Emergency and Recovery Action Plan
for the Water Sector in Gaza

Introduction

The Emergency and Recovery Action plan (ERAP) has been drafted in response to the unprecedented humanitarian crisis in Gaza since the Israeli aggression in October 2023. It is intended to provide a roadmap for Wash cluster members and Development Partners in the water sector and has been prepared through a collaborative process that involves active coordination among various stakeholders including WASH Cluster. It draws upon in-depth discussions and valuable insights collected from staff in the Palestinian Water Authority (PWA), and different Service Providers including the Coastal Municipal Water Utility (CMWU) who provide crucial information and perspectives on the prevailing conditions and needs. Additionally, the ERAP is enriched by the invaluable inputs gathered from dedicated Development Partners and UN staff stationed in Gaza, who possess firsthand knowledge and experience regarding the ground realities.

The coordination between these stakeholders has been paramount in ensuring an understanding of the multifaceted, complex challenges and opportunities present in Gaza. The PWA and Gaza Service Providers (eg. CMWU, Gaza, Jabalya, and Khanyounis municipalities …) have played a pivotal role in articulating their priorities and objectives, which have served as foundational elements in shaping the ERAP. Their perspectives, informed by extensive engagement and analysis, provide vital guidance in formulating effective strategies and initiatives. Simultaneously, the contributions of the Development Partners , UN staff and the wash cluster on the ground have been indispensable, as they provide nuanced insights into the local context, including socio-economic dynamics, political sensitivities, and humanitarian concerns. Their experiences helped tailor interventions to address specific needs and vulnerabilities within the community.

This collaborative approach fosters a synergistic relationship among stakeholders, facilitating the alignment of objectives and the optimization of resources and strengthening nexus between humanitarian and development partners. Regular consultations, feedback mechanisms, and joint planning sessions during its formulation have helped ensure that the ERAP is responsive to the evolving circumstances and emerging priorities. Ultimately, the ERAP represents a collective endeavor, reflecting the wisdom, expertise, and commitment of all stakeholders involved. By harnessing the diverse perspectives and resources at their disposal, the ERAP strives to identify interventions that are not only impactful but also sustainable, laying the groundwork for positive change and resilience in Gaza.

Objectives

The objective of the ERAP is to provide a roadmap for Development Partners in supporting the Water Sector in Gaza, including (i) supporting the immediate humanitarian aid as per Flash Appeal to the Gaza Strip in addition to the applicable interventions at this stage which is governed by the importance , impact , availability of material and ease of access (ii) ensuring timely support to the early stage recovery and restoration of essential services following the ceasefirecontributing to the recovery and (iii) reconstruction of water services in Gaza once the situation stabilizes.

Sector Background

Starting from October 7, 2023, the State of Palestine has experienced an extraordinary Israeli aggression in the Gaza Strip. During the conflict a significant amount of the pre-existing water and sanitation infrastructure, facilities, resources and assets have been damaged and destroyed, including above and below ground,

estimates from *Gaza strip interim damage assessment report (World Bank-March 2024)* is around 57% In addition to the damages there continues to be massive displacement of the population of Gaza, most notably to Rafah and Dair al Balah governorates resulting on excessive demand on operable infrastructure in the locations of displacement. This has led to an unparalleled humanitarian crisis, along with significant obstacles to delivering humanitarian assistance. The Gaza Strip, which has been under strict restrictions since 2008, was entirely isolated, with no mobility, inadequate power supply, and limited access to fuel, food, water and significant limitations on the importation of typical and critical materials and equipment for water and sanitation services . The three connection points from Mekorot were shut down immediately on the 8th of October 2023 . Electricity supplies were cut, and the supply of fuel was restricted and consequently, the only power generation plant was shut down as well .

Historically, the majority of the water supplied in the Gaza Strip has been through around 300 groundwater wells. These have been supplemented by three Short-Term Low-Volume (STLV) desalination plants and three connection points from Mekorot, the Israeli operator. However, over the past two decades, excessive abstraction and reduced recharge rates due to changes in rainfall have resulted in saline intrusion and significant deterioration of water quality in the Coastal Aquifer. Contamination has been exacerbated by the presence of poorly managed farms, open-air landfills, and inadequate sewage networks resulting in the introduction of additional pollutants. As a result, the majority of the estimated 95.6 million cubic meters (MCM) per year coming from most of the 306 groundwater wells in the Gaza Strip is unsuitable for human consumption.The main sources of drinking water in the Gaza Strip are the STLVs, which provided an estimated 18,000 cubic meters per day prior to the conflict, and the connection points with Mekorot, that provided another 52,000 cubic meters per day. These were supplemented by a series of municipal and private vendors that operated small-scale desalination units supplied from Aquifer water wells, some of which are powered by solar PV, and water tanker trucks, but currently the majority of them are non-operational due to destruction, partial damages, lack of power, inaccessibility, lack of spares or lack of sufficient downstream storage or networks.. The small scale STLV private operators have become one of the primary source of water supply following the onset of the conflict, providing an estimated 3,300 cubic meters per day out of 11,000 cubic meter of production before the conflict. The cost of water for end users has risen dramatically from 20 NIS before 7 October to 150 NIS in April 2024 from water tankers.

The water production capacity has been severely impacted by the conflict, with assessments carried out by the WASH Cluster[1] estimating the production capacity in April 2024 to be a mere 10-20 percent of that prior to the conflict. All of the water supply systems in the Northern area, including the two main sources of drinking water, have been rendered non-functional since the beginning of the aggression. Other numerous water systems in the Middle and Southern area have faced significant disruptions or are non-functional, primarily due to fuel shortages, lack of backup power generators and spares for the existing gen sets , insecurity in operational areas, and damage to production, treatment, and distribution infrastructure. The available water supply in April 2024 was estimated to be only 2-8 liters per capita per day (lcd) compared to 85 l/c/d before October 2023 , where the quantity varies based on the geographic location, availability of water resources, damage in the water infrastructure and is likely to reduce further as fuel supplies dwindle.

Water supplied through the connections with Mekorot was stopped following the surge in tensions after October 7, 2024. Prior to the war, Gaza had three connections with the Israeli operator (Mekorot), which are the Al Mintar connection supplying Gaza City in the North, the Bani Saeed connection in the Middle Area and the Bani Suhaila connection in Khan Younis (south)**.** While these connections represent a small percentage of

[1] The WASH Cluster-State of Palestine is responsible for the overall coordination of the WASH humanitarian planning and response in the West Bank and Gaza. The WASH Cluster includes in its partnership National NGOs, International NGOs, UN agencies, international organizations and educational institutions that are operating in the West Bank and Gaza in cooperation with local authorities. The WASH Cluster partners include 51 organizations.

the total water supply in Gaza, their share of potable water is significant, constituting over 51 percent of total water supply meeting drinking water standards. After the initial shutdown, where the water flowing through the three connections was stopped, the Southern connection was restored mid-October, and Middle connection was restored by the end of October 2023. However, the supplied water was frequently disrupted due to repeated damages in the bulk water pipelines. The Northern connection in Al Mintar had been destroyed since the beginning of the aggression, and in April maintenance to resume water through the connection point took place. The Southern connection in Bani Suheila had been partially damaged and resumed water supply end of of April supplying around hour 4800m3/day at a 33 percent capacity; while the Bani Saeed connection in the middle area has been operational at a 50 percent capacity (7200m3/day) .

The water production of desalination plants has been significantly impacted by restrictions on the import of fuel and chemicals required for basic operations. As such, they have been forced to operate at a minimum capacity and rely on water tankers to distribute the desalinated water. Prior to the conflict, the Northern desalination plant, also known as Gaza City STLV, was producing 10,000 cubic meters per day, the desalination plant located in the Middle Area, also known as Al Bassa/Deir Al Balah STLV (Design Capacity 5,500 cubic meters per day) was producing 2,000cubic meter per day, and the STLV located in the south serving Rafah and Khan Younis (commonly referred to as Southern STLV) (Design Capacity 20,000 cubic meters per day) produced 6,000 cubic meters per day of desalinated water -. Despite some efforts to install PV panels associated with the STLVs, their operation is heavily reliant on the availability of fuel as the systems installed were reliant on the power grid . Information from the PWA - CMWU as of April, 2024, indicates that the Middle STLV was producing around 1600 cubic meters per day and the Southern STLVs was distributing 1200 cubic meters per day through pipelines and around 500 cubic meters per day through tanker trucks, totaling around 1,700 cubic meters per day, roughly 8.5 percent of its capacity prior to the conflict in addition to the newly established STLV in Egypt feeding Rafah through a pipe line with around 2000 m3/day

Access to water vendors and bottled water has become significantly limited due to the heightened insecurity and restrictions on imports linked to the conflict. Water trucking operations have persevered, but have become increasingly limited and more expensive due to challenges such as limited availability of water tankers, fuel shortages, the ongoing conflict, and blocked roads obstructed by debris. Considering the substantial damage to the water distribution network, a significant proportion of the water produced requires the assistance of water trucking in addition to the partial solution implemented in southern STLV by diverting the flow from the damaged line of khaniounis to the middle area to deliver the water. Bottled water, which was traditionally available in local markets, has been curtailed and in short supply, causing a significant surge in prices, making it unaffordable for the average Gazan family. Over the period, fresh water will be made available to minimize use of bottled water to avoid plastic waste generation and minimize environmental hazard.

The risks for waterborne diseases and to the overall health of the Gazan people has increased as the water supply has deteriorated. Households and humanitarian shelters and IDPs centers have reported that they have been forced to resort to rationing water supplies for drinking and cooking, with people forced to forgo personal hygiene and sanitation needs. The majority of the population has been forced to use alternative water sources for drinking, such as utilizing traditional agricultural wells containing brackish water, often ingesting saline water (with a salt content exceeding 3,000 milligrams per liter), exposing themselves to pesticides and other chemicals usually present in these types of wells. The consumption of high-saline water is a significant risk factor for pregnant women, young babies, and people with renal conditions and generally raises levels of hypertension.

Table 1. Status of the available water sources in the Gaza Strip

Source	Facilities	Supply (m^3/day)	Remarks	Current Status as of April 2024
Groundwater	Over 300 wells across the Strip	Tota; supply for all purpose 262,000	Mostly unsuitable for human consumption. Highly dependent on fuel availability	Unknown
Desalination (STLVs)	Gaza City (Northern)	10,000	Highly dependent on fuel availability.	Non-operational
	Al Bassa/Deir Al Balah (Middle)	2,000 (production Capacity 5,500)		Partially operational with 1600 m^3/day of estimated production.
	Southern STLV	20,000(with the new extension)		Partially operational with 1700 m^3/day of estimated production.
Mekorot Connections	Al Mintar (north)	52,000	Subject to interruption from Israel	Operational (85% capacity)-850m3/hr
	Bani Saeed (Middle)			Operational (50% capacity)-300m3/hr
	Bani Suhaila (South)			Operational (33% capacity)-200m3/hr
Supply from Egypt	UAE desalination	2,400	Possibility of further expansion will be explored.	Operational (83% of design capacity)
Reuse	NGEST reuse scheme	13,000	Only for Agricultural purposes	Non-operational

Source: Bulk Water Supply Unit, PWA and WASH Cluster Updates – April – May 2024

The water supply infrastructure in the Gaza Strip before the conflict. This includes over 2,000 Km of pipelines and 61 reservoirs. The bulk water supply network is comprised of 247.5 Km of pipelines (HDPE, Steel and PVC), including: (i) 35.5 Kms of pipelines associated with the Mekorot connections (11 Km for the Northern connection, 9.5 Km for the Middle connection and 15 Km for the Southern connection in Khan Younis); (ii) around 29 Km of pipelines to supply the water produced in the STLVs (6.8 Km in Gaza City , 2.5 in Al Bassa ,and 19.8 Km in Khan Younis); and (iii) 183 Kms of pipelines connecting the groundwater wells with the reservoirs and the water distribution system. The water distribution system consists of 3,200 Km of low-diameter distribution pipelines in addition to 190,000 customers. During the aggression, a significant portion of Gaza's water and sanitation infrastructure was damaged. According to the Gaza Strip interim damage assessment report by the World Bank (March 2024), approximately 57% of the infrastructure has been affected. Specifically, the damage includes:238 water wells, with varying degrees of damage ranging from complete destruction to partial, severe, and moderate damage; 61 water reservoir, some of which were completely destroyed, while others suffered partial damage; 120,000 meters of water networks, 130,000 meters of wastewater networks, and 79 sewage pumping stations have also been impacted.

Figure 1 below provides a scheme of the water supply infrastructure prior to October 7th 2023.

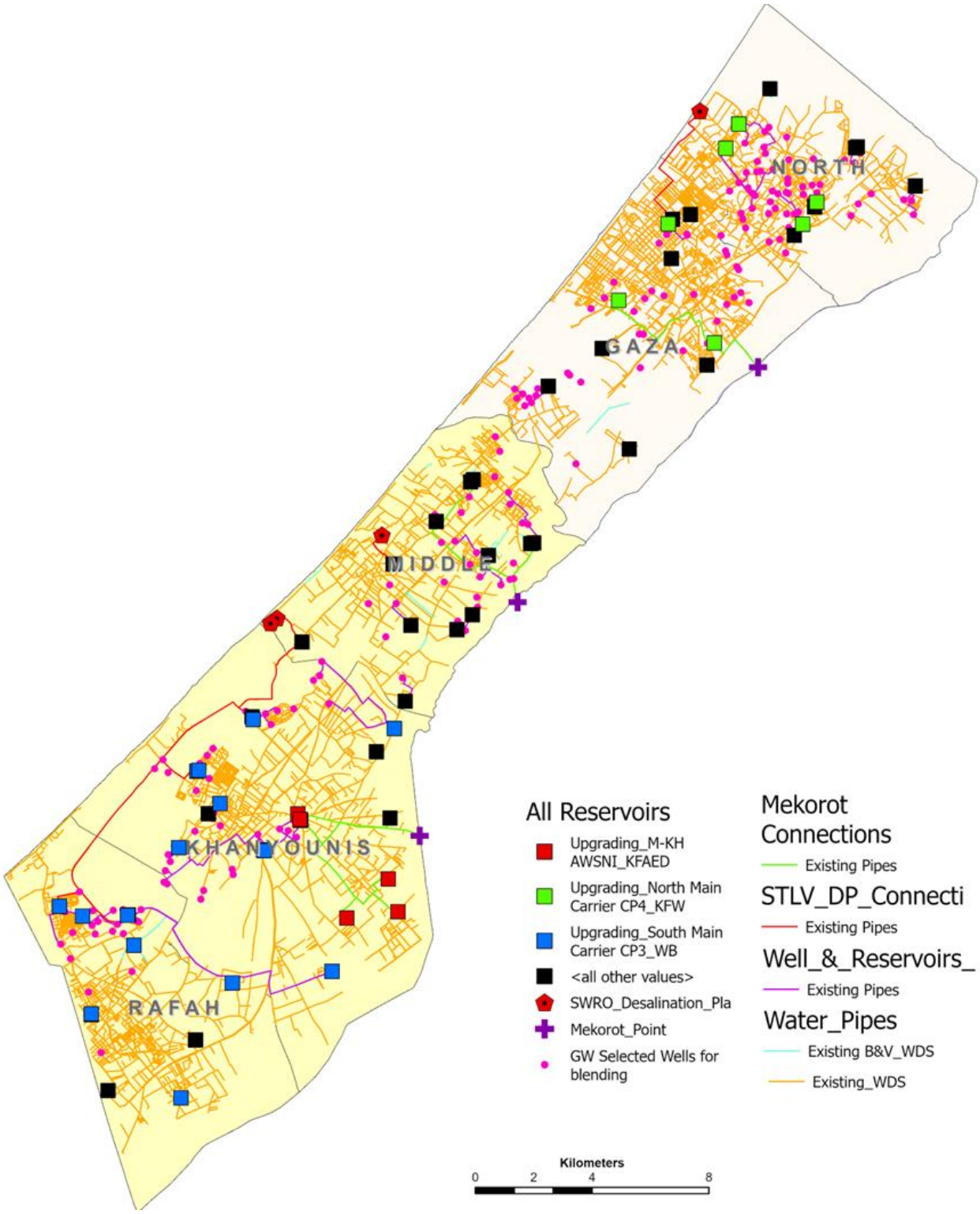

Figure 1. Water supply Infrastructure in the Gaza Strip prior to the eruption of hostilities. [2]

Access to improved sanitation in Gaza was near-universal prior to the conflict. Wastewater treatment capacity was estimated at 154,600 cubic meters per day, with 73 percent of the population connected to

[2] The wells in the map represent the 195 wells selected for a blending scheme under the World Bank-Funded AWP project. The estimated number of wells in the Strip ascends to 300.

sewer networks, while the remaining population relied on on-site services. Nevertheless, the lack of access to financing coupled with the demographic pressure, has rendered the wastewater treatment capacity to cover the arriving effluents prior to the conflict. The deficit in adequate treatment capacity poses a severe risk of untreated sewage flooding in some areas. Estimations developed prior to the beginning of the hostilities on October 7th had already signaled the need for doubling the wastewater treatment capacity in order to cope with the expected sewage inflows in the medium and long term.

The disruption to electricity supplies and restrictions on the delivery of fuel to the Gaza Strip have had significant impacts on the operation of sanitation facilities. The wastewater management facilities in the Gaza Strip prior to the conflict consisted of five operational wastewater treatment plants and an extensive sewage collection system. The sewage collection system consisted of around 2,250 kilometers of pipelines of varying diameters and 79 pumping stations. In addition, stormwater was managed through 29 basins and 8 stormwater pumping stations. Either due to fuel shortages or damages resulting from the conflict or the un-accessibility of the WWTPs operation staff, the five wastewater treatment plants in Gaza and the associated sewage pumping stations are non-operational, resulting in a continuous release of sewage into the Mediterranean Sea and urban sewage leaks across the Gaza Strip. While it is not possible to estimate the exact volume of flooded sewage with the limited information available since the onset of hostilities, this is having significant, long-lasting impacts on human health and the environment.

The 4.8 MCM of treated wastewater that was planned to be reused for agricultural purposes is not available due to the stoppage of the wastewater treatment plants. Prior to the conflict, 36,500 cubic meters of treated effluent were infiltrated into the Coastal Aquifer in the North Gaza Wastewater Treatment Facilities. This was subsequently recovered for irrigation in the adjacent areas through the numerous wells in which its full operation was planned before one month of the war. The treated effluent of Khan Younis wastewater treatment plant was destined to the irrigation of around 300 dunum in the Southern area of Gaza. The extent of the damages to these recovery and reuse schemes remains unassessed but is expected to be significant with some locations suffering total destruction.

Table 2. Status of wastewater treatment facilities in the Gaza Strip

Facility	Population served	Capacity (m3/day	Treatment level	Reuse system	Current Status as of April 2024
Beit Lahia Lagoons	-	-	-	-	Non- operational
NGEST	380,000	35,600	Secondary with nitrogen removal, sludge treatment, digestion, dewatering, drying and storage.	Aquifer recharge	Non-Operational
Skiekh Ejleen	300,000	30,000	Secondary Anaerobic lagoons- attached biofilm		Non-Operational
Middle Gaza Area/Al Bureij	800,000	60,000	Secondary	Saline water	Non-Operational
Khan Younis	200,000	13,000	Secondary Aerated lagoons WWTP	Included 300 dunum	Non-Operational
Rafah	280,000	16,000	Secondary Anaerobic lagoons- attached biofilm	NO Discharge of partially treated effluent to the sea	Partially operational with diesel generators (o partial pumping*)

*Rafah wastewater treatment plant is operational and powered by on site electricity power supply diesel generator and partially treated wastewater has continued to be pumped to the sea outfall.

Stakeholder Identification and Coordination:

The operation of the water supply and sanitation facilities in Gaza is under the responsibility of several entities, and the whole sector was undergoing a reform process, as stated in the Palestinian water law 2014 , which is governing the responsibilities , identifying the different levels starting from the minister's cabinet to the regulatory council reaching the national water company and service providers rules and responsibilities . The municipalities are the water service providers in the Gaza Strip, except Rafah who have delegated the Coastal Municipalities Water Utility (CMWU) as their main body in charge of water supply services. Prior to the onset of the Israeli aggression, the CMWU and municipalities supplied 81 percent of Gaza's water from various municipal groundwater sources and the operation of the STLVs. The PWA in the Gaza Strip practiced its role as policy maker, and implementer of strategic projects through the Project Management Unit of PWA. In line with the water sector reform, the Bulk Water Supply Unit (BWSU) was supposed to take responsibility of the bulk water supply following its establishment in August 2022 and to act as the branch of the National Water Company (NWC) in Gaza, with oversight of the operation of the connection points with Mekorot, the Israeli operator, and the operation of the three STLVs. The wastewater treatment facilities were operated by the CMWU, except for the North Gaza Wastewater Treatment Plant (NGEST), which was operated by PWA which was supposed to be transferred to CMWU operation before the war .

The water sector in Gaza has been heavily supported by international aid and development institutions. The Partnership for Infrastructure Development (PID) is a Multi Donor Trust Fund (MDTF) whose contributing partners include Australia, Denmark, Finland, France, Italy, Netherlands, Norway, Portugal, Sweden, and the United Kingdom. These funds are implemented through the World Bank and provide support to projects in Gaza and the West Bank. In addition, the EU and several bilateral partners, including AFD, KfW, Netherlands, JICA, SIDA, ADA, and USAID, support the water sector in Gaza and the West Bank. Following the onset of the hostilities, the development partners have been meeting regularly, in coordination with UN agencies, to harmonize the emergency response and coordinate the specific support to be provided.

Communication and Coordination

Effective communication and coordination are paramount in managing emergencies efficiently. As part of this ERAP, it is imperative to establish clear and robust channels for both internal and external communication.

The Water Sector Working Group (WSWG) serves as the central platform for communication and coordination between PWA and Development Partners and entities within the water sector. However, as the WSWG does not have a formal communication plan for disseminating crucial information during emergencies, the WSWG will collaborate together and based on priority needs defined by PWA and the WASH Cluster[3] to establish and strengthen the coordination between humanitarian and development partners.

Enhancing communication and coordination within the Water Sector Working Group and between the WSWG and other entities, is vital for effective emergency response planning to ensure harmonization between

[3] The WASH Cluster is a temporary platform for coordination of humanitarian assessment and response activities in periods of crisis. The WASH cluster comprises of governmental and non-governmental bodies, UN agencies and can include academic institutions. The WASH cluster objectives are focused on life-saving activities.

donors in supporting PWA's leadership to coordinate the emergency response. The Gaza Thematic group[4] can take this role and develop comprehensive communication protocols and identify reliable communication channels for disseminating information to various stakeholders, including the PA agencies, and other relevant parties. These protocols should outline clear procedures for the timely and accurate dissemination of information through diverse channels. The Gaza Thematic Group is tasked with identifying procedures and channels for information exchange , sharing the planning and technical details among parties , as well as defining the roles and responsibilities of key players within the group. Furthermore, it is essential to identify primary and backup methods of communication to ensure reliability and continuity of communication efforts. Establishing redundancy within the various communication mechanisms will help to mitigate the risk of communication breakdowns during fast evolving, critical situations.

Coordination with the Israeli side is essential in all phases of the Emergency and Recovery Action Plan (ERAP). It is important to establish a clear mechanism and identify the main actors, along with defining the roles of each. Currently, materials are entering from Rafah, but depending on the political situation, other checkpoints may be considered and negotiated in different phases

The urban layout of Gaza will play a crucial role in determining the design of new and different permanent shelters needed after the ceasefire. This will require increased coordination with other sectors to define how access to water services will be ensured .

Furthermore, the importance of UNRWA's role in the refugee camps cannot be overlooked, and it should be included in the coordination mechanisms.

Sector Facilities Damage Assessment

Significant efforts have been undertaken to estimate the damage to water related facilities following the onset of hostilities. The Rapid Disaster Needs Assessment (RDNA) methodology includes preliminary estimates of the damages to infrastructure based on satellite imagery analysis and assumptions drawn based upon proximity to bomb blasts. When the conflict subsides and it is possible to safely access widely across Gaza, the RDNA will include a more comprehensive and evidence based assessment of damages and infrastructure loss due to the conflict. The preliminary estimates indicate that there are substantial damages to the water and sanitation infrastructure in the Gaza Strip, all Governorates have been effected and in certain areas, notably Gaza City and large parts of Khan Younis there is total destruction to water and sanitation facilities (including pipe networks, water production points, reservoirs and treatment units). Most of the damaged assets include water wells, reservoirs, sewage pumping stations, and small-scale brackish desalination units, along with water supply distribution and sewage collection pipelines. However, the analysis also shows the destruction or partial damages on major water supply and sanitation infrastructure, including three out of six wastewater treatment plants, and the desalination plant in the northern area in addition to partial damages and impacts to the middle areas (still operational partially) .

Emergency and Recovery Action Plan:

The Emergency and Recovery Action Plan is based on the following principles that guide its development and implementation:

[4] The Gaza Thematic Group is a Committee formulated under the Water Sector Working Group headed by by the Palestinian Water Authority and includes specific donors actively working in the Water Sector in Gaza

(i) The emergency response requires reinforcing the humanitarian response activities defined in the Flash Appea, and setting common priorities, modalities and processes and response activities during emergency, early recovery and the restoration of essential services during any ceasefire

(ii) The recovery of the water sector following the Israeli aggression requires PWA's leadership in preparing a detailed strategy and implementation plan with full collaboration and consultation with CMWU, relevant municipalities, local communities, non-governmental organizations (NGOs), the UN and DPs. These partnerships are central to a harmonized and effective post- water sector recovery.

(iii) Robust monitoring and evaluation mechanisms will be integrated into each phase of the post-war water sector recovery plan in order to avoid misuse of funds and or low-quality work .These mechanisms will include procurement and integrity measures, as needed, and will serve to gauge progress and adapt the approach as needed to ensure effectiveness.

The ERAP will incorporate lessons learned into the recovery of the water sector to diversify water resources and reduce the dependence on Mekorot connection points and IEC that proved to be unreliable during times of Israeli aggression. This strategic principle will be implemented over the long- term.

The proposed approach builds on international experience for areas in situations of urgent need and capacity constraints. It includes an initial response to emergency to deliver basic humanitarian needs in coordination with all stakeholders to be implemented in parallel with activities of the preparatory phase for a longer-term response) until a ceasefire is reached. Following phases of this ERAP will be informed by the comprehensive RDNA being implemented by the World Bank, the EU and the UN and will be updated regularly as more information becomes available. The ERAP proposes a phased approach that be reviewed and adjusted as needed. The response includes the following phases based on agreed triggers or indicators.

Table 3. Phases of the emergency response and recovery road map

Phase	Expected duration	Trigger
Phase I- Immediate Emergency Response Phase-		Immediately
After-ceasefire		
Phase 2 -Early Recovery and restoration phase	Weeks to months after ceasefire	Ceasefire
Phase 3- Reconstruction phase	Months to years after the ceasefire	Access to the Gaza Strip is reestablished.

Phase 1- Immediate Emergency Response Phase :

The Immediate Emergency Response Phase includes a range of activities aimed to (i) provide immediate humanitarian water and sanitation services responding to the needs of people in Gaza; (ii) maintaining the operation of main facilities and infrastructure including operating water desalination plants, Mekorot Connection points, operating wells, provision of water and wastewater were possible; (iii) preposition essential goods and supplies in anticipation of a ceasefire; and (iv) monitoring the damages and preparing for a swift implementation of the early recover/transition phases of the response. These include:

- Provide basic water and sanitation services to IDPs and residents to prevent the spread of diseases.
- At water sources and bulk distribution: Maintain the operation and maintenance of the Mekorot water connection points, including civil works, extension, and replacement of damaged pipelines.

Support the operation and maintenance of the Middle and Southern Seawater desalination plants, as well as the operation and maintenance of water wells.

- At the service provision level (service providers): Maintain the provision of water through networks by conducting quick repairs where applicable and providing interventions related to wastewater treatment works.
- Identify goods needed for the emergency response based on consolidating information on the ground provided by PWA, CMWU, municipalities and humanitarian organizations.
- Identify the needs for essential supplies and equipment to support the operation of the existing bulk supply facilities (i.e. the desalination plants, wells and connections with Mekorot)
- Swiftly mobilize funds under the ongoing operations to help finance the humanitarian aid entering to Gaza through the Rafah border.
- Monitor and update the evolution and extent of damage to water infrastructure, including treatment plants, pipelines, storage, and distribution networks.
- Advance preparation of procurement in anticipation of immediate response after the ceasefire this is in parallel with the continuous advocacy and efforts for facilitating the implementation and entry of already undertaken interventions by different parties .
- Employ satellite and GIS technologies, along with remote sensing tools, to map damage and prioritize interventions.

The focus of this phase will be mainly humanitarian with the IDPs which represent more than 90% of the Gaza population and are under severe shortage of water and sanitation services, and operating main water and wastewater facilities and maintaining accessible infrastructure. Currently, access of the UN agencies have only been possible to the Southern areas but coordination efforts need to continue to ensure these services reach all of Gaza Strip. Some of these activities are already under implementation or preparation by the PWA and CMWU and different humanitarian agencies. The table below outlines the priority intervention to be considered during this phase , divided into three levels of operation (Bulk and water resources, services provision and WASH) .

Phase 1- Immediate Emergency Response :	
Objective: supporting the immediate humanitarian aid as per Flash Appeal to the Gaza Strip in addition to the applicable interventions at this stage which is governed by the importance, impact , availability of material and ease of access	
Level I: Interventions at water sources and bulk distribution	
Description of intervention/ activity	Maintenance of the Mekorot water connection, including civil works, extension, and replacement of damaged pipelines in the bulk water system for water provision.
Responsible Ministry	Palestinian Water Authority
Location	Gaza Strip (North, Central and South)
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Conducting maintenance operations for damages and malfunctions in Mekorot's main lines. • Maintaining pipelines distributing water to municipalities. • Supplying spare parts for main and distribution lines and associated facilities.
Description of intervention/activity	Supporting the operation and maintenance of the Middle and Southern Seawater desalination plants

Responsible Ministry	Palestinian Water Authority
Location	Central and Southern Gaza Strip
Beneficiary categories	Residents of Middle and Southern governorates, as well as shelter centers and displaced populations in both regions.
Implementation mechanisms	• Performing necessary maintenance work for the central and southern plants. • Supplying spare parts for equipment. • Supporting operational expenses of the plants, including providing necessary chemicals and fuel to ensure continuous operation. • Providing alternative energy sources (solar energy) and additional generators to enhance operational capacity and daily production.
Description of the intervention/activity	Supporting the operation and maintenance of water wells
Responsible Ministry	Palestinian Water Authority
Location	Gaza Strip - all regions
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Conducting maintenance work for wells, pumps, and connection point pipelines. • Providing alternative energy sources (solar energy) to ensure well operation. • Supplying electric generators. • Provision and supply of necessary chemicals for operation (chlorine).
Level II: Interventions at service provision (service providers)	
Description of the intervention/activity	Provision of water through networks.
Responsible Ministry	Palestinian Water Authority/Service Providers
Location	Gaza strip
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Immediate repairs to the water distribution system. • Installation of water lines to provide water to displaced populations. • Provision of chlorine, chlorine testing devices, and spare parts for quick repairs.
Description of the intervention/activity	Provision of wastewater services (were applicable)
Responsible Ministry	Palestinian Water Authority/Service Providers
Location	Gaza strip
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Supplying fuel to Rafah Plant and conducting necessary maintenance for its operation. • Operating pumping stationns with no overflow, and supplying fuel for generators to operate, and conducting rapid maintenance to conveyor lines (if operational)

	• Providing mobile sewage pumps to drain and treat areas where wastewater discharge accumulates.
Level III: Water, Sanitation and Hygiene Interventions	
Description of the intervention/activity	WASH Interventions
Responsible Ministry	Palestinian Water Authority in coordination with WASH Cluster
Location	North, Central, and South, and the displaced populations
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Provision and transportation of potable water using tankers. • Deployment and operation of mobile units equipped with solar energy. • Distribution of hygiene kits. • Distribution of bottled water. • Provision of emergency sewage units/toilets and mobile water and sewage pumps. • (For further details, refer to the Flash Appeal.)

The WASH Flash Appeal outlines the humanitarian response plan for the period of April to December 2024 (additional details are provided in Annex 2).

A list of priority needs for the water sector that have already been committed by Development Partners is detailed in Annex 3. Donors are encouraged to contribute or update their commitments within the annex based on the information provided in this phase and the possible support required.

Delivery method

The entry of materials in Gaza is controlled by Israel. The delivery of materials is challenging under normal circumstances and, with the current blockade, presents a real challenge for the delivery of humanitarian aid. The only border post through which any humanitarian aid is allowed is through the border with Egypt in Rafah through the Egyptian Red Crescent (ERC), and the Jordanian Corridor. The ERC has developed a framework for the coordination with humanitarian agencies, and potentially the PA, by signing an MoU. Several UN agencies have already signed an MoU with the ERC and are coordinating the entrance of most basic aid into the Strip.

The entry of material through the Egyptian corridor and Jordanian corridor is applied by the UN agencies. The delivery method will be subject to continuous assessment and recalibrated as the conflict evolves, as outlined herein, to ensure the principles of economic efficiency, ownership, and capacity building in recovery and reconstruction, and would be replaced (when possible) with a less costly option as soon as the situation allows PWA to operate effectively.

Phase 2: Early Recovery and Restoration

The early recovery phase and restoration can be divided into two stages: the initial early recovery phase, occurring in the first few weeks, and the subsequent recovery phase (restoration) , which will be implemented in the months following the ceasefire.

The Initial Early Recovery Phase: To ensure the continuation of essential water supply and sanitation services, in the first few weeks of the post-ceasefire; recovery includes a set of actions aimed at (i) swiftly assessing and

confirming the preliminary assessment of damages; (ii) prioritizing repairs and equipment to achieve the most basic level of service; and (iii) ensuring a continuation of essential water supply and sanitation services. The access to Gaza Strip is expected to remain very restricted and most of the actions will need to be conducted by local contractors and consultants. It is proposed that a pre-approved list of contractors and consultants is established in recognition of the constraints on movements and to expedite the establishment of essential services.

It is worth noting that the interventions under the Initial Early Recovery phase include:

- Rapid assessment and confirmation of the damages identified in the RDNA to water infrastructure, including treatment plants, STLVs, pipelines, storage, and distribution networks.
- Collaborate with PWA and the CMWU to establish a dedicated crisis information management system, streamlining efforts among PWA, WASH Cluster and Development Partners.
- Provide water and wastewater services to IDPs and unserved Communities through establishing water distribution points in affected areas (filling points), deploying mobile water and wastewater treatment units water trucks, community water tanks, and latrines, in coordination with PWA, CMWU, municipalities and national and international humanitarian organizations.
- Utilize water purification methods, such as chlorination or UV treatment, and ensure the provision of necessary equipment and resources.
- Supply needed material for the operation of WASH facilities including fuel supply.

- Repair or replace damaged
    - Conduct rapid repairs for water and wastewater pipes, pumps, tanks, etc.
- Water Quality:
    - Deploy rapid water testing kits at various points within the distribution system to assess water quality.
    - Establish mobile laboratories capable of conducting more comprehensive water quality testing.
    - Ensure the availability of trained personnel to interpret test results.
- Awareness Campaign
    - Collaborate with local organizations and community leaders to conduct awareness campaigns on water health issues.
    - Engage with internally displaced persons (IDPs) through an awareness campaign to promote good hygiene practices.

The Subsequantial Recovery Phase- restoration : A continuation of a more permanent ceasefire would allow reconstruction in the water sector. This requires a holistic approach that addresses both immediate and longer-term needs, such as infrastructure repair and rehabilitation, as well as investments in more comprehensive response. The Palestinian Water Authorty will allow for signing new contracts for the detailed designs, preparation of tender documents, and implementation of a second stage of repairs and rehabilitation of water infrastructure, which would be on a larger scale and include larger works. These would also be implemented by a pre-approved shortlist of consultants and contractors given the market limitations and restrictions, as well as the need to accelerate the restoration of water supply and sanitation services. Activities would include:

- Restore water supply and wastewater treatment plants to full capacity or introduce mobile water supply treatment units for temporary use.
- The support of existing facilities (STLVs) to reach its full production capacity by interventions related to power supply , fuel supply and needed maintenance , this is in addition to interventions to reach the full use of Mekorot pipe lines and related facilities .

- Identify alternative sources and technologies for potable water to reduce dependency on IEC and Mekorot
- Continue repairing pipelines and verify the proper functioning of water storage reservoirs and tanks and if applicable wells, boreholes, and hand pumps.
- Offer training programs for local operators and maintenance staff to enhance their skills in handling water treatment and distribution equipment where needed .
- Collaborate with qualified local and international experts and consultants in training in O&M of water infrastructure facilities.

The table below outlines the priority intervention to be considered during this phase, divided into three levels of operation (Bulk and water resources, services provision and WASH) .

Phase Two: Post-war response and recovery	
Objective : Ensuring timely support to the early stage recovery and restoration of essential services following the ceasefire contributing to the recovery	
Level I: Interventions at water sources and bulk distribution	
Description of the intervention/activity	Sustaining water well operation and maintenance at maximum capacity wherever feasible
Responsible Ministry	Palestinian Water Authority
Location	Gaza Strip (North, Central and South)
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Conducting maintenance on wells, pumps, and connection points pipelines. • Provision of alternative energy sources (solar power) to ensure well operation. • Equipping wells with electric generators. • Supplying necessary chemicals (e.g., chlorine) for operation.
Description of the intervention/activity	Assessment of damages to the North Desalination Plant.
Responsible Ministry	Palestinian Water Authority
Location	Northern Gaza Strip
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Assessing damages and identifying requirements. • Rehabilitating and operating the plant, and installing necessary equipment to rectify damages.
Description of the intervention/activity	Supporting Middle and Southern seawater desalination plants to operate at full capacity.
Responsible Ministry	Palestinian Water Authority
Location	Central and Southern Gaza Strip
Beneficiary categories	Residents of central and southern governorates, including shelter centers and displaced populations.
Implementation mechanisms	Supporting sustainable operational of the plants, including provision of necessary chemicals and fuel ,

	and the provision of alternative energy sources (solar power) to ensure continuous full-capacity operation
Description of the intervention/ activity	Maintaining the operation and maintenance of the Mekorot water connection point
Responsible Ministry	Palestinian Water Authority
Location	Gaza Strip (North, Central and South)
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Conducting maintenance operations for damages and malfunctions in Mekorot's main lines. • Performing maintenance work on distributed lines for municipalities. • Supplying spare parts for main and distributed lines and affiliated facilities.
Level II: Interventions at the service provision (service providers)	
Description of the intervention/activity	Rapid repair and maintenance of critical infrastructure
Responsible Ministry	Palestinian Water Authority/Service Providers
Location	Gaza strip
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Rapid assessment and confirmation of identified damages, where applicable • Rapid repairs and replacement of damaged water and wastewater infrastructure (temporary repairs) • Provision of chlorine, chlorine testers, and spare parts for quick repairs.
Description of the intervention/activity	Restoring operation of wastewater treatment plants
Responsible Ministry	Palestinian Water Authority
Location	Gaza strip
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Assess damages and identify needs • Rehabilitating the Wastewater treatment plants and carrying out the supply, installation and maintenance of the necessary equipment for plants operation • Restarting the wastewater treatment plants to full operational capacity
Level III: Water, Sanitation and Hygiene Interventions	
Description of the intervention/activity	WASH Interventions
Responsible Ministry	Palestinian Water Authority
Location	The North, Central and South, and the displaced populations
Beneficiary categories	Residents and displaced people
Implementation mechanisms	• Provision and transportation of potable water using tankers.

	• Deployment and operation of mobile desalination units powered by solar energy. • Provision of emergency sewage units/toilets and mobile water and sewage pumps. (For further details, refer to the Flash Appeal.)
Description of the intervention/activity	Enabling access to potable water in the northern governorates of the Gaza Strip
Responsible Ministry	Palestinian Water Authority
Location	North Gaza and Gaza City
Beneficiary categories	communities in areas of population concentration and shelter centers.
Implementation mechanisms	• Supplying mobile desalination units for community use. • Authorization for water transportation via tankers.

A list of priority needs for the water sector that have already been committed by Development Partners is detailed in Annex 3. Donors are encouraged to contribute or update their commitments within the annex based on the information provided in this phase and the possible support required.

Phase 3: Reconstruction

As the security situation allows and permissions are granted, field visits will resume to allow for a more comprehensive analysis of the reconstruction needs to be conducted. Procurement would be carried out through a combination of direct contracting and competitive bidding. The activities outlined under this phase include:

- Evaluate/update the water and wastewater masterplan(s) in Gaza according to the damage assessment and the activities in other sectors including mainly the urban planning
- Review the applicability of “Rolling Program of Interventions” and update as needed.
- **Rehabilitation and reconstruction of the water and wastewater facilities according to masterplan and updated interventions’ needs**.
- Conduct feasibility studies for water resources, existing wells with fresh or saline water and possible rainwater harvesting and recharge systems.
- Conduct feasibility study on alternative sources of water supply to reduce dependency through connection points and possibility of future cooperation.
- Implement water conservation programs that encourage residents to use water-efficient appliances and fixtures.
- Invest in equipment such as leak detection technology to minimize water losses.
- Invest in energy efficiency and renewable energy to improve financial viability and resilience.
- Develop a comprehensive master plan for the expansion and rehabilitation of water infrastructure.
- Construction based on the comprehensive master plan, with principle of "Building Back Better" :
    - Construct new water treatment plants, pipelines, and storage facilities with a focus on climate-resilient designs this is in addition to the evaluation of existing facilities and apply upgrading and development of plants where applicable .
    - Construct new wastewater treatment plants and pipelines with a focus on climate-resilient designs , with the consideration of existing plants and the possible upgrading

    - Incorporate renewable energy sources, such as solar and wind power, into water infrastructure for sustainability.
- Collaboration with different stakeholders:
    - Establishing a Reconstruction working group from concerned sectors mainly energy, urban, agriculture, and water to coordinate efforts in line with “Nexus” approach.
    - Collaborate with international organizations and NGOs to secure financial aid and technical assistance.
- For Water quality:
    - Establish a comprehensive water quality monitoring schedule and a network of testing points. And use of technology and sensors as possible to enable real-time monitoring and data collection.
    - As possible develop a public dashboard or mobile app for the dissemination of real-time water quality information.
- Capacity Building
    - Collaborate with universities and vocational training centers to develop educational programs focused on the water sector in Gaza and West Bank and facilitate certification programs for water professionals to augment their expertise.
- Awareness Campaign:
    - Organize community-based clean-up campaigns around water sources and foster women's participation in decision-making processes regarding water resources, in close cooperation with local governments and entities this is to be in parallel to awareness campaign to promote more sustainable and responsible use of water resources

Phase 3 should take into account the long-term challenges, such as promoting sustainable water management practices and building resilience to future conflicts and disasters. Collaboration between government agencies, local communities, and international partners is essential to ensure the success and sustainability of reconstruction efforts in the water sector.

The table below outlines the priority intervention to be considered during this phase .

Phase 3: Reconstruction	
Objective: Reconstruction of water services in Gaza once the situation stabilizes .	
Description of intervention/activity	Reconstruction of the water and wastwater sector.
Responsible Ministry	Palestinian Water Authority.
Location	Gaza strip
Beneficiary categories	All residents within the sector.
Implementation mechanisms	• Expansion and rehabilitation of water and wastewater networks. • Initiating desalination plants, new pipelines, and storage facilities. • Constructing wastewater treatment plants and associated infrastructure. • The provision of alternative energy sources (solar power) shall be considered for the sustainability of water and wastewater facilities operaton.

A list of priority needs for the water sector that have already been committed by Development Partners is detailed in Annex 3. Donors are encouraged to contribute or update their commitments within the annex based on the information provided in this phase and the possible support required.

ANNEX 1: SUMMARY TABLE

	Phase 1 Immediate Emergency Response	Phase 2 Early Recovery and Restoration		Phase 3 Reconstruction
		Early recovery	Recovery	
Description	**Providing urgent humanitarian water and sanitation services to meet immediate needs. Ensuring the continued operation of crucial facilities and infrastructure such as water desalination plants and wells.**	**Imminent threat to human life, environment, safety, health**	**No immediate threat to life, but need to restore vital services**	**System stabilized. Other services restored. Phasing out emergency**
Selection Methods	Need for stocking as appropriate and setting up Framework Agreements for call-off in case event happens. Use of UN Agencies for needs assessments as appropriate	Use simple selection methods such as Direct Selection; Request for Quotations; Framework Agreements; CQS UN Agencies	Use simple selection methods to the extent possible. Use relevant UN Agencies as appropriate	Use simple selection methods to the extent possible. Use UN Agencies as appropriate under TA Agreements as advisors to Borrow to build capacity for phase-out
Goods and Equipment	Bottled water Rapid water testing kits Chlorination tablets Fuel Mobile water treatment units Water tankers and trucks, hose pipes and fittings Community water tanks (5k and 10k liter) and fittings Water Pumps Mobile self-driven sewage pumps Solar PV kits Water treatment chemicals, including decalcification for desal Portable latrines Mobile water quality laboratories	Pumps Spare parts Fuel Bottled water Rapid water testing kits Chlorination tablets Water treatment chemicals, including decalcification for desal		
Works	-Quick repairs when possible. Focus on pre-selection of qualified bidders for response and recovery phase -Maintain operation and maintenance of Mekorot water connection points, including pipeline repairs and replacements.	-Rapid repair and maintenance of critical infrastructure -Repair or replace damaged wells, boreholes, and hand pumps -Maintain operation and maintenance of Mekorot water connection points,	-Second stage repairs of critical infrastructure, and permanent repair pipelines - Ensure proper functioning of storage reservoirs, tanks, wells, and pumps.	-Rehabilitation of wastewater treatment plants -Rehabilitation of desalination plants -Rehabilitation of main blending reservoirs -Replacement of main bulk water supply pipelines

	-Maintain operation of Middle and Southern Seawater desalination plants, as well as water well operations. -Ensure water provision through networks by conducting quick repairs and wastewater treatment interventions.	including pipeline repairs and replacements. -Maintain operation Middle and Southern Seawater desalination plants, as well as water well operations. -Ensure water provision through networks by conducting quick repairs and wastewater treatment interventions.	-Restore water supply and wastewater treatment plants to full capacity or deploy mobile treatment units temporarily. -Explore alternative water sources and technologies to reduce dependency on external providers. This will include also : -Rehabilitation of wastewater treatment plants -Rehabilitation of desalination plants -Rehabilitation of main blending reservoirs -Replacement of main bulk water supply pipelines -Replacement of mechanical an electrical equipment of main water facilities - Rehabilitation of water distribution system - Rehabilitation of the wastewater collection system	-Replacement of mechanical an electrical equipment of main water facilities -Construction of water distribution system -Construction of the wastewater collection system -New treatment plants, pipelines with a focus on climate-resilient designs -New storage facilities with a focus on climate-resilient designs -New Desalination Plants
Consulting Services	- Ongoing damage assessment of water infrastructure, including treatment plants, pipelines, storage, and distribution networks. - Establish dedicated crisis information management system with PWA , the CMWU , municipalities and WASH cluster	- Consultancy services for design and supervision - Consultancy services to contribute to RDNA	- Consultancy for preparation of DDTD for replacement of damaged infrastructure, rehabilitation and water and wastewater facilities and infrastructure	- Master plan for the development and expansion of climate resilient water infrastructure - Collaborate with international organizations and NGOs to secure financial aid and technical assistance. - Revisit the supply of water through connection points and other potential resources
Non-Consulting Services	- Remote sensing imagery to map damage and prioritize interventions. - Utilize water purification methods, such as chlorination or UV treatment, and ensure the provision of necessary equipment and resources.	- Collaborate with local organizations and community leaders to conduct awareness campaigns. - Engage with schools and educational institutions to promote good hygiene practices.	- Establish mobile laboratories capable of conducting more comprehensive water quality testing. - Ensure the availability of trained personnel to interpret test results.	

	-	- Distribute information materials and organize public meetings to disseminate vital information.		

ANNEX 2: Flash Appeals

On 6 November 2023, the first update of the Flash Appeal for OPT with a new financial requirement of US$1.229 billion to meet critical needs for 2.7 million people across the OPT (2.2 million population of the Gaza Strip and 500,000 from the West Bank, including East Jerusalem) from October until end of December 2023 was launched. It outlines the minimum to prevent further loss of life considering the ongoing siege and bombardment of Gaza and the escalating situation in the West Bank. https://www.unocha.org/publications/report/occupied-palestinian-territory/flash-appeal-occupied-palestinian-territory-2023-extension-through-march-2024

This plan included 148.6 million USD for WASH response in Gaza and West Bank for the period of October 2023 to March 2024, however the funding received was only around 72 million USD.

The Flash Appeal for April to December has a humanitarian budget estimate of 280 million USD (for Gaza) and has the following priority activities:

- Increase access to safe water through operations, maintenance and repairs of water infrastructure, including provision of fuel, supplies and consumables; increase production through development of new water sources, water treatment plants and water supply systems; emergency water supply through bottled water and water trucking, including storage and distributions at community and IDP sites; and water quality surveillance and provision of chlorine, water testing kits and consumables for water treatment

- Increase access to sanitation through provision of emergency sanitation facilities such as latrine, showers, and waste management at community and IDP sites through construction, operations, maintenance, and repairs; fecal sludge management; solid waste management services at community and IDP sites, including through scaled-up deployment of municipal workers; and operations, maintenance and repairs of sewer system including septic tanks, pumping stations and small-scale (decentralized) wastewater treatment plants.

- Address hygiene concerns by providing hygiene kits, disinfection materials, cleaning kits and services for community and IDP sites; promote the upkeep, appropriate utilization, and care of WASH facilities at IDP sites and community level through ownership and capacity building with consideration of gender and disability.

- Flood mitigation through operations, maintenance, and repairs of stormwater facilities, including development of storm water management at community and IDP sites.

- Water and sanitation facilities maintenance, and hygiene promotion at healthcare facilities and temporary learning centers.

- Provision of essential WASH supplies including fuel/power for facility operations and electromechanical supplies for infrastructure maintenance.

For more information :
https://www.ochaopt.org/content/flash-appeal-occupied-palestinian-territory-2024

ANNEX 3: Activities undertaken/ Committed by Development Partners

The table below reflects priority needs for the water sector that have already been committed by Development Partners. Donors are encouraged to contribute or update their commitments based on the different phases of the ERAP within the belowtable

Phase 1- Immediate Emergency Response Phase					
Location	**Activity**	**Quantity (Unit)**	**Duration**	**Estimated Cost (US$)**	**Potential Donor**
South	Fuel	500,000 (liters)	1-3 months	690,000	WB through UNICEF
South	Family hygiene Kits (Egypt)-	40,000	1 month	3,000,000	WB through UNICEF
South	Delivery of Water Container 10L collapsible	12,000	3 months	39,360.00	WB through UNICEF
South	Delivery of tank, collapsible, 5000l	12	3 months	32,453.28	WB through UNICEF
South	Emergency Latrines - Plastic Tarpaulins sheets - Squatting plate - -Pan and "P" trap, for sq. plate - Supply and Installation	500	1-6 months	1,415,000	WB through UNICEF
South	Water Trucking services	600m3/day	1-6 months	600,000	WB through UNDP

Phase 2- Early Recovery and Restoration Phase (Initial)				
Location	**Activity**	**Duration (months)**	**Estimated Cost (US$)**	**Potential Financiers**
All Gaza Strip	Rapid assessment and confirmation of the damages identified	Weeks (after ceasefire)	TBD	**WB/EU/UN**
All Gaza Strip	Consultancy services for design and supervision	0-3	TBD	**Not yet defined**
All Gaza Strip	Consultancy services to contribute to RDNA	0-1	TBD	**Not yet defined**
All Gaza Strip	Establish mobile laboratories to conducting water quality testing.	0-3	TBD	**Not yet defined**
All Gaza Strip	Awareness campaigns in cooperation with humanitarian agencies	0-2	TBD	**Not yet defined**
Repair and maintenance of critical infrastructure				
Middle & South	Cover operational and maintenance Costs of middle and south STLVs (fuel, Chemicals, Anticalins)	0-3	TBD	EU through UNICEF
Middle & South	Repairs of spot damages along the transmission pipeline related to the Southern STLV	0-3	TBD	EU through UNICEF
All Gaza Strip	Maintain Operation of accessible needed water wells (fuel, Solar panels, chlorine, and generators	0-3	TBD	**Not yet defined**
All Gaza Strip	Supply and install small scale Desalination/brackish units	0-3	TBD	EU through UNICEF
Middle &South	Water trucking services	0-3	TBD	EU through UNICEF
Middle &South	Construct filling points	0-3	TBD	EU through UNICEF
	Operate wastewater pumping stations (fuel & generators)	0-3	TBD	**Not yet defined**

	Operate accessible wastewater Treatment Plant in Rafah (pumping stations, mobile pumping stations, generators, fuel, & desludging vacuum trucks)	0-3	TBD	**Not yet defined**
North	Supply Fuel	0-6	1,242,000	WB through UNDP
All Gaza Strip	Supply of Water Tanker truck	0-6	600,000	WB through UNDP

Phase 2- Early Recovery and Restoration Phase (restoration)				
Location	Activity	Duration	Estimated cost	Potential donor
North	Repairs of the North **STLV** (West Gaza City)	months (12) (after ceasefire)	TBD	**Not yet defined**
Middle and South	Restore the operation the STLVs to full capacity	Weeks to months (after ceasefire)	TBD	**Not yet defined**
All Gaza Strip	Immediate repairs of wells with partial damages	Weeks to months (after ceasefire)	TBD	**Not yet defined**
All Gaza Strip	Immediate repairs of the water distribution system where accessible (Chlorine testers & spare parts)	months (after ceasefire)	TBD	**Not yet defined**
All Gaza Strip	Consultancy for preparation of DDTD for replacement of damaged infrastructure	0-6 months	TBD	**Not yet defined**
All Gaza Strip	Resume the operation of the 5 wastewater Treatment plants	0-6 months	TBD	**Not yet defined**
All Gaza Strip	Resume the operation of wastewater pumping station where possible This is to include immediate response after ceasefire to operate the main pumps with partial damages and plan dealing with the accumulation of wastewater untill the rehabilitation and repair works are done using mobile wastewater pumps .	0-6 months	TBD	**Not yet defined**

Phase 3- Reconstruction				
Activity	**Quantity (Unit)**	**Duration**	**Estimated Cost**	**Potential Donor**
Rehabilitation/reconstruction of wastewater treatment plants	TBD	1-5 years	TBD	Not yet defined
Rehabilitation/reconstruction of desalination plants	TBD	1-5 years	TBD	Not yet defined
Rehabilitation of main blending reservoirs	TBD	1-5 years	TBD	Not yet defined
Replacement of main bulk water supply pipelines	TBD	1-5 years	TBD	Not yet defined
Replacement of mechanical an electrical equipment of main water facilities	TBD	1-5 years	TBD	Not yet defined
Reconstruction of water distribution system	TBD	1-5 years	TBD	Not yet defined
Reconstruction of the wastewater collection system	TBD	1-5 years	TBD	Not yet defined