 25.4 percentage point increase.”<sup>90</sup>**

This destruction occurred despite the International Court of Justice (ICJ) order on 26 January 2024 for the Government of Israel to ‘desist from, and take all measures within its power including the rescinding of relevant orders, of restrictions and/or of

prohibitions to prevent [...] (b) the deprivation of: (i) access to adequate food and water.’<sup>91</sup>

In May 2024, the Israeli military launched a major offensive in Rafah,<sup>92</sup> this did not stop despite the ICJ order on 24 May 2024 for the Government of Israel to ‘immediately halt its military offensive, and any other action in the Rafah Governorate, which may inflict on the Palestinian group in Gaza conditions of life that could bring about its physical destruction in whole or in part.’<sup>93</sup> Table 1 presents the damage and destruction of water and sanitation infrastructure for the 23 April and 3 June 2024 UNOSAT reports per governorate.

Table 1. Damage and destruction of water and sanitation infrastructure based on the UNOSAT damage assessment reports of 23 April and 3 June 2024 per Governorate in Gaza

Governorate	% damaged and destroyed – 23 April 2024	% damaged and destroyed – 3 June 2024	Percentage point increase in damage (over 7 weeks)
North Gaza	73.6%	76.4%	2.7 pp
Gaza	85.6%	88.1%	2.5 pp
Deir El Balah	45.9%	46.8%	0.9 pp
Khan Younis	75.0%	75.7%	0.7 pp
Rafah	5.6%	31.0%	25.4 pp
<b>Grand total</b>	<b>63.0%</b>	<b>67.6%</b>	<b>4.6 pp</b>

## Destruction of critical water production infrastructure and impact on supply

The Coastal Municipalities Water Utility (CMWU)<sup>94</sup> regularly provides the Coordination of Government Activities in the Territories (COGAT)<sup>95</sup> with detailed lists and locations of water and sanitation infrastructures and assets across Gaza, including their capacities and precise GPS location. The latest of these was submitted by the CMWU to the Coordination and Liaison Administration (CLA)<sup>96</sup> on 15 December 2023.<sup>97</sup> Despite this, widespread destruction of water and sanitation took place. To better understand the level of destruction, Oxfam analysed findings of the latest UNOSAT WASH Infrastructure Damage Assessment report (3 June 2024).

The analysis demonstrated that the most critical water production infrastructure appears to have sustained the highest levels of destruction, as follows:<sup>98</sup>

- 71% of municipal brackish water desalination plants (100% in north Gaza, 100% in Gaza City, 81% in Khan Younis).
- 69% of all water production wells (78% in north Gaza, 88% in Gaza City, 79% in Khan Younis).
- 66% of all water storage reservoirs (100% in north Gaza, 89% in Gaza City, 76% in Khan Younis).
- 33% of seawater desalination plants (100% in Gaza City).

“An Oxfam analysis of water production inside Gaza and fuel supply between 16 February and 26 May 2024 (100 days)<sup>99</sup> showed that as a consequence of destruction and fuel shortages, water production across the Gaza Strip dropped by 84%, from a potential 254,507m<sup>3</sup>/day to an average of only 40,810m<sup>3</sup>/day.”<sup>100</sup>

Daily production values are proportional to the quantity of available fuel (Figure 3), which averaged at 12,416 litres per day.<sup>101</sup>

The UN and aid agencies have requested 70,000 litres of fuel per day to operate water and sanitation infrastructure,<sup>102</sup> in addition to the significant amounts needed to support the healthcare sector, food production, and the personal needs of households and businesses.

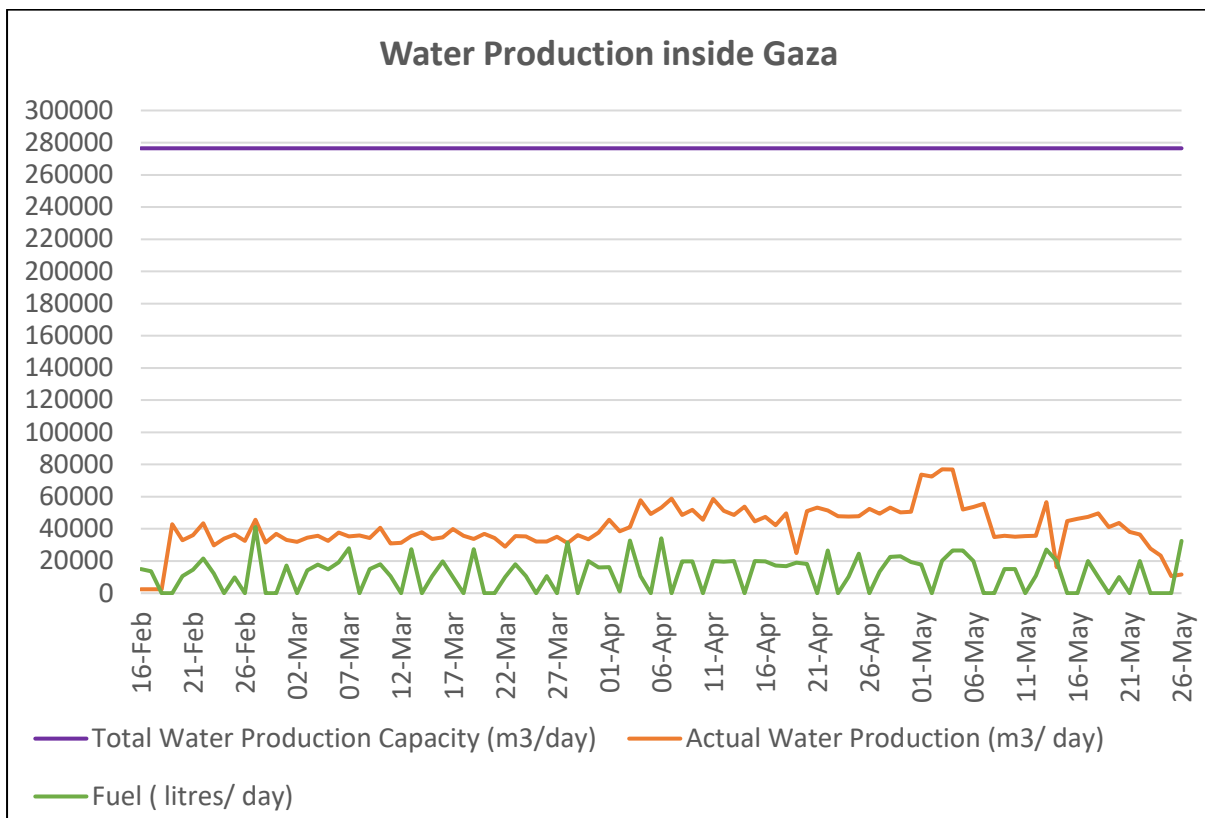


Figure 3. Total water production inside Gaza against total fuel supply for water and sanitation services (100 days)<sup>103</sup>

Efforts to increase water production have consistently been obstructed by the Israeli military. On 20 December 2023, a seawater desalination plant constructed by the United Arab Emirates (UAE) in the Sinai desert was used to increase water supply to Gaza, and provided 1,200m<sup>3</sup>/day of potable water to Gaza. This had increased to 3,700m<sup>3</sup>/day by 16 May 2024,<sup>104</sup> following the construction of a pipeline from the Rafah crossing to a reservoir, crossing the Philadelphia Corridor. Oxfam analysis between 20 December 2023 and 26 May 2024 indicates that water supply from this desalination unit averaged 1,940m<sup>3</sup>/day.<sup>105</sup> This is included in the overall calculations of water availability for Gaza shown in Figure 3.

**On 7 June 2024, the UAE desalination plant supply was discontinued due to severe damage to the newly constructed supply line following the Israeli military ground invasion of Rafah.<sup>106</sup>**

Humanitarian actors have tried to increase potable water production inside Gaza. Agencies rushed to install medium- to small-scale desalination units for groundwater wells, in line with Israel's COGAT restrictions. However, they only managed to bring four small-scale units into Gaza, collectively producing 20m<sup>3</sup>/day, with many more still waiting at the Rafah crossing at the time of writing (see 'Israel's obstruction of aid delivery', below). Locally, 24 additional desalination units have been constructed despite limited local manufacturing capacities, with varying production capacities of 1m<sup>3</sup>/day, 1.25m<sup>3</sup>/day, 5m<sup>3</sup>/day, 20m<sup>3</sup>/day, 25m<sup>3</sup>/day, and 150m<sup>3</sup>/day.<sup>107</sup> These additional water sources are all included in the overall calculation of water availability for Gaza shown in Figure 3.

To increase water production inside Gaza, sufficient quantities of fuel are needed to operate water facilities such as desalination plants and pumps. The United Nation Economic and Social Commission for West Asia (UNESCWA) estimates that prior to 7 October 2023, approximately 600,000 litres of fuel were needed daily to power infrastructure needed for water and sanitation service delivery.<sup>108</sup> In addition to sufficient quantities of fuel, the UN and aid agencies have requested the entry of generators, submersible pumps and spare parts that would more than double water production, from the current 40,810m<sup>3</sup>/day to 100,000 m<sup>3</sup>/day.<sup>109</sup> However, the Government of Israel has refused to increase overall fuel allocations to Gaza, necessitating rationing between various users; this has resulted in an average of only 12,416 litres per day<sup>110</sup> being designated for water and sanitation. The closure of Gaza's only power plant due to lack of fuel,<sup>111</sup> and the cutting of electricity supplies from Israel<sup>112</sup> since October, have also severely impacted the quantity of water production in Gaza.



### **Box 1 – Notable damage reported by the media.**

16 November 2023: One of the main water facilities in the south of Gaza City is destroyed by Israeli military action.<sup>113</sup> The plant had the words 'Water Plant' clearly visible on its roof.

10 December 2023: Israeli airstrikes destroy water pipelines between Rafah and Khan Younis.<sup>114</sup>

15 December 2023: An Israeli airstrike takes a water reservoir out of service in Rafah,<sup>115</sup> at a time when civilians are being urged and forced by the Israeli military to move there.

17 January 2024: Euro-Med Human Rights Monitor demonstrates the destruction of 65% of water wells in Gaza City and northern Gaza.<sup>116</sup>

29 April 2024: Gaza City Municipality reports that 75% of its water sources have been destroyed by Israeli military action.<sup>117</sup>

9 May 2024: Two large water reservoirs in a neighbourhood of Khan Younis are damaged by use of explosive weapons.<sup>118</sup>

12 May 2024: Israeli bombardment severely damages a main reservoir in Tal al-Hawa, Gaza City, effectively taking it out of service and cutting off water to the neighbourhood. An estimated 40 wells and 42km of pipelines are also damaged in the attacks.<sup>119</sup>

9 June 2024: Jabalia Municipality reports that Israeli airstrikes have destroyed 75% of wells in the area.<sup>120</sup>

These systematic Israeli attacks deny civilians in Gaza access to water, in violation of international humanitarian law. The pattern of frequent recurrent attacks, which have so comprehensively undermined essential water and sanitation services, raises serious concerns regarding the intent, objectives and plans behind Israeli military's widespread bombardment of the Gaza Strip.

## **Destruction of water utility warehouses and blocking of repairs**

To restore the most critical water infrastructure and reduce water losses in Gaza, the CMWU needs construction equipment, pipes, spare parts, and other tools and materials. As of 3 June 2024, 69% of all CMWU assets had been damaged or destroyed (100% in Gaza City and 100% in Khan Younis).<sup>121</sup> This includes its largest warehouse in Khan Younis, which was destroyed by an Israeli missile on 21 January 2024,<sup>122</sup> resulting in a loss of US\$9m in materials, 40,000 litres of fuel storage (enough for three days of water and sanitation services) and the killing of seven CMWU staff members.<sup>123</sup> This is despite the site having been 'deconflicted'<sup>124</sup> by the CLA in December 2023 at the request of the CMWU, in coordination with the Palestinian Water Authority, UNICEF and the UN Office for the Coordination of Humanitarian Affairs (OCHA).<sup>125</sup> Israel's military action has severely limited the capacity of the CMWU to carry out urgent repairs to ensure the continuity of water supply.

The Government of Israel also obstructs repair works by:

1. **Blocking the entry of supplies, equipment, and spare parts into Gaza.** For example, Oxfam procured water and sanitation pipes and spare parts that have been stuck at the Rafah crossing since 6 March 2024 (for more details, see 'Israel's obstruction of aid delivery').
2. **Restricting repair permissions.** For example, when the Mekorot Bani Suhaila supply line to Khan Younis was interrupted on 5 December 2023 after sustaining severe damage, the CMWU could not obtain permission to access and carry out repairs for three months. When access was finally granted, the repairs took two months, with technical staff working under fire to restore the line by 5 May 2024.

## **Destruction of Water Laboratories**

Providing the population with water that is not fit for human consumption over prolonged periods of time is detrimental to health. The two main water quality testing laboratories operated by the CMWU were destroyed by Israeli military action and remain out of service. On 21 March 2024, the Israeli military destroyed the main water laboratory in the CMWU headquarters in the city of Zahra in central Gaza. Importantly, the destruction of the CMWU headquarters means that all legal, technical, and administrative documents have been lost, including documents that governed how water supply was managed in Gaza prior to 7 October 2023. This will critically hinder recovery efforts after the war. The second largest laboratory, housed in the Khan Younis wastewater treatment plant, was damaged by Israeli airstrikes in November 2023. In anticipation of the imminent risk to water quality, Oxfam transported enough water quality testing equipment for four small mobile laboratories to the Rafah crossing on 7 December 2023. Despite Oxfam going through a lengthy pre-clearance process with COGAT, this equipment has still not entered Gaza.

## **Destruction of sanitation infrastructure and services**

Sanitation facilities and services have also been devastated. Oxfam analysis of the latest UNOSAT WASH Infrastructure Damage Assessment report of 3 June 2024 found that the following critical components of the wastewater management system in Gaza have been destroyed by Israeli military action:

**70% of all sewage pumping stations (including 73% in north Gaza, 85% in Gaza City, 64% in Khan Younis and 80% in Rafah).<sup>126</sup>**

**67% of wastewater treatment facilities (100% in Deir El Balah, 100% in Khan Younis and 100% in north Gaza).<sup>127</sup>**

By 26 June 2024, 100% of wastewater treatment facilities in Gaza were non-operational, resulting in widespread leakages and discharge of sewage to the Mediterranean Sea.<sup>128</sup>

On 6 January 2024, following the destruction of sewage and stormwater infrastructure, the Jabalia refugee camp was flooded with sewage for days.<sup>129</sup> This was not an isolated incident. On 3 June 2024, following the destruction of the only wastewater treatment plant and primary sewage pumping stations in Khan Younis,<sup>130</sup> sewage flooded the city's streets and camps, rendering the city uninhabitable.<sup>131</sup> Central Gaza has faced a sanitation time bomb since its only wastewater treatment facility in Al Bureij was destroyed by an Israeli air strike on 16 April 2024.<sup>132</sup> While the Israeli military has ordered evacuations from Rafah to areas of Khan Younis and Deir El Balah, forcibly displacing over one million people, the non-existent sanitation will lead to the spread of waterborne diseases and threatening the conditions necessary for life.

Untreated sewage and wastewater contain bacteria, fungi, viruses, and other pathogens that can cause diseases, referred to as water and sanitation related diseases, including cholera, diarrhoea, dysentery, hepatitis A, typhoid and more.<sup>133</sup> The widespread destruction of Gaza's sewage and wastewater systems and the consequent sewage floodings mean people are directly exposed to these pathogens and risk falling seriously ill, resulting in morbidity and mortality. The contamination of water resources means that people will consume water that is harmful to their health.<sup>134</sup> This has already become evident, with large numbers of the population reportedly becoming sick with water and sanitation related diseases, as detailed in 'Lasting threats to public health'.

## **Destruction of Oxfam and partners' water infrastructure**

The Israeli military use of explosive weapons has directly damaged critical water and sanitation infrastructure built by Oxfam and its partners. These facilities were reported to the CMWU, which liaised with Israeli authorities to deconflict them on 15 December 2023, along with all other water and sanitation infrastructures in Gaza.<sup>135</sup> Satellite imagery from 23 February 2024 confirms that 12 out of the 32 Oxfam and partner water and sanitation projects had sustained some damage, with 11 out of service (five moderately damaged and six severely damaged or destroyed). Approximately 180,700 people were served daily by this infrastructure before it was taken out of service, as shown in Table 2. Figure 4 shows the Ma'an water reservoir and pumping station in Khan Younis before and after it was destroyed; according to local witness reports, this was by a direct strike. Solar panels installed by Oxfam and its partners to power the pumping station were also destroyed.

The extent of the damage to these specific projects, coupled with the high degree of knowledge by the Israeli military of the purpose of these water and sanitation services, raises a question as to whether the targeting of civilian water and sanitation infrastructure is part of a military strategy to systematically weaken the civilian

infrastructure necessary for survival. A judgment on those matters will be important in establishing accountability for any violations of international humanitarian law, including guarantees of non-recurrence. (Also see 'Widespread and systematic crimes', below).

Visits to Oxfam and partners' water and sanitation project sites in Rafah were carried out by a survey team from an international NGO prior to April 2024. The survey indicated that some sites in Rafah remained undamaged; however, these were non-operational due to lack of fuel and power, as well as the displacement of staff. This highlights the broader impact of the conflict on essential services, demonstrating that even undamaged facilities cannot function without the necessary support and resources.

Oxfam-built water and sanitation facilities have been destroyed and damaged either by direct airstrikes or shelling, or by blast damage from nearby strikes, which poses questions around potentially serious violations of international humanitarian law. The extent of the damage across multiple sites has systemically crippled essential services, severely impacting Palestinian civilians and their ability to access critical water and sanitation services.





**AFTER**



Figure 4. Satellite image of Maan water reservoir and pumping station before and after 19 January 2024

Table 2. List of Oxfam and Oxfam Partner infrastructure projects that sustained some level of damage due to Israeli military action.

	Name	Governorate	People served/day	Status as of 23 February 2024
1	Al Amal Municipal water desalination plant	Bait Lahia, north Gaza	5,000	Severe damage
2	Ma'an reservoir and pumping station	Khan Younis	47,700	Severe damage
3	Al Sheikh Zayed water well	Bait Lahia, north Gaza	128,000	Destroyed
4	Abu Sharekh Gharbi water well	Jabalia		Possible damage
5	J4 (Al Sahel) water well	Deir El Balah		Moderate damage
6	Al Sabra 2 water wells	Gaza City		Moderate damage
7	Al Sabra 4 water wells	Gaza City		Destroyed
8	Al Remal 7 water wells	Gaza City		Destroyed
9	Al Sultan Abdul Hameid sewage pumping station	Beit Hanon		Severe damage
10	Mahader sewage pumping station	Jabalia, north Gaza		Moderate damage
11	El Karaj Municipal water desalination plant	Al Bureij		Moderate damage
12	Bani Suhaila Municipal water desalination plant	Bani Suhaila		Moderate damage

## Destruction of infrastructure inside healthcare facilities

The systematic destruction of water and sanitation infrastructure isn't limited to facilities operated by the CMWU. Incidents have also been recorded at hospitals, with some damaged and put out of service by what appear to be direct attacks rather than collateral damage. The WHO reported 464 attacks on healthcare facilities as of 29 May 2024.<sup>136</sup> Analysis of incident reports between 7 October 2023 and 29 February 2024 by the UN-led Health Cluster shows that water and sanitation infrastructure was damaged due to Israel's military action in and around hospitals, as shown in Table 3. Of the seven reported incidents of damaged water and sanitation infrastructure in or near hospitals due to Israeli military action, five appear to have resulted from direct attacks.<sup>137</sup>



This damage has led to a lack of water for infection prevention and control, and unsanitary conditions at hospitals, increasing the risk of nosocomial infections (healthcare-related infections), morbidity and mortality. For example, on 12 February 2024, the Israeli military reportedly damaged the sewage network of Nasser Hospital in Khan Younis, flooding the emergency rooms. In addition to hospital patients, the facility housed 10,000 displaced people from neighbouring areas.<sup>138</sup> The unsanitary conditions caused by the sewage flood put patients, healthcare workers and displaced people at an unavoidable health risk.

Table 3. List of incidents affecting water and sanitation infrastructure at hospitals across the Gaza Strip<sup>139</sup>

Hospital	Date of incident	Incident
Al Quds Hospital, Gaza City	16 October 2023	Bombardment in the vicinity of the hospital led to damage to water tanks on the hospital roof.
Kamal Adwan Hospital, north Gaza	22 November 2023	Bombardment in the vicinity of the hospital led to damage to water tanks and solar panels on the hospital roof.
Indonesian Hospital, north Gaza	24 November 2023	Hours before the Israeli military withdrew its forces from the Indonesian Hospital, it destroyed the hospital oxygen unit, electricity generator and water lines, taking the whole hospital out of service and making it difficult for it to return to functionality.
Al Awda Hospital, north Gaza	9 December 2023	Destruction of water tanks on the hospital roof by tank shelling.
	29 January 2024	Destruction of hospital water tanks and water desalination plant by tank shelling.
Nasser Hospital, Khan Younis	12 February 2024	Destruction of the sewage system, leading to floods in the emergency department while the hospital was under siege.
Al Amal Hospital, Khan Younis	19 February 2024	Destruction of hospital desalination plant.

## Israel's obstruction of aid delivery

Despite the binding International Court of Justice order of 26 January 2024, instructing the Government of Israel to 'desist from, and take all measures within its power including the rescinding of relevant orders, of restrictions and/or of prohibitions to prevent [...] (ii) access to humanitarian assistance, including access to adequate fuel, shelter, clothes, hygiene and sanitation',<sup>140</sup> the entry of humanitarian assistance into Gaza has remained a major challenge to humanitarian actors, along with the entry of goods under the pretext of security.

COGAT requires a cumbersome pre-clearance process whereby humanitarian agencies wishing to bring supplies into Gaza must provide detailed breakdowns of items, including technical specifications. After lengthy back-and-forth communications, pre-clearance may be granted, but supplies are then queued for weeks. Even when they reach, for example one of the previously operational crossings, such as the Rafah gate, they are often denied entry for obscure reasons. At the time of writing, 21 small-scale desalination units supplied by four humanitarian agencies have been waiting for months to cross into Gaza, despite having been granted COGAT pre-clearance, alongside approximately 2,000 trucks<sup>141</sup> containing urgently needed humanitarian assistance.<sup>142</sup>

In the case of six Oxfam funded desalination units, a pre-clearance request was initially submitted on 15 January 2024. Despite following all COGAT guidance and pre-clearance procedures, more than five months later, the units have still not entered Gaza (Figure 5).

<b>15 Jan 24</b>	Pre-clearance request submitted to COGAT for two solarised desalination units employing reverse osmosis technology.
<b>19 Jan 24</b>	COGAT requests resubmittal of pre-clearance using a specific form.
<b>20 Jan 24</b>	Pre-clearance request resubmitted to COGAT using requested new form.
<b>31 Jan 24</b>	COGAT requests resubmittal of pre-clearance using a new form.
<b>01 Feb 24</b>	Pre-clearance request resubmitted to COGAT using requested new form.
<b>12 Feb 24</b>	Pre-clearance resubmitted to increase number of units from two to six (all identical), specifying that the inbuilt generators and solar panels maybe removed if COGAT deems this necessary to aid the clearance process.
<b>21 Feb 24</b>	COGAT indicated that out of the 37 items within the treatment unit, 23 have been rejected (including solar panels with inverter and controls, the treatment parts of membranes and filters, anti-scalants and pumps) and 14 accepted (including generator, tanks and hoses). This partial clearance was provided for only two out of the six desalination units.
<b>27 Feb 24</b>	Pre-clearance resubmitted for the rejected 23 parts minus the solar power components, with an explanation that these parts are essential because the main component of the membranes and filters were rejected, meaning no treatment would be possible.
<b>12 Mar 24</b>	Accepted parts of the two partially cleared desalination units loaded on trucks and queued for entry through Rafah border crossing.
<b>25 Mar 24</b>	Pre-clearance request resubmitted to COGAT for all six desalination units.
<b>14 Apr 24</b>	Accepted parts of the two partially cleared desalination units entered Gaza and stored at safe location awaiting the remaining parts to enable the assembly of the desalination units.
<b>19 Apr 24</b>	Three desalination units (without accessories and solar panels) and three generators received pre-clearance.
<b>21 Apr 24</b>	Pre-clearance request resubmitted to COGAT for the remaining three desalination units. COGAT states that no further pre-clearance of desalination units will be granted until the first three units enter Gaza and are installed at specified locations.
<b>14 May 24</b>	8 water tanks (10m <sup>3</sup> ) and 4 tapstands (2 items of the complete desalination units) received pre-clearance.
<b>01 Jul 24, and counting</b>	Despite pre-clearance of three desalination units, none have entered Gaza, and the six desalination units remain in Egypt due the closure of the Rafah crossing following the Israeli ground invasion in May 2024 and the non-functional Kerem Shalom/Karem Abu Salem crossing due to the insecurity.

Figure 5. Timeline For Pre-Clearance of Oxfam's Six Desalination Units

Israel’s restrictions are not limited to preventing the entry of water desalination units containing electromechanical parts; they also systemically delay and block the delivery of critical water and sanitation supplies.

For example, Oxfam requested pre-clearance for water and sewage pipes and spare parts from a supplier in Jordan, to be delivered to Gaza to repair pipelines damaged by military action. A comprehensive list of over 100 items was prepared using the COGAT form, including detailed technical specification and pictures, and submitted on 6 March 2024. The form was resubmitted on 19 March 2024, and again on 21 April 2024. By 22 May 2024, COGAT had requested many additional clarifications, including specific locations of the planned repair works (i.e., specific segments of damaged pipeline networks). On the same day, Oxfam resubmitted all requested details, including satellite images of the planned pipe repairs (see sample in Figure 6). COGAT finally provided pre-clearance on 27 June 2024 for the pipes, three months after the initial request was made, while the pre-clearance request for the fittings remains pending. It is expected that the military offensive launched in Rafah in May 2024 will further limit the possibility of entry of these pipes and fittings.

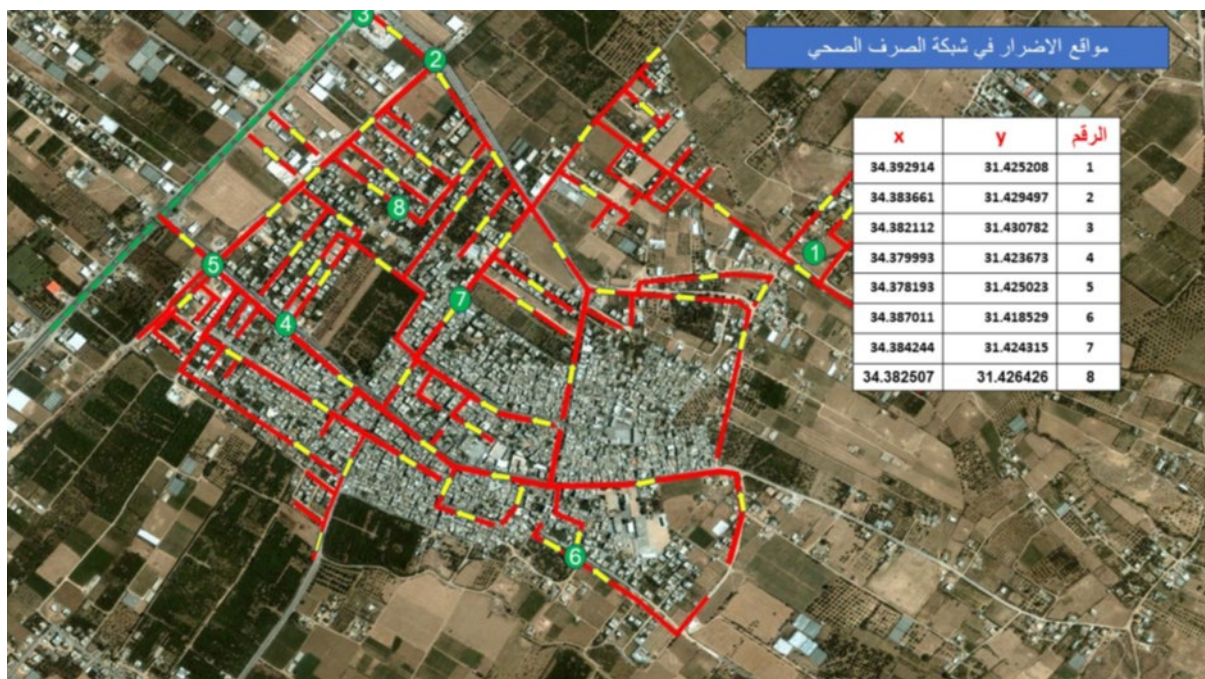


Figure 6. Sample of evidence required by COGAT: Location of repair sites along the sanitation network in Al Magazi camp.

The delivery of aid inside Gaza is also severely hampered by ongoing hostilities and extensive destruction of roads and key infrastructure. Routes available to humanitarian actors are blocked by debris, heavily congested, and contaminated with unexploded ordnance (UXO). A UN assessment team witnessed unexploded 1,000-pound bombs on 10 April 2024.<sup>143</sup> The UN Mine Action Services have reported that a considerable amount of the 37.5 million metric tons of conflict-generated debris contains UXO, indicating that

it could take up to 14 years to clear.<sup>144</sup> The debris also poses serious risks to human health and the environment from dust and contamination with asbestos, industrial and medical waste, and other hazardous substances. A UNEP analysis found that the current levels of debris in Gaza are 13 times more than the combined sum of all debris generated by other conflicts in Gaza since 2008, and that for each square metre in the Gaza Strip there is now over 107kg of debris. This is more than five times the quantity of debris generated in the 2017 conflict in Mosul (7.65 million tons).<sup>145</sup>

The presence of UXO also significantly complicates the provision of water and sanitation assistance. Oxfam has been unable to dismantle and reinstall toilets, washing facilities or desalination units from Rafah to Al Mawasi due to the combination of UXO and regular Israeli explosive weapon attacks in previously declared 'safe' areas. Where reservoirs and water piping are destroyed, water for drinking, cooking and personal hygiene must be delivered by tanker, but the threat from UXO on Gaza's roads makes this extremely difficult.

### **Box 3: The 'dual-use' list**

- Following the Hamas takeover of the Gaza Strip in 2007, the Government of Israel imposed restrictions on goods entering Gaza, allowing entry of basic food items only in sufficient quantity to avoid a humanitarian crisis. The list of permitted items was periodically updated, with a substantial change in May 2010, after the Israeli navy attacked a Turkish flotilla to Gaza. The Government of Israel then allowed the entry of materials except those it deemed as having a potential 'dual use' – items that could be used for both civilian and military purposes.<sup>146</sup>
- The Government of Israel restricts the entry of thousands of goods listed as dual use. There are two lists, with items on both requiring 'special approval' to be brought into the OPT. The first applies to both Gaza and the West Bank, and a second list of additional items applies to the Gaza Strip only.
- While dual-use lists exist between countries internationally, in this case the restrictions are imposed by an occupying power, the Government of Israel, which has an obligation to protect Palestinians in the West Bank and Gaza and safeguard their wellbeing.<sup>147</sup> Israel's list of dual-use items for entry into Gaza and the West Bank bears little relation to international standards and includes broad categories such as 'communications equipment' or 'vehicles', undermining global arms control norms. The list for Gaza is particularly extensive.<sup>148</sup>
- The dual-use list for Gaza and West Bank appears to be incompatible with the Government of Israel's obligation under international humanitarian law to allow rapid and unimpeded passage of principled humanitarian assistance.
- Submitting items for approval requires specifying details of each item, creating a lengthy process with no general guidance on acceptability. To streamline the process, stakeholders report using the same items and descriptions in subsequent projects. Applicants then follow up on each item individually with the CLA, explaining specifics. Humanitarian, local actors and private sector stakeholders indicate that this stringent system has always been in place.

## Evacuation to Israeli-designated 'safe zones'

On 6 May 2024, the Israeli military issued an evacuation order of eastern Rafah and the border areas with Egypt,<sup>149</sup> where most of the 1.7 million people displaced<sup>150</sup> from north Gaza, Gaza City, Khan Younis and central areas had sought refuge from active combat. The Government of Israel announced that these displaced populations should move to its designated 'safe zone' of Al Mawasi, even though previously declared 'safe zones' have been subject to regular attacks. On closer inspection of Al Mawasi, the designated area does not provide even the most basic conditions for survival. The 8.5km strip of sandy land along the Mediterranean Sea<sup>151</sup> has no water sources in its vicinity, meaning all water must be trucked in from Rafah and Khan Younis. With Rafah inaccessible due to active fighting and water wells in Khan Younis and Dier El Balah mostly destroyed<sup>152</sup> by the Government of Israel, the question remains: where will people get their water from?

The CMWU is preparing to provide water for an influx of one million people to the Israeli-designated Al Mawasi 'safe zone'.

**According to Oxfam's analysis, this influx would create the world's most densely populated area for displaced people, with 117,647 people/km<sup>2</sup>.** This is more than twice the density of the Kutupalong Rohingya refugee camp in Bangladesh (47,911 people/km<sup>2</sup>)<sup>153</sup> – reported to be the world's most populous – and far exceeding that of the world's most densely populated city of Manila, the Philippines (46,178 people/km<sup>2</sup>).<sup>154</sup>

In an interview on 11 June 2024, the CMWU shared that it will divert the Mekorot Bani Suhaila water supply line (currently at 53.6% capacity of 9,000m<sup>3</sup>/day instead of its full capacity of 16,800 m<sup>3</sup>/day) to the Al Satar reservoir in west Khan Younis. This will be supplemented by water from the south Gaza desalination plant in Khan Younis (currently at 43% capacity of 2,600m<sup>3</sup>/day instead of 6,000m<sup>3</sup>/day), the Saada Municipal desalination plant (at 400m<sup>3</sup>/day) and some wells estimated at 400m<sup>3</sup>/day.

**These sources will collectively provide a total of 12,400m<sup>3</sup>/day, which is expected to deliver an estimated 2.48 litres per person per day<sup>155</sup> for one million people.** These are unprecedentedly low quantities of water, rarely seen even in severe drought conditions.





Qusai\* standing in front of the bathroom next to the tent where he is staying in Al-Mawasi, Rafah after being forcibly displaced from Gaza City. He constructed the bathroom for his family to use instead of the camp's communal bathrooms. He considers this a luxury.

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## LASTING THREAT TO PUBLIC HEALTH

Despite water being a basic human right,<sup>156</sup> access to clean, potable water and sanitary living conditions has become an unattainable luxury in Gaza, leaving the population facing unavoidable immediate and long-term health threats. The level of hostilities has severely limited the healthcare sector's capacity for disease surveillance and reporting.<sup>157</sup> Nonetheless, reported cases of water and sanitation related diseases have skyrocketed, reaching 727,909 persons by 28 May 2024.<sup>158</sup> Most concerning of these are the 485,300 cases of acute watery diarrhoea, 112,880 of which are in children under the age of five,<sup>159</sup> the 9,700 cases of acute bloody diarrhoea (suspected dysentery) and the 81,000 cases of acute jaundice syndrome (suspected hepatitis A).<sup>160</sup>

**These cases account for 26% of the population that have fallen seriously ill from easily preventable diseases.**<sup>161</sup> As the risk of famine persists across Gaza, where more than two million people face dangerous food insecurity,<sup>162</sup> malnourished children under five with diarrhoeal diseases are at an increased risk of mortality.<sup>163</sup> UN Women reports that 337,057 boys and girls under five are at particular risk of water and sanitation related diseases, and 107,000 elderly men and women face an elevated risk of contracting hepatitis A.<sup>164</sup> The number of fatalities from these diseases in Gaza are not available at this time; however, they are lethal should patients not have access to clean water and healthcare.<sup>165</sup>

A recent study by leading experts from the London School of Hygiene and Tropical Medicine and Johns Hopkins University projects that due to poor water, sanitation and hygiene conditions, lack of shelter, malnutrition and an incapacitated healthcare system, excess deaths attributed to the crisis could be in the tens of thousands.<sup>166</sup> The study models case fatalities over six months (7 February to 6 August 2024) and estimates total possible deaths of 186,000<sup>167</sup> from traumatic injuries, malnutrition, infectious diseases, non-communicable diseases, and maternal and neonatal health to reach 11,580, 66,720, and 85,750 in scenarios of ceasefire, status quo, and an escalation in hostilities, respectively. With the near total breakdown of water and sanitation infrastructure and services inside Gaza, the threat of a possible cholera outbreak is substantial, with case fatalities estimated at 3,595 under a ceasefire, 6,299 under the status quo, and 8,071 under an escalation of hostilities scenario.<sup>168</sup> Even after a ceasefire, thousands of deaths due to water and sanitation related diseases are likely, as improvements in living conditions and reconstruction related to water and sanitation, shelters and healthcare will take time and cannot be made fast enough to save Palestinian lives.

While the last cholera outbreak in Gaza occurred 43 years ago,<sup>169</sup> and despite no suspected cholera cases having been reported as of 16 June 2024,<sup>170</sup> the total breakdown of water and sanitation services means the threat of an outbreak is notable. This corroborates with levels of water and sanitation related disease outbreaks,

including cholera, recorded during and after other wars in the region where the destruction of water and sanitation infrastructure and services was observed<sup>171</sup> (at much lower intensity than that witnessed in Gaza).<sup>172</sup> For example, during the war in Yemen (2014 to present), the world's worst cholera outbreak of the century occurred, with more than two million cases and 3,500 cholera deaths recorded during 2016 and 2017.<sup>173</sup> The war in Syria (2011 to present) observed long-term increases in water and sanitation related diseases following the destruction of critical infrastructure,<sup>174</sup> leading to a cholera outbreak in September 2022.<sup>175</sup>

## ECONOMIC TOLL AND IMPLICATIONS

In April, OCHA launched its latest flash appeal covering nine months from April to December 2024,<sup>176</sup> requesting US\$2.8bn for the entire OPT, with US\$2.5bn designated for Gaza to provide lifesaving services across sectors. The emergency appeal for water, sanitation and hygiene assistance is US\$280.6m, excluding fuel costs. These figures estimate the costs of maintaining water and sanitation service delivery (from April to December 2024) based on circumstances at the time of the appeal launch in April, rather than on what could be implemented under more secure and stable conditions.

Next comes the cost of reconstructing infrastructure and recovering water and sanitation services. The CMWU estimates the cost of reconstruction and recovery at US\$310.5m,<sup>177</sup> while World Bank figures are much higher, with costs estimated at US\$503m as of January 2024.<sup>178</sup> These values are expected to rise as the Israeli military campaign continues to damage and destroy critical infrastructure. In addition, they do not factor in the environmental cost of water resource contamination and pollution. Estimates of costs for maintaining water and sanitation service delivery and the eventual reconstruction and recovery remain very conservative and are expected to rise, with the current economic toll ranging between **US\$591.1m and US\$783.6m.**



# INTERNATIONAL LEGAL REQUIREMENTS AND SCRUTINY OF ISRAEL'S ACTIONS IN GAZA

## International legal requirements

While there is no single comprehensive treaty on water in armed conflict, international humanitarian law (IHL) and other international laws provide a framework of rules that comprehensively protect water sources and installations during hostilities. These rules protect civilians and their access to water during both international and non-international armed conflicts. Parties to a conflict must refrain from attacking water installations or sources, which would constitute denying water as a method of warfare and are further obliged to protect water infrastructure and provide water for humanitarian purposes. This includes protecting water ecosystems and preventing pollution. The rules also summarize customary IHL with regard to preventing attacks on water resources. This is crucial during conflict, as seen with the widespread devastation in Gaza. The below legal framework sets clear limitations on combatant behaviour and provides a basis for accountability and justice for violations.

### Customary international humanitarian law

Customary IHL principles provide a foundation for protecting civilians during armed conflict. It obliges armed forces to avoid excessive civilian harm, distinguish between civilian and military objectives, and take all feasible precautions to minimize harm to civilians. While the law differs for international and non-international armed conflicts, in all cases a number of basic rules protect the population's access to water. This is laid out in the International Committee of the Red Cross Customary IHL database, as follows:

- The principle of distinction (Rule 7): parties must distinguish between civilian objects and military objectives before attacking, directing operations only against military objectives.<sup>179</sup>
- The principle of proportionality (Rule 14): prohibits attacks causing incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.<sup>180</sup>
- The principle of precaution in attack (Rule 15): requires parties to do everything feasible to verify that the objectives to be attacked are military objectives and to take all feasible precautions to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects.<sup>181</sup>
- Causing serious damage to the natural environment (Rule 45): bans the use of methods or means of warfare that are intended, or may be expected, to cause

widespread, long-term and severe damage to the natural environment. Destruction of the natural environment may not be used as a weapon.<sup>182</sup>

- Starvation as method of warfare (Rule 53): the use of starvation of the civilian population as a method of warfare is prohibited,<sup>183</sup> in addition to Rules 54–56 that are corollary to the prohibition of starvation of civilians as a method of warfare. This means that attacking objects indispensable to the survival of the civilian population<sup>184</sup> and denying access of humanitarian aid intended for civilians in need, including by deliberately impeding humanitarian aid<sup>185</sup> or restricting the freedom of movement of humanitarian relief personnel,<sup>186</sup> may constitute violations of the prohibition of starvation.

#### Rome Statute of the International Criminal Court (ICC):

- Article 8(2)(b)(xxv) of the 1998 ICC Rome Statute: intentionally using starvation of civilians as a method of warfare by depriving them of objects indispensable to their survival, including wilfully impeding relief supplies as provided for under the Geneva Conventions.<sup>187</sup>

#### Geneva Conventions:

- Protection of civilian objects: water installations and sources are civilian objects and protected from attack unless there is a clear military advantage proportional to the harm caused. Attacks intended to deny sustenance to civilians or forcibly displace them are always prohibited, as is using starvation as a weapon of war.<sup>188</sup> Intentionally depriving civilians of water is a war crime. The occupying power must ensure relief supplies to the civilian population.<sup>189</sup>
- Protection of the wounded and sick: parties to a conflict must ensure access to water for both wounded and sick combatants and civilians, as mandated by a substantial body of law, starting with the Geneva Convention of 1864.<sup>190</sup>

#### Berlin Rules on Water Resources

The Berlin Rules on Water Resources, adopted by the International Law Association in 2004, offer a comprehensive framework for the management and use of water resources, and consolidate existing principles of customary IHL, some of which are enshrined in treaties.

Key principles of the Berlin Rules:

- Human Right to Water: affirms the right to water for sustaining life, regardless of the location, upheld even during armed conflict.

- **Obligation Not to Cause Significant Harm:** under Article 50 of the Rules, derived from the Fourth Hague Convention 1907, States must not cause significant harm to water resources.<sup>191</sup> This includes protecting water ecosystems and preventing pollution. The Rules also summarize Customary IHL with regard to preventing attacks on water resources.

#### Convention on the Prevention and Punishment of Genocide [1948]

The 1948 Genocide Convention establishes that genocide is an international crime that must be prevented and punished, obligating States to take action against it.

In a case brought before the International Court of Justice (ICJ), South Africa alleged that the Government of Israel is committing genocide against Palestinians in Gaza following Palestinian armed groups' attack on 7 October 2023. South Africa's legal submission claims that Israel's 'acts and omissions [...] are genocidal in character because they are intended to bring about the destruction of a substantial part of the Palestinian national, racial and ethnical group',<sup>192</sup> violating Article II (c) of the Genocide Convention by 'deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part'.<sup>193</sup>

On 26 January 2024, after oral hearings, the ICJ ordered the Government of Israel to ensure the provision of adequate supplies of water to Gaza.<sup>194</sup> The Court acknowledged that Palestinians in the Gaza Strip have been deprived of access to water<sup>195</sup> [and that] 'many Palestinians in the Gaza Strip have no access to ... potable water...'.<sup>196</sup> The ICJ found 'a real and imminent risk of irreparable prejudice to the plausible rights invoked by South Africa', noting that the denial of water by Israel to the population of Gaza is a component of this 'irreparable prejudice'.<sup>197</sup>

Subsequent rulings have reinforced this position, recognizing that the Government of Israel's denial of water for drinking and cooking is a key part of South Africa's claim that there is a plausible case that the Government of Israel is violating the rights of the Palestinian people under the Genocide Convention.





Women washing dishes in a tent in the courtyard of al-Aqsa Hospital.

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In recent years, two important UN Security Council resolutions have reinforced existing international law protecting civilians:

UN Security Council Resolution 2417<sup>198</sup>

- In May 2018, the UN Security Council unanimously adopted Resolution 2417 condemning using the starvation of civilians as a method of warfare – as well as the unlawful denial of humanitarian access to civilian populations – with members welcoming it as a landmark expression of unity on those critical issues. The Council drew attention to the link between armed conflict and conflict-induced food insecurity and the threat of famine. It called on all parties to armed conflict to comply with their obligations under IHL regarding the protection of civilians and on taking care to spare civilian objects, stressing that armed conflicts, violations of international law and related food insecurity could be drivers of forced displacement. Underlining the importance of safe and unimpeded access of humanitarian personnel to civilians in armed conflicts, it also strongly condemned the unlawful denial of such access and depriving civilians of objects indispensable to their survival – including wilfully impeding relief supply and access for responses to conflict-induced food insecurity.

UN Security Council Resolution 2573<sup>199</sup>

- In April 2021, the UN Security Council unanimously adopted Resolution 2573 – ‘Protection of Objects Indispensable to the Survival of the Civilian Population’. The Council strongly condemned the use of starvation of civilians as a method of warfare, which may constitute a war crime. The Council also condemned acts of violence in conflict areas, whether deliberate or not, that threaten or harm civilian populations and essential infrastructure. It urged all parties to protect civilian infrastructure and reiterated its demand that they immediately enact a durable humanitarian pause to facilitate assistance.

Legal action in the ICC and the ICJ is underway, challenging the Israeli government’s actions in the denial of water and destruction of water and sanitation infrastructure in Gaza.

## Legal requirements charges at the ICC

Legal action in the ICC and the ICJ is underway on the basis of evidence of the destruction of objects indispensable to civilian life, including water, sanitation and health facilities across Gaza, ICC Chief Prosecutor Karim Khan has charged that crimes against humanity were committed, as part of a common plan to use starvation as a method of war including cutting off cross-border water pipelines from Israel, and cutting off and hindering electricity supplies, which severely impacts local water



production and wastewater treatment, as well as the denial of drinking water and water for cooking food to civilians in Gaza.<sup>200</sup>

## Case at the ICJ

South Africa has brought a case before the ICJ against the Government of Israel for violation of the Genocide Convention in Gaza. While it will take years for the case to come to trial, ICJ judges have made several rulings concerning water and sanitation infrastructure and water supply.

In the first ruling, the ICJ ordered provisional measures to protect the rights of the people of Gaza against the risk of genocide, and with particular relevance to water and sanitation ordered the Government of Israel to cease:

‘(c) deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;’ adding it ‘... shall take immediate and effective measures to enable the provision of urgently needed basic services and humanitarian assistance to address the adverse conditions of life faced by Palestinians in the Gaza Strip’.<sup>201</sup>

In March 2024, this order was reinforced after a further application by South Africa, with the Court instructing:

‘The State of Israel shall, in conformity with its obligations under the Convention on the Prevention and Punishment of the Crime of Genocide, and in view of the worsening conditions of life faced by Palestinians in Gaza, in particular the spread of famine and starvation: (a) Unanimously, take all necessary and effective measures to ensure, without delay, in full co-operation with the United Nations, the unhindered provision at scale by all concerned of urgently needed basic services and humanitarian assistance, including food, water, electricity, fuel, shelter, clothing, hygiene and sanitation requirements, as well as medical supplies and medical care to Palestinians throughout Gaza...’<sup>202</sup>

Following a third hearing, the Court ordered the Government of Israel not to proceed with its planned ground offensive in Rafah, and to:

‘Maintain open the Rafah crossing for unhindered provision at scale of urgently needed basic services and humanitarian assistance.’<sup>203</sup>

The fact that the Government of Israel has ignored the requirements almost entirely should be of deep concern to an international community that aims to uphold the rule of law.



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PEF  
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Palestinian Environmental Friends Association

OXFAM  
أوكسفام

المساعدة في مجال المياه والصرف الصحي لإنقاذ حياة السكان في غزة  
Life-saving WASH assistance to the Gaza Population

بدعم من الصندوق الإنساني للأرض الفلسطينية المحتلة  
Supported by the oPt Humanitarian Fund (oPt HF)

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Amidst Gaza's scorching heat and the ongoing siege, Oxfam has been delivering water to those in need.  
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## Findings of widespread and systematic crimes

Such analysis and evidence including the assessment of other organizations presented here raises questions that may be considered by judicial and non-judicial mechanisms. National courts considering these questions, including whether arms transfers to the Government of Israel are legal under the Arms Trade Treaty and national laws, will also have to examine relevant evidence.

A study by the Harvard University FXB Center for Health and Human Rights found that 'water facilities in Gaza were not damaged in a random pattern, but rather that damage was highly clustered on these facilities [and that] hard data [reveals] the pattern that we have seen with our eyes over the past six months, that Israeli military action has intentionally decimated civilian infrastructure in its attack on Gaza'.<sup>204</sup> Its data and study, published in the journal *Conflict and Health*, found that 'Applying the Global Moran's I spatial inference statistic to facilities demonstrated a high degree of damage clustering for all three types of critical civilian infrastructure, with Z-scores indicating < 1% likelihood of cluster damage occurring by random chance...', and concluding that 'Spatial statistical analysis suggests widespread damage to critical civilian infrastructure that should have been provided protection under IHL. These findings raise serious allegations about the violation of IHL, especially in light of Israeli officials' statements explicitly inciting violence and displacement and multiple widely reported acts of collective punishment.'<sup>205</sup>

This conclusion is supported by evidence recorded in the UN Independent International Commission of Inquiry on the Occupied Palestinian Territory, including East Jerusalem, and Israel, which has concluded that widespread and systematic violations of IHL, including the destruction and denial of water and sanitation facilities, are being committed by the Israeli military in Gaza. They conclude on the basis of Israeli statements that these actions are part of deliberate policy:

'In one example, on 10 October, the spokesperson of the Israeli military said in a press conference, "IAF [Israeli Air Force] attacks have created maximum damage in the areas of the Gaza strip". He also said "This is the situation now. We need to use a different language and different terminology. Our attacks in Gaza – it is not like the rounds [of fighting] and the number of targets of the past. The logic is different. In every place, in every space where there is an inkling of intelligence we attack."<sup>206</sup>

The Commission also notes the indiscriminate nature of the weaponry used by Israeli forces during this escalation. For precisely this reason, Oxfam has opposed the transfer of weapons like 155mm artillery shells and Mk84 bombs to the Government of Israel for use in Gaza.<sup>207</sup> The Commission:

'[...] observes that the ISF [Israeli Security Forces] repeatedly subjected urban areas in the Gaza Strip to heavy bombardment with explosive weapons with wide-area effect, rather than precision guided (or "smart") weapons, leading to the complete destruction

of neighbourhoods... The number of bombs used by Israel since 7 October is extraordinary even in comparison to other world conflicts.’<sup>208</sup>

The Commission has formed a conclusion that these actions are deliberate and that attacks on civilians and civilian infrastructure, including water and sanitation infrastructure, are a conscious part of the Israeli strategy in this escalation. It writes:

‘Although ISF emphasised the causing of “maximum damage to Hamas’ military capabilities”, given the relatively low number of Hamas militants in proportion to the wider civilian population, and given Israel’s statements attesting that militants are ‘embedded’ within the civilian population, the Commission interprets this statement as Israel *de facto* awarding itself blanket permission to target civilian locations widely in the Gaza Strip.’<sup>209</sup>

Finally, the Commission is clear that the Israeli military has committed crimes so widespread and systematic, including the attacks on water and sanitation infrastructure described in the report, that they amount to crimes against humanity:

‘The Commission finds that requisite chapeau<sup>210</sup> elements have been fulfilled, namely: (i) the actions of the ISF and Israeli authorities were part of a larger campaign or operation, carried out as part of an attack; (ii) the victims were overwhelmingly civilians and the attack was directed against the civilian population in the Gaza Strip; (iii) based on the scale of the attacks, and considering the effects and the number of victims, the actions of the ISF and the Israeli authorities were widespread, and the pattern of the ISF’s actions and events generally since 7 October show that the overall conduct of the military operations has been systematic; and (iv) there is a clear nexus between the acts committed and the widespread and systematic attack.’<sup>211</sup>

## Harm to conditions of life in Gaza

The conditions of life referred to in legal cases are well summarized in the report of the International Commission of Inquiry on the OPT. Harm to these conditions of life, through the denial of water and sanitation services and the destruction of water and sanitation infrastructure, constitute an indirect means of committing war crimes and crimes against humanity. According to the Commission, they constitute part of the:

" [...] crime against humanity of extermination of part of the civilian population in the Gaza Strip..."<sup>212</sup>

The Commission describes this indirect attack on conditions of life in Gaza as follows:<sup>213</sup>

‘464. The Commission has found, as discussed above, that, through their military operations in Gaza and the imposition of a total siege, Israeli authorities have committed the war crime of intentionally using starvation of civilians as a method of



warfare by depriving the civilian population of objects indispensable to their survival, including cutting off access to food, water, shelter and medical care and wilfully impeding relief supplies. Furthermore, as the Occupying Power, Israel has not only failed to ensure the provision of supplies essential to the survival of the civilian population of the occupied territory, despite having the means to effect it, but it has intentionally impeded such supplies from entering into the Gaza Strip to reach the civilian population.

467. The Commission [...] as a consequence of the ISF's military operations and forced evacuations amounting to forcible transfer, civilians have been forced to flee their homes and live in shelters and camps. Many civilians have been forced to live in conditions that were not only inhumane, degrading and humiliating, but dangerous and unsafe."

The failure of the Government of Israel to comply with orders of the ICJ, and the violations of international humanitarian law recorded by the International Commission of Inquiry, both in relation to water and sanitation infrastructure and availability of water, are a matter of particular concern. The international community has taken little action to uphold the rights of Palestinian civilians, and this has led to the catastrophic situation in Gaza today.



Oxfam's WASH response in Gaza includes and taps in various areas, the response includes installing bathrooms, water bladders, handwashing stations, domestic water systems, and distributing water taps in southern Gaza.

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## CONCLUSIONS AND RECOMMENDATIONS

This report establishes that the scale of the Israeli military operation in Gaza in response to Palestinian armed groups' attack on Israel on 7 October 2023 has resulted in the widespread and disproportionate destruction of civilian infrastructure essential for the provision of basic lifesaving water and sanitation services. Additionally, the 'total siege' imposed by the Government of Israel on Gaza, including restrictions on the provision of piped water and electricity, fuel deliveries, and entry of water and sanitation supplies, materials, equipment, tools and spare parts, compounded by the destruction of key roads and infrastructure and widespread insecurity, has severely undermined and debilitated efforts to save lives.

Statements by Israeli officials, such as the announcement of a 'total siege' by Defence Minister Yoav Gallant on 9 October 2023, may be evidence of the Government of Israel's use of water deprivation as a weapon of war. As noted above, experts who have reviewed the available evidence consider that the systematic attacks on water and sanitation infrastructure, including cutting off Mekorot water lines and destroying critical facilities, suggest a coordinated effort to cripple Gaza's water supply. Additionally, the imposed restrictions and bureaucratic obstacles preventing the entry of essential humanitarian supplies, as well as the destruction of infrastructure necessary for the operation, repair, and maintenance of water systems, have exacerbated the humanitarian crisis.

The systematic nature of these actions has created conditions unsuitable for life in Gaza, in contravention of international law. A permanent ceasefire must be immediately agreed, and the Government of Israel must lift its siege of Gaza and end the blockade to allow unhindered and sustainable access of humanitarian assistance, including clean water, and should bear the costs of repairing and reconstructing water and sanitation infrastructure damaged during the conflict. The international community must impose an embargo on lethal arms sales to the Government of Israel, that may be used to destroy essential civilian water and wastewater infrastructure, until a ceasefire is agreed, and the Government of Israel fulfils its obligations under international humanitarian law. Furthermore, an independent investigation must be conducted into the violations of international law, including the Geneva and Genocide Conventions.

Oxfam calls upon:

The Government of Israel and Palestinian armed groups to

- Abide by international humanitarian law and immediately cease all attacks on civilians and civilian infrastructure, including water and sanitation infrastructure and resources, healthcare facilities, schools etc. Respect the Geneva Conventions and other relevant international law.

- Immediately lift the siege of Gaza and end the blockade to allow unhindered and consistent humanitarian access for aid agencies and freedom of movement for civilians. As an urgent step toward completely ending the blockade, immediately align its dual-use policy with the Wassenaar Arrangement, the international gold standard. Access must be granted for items that are needed for the civilian population.
- Allow engineers and technical staff from the CMWU, national and international NGOs, including through partnerships with local civil society organizations, to safely access all affected areas to conduct repairs and return essential lifesaving water and sanitation services.

#### The Government of Israel

- As the occupying power, the Government of Israel should bear the costs of repairing and reconstructing the water and sanitation infrastructure it damaged during the conflict.
- Immediately end the use of cuts to, and denial of, basic services such as water, electricity, and fuel as tools for political pressure, control over communities and collective punishment of the civilian population.
- Immediately reactivate all Mekorot water supply lines to Gaza and, once a ceasefire is in place, repair and maintain them to provide a consistent water supply.
- Ensure the entry of sufficient fuel, including the 70,000 litres per day required by the UN led WASH Cluster to operate water production and sanitation facilities, to meet daily needs and allow systems to function without interruption. This fuel should be in addition to what is needed for other essential services and infrastructure.
- Streamline and expedite the pre-clearance and entry of essential water and sanitation equipment and materials, including entry of alternative non-fuel-based energy systems such as solar panels, into Gaza to facilitate immediate repairs and operations, water production and sewage management.
- Allow the entry of generators, submersible water pumps, consumables, and spare parts to facilitate an increase of water production from groundwater wells to a minimum of 100,000m<sup>3</sup> per day.
- Immediately supply electricity to enable the two remaining seawater desalination plants in Khan Younis and Dier El-Balah to operate at full capacity to supply the displaced population with 14,000–15,000m<sup>3</sup> of water per day.
- Support the development and operation of additional desalination plants and water production units to meet minimum water requirements and ensure



equitable and affordable access to a sufficient quantity of safe water for drinking and domestic needs (*minimum* global SPHERE standards indicate this as at least 15 litres per person per day).

- Implement measures to repair and maintain underground water networks to reduce water leakages and ensure that more water reaches the population.
- Facilitate the rapid deployment and operation of mobile water testing laboratories to monitor and ensure water quality.
- Implement measures to repair and maintain underground sewage networks and wastewater treatment facilities to improve the sanitary conditions for the population.

### Third states

- Call and pressure for a permanent ceasefire, reaffirm UN Security Council Resolution 1860 and demand the Government of Israel's compliance with international law, starting with an end to the blockade.
- Reintroduce mechanisms and principles proposed as part of the 2005 Agreement on Movement and Access.
- Support an independent international investigation into the repeated attacks on water and sanitation infrastructure in Gaza that potentially breach international humanitarian law and other relevant rules of international law.
- Uphold International Humanitarian Law and other international law in all circumstances to end the current culture of impunity for war crimes and other international crimes.

### UN agencies and donors

- Ensure that access to clean drinking water and sanitation is a key focus in the UN Secretary-General's reports to the UN Security Council on the protection of civilians, highlighting essential infrastructure needs and issues in Gaza.
- Designate water and sanitation as a thematic priority for the UN Commission of Inquiry on Gaza, ensuring consistent updates in reports to the UN Security Council.
- Enhance support for humanitarian relief initiatives in Gaza, focusing on water and sanitation projects. This includes funding for emergency water supply, desalination projects and the rebuilding of damaged infrastructure.



جعلنا من الماء كل شيء



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**Prophet Muhammad said  
Providing Drinking Water Is The Best Charity**

سنة ١٤٢٧



Fountain in the Old City of Jerusalem.

Copyright: Lily Partland/Oxfam 2024



## END NOTES

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<sup>1</sup> United Nations Human Rights, Office of the High Commissioner (10 June 2024). Detailed findings on the military operations and attacks carried out in the Occupied Palestinian Territory from 7 October to 31 December 2023. Independent International Commission of Inquiry on the Occupied Palestinian Territory, including East Jerusalem, and Israel. A/HRC/56/CRP.4. Retrieved from: <https://www.ohchr.org/sites/default/files/documents/hrbodies/hrcouncil/sessions-regular/session56/a-hrc-56-crp-4.pdf>

<sup>2</sup> Analysis of all water sources data presented in WASH Cluster Meeting notes covering 208 days from 1 November 2024 to 26 May 2024.

<sup>3</sup> Sphere Association (2018). The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response.

<sup>4</sup> Analysis of Mekorot water supply data presented in WASH Cluster Meeting notes covering a duration of 231 days from 9 October 2024 to 26 May 2024.

<sup>5</sup> Analysis of Gaza level water production data presented in WASH Cluster Meeting notes covering a duration of 100 days from 16 Feb 2024 to 26 May 2024.

<sup>6</sup> Analysis of data presented in WASH Cluster Meeting note (12 June 2024) based on findings of UNOSAT (3 June 2024). Gaza Strip: WASH Infrastructure Damage Assessment.

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<sup>9</sup> Ibid

<sup>10</sup> WASH Cluster, 2024. State of Palestine National update WASH Cluster. Minutes of Meeting, 26 June 2024.

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<sup>12</sup> Quotes that have been cited in discussions regarding the intent of the Government of Israel to commit genocide in Gaza:

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<https://law4palestine.org/wp-content/uploads/2024/01/1-Database-of-Israeli-Incitement-to-Genocide-15th-January-2024-DECISION-MAKERS.pdf>

<sup>13</sup> Taken together, Israel's acts and statements regarding water served as key evidence in the International Court of Justice determination that allegations of genocide are plausible and should be tried fully in court: International Court of Justice (26 January 2024). Summary of the Order of 26 January 2024. Case 192 - Application of the Convention on the Prevention and Punishment of the Crime of Genocide in the Gaza Strip (South Africa v. Israel). Retrieved from: <https://www.icj-cij.org/node/203454>

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<sup>19</sup> Humanitarian Situation Update #188 | Gaza Strip <https://www.ochaopt.org/content/humanitarian-situation-update-188-gaza-strip>

<sup>20</sup> International Committee of the Red Cross. International Humanitarian Law Database. Convention (IV) relative to the Protection of Civilian Persons in Time of War. Geneva, 12 August 1949. Article 18 - Wounded and sick III. Protection of hospitals. Retrieved from: <https://ihl-databases.icrc.org/en/ihl-treaties/gciv-1949/article-18/commentary/1958>

<sup>21</sup> United Nations Human Rights, Office of the High Commissioner (18 April 2024). UN experts deeply concerned over ‘scholasticide’ in Gaza. Retrieved from: <https://www.ohchr.org/en/press-releases/2024/04/un-experts-deeply-concerned-over-scholasticide-gaza>

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<sup>23</sup> Ibid.

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<sup>50</sup> The First Palestinian Intifada, which took place from 1987 to 1993, was a grassroots uprising by Palestinians against Israeli military occupation in the West Bank and Gaza Strip. It was characterized by widespread protests, civil disobedience, and violent confrontations. The uprising drew international attention to the Palestinian struggle for self-determination and led to the Madrid Conference and subsequent Oslo Accords. For more details, see Rashid Khalidi, *Palestinian Identity: The Construction of Modern National Consciousness* (Columbia University Press, 1997), pp. 183–210.

<sup>51</sup> Palestinian Central Bureau of Statistics and Palestinian Water Authority (2023). Joint press release on the World Water Day, 22 March 2023. Retrieved from: <https://www.pcbs.gov.ps/post.aspx?lang=en&ItemID=4468>

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<sup>63</sup> United Nations Office for the Coordination of Humanitarian Affairs (10 May 2024). Humanitarian Access Snapshot - Gaza Strip | 1-30 April 2024. Retrieved from: <https://www.ochaopt.org/content/humanitarian-access-snapshot-gaza-strip-1-30-april-2024>

<sup>64</sup> Analysis of all water sources data presented in WASH Cluster Meeting notes covering 208 days from 1 November 2024 to 26 May 2024.

<sup>65</sup> Coastal Municipalities Water Utility records.

<sup>66</sup> Analysis of all water sources data presented in WASH Cluster Meeting notes covering 208 days from 1 November 2024 to 26 May 2024.

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<sup>68</sup> 15 litres per person per day for a population of 2.26 million people amounts to 33,900 m<sup>3</sup>/day.

<sup>69</sup> Analysis of all water sources data presented in WASH Cluster Meeting notes covering 1 November 2024 to 26 May 2024, presented against total water availability pre-7 October 2023, WHO and SPHERE standards water quantities for the population.

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<sup>75</sup> Palestinian Water Authorities (April 2022). Water Resources Summary Report 2021 - Gaza Strip. Water Resources Directorate.

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<sup>78</sup> WASH Cluster (2024). State of Palestine National update WASH Cluster. Minutes of Meeting, 12 June 2024.

<sup>79</sup> Analysis of Mekorot water supply data presented in WASH Cluster Meeting notes covering a duration of 231 days from 9 October 2023 to 26 May 2024.

<sup>80</sup> Ibid

<sup>81</sup> 15 litres per person per day for a population of 2.26 million people amounts to 33,900m<sup>3</sup>/day. 15 litres per person per day for a population of 2.26 million people amounts to 33,900m<sup>3</sup>/day.

<sup>82</sup> The SPHERE Minimum Standards, developed by the SPHERE Project, are a set of common principles and universal minimum standards in humanitarian response. They cover key areas such as water supply, sanitation, food security, shelter, and health. These standards are based on the belief that all people affected by disaster or conflict have a right to life with dignity and therefore a right to assistance. For water supply, the SPHERE Minimum Standards typically set a target of providing at least 15 litres of water per person per day in emergency situations. This includes water for drinking, cooking, and personal hygiene. The aim is to ensure that basic needs for water are met to maintain health and well-being.

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- <sup>94</sup> CMWU is the water utility inside Gaza that is responsible for water service provision to the population.
- <sup>95</sup> COGAT implements the Israeli government's civilian policy towards the Gaza Strip.
- <sup>96</sup> The CLA for Gaza is responsible for implementing the Israeli government's civilian policy in relation to the Gaza Strip. The CLA operates under the COGAT unit.
- <sup>97</sup> Coastal Municipalities Water Utility records.
- <sup>98</sup> Analysis of data presented in WASH Cluster Meeting note (12 June 2024) based on finding of UNOSAT (3 June 2024). Gaza Strip: WASH Infrastructure Damage Assessment.
- <sup>99</sup> Analysis was conducted for data between 16 February and 26 May 2026, because fuel data prior to 16 February 2024 was not consistent.

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<sup>100</sup> Analysis of Gaza level water production data presented in WASH Cluster Meeting notes covering a duration of 100 days from 16 Feb 2024 to 26 May 2024.

<sup>101</sup> Analysis of fuel supply for water and sanitation data presented in WASH Cluster Meeting notes covering a duration of 100 days from 16 Feb 2024 to 26 May 2024.

<sup>102</sup> WASH Cluster (2024). State of Palestine National update WASH Cluster. Minutes of Meeting, 12 June 2024.

<sup>103</sup> Analysis of Gaza level water production and fuel for water and sanitation data presented in WaSH Cluster Meeting notes covering a duration of 100 days from 16 Feb 2024 – 26 May 2024.

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- <sup>124</sup> Deconfliction ensures military actions do not hinder humanitarian operations by coordinating efforts and ensuring safety. International law mandates the protection of humanitarian aid facilities and workers, requiring conflict parties to distinguish between civilian and military objects and minimize civilian harm. Humanitarian notification aids in fulfilling these obligations and is voluntary.
- <sup>125</sup> Coastal Municipalities Water Utility records.
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