



## **Securing critical infrastructure in Gaza is a necessity for Israeli national security**

**Policy paper<sup>1</sup>**

**December 2023**

### **Executive Summary**

Ensuring the functioning of life-sustaining infrastructure in the Gaza Strip is critical for advancing the two main Israeli goals of the war in Gaza - the return of the hostages and the defeat of the Hamas regime.

Providing clean drinking water and treatment of wastewater, along with the supply of food, shelter, and medicine, are critical security considerations for the following reasons:

- Granting legitimacy to the military action - Ensuring a humanitarian situation that is in line with international humanitarian law in the Gaza Strip is a key condition for mobilizing internal, international, and regional legitimacy for military action.
- Ensuring the safety of Palestinian civilians, Israeli hostages, and soldiers in Gaza - An outbreak of infectious diseases will directly endanger civilians, kidnapped Israeli citizens, and IDF soldiers in the Strip. In addition, there is concern that an outbreak of epidemics would likely spread into Israel and Egypt.
- Preventing long-term pollution that damages natural resources - A humanitarian disaster in Gaza will lead to long-term pollution damaging natural water sources such as the coastal aquifer and the many wells both in Gaza and in Israel.
- Conserving financial resources by preventing a humanitarian disaster - Prevention is always less costly.
- Maintaining Israel's values and upholding its moral standing.

Given Israel's interests as detailed above, to prevent a humanitarian disaster occurring in Gaza, Israel must take concrete actions to improve the immediate humanitarian situation in the southern Gaza Strip. This requires that Israel:

- Allow the entry or provision of sufficient basic water supply for the civilian population, while protecting water/wastewater infrastructure and the operation of desalination facilities, supply of chlorine into the water systems, and maintenance equipment needed.

---

<sup>1</sup> This policy paper is the product of experts from the fields of security studies, foreign policy, and environmental studies. The insights were gathered by Professor Nadav Davidovich and Bar Rapaport. Nadav is a specialist in epidemiology and public health, serving as the director of the School of Public Health at Ben-Gurion University and the head of the health policy department at the Taub Center. He is a member of various national and international committees, including the Health Council, and is a member of the European Association of Schools of Public Health. Bar is the director of the Sustainable Climate-diplomatic Project at the Mitvim Institute, connecting foreign policy to the environment and the climate crisis. She is a research student at the Hebrew University, a fellow at the Truman Institute, and a member of the Dreifuss Center for Conflict Research.

- Facilitate maximum sewage treatment by providing fuel for sewage pumping systems, and, as much as possible, operating treatment plants in cooperation with the Palestinian Authority's (PA) professional bodies.
- Permit sufficient energy supply for water and sewage treatment needs by considering to re-activate parts of the power lines in the south of Gaza, (monitoring the transmission of electricity), supplying fuel under the Gaza Reconstruction Mechanism (GRM), and renewable energy systems that are disconnected from the grid.
- Open the Kerem Shalom crossing for the transfer of essential humanitarian aid - water, fuel, food, shelter, and medicine - in order to overcome the backlog at Raffa Crossing in the provision of humanitarian aid.
- promote a framework that connects relevant factors in Israel to their counterparts in the UN in order to create a comprehensive mapping and status report of needs, locations, bottlenecks, contributions, assistance funding, and the like.
- Promotion of a vaccination program and health monitoring - support for monitoring disease in Gaza and promotion of a vaccination program under the auspices of an international organization in accordance with health developments in the Gaza Strip.

## Introduction

In this complex and difficult period, the State of Israel is at war against Hamas (and other terrorist factions). Ensuring the functioning of life-sustaining infrastructure in Gaza is critical for the advancement of the two main goals of the war - the return of the hostages and toppling Hamas. Maintaining the infrastructure is crucial for an efficient and high-quality rebuilding process that will start "the day after".

There is an understanding at the political and security levels in Israel that the supply of clean drinking water and proper treatment of sewage, along with the provision of food and medicine, are key to maintaining the clear interest in protecting soldiers, hostages, and civilians from epidemics. The head of the National Security Council said on November 17th, referring to the entry of fuel into the Gaza Strip, that this step was necessary for facilitating the water and sewage infrastructure, in order to prevent harm not only to the Palestinian population in Gaza but also to Israeli soldiers. This measure corresponds with American and international demands and directly affects the continued support of Israel in fighting the war.

With the start of the ground operation by the IDF in Gaza, humanitarian conditions worsened in the Strip. The north of Gaza became a combat zone where civilian life cannot continue, while in the south approximately 1.8 million Palestinians have gathered (out of the 2.2 million living in the Strip).

In sum, the security need obliges Israel to act to prevent a humanitarian disaster in the Gaza Strip. It must do so while creating new supply models that bypass Hamas. Israel must create opportunities for managing the issue of protecting WASH infrastructure with non-hostile parties, with an emphasis on the professional levels in relevant organizations, and giving preference to the PA and its institutions as a regulatory body.

## The current situation

As of early December, weeks after the renewal of fighting, the energy, water, and sewage systems in the Gaza Strip have suffered severe damage. Since 7 October, Mekorot closed

the Mintar connection point in the north, which had a capacity of 24,000 cubic meters of potable water per day. As of early December, the Bani Suhaila and Bani Sa'ad Mekorot water connection points are operational in the south at 15,000 and 1,400 cubic meters daily, respectively.

The Gaza City desalination plant is damaged and not operational. Despite a phase 1 capacity of 2000 cubic meters per day, the Deir Al Balah plant in the south only produces 1200 cubic meters daily. Water is distributed through tankers to UNRWA centers. The Khan Younis plant produces 1500 cubic meters daily despite a 6000 cubic meters daily capacity.

In addition, UNRWA operates 9 water wells, pumping about 10,000 cubic meters a day to provide potable and domestic water supply in shelters across Gaza, including potable water trucking operations to the shelters in Rafah and Khan Younis areas. Additionally, shelters in Rafah started receiving potable water through tankers from the Coastal Municipalities Water Utility.

Electricity transmission from Israel has been halted since 7 October, and the local power plant shut down due to lack of fuel shortly afterwards. Reports indicate that transmission lines were severely damaged, mainly in Gaza City, which means that most hospitals and WASH facilities will likely remain dependent on generators and fuel supplies for electricity. As of 11 December, more than 120,000 liters of fuel entered Gaza from Egypt, up from a daily average of 67,000 liters on the previous days. These amounts are insufficient with the bare minimum being 180,000 liters a day needed to prevent the collapse of critical services.

Also the wastewater systems have been severely damaged. All five WWTPs in the Gaza Strip stopped operating shortly after 7 October, due to lack of fuel. While some of the plants functioned from time to time thanks to a small amount of fuel, several reports indicate that several plants were damaged. Reports also state that the transmission lines of water and sewage, as well as pumping stations, were damaged, especially in the Northern part of the Strip, including Gaza City. Reports from several districts raise concerns regarding the spill of raw sewage in the streets.

Until the WASH infrastructures work to their full capacity or at least enough to allow the production of clean water and treatment of sewage, a humanitarian disaster is on the verge.

## **The humanitarian situation in Gaza is an Israeli security interest**

It is important to understand that preventing a humanitarian disaster in the Gaza Strip is an Israeli security interest. Here are its main security aspects:

- **Granting legitimacy to the military action** - Ensuring a humanitarian situation that is in line with international humanitarian law in the Gaza Strip is a key condition for mobilizing internal, international, and regional legitimacy for military action. Israel's security rests on its special relationship with the US and shared values with the democratic world. Israel must demonstrate democratic values by showing concern for persons in Gaza during the war, and by responding to the international demand to prevent a humanitarian disaster.
- **Ensuring the safety of Palestinian civilians, hostages, and soldiers in Gaza** - An outbreak of infectious diseases will directly endanger civilians, kidnapped Israeli citizens, and IDF soldiers in the Strip. In addition, there is concern that an outbreak of epidemics would likely spread into Israel and Egypt.

- **Preventing long-term pollution that damages natural resources** - A humanitarian disaster in Gaza will lead to long-term pollution damaging natural water sources such as the coastal aquifer and the many wells both in Gaza and in Israel. Hazards include the pollution of sea and groundwater, and the infiltration of bacteria into the water systems, which will be complex to deal with.
- **Conserving financial resources by preventing a humanitarian disaster** - Once a humanitarian crisis commences in Gaza, Israel will be required to allocate enormous resources in order to deal with the consequences of the war. Adding humanitarian aid missions (in the Gaza Strip and inside Israel), vaccination operations for the entire population, and more, will only burden the system. This can be avoided by acting today with a relatively limited allocation of resources compared to the alternative.
- **Maintaining Israel's values and upholding its moral standing** - While Hamas embraces death and atrocities, Israel must demonstrate it chooses life and goodwill.

## Immediate steps that Israel should take

To prevent a humanitarian disaster in Gaza, Israel must take concrete actions to improve the immediate humanitarian situation in the southern Gaza Strip. Therefore, long-term aspects of disaster prevention in war operations must be considered, including avoiding as much as possible any damage to infrastructure needed in the future.

- **Allow the entry or provision of sufficient basic water supply for the civilian population**
  1. Protect water/wastewater infrastructure and the operation of desalination facilities - Israel approved the provision of fuel for desalination facilities and WWTPs. Of course, it is also important to continue the water flow through two existing pipelines (Beni Suhila and Beni Said). The total amount of available water should be in accordance with international standards to meet the needs of citizens.
  2. Disinfect all water sources by supplying chlorine to the water systems. This is crucial for maintaining public health considering the extent of untreated sewage in the streets.
  3. Maintenance of equipment - insert pipes, membranes, and pumps to repair transmission lines in the south. It is possible to consider plastic equipment as replacements during war where relevant.
  4. Support international efforts to establish additional, smaller desalination facilities, and examine how these facilities can be self-supplied by its own renewable energy facility. This is not a long-term solution, given the inability of facilities of this size to provide a sufficient amount of water.
- **Facilitate maximum sewage treatment**

6 WWTPs that were operating on the eve of the war have gone out of service since the electricity supply was halted. The spreading of infectious diseases creates an immediate risk of the outbreak of epidemics, especially with the arrival of the winter rains. Therefore:

  1. Sewage pumps should be immediately activated, so they can take raw sewage out of the city to existing WWTPs or, if there is no alternative, to the sea.
  2. Different alternatives must be examined for transferring energy to existing WWTPs in Gaza – currently, the most efficient and least dangerous way is to provide fuel.
  3. Relevant professional ranks have to be cooperated with through international intermediaries. Note: the water and sewer authorities in Gaza are not under Hamas' rule but subordinate to the PA. It is necessary to examine how to operate water

infrastructure in cooperation with the PA, thus strengthening them in the face of Hamas.

- **Permit sufficient energy supply for water and sewage treatment needs** by considering to re-activate parts of the power lines in the south of Gaza, monitoring the transmission of electricity, supplying fuel under the Gaza Reconstruction Mechanism (GRM), and renewable energy systems that are disconnected from the grid.

- **Permit sufficient energy supply for water and sewage treatment needs**

When it comes to supplying energy to Gaza, the operation of WWTPs and desalination facilities should be a priority.

1. Consider re-activating parts of the power lines in the south of Gaza. The lack of electricity has not prevented the operational activity of Hamas. Since the alternative is fuel, which is at risk of theft, the renewal of the electricity supply is a calculated risk that Israel can manage. Thus, electricity can be supplied to continue life-sustaining infrastructure. We emphasize that the electricity supply is under Israeli control only, which allows for various options for supplying electricity to the relevant facilities. Any other alternative, for example, supplying energy from external sources such as Cyprus, reduces Israel's options and determines facts on the ground for "the day after".

Since there is no realistic possibility of transferring electricity from the south of the Gaza Strip to the north, it would be acceptable to supply electricity to the south for the use of desalination facilities and WWTPs, as well as for pumps required for water and transportation between the east and west of Gaza when necessary. We suggest examining whether technology exists that can monitor the electricity supply.

2. As of today, Hamas controls the local electricity company (GEDCO). It is crucial to transfer control to another party, which will enable monitoring. Importantly, "working relationships" with professional bodies can already be created.
3. Fuel should be provided through a supervision mechanism with the help of the UN. If electricity operates desalination facilities and WWTPs, fuel entering Gaza could be used for other important health purposes, such as the transportation of waste.
4. Examining possibilities of transferring off-grid renewable energy systems in order to activate new energy facilities. Introducing mobile generators based on fuel or compressed natural gas (CNG) might be considered too, minding the logistic complexity.

- **Open the Kerem Shalom crossing for the transfer of essential humanitarian aid - water, fuel, food, and medicine**

Great difficulty is faced at the Rafah crossing with the Egyptians when it comes to the provision of humanitarian aid. The possibility of transferring humanitarian aid by sea through Cyprus and under Israeli supervision is being examined, which will require the establishment of an oversight mechanism and may create a situation that will be difficult to change in the future.

It is therefore recommended to examine the possibility of supplying humanitarian aid through the Kerem Shalom crossing to prevent bottlenecks delaying the entry of trucks, sometimes even leading to aid not entering at all, despite the approved quantity. This step enables a full inspection befitting Israeli standards.

- **Measures relating to public health**, for example, vaccination programs and monitoring morbidity (in terms of manpower and infrastructure for various tests both

in humans and in the environment). Such projects can be set up with relevant international organizations that have the know-how and means to realize them.

## Summary of recommendations

- This paper indicates that there is a clear equation – the ongoing functioning of life-sustaining infrastructure in the Gaza Strip means adhering to humanitarian values, which provides broad and global political support.
- Protecting the infrastructure reduces risks to the public health of Palestinians and Israelis alike. The (re)activation of the infrastructure now, will significantly ease the efforts to rebuild Gaza with infrastructural resilience, to mobilize international support and funding, and for long-term regional cooperation.
- Consolidating the structure of international aid mechanisms, in order to streamline the process and mobilize all parties into a joint coalition with Israel, strengthening their support and cooperation. It should be examined which PA elements can be integrated into this effort.
- Continuing existing relationships with certain elements within Gaza, such as in public health, academia, civil society, professional ranks, etc. This will create a network to develop a dialogue and cooperate with, to manage and reduce the crisis now and for the rebuilding process after the war. Suitable elements should be sought within the PA to promote a common policy as much as possible.
- Policy regarding infrastructure in the Gaza Strip must be broad and strategic with a future vision, in order to rebuild a much more “healthy”, independent, and “sustainable” region. The supply of energy - fuel and electricity, - and access to clean water, as well as sewage treatment, are not only the provision of humanitarian aid but in Israel’s national security interest and allows the state to conduct the campaign in the most benevolent, efficient, and humane manner.
- Measures relating to public health, such as vaccination programs, in cooperation with relevant international organizations.