



Activities and Interventions of the Coastal Municipalities Water Utility during the war on Gaza 2023-2024

October, 2024

Abstract

Since the beginning of the war on the Gaza Strip on 7th October, 2023 which resulted in severe damages in all aspects of life, including water and sanitation services, which are among the most important components of life and resilience, the CMWU has been working since the first day in cooperation with PWA, its partners, and international humanitarian institutions to provide the minimum life-saving water and sanitation services, through production, transportation and distribution of drinking water to shelter, the CMWU distributed the potable water during the war period by its owned **17** water trucks, the distributed water up to date is more than **1.42 million cubic meter**. Moreover, the CMWU has rented **15** trucks and installed water tanks on them to be used in transporting and distributing water in order to enhance the system capacity in various areas.

Also, the CMWU, through daily operational activities, has been able to pump domestic water from wells through the distribution networks in an amount of **15.8** million cubic meters during the war period, which is no more than 20% of the operational rate for the same period before the war, in addition to continuing maintenance infrastructure damages in different areas of the Gaza Strip, where more than **630** maintenance and repair jobs were carried out, including desalination plants, wells, sewage pumping stations, water and sewage networks, well generators, and electromechanical maintenance. The maintenance process is carried out after obtaining prior security approvals from the Israeli side through international institutions and PWA, in order to preserve the lives of workers from technical and operational crews affiliated with the CMWU or contractors. However, despite this, 7 of CMWU employees were martyred while performing their field work related to daily operation and maintenance activities.

With all electricity supplies being cut off by the Israeli side, in addition to stoppage of Gaza power plant since the beginning of the war, the CMWU, through cooperation with various partners, was able to distribute **4.10 million liters of fuel** in order to ensure the operation of standby generators, to run water production and pumping facilities, sewage pumping stations, and sewage treatment plant in t, the fuel is received from the United Nations Relief Agency through UNICEF Fund, and the CMWU stores the fuel in 2 central stores, and then distributes it to **190 water and sanitation facilities**, including desalination plants, wells, sewage stations and pumping stations in addition to desalinated water tanks. The fuel distribution process is subject to a monitoring system, where monitoring is

carried out through UNICEF via A local field consultant, and UNOPS. In this context, despite the Israeli prevention of the entry of fuel into the Gaza and North Gaza governorates since the beginning of November 2023, the CMWU has secured available quantities through ICRC fund through a direct purchase from gas stations in the governorates.

The CMWU has also worked to receive and distribute water tanks and gallons of different sizes, which are being installed in places of displacement as emergency response measures. Perhaps one of the most important activities that the CMWU is still carrying out, in addition to providing water and sanitation services, and in light of the severe population overcrowding that various regions are suffering from, The CMWU ensures the process of sterilizing and disinfecting water sources by distributing the chlorine to various wells and desalination plants. more than **100,000 liters** have been distributed since the beginning of the war, in order to avoid more diseases and epidemics the CMWU has stored quantities of sodium hypochlorite solution with a concentration of 10% effective chlorine, which is sufficient for two months to sterilize the water produced in the south and north of the Gaza Strip, in addition to many activities that would strengthen the steadfastness of Citizens

knowing that these activities and works are carried out in advance coordination with the Israeli side through the Water Authority and international institutions in order to ensure the safety of workers, whether CMWU employees or contractors. The CMWU, in accordance with the requirements of the emergency preparedness plan, has provided the Israeli side through ICRC and the Coordinator's Office. The CMWU provided the coordinates of its facilities, in addition to the main stores in Khan Yunis and the main headquarters in Al-Zahraa, to avoid being targeted during the war, since these facilities are essential for the continued work of the CMWU, but the Israeli war directly targeted them and destroyed them completely, which resulted in losing the water sector central warehouse., it was a devastating blow to the ability to deal with various field maintenance requirements. However, the CMWU was able, with the support of international partners, to gradually return and overcome to some extent this major damage, and it continued to provide services according to the available capabilities, as new water sources were provided, such as a desalination plant. Which was established with Emirati funding on the Egyptian side, and which had a significant impact by providing water to hundreds of thousands of displaced people in the areas west of Rafah Governorate, as the CMWU implemented all the necessary constructions to pump and distribute this water from this station to the existing networks in Rafah Governorate, which is home to about 1.4 million citizens.

The continuous follow-up and monitoring the levels of infrastructure destruction in various regions, and according to initial estimates, the process of repairing and rebuilding various facilities, systems and infrastructure and reviving the system again in all governorates of the Gaza Strip is estimated at approximately **450 million dollars till the end of October 2024**, The reconstruction of infrastructure and the operation of facilities are considered among the most important priorities immediately after the end of the war, in order to enhance the resilience of the population, protect public health, and limit the spread of epidemics and diseases, according to a matrix of interventions starting from the current and urgent repairs, and reaching the restoration and reconstruction stage.

The continuing stressful state of war and the weakness of available resources have created a state of catastrophic depletion of the remaining functioning water and sanitation facilities and systems. This is not evidenced by the consumption of electricity generators, which have become the heart of the system in light of the cutting off of all electricity supplies from the sector for more than six months. The continued subjection of supplies through the crossings to the dual-use mechanism and standards has completely prevented the entry of any equipment and spare parts for the water sector, which will lead to the gradual cessation of many facilities that are still operating and have not been destroyed militarily. Moreover, the recent closure of all crossings resulted in a severe deterioration of water sector as most of facilities stopped its operation due to shortage of fuel whereas many appeals were raised to all humanitarian and international organizations to help and facilitate entering the needed fuel for operating WASH facilities.

1. Introduction:

As a result of the war on 7th October 2023, more than two million people were displaced from Gaza and north Gaza to the southern governorates upon the Israeli Defense Forces (IDF) instructions, in addition to the complete cutoff electricity supply and water supply. Also this war resulted into the destruction of large part of the water sector infrastructure, restrictions on the supply of materials, equipment, fuel and spare parts for water and sanitation facilities, which had a catastrophic impact on the water supply and wastewater services.

On 14th October 2023, Israeli forces geographically divided the Gaza Strip into two parts. The first part is the northern areas of Wadi Gaza, which includes the Northern and Gaza Governorates. The second part is the southern areas of the Wadi Gaza, which includes the central area, Khan Yunis, and Rafah Governorate. As a result of the intense hostilities and the violent air, land and sea strikes and

the subsequent ground military invasion of the Gaza Strip, which led to the systematic destruction of all aspects of life, including severe damage on water supplies and sewage collection and treatment systems in the northern regions, including water wells, tanks and stations. Pumping sewage, treatment plants, and networks attached to it, and with the Israeli side cutting off all electricity lines and Mekorot water lines supplied to the Gaza Strip and completely from the Gaza Strip, in addition to stopping all supplies of fuel, and with the displacement of more than 90% of the population from north to south, The capacity of water and sanitation systems has been catastrophically affected and is unable to meet the minimum requirements required of them. The existing networks in the northern region have also become unsuitable and ineffective for distributing water to the population, and despite the reliance of the residents of the northern regions on supplying water through gallons from water wells, and despite the severe shortage in quantities below the emergency 15 liters per person per day, this has become a high risk of pollution, which affects public health.

As a result of the continuous Israeli military operations, this also led to the displacement of part of inhabitants of the middle and southern governorates cities , such as Al-Maghazi, Al-Bureij, Khan Younis governorate, and the eastern villages of Khan Younis, where the displaced are currently concentrated in Al Mawasi in Khan Younis and Dair Al Balah city in the middle area, as this displacement led to great pressure on the water supply and distribution and wastewater collection systems, with electricity supplies cut off in all Gaza Strip since the first day of the war. Moreover, after more than 12 months of this war, about 0.4 million people in the northern areas of wadi Gaza are cut off from all and any humanitarian aid. They are starving, in a state of extreme thirst, and in great difficulty to obtain a drop of water. The Mekorot water line was also cut off since the first day of the of war. The middle and Khan Younis Mekorot connections have been re-functioned in November 2023 with 70% of the original capacity, where Al Montar connection in Gaza have been re-functioned in May 2024 with its full capacity (20,000 m³/day), in addition with the destruction of the northern seawater desalination plant and sever damages on the water and wastewater networks and systems. There is no fuel to operate the remaining water and sanitation facilities, and the population is concentrated in the southern areas of the Wadi Gaza in unofficial displacement camps, in addition to a large number of displaced populations in open areas along the coastal side.

The capabilities and resources available in Al Mawasi and/or Dair Al Balah areas whereas most of displaced people are concentrated are not adequate to cover the water needs. Therefore, CMWU was

obliged to supply water to citizens through water tankers owned by CMWU, in addition to seeking for the tankers from the private sector. Even though, but still there is water supply gap and an urgent need for additional tankers to distribute water in western Khan Yunis, and the middle Governorate. As for Gaza and the North Governorate, the situation is more difficult as a result of their exposure to major destruction of various water facilities and because they are considered under military operation areas and are subject to severe siege and fuel is not allowed to enter to operate water and sanitation facilities, which has led to stopping most of water and wastewater facilities of operation and services being halted.

2.0 Activities of the Coastal Municipalities Water Utility during October 2024:

2.1 Operation of Water Supply Facilities

2.1.1 Seawater Desalination plants-STLVs

1- Al Bassa seawater desalination plant – Middle Area

The CMWU is still operating the seawater desalination plant in the Middle area (Al-Bassa) depending completely on the existing generators (2*1600 KVA and 1*900 KVA), now adays, one Generator 1600 KVA is working and the other one is standby, where the 900 KVA generator is dedicated for the old Desalination plant which is still under repair. The desalination Plant provides average daily **2,100 m³** drinking water to the people in the displacement areas. CMWU supplies water through water tankers, owned by CMWU, or the private sector tanks, which represented a turning point in covering the needs of the population and citizens with desalinated water in addition to 23 filling point, originally 22 water filling points are exist, recently CMWU has installed additional 10 filling points all around the desalination plant.



Providing displaced people with desalinated water

2- Southern Gaza seawater desalination plant (SGDP)

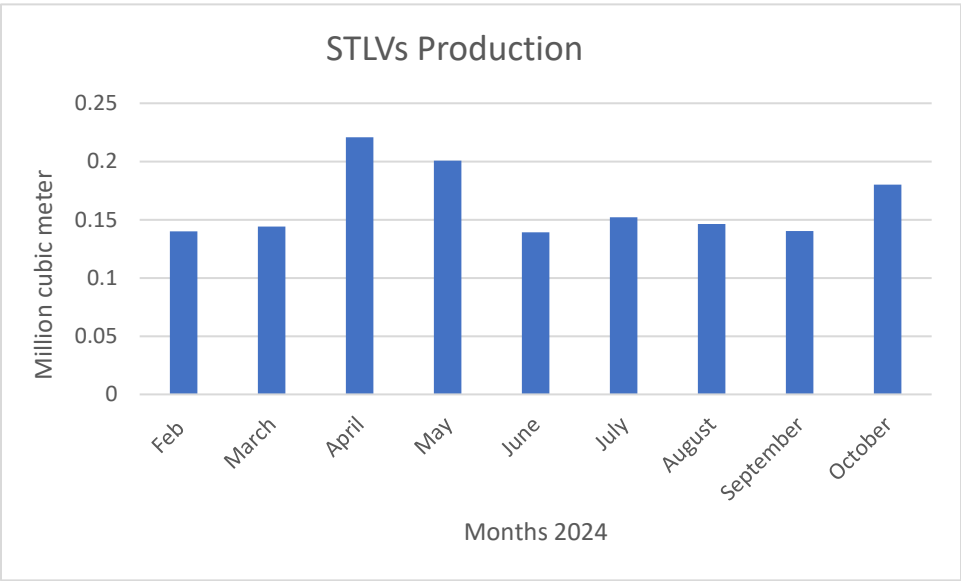
The CMWU is operating SGDP depending completely on the existing generators and its current daily production is approximately 3000 m³/day, where CMWU in cooperation with PWA are working to connect the plant with the dedicated electricity line 5 Mega watt to operate the plant with its full capacity to produce 20,000m³/day. Gaza Electrical Distribution Company GEDCO. is working on the repair of the electrical dedicated line from the Israel side (F11 feeder) to the Desalination plant. The CMWU also supplies water through water tankers, owned by CMWU, or the hired private sector tanks.

3- Emirati Desalination plant to the Saudi water tank

A desalination plant with a capacity of 2,400 cubic meters per day was established at the Egyptian side financed by the United Arab Emirates through the Emirates Red Crescent, and was operated in December 2023. The pipeline was connected to the closest water network and also a filling point has

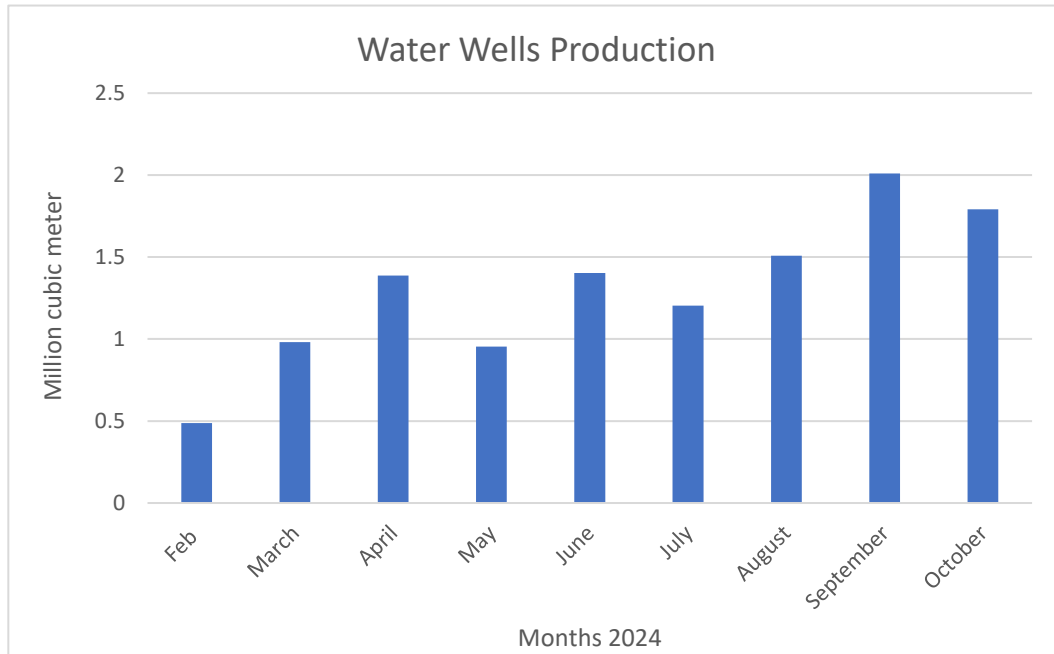
been installed. Since mid of May 2024 till the period of this report, this plant is not operational due to the Israeli invasion at Rafah area and the destruction of the water carrier lines. However, the Emirati Red Crescent has expanded and increased the production capacity of the plant in the Egyptian side to reach 10,000 m³/day, this expansion aims to secure a safe source of drinking water for Rafah governorate after completion the military operation as most of Rafah WASH facilities are completely destroyed during the war.

The below figure shows the STLVs production from February till October 2024, the records show a remarkable drop in water production since May due to stoppage of Emirati plant



2.1.2 Operation of Water Wells

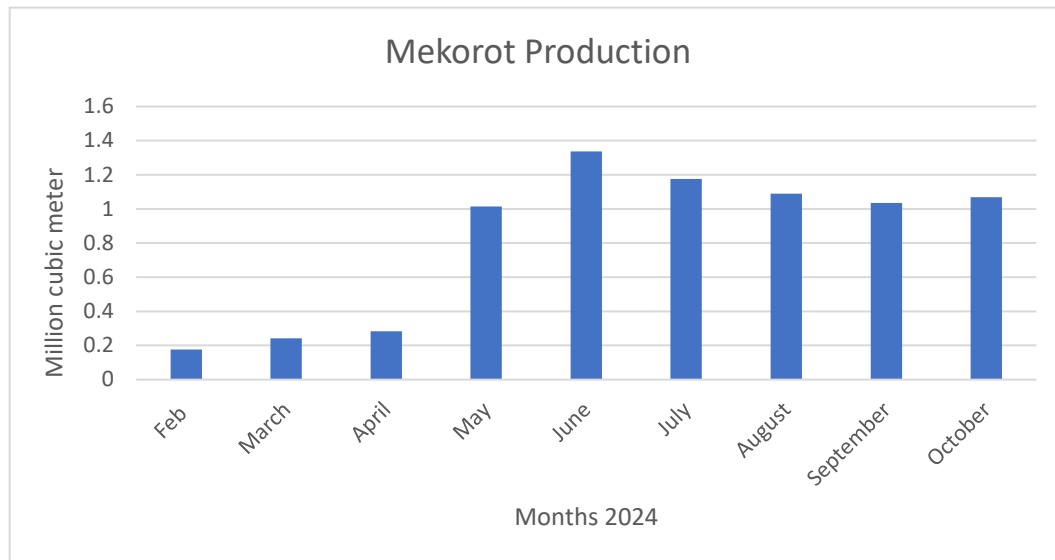
Limited water wells are still operational during war as most of water wells are partially or completely damaged, hence the daily domestic water production from wells does not exceeds 60,000 m³ (20% of the original production). The below figures show the records of monthly water production from February till October 2024, whereas this fluctuation in water production depends on fuel availability, security issues and status of facility (operational or damaged) during this period. The remarkable increase of water production during the last two months referred to the recent repairs carried out by CMWU which brought many wells into operation especially in Khan Younis and middle governorates, where the drop in water production during October referred to the ongoing military operation in the north of Gaza which resulted in stoppage most of water wells there.



Wells Production from February to October 2024

2.1.3 Mekorot Supply

There are Three Mekorot water supply Connections from Israel: The first in the middle governorate called Ben Saed with capacity 14,000 m³ /day, the second is Khan Younis connection with capacity 16,000 m³/day, the third for Gaza governorate with 20,000m³/day capacity. Mekorot connections have been partially damaged and closed during the war and after negotiation with the Israeli side through PWA. The connections were reactivated again to serve the people and to assure providing the minimum level of water supply along with water wells and desalination plants. The below figure shows a fluctuation in water production which depends on security issues and status of carrier lines and pumping facilities (operational or damaged) during this period.



Mekorot monthly production from February till October 2024

2.2 Operation of Sewage Facilities

2.2.1 Sewage Pumping Station

Limited sewage pumping station are still operational as most of them are partially or completely damaged especially in Khan Younis, Rafah and Northern governorate, which enforces the CMWU to divert the flow directly to Wadi Gaza at the middle area, where in other governorates the untreated flow is diverted to the sea and in some areas, where are no discharge destinations the sewage accumulates in streets and usually evacuated and fixed by CMWU vacuum and suction trucks.

The CMWU still evacuates through its suction trucks the sewage from flooded areas in Kha Younis and Dair Al Balah where IDPs are concentrated. whereas the recent received truck 6m3 from ICRC enhanced the CMWU capacities to handle such floods during this challenging time. This truck was purchased before the war at the end of 2022, and due to the destruction of more than 70% of resources and heavy machinery, it was crucial to supply this truck, also the



CMWU asked its partners to supply more suction and jetting trucks to control and eliminate floods especially in shelters where IDPs are exposed to diseases and public health hazards.

2.2.2 Operation of Wastewater Treatment Plants

There were five operational waste water treatment plants in the Gaza strip, three of them are newly constructed (Khan Younis WWTP, Al Bureij WWTP and North Gaza WWTP), whereas the other two plants are considered intermediate plants located in Rafah and Gaza city.

During the war the operation of the three central plants stopped due to the severe destructions in their main structures, also the operation staffs could not reach safely to these plants as they are very close to the eastern border. As a result of this stoppage currently most of generated sewage is diverted to the sea without treatment causing pollution along the coastal side.

In order to mitigate the hazards resulted from discharging untreated sewage to the sea and the frequent floods in Khan Younis governorate where most of IDPs concentrated, the CMWU and PWA has formed a technical committee to inspect and assess the damages of East Khan Younis WWTP (26,600m³/day) . The visual inspection shows that the damages can be handled, and based on that, the CMWU has prepared a proposal for recommissioning of KHWWT and shared it with the interested donors to be included in their plans for the coming year.

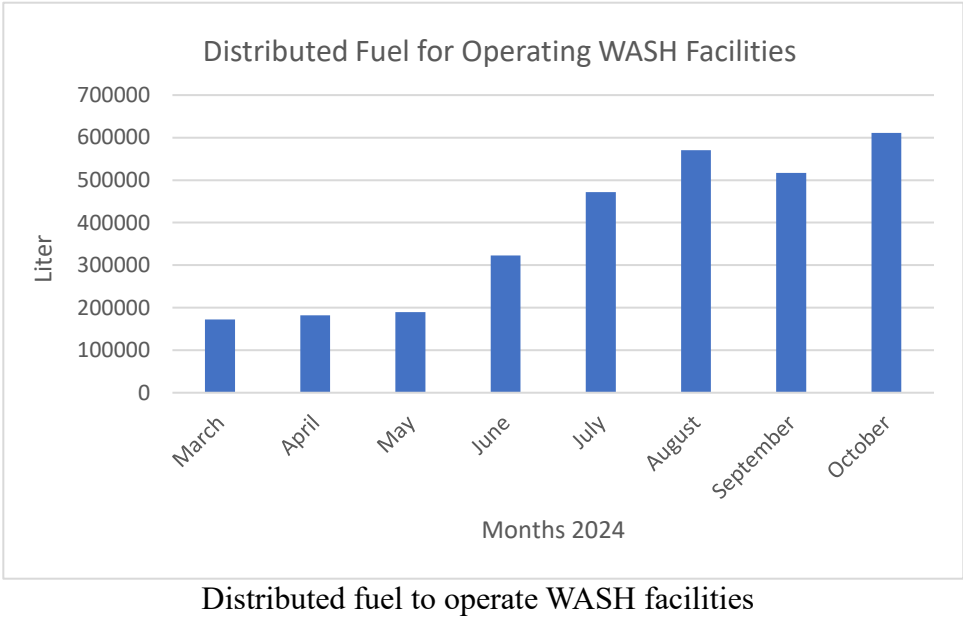
2.3 Providing Fuel to Operate WASH Facilities

Through UNICEF fund, the CMWU in cooperation with UNRWA still provides WASH facilities in the Middle and Khan Yunis Governorate with diesel, in order to ensure the operation of these facilities and provide the population with water and sanitation services, especially in light of the continuation of the Israeli war on the Gaza Strip.



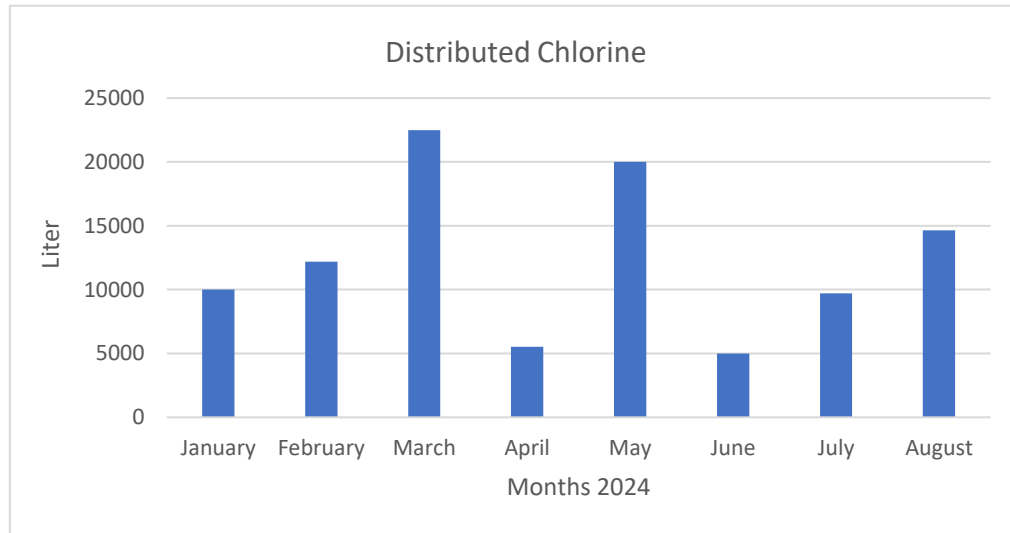
During the past few weeks, the CMWU has raised many appeals to international and humanitarian organizations to help in securing the needed fuel for operating WASH facilities after stopping the entry of fuel from all Gaza crossing especially Rafah crossing which has been closed due to Israeli military operation there. The CMWU in cooperation with PWA exerts all its efforts to secure some quantities of fuel to operate the facilities in the minimum level and that definitely affected on the wastewater services and water supply which are already deteriorated over the past months.

The below figure shows the distributed fuel for WASH facilities from March to October 2024, it shows that there is an increase in fuel supply during the last three months as the need of operation water supply facilities is highly important to meet the minimum level of water demand in such days, in addition during the report period many of damaged/malfunctioned WASH facilities have been maintained and brought back into operation which increased the consumption of fuel as all facilities are operated by electrical generators .



2.4 Supply Chlorine for Water Disinfection

Through UNICEF and ICRC fund, the CMWU has been providing water supply facilities with the needed chlorine solution for water disinfection. over months there is a remarkable fluctuation in the distributed chlorine and that depends on the security issues ,continuation of military operations in Gaza Strip which resulted in destruction of water facilities However, the CMWU has been working on repairing the affected facilities to bring them back into operation, therefore in some months the distributed chlorine increased and in others decreased, Moreover, during September and October there was no chlorine supply which led the CMWU to raise many appeals to UNICEF and international agencies to secure the needed quantities and still waiting the response.



2.5 Water Supply and Water Trucking

2.5.1 Providing UNRWA Schools with drinking water:

The CMWU is still supplying UNRWA schools' shelters with drinking water since the beginning of the war through a contract signed with UNRWA for more than 120 schools and shelters. The average water supplied to IDPs is 150 cubic meters per day.

Also, During the war, CMWU has started distribution with UNRWA to provide domestic water for 60 UNRWA schools with estimated quantity of 50 m³/day.



2.5.2 Water Distribution to Various Shelters

The CMWU continues to supply shelters and residents with potable water, especially in light of the increasing need for drinking water in summer and the continuation of the Israeli war on the Gaza Strip, in cooperation with international and local institutions. The CMWU distributes about 1.5 million liters of desalinated water daily to various shelters.



2.5.3 Providing Additional Water Tankers

Through ICRC support, the CMWU has received two Volvo water tankers with 10m³ and 5m³ capacity, the tankers will be utilized for distribution drinking water to shelters and IDPs to alleviate their suffering.



2.5.4 Water Distribution through private tankers at the Southern Governorates

Through ICRC fund the CMWU has hired private tankers to deliver the drinking water to displaced people. CMWU is still providing the shelter with the needed water through the hired trucks. Those trucks provide desalinated water to the IDP's in Khan Yunis and Rafah Mawasi with average of 180 cubic meters daily.



Moreover, and to find urgent emergency and effective alternatives to the crisis of providing healthy and safe water in displacement areas, especially the crowded areas west of Khan Yunis and reaching west of Rafah, the CMWU in cooperation with ICRC, has hired four private water wells with their distribution network with a daily production capacity 2,500 cubic meters per day.



2.5.5 Installation of Desalination plant and drilling a new water well at the CMWU Warehouse in Khan Younis

Through UNICEF fund, the CMWU is still working in the installation of brackish water desalination plant (50m³/hr) at the CMWU warehouse in Khan Younis besides drilling a new water well 70m³/hr. The CMWU is still waiting the coordination for entering the submersible pump of the water well to operate the plant. This plant was dismantled from Ben Taimiya desalination plant at Rafah before few days of military operation to be installed in another location where IDPs are concentrated to assure providing them with their needs of drinking water.



2.5.6 Activation of CMWU Mobile Lab:

The CMWU resumes the water monitoring program through its new field lab which was provided by WHO after destruction the CMWU central lab in Al Zahra city in March 2024 , This mobile/field lab contributes to monitor the quality of drinking water to assure that the distributed water to residents and IDPs is safe and free from pollutants. .



2.6 Repairing and Fixing The damages of infrastructure and WASH Facilities

2.6.1 ICRC Financed Emergency interventions:

An agreement was signed between the CMWU and ICRC to implement a group of emergency interventions and activities. Some of these activities were implemented, and others are still ongoing which include:

Supply disinfection materials related to the chlorine dosing and desalination system: CMWU provides through this contract more than 40 dosing pumps and chemicals to assure water disinfection. 4 variation orders have been issued to cover the needs of all municipalities including the northern governorates. All the works under this contract have been completed, and during October the last 10 repairing kits have been supplied for Beit Hanoun.

1- Electrical Repairs for damaged electrical panels of water and wastewater facilities: electrical panels of water wells, reservoirs and sewage pump stations have been repaired and the work is still ongoing to accomplish the works. During the report period the repairs took place in the following facilities:

- Operation of the second pump at Al-Wafiya pump station in Khan Younis.
- Supply and installation of a bearing for the feed pump at the desalination plant in Al-Bass
- After importing the unavailable materials from North of Gaza all the works under this contract have been completed



2- Repair and Maintenance of Vehicles and Heavy Machinery: A program of maintenance of water trucks, excavators and operation vehicles started since March 2024 and is still ongoing for maintaining vehicles. During the report period 10 vehicles have been repaired.



3- Hiring of Heavy Machinery for Water Facilities and Networks Repairs, to cover the repair works carried out by municipalities teams, the CMWU through ICRC support provides the heavy machinery, during the report period the following machinery were hired to cover the repair works in different municipalities:

- Maintenance of wastewater networks in AL Nusairat municipality.
- Maintenance of wastewater pipeline in Al mashala area in Dair Al Balah



5. Service contracts for Repairs of Water Facilities: this contract includes repairing the damages of water facilities in Khan Younis and middle area, during the report period the following facilities have been repaired

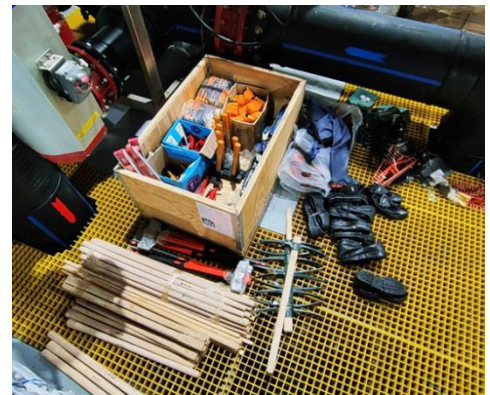
- Maintenance of tarzi well in Deir Al Balah including replacing the lower bearing for the electrical motor.
- Maintenance of Al Sawarha well & Al Rawda well in Al Zawida.
- Preparing the work for maintenance of Al Nwery well in Bani Suhaila, waiting to get approval of coordination for work.
- Preparing work for maintenance of N-22 well in Abasan AL Khabira, waiting to get approval of coordination for work.
- No work in rewinding the electrical motors, waiting to get approval to transfer the motors to the workshop in the north of Gaza

6. Supply Tools for CMWU maintenance crews

This contract includes supply of tools and equipment for protection and to facilitate the maintenance works of CMWU and municipalities crews, the contractor started in delivering the materials in the CMWU warehouse, the delivered items are:

1. Safety shoes
2. Trowel Set Plastering Building Pointing Bricklaying Tuck Tool
3. Straight Rake with Ash Handle
4. Handle Round Point Digging Shovel.
5. Pick Axe with Wooden Handle 3Kg Pickaxe Heavy Duty.

During October all remaining tools and equipment under this contract have been supplied and distributed to municipalities.



7. Maintenance of Al Bassa Seawater Desalination plant

Maintenance works for Al Bassa Seawater Desalination plant 2000 m3 a day, 90% of the works have been completed, the remaining item is the operation of the plant and to proceed in the operation there is a need to repair one of the existing motors which is not a part of the original contract, in this regards a variation order has been issued to cover the repairing of this motor and the contractor started the repair works end of October.

8. Emergency Repair and Maintenance For Generators of Water and Wastewater Facilities

The maintenance and repair works took place in the following WASH facilities:

- Southern Desalination plant/ the two 680 KVA Generator: Regular maintenance (changing oils and filters) and replacing the radiator for one generator.
- Al Bassa desalination plant/ the two 1600 KVA Generator: Regular maintenance (changing oils and filters).
- Oil and filter changes and necessary maintenance for the following facilities:
 - Gaza: Batsh Well, Suqia Makkah, Sheikh Radwan 7, Sheikh Radwan 11, Shashaa, Safa 5, Yarmouk, B7 Sewage Station
 - Bani Suhaila: Abu Samour Well, Ansar and Qudsi
 - Fukhari: Fukhari Well
 - Jabalia: Abu Rashid Sewage Station, Nazla Well, Abu Shurukh East, Mahader Pump
 - Zawaida: Zawaida Tank
 - Nuseirat: USAID Nuseirat Tank
 - Khan Younis: Amal Well, Isra, Ayya
 - Deir Al-Balah: Al-Muntazah, City Desalination
 - Dair Al Balah: Shawqi Water well - Tarazi Water well - Abo Areef Water well - Al Basheer Water well



9. Hiring of water wells in Khan Younis

The CMWU through ICRC support has hired 4 private water wells in Khan Younis to pump 2,000 m³/day to serve Al Mawasi area in Khanyounis, in parallel the CMWU is still working on repairing the damages of water wells to bring them into operation. However, the shortage of materials complicates the repair works and only limited wells in Khan Younis are operational now, which leads the CMWU to continue hiring these wells to meet the high water demand for residents and IDPs.



10. Emergency repairs of sewer lines jetting & back hoe vehicle

The maintenance of Khan Younis two jetting trucks and the back hoe has been completed, where there is no available materials to repair the jetting truck of Dair Al Balah, in this regards the CMWU has sent a coordination request to facilitate the entry of the needed materials from Gaza city to carry out the repair works and still waiting the coordination approval.

11. Service Works for Repairs of Water Facilities- Phase II

Waiting of materials availability to continue the repairs works, Awaiting coordination to bring materials from Gaza City.

- Two months ago A coordination request was sent for transferring 11 electrical motors to a maintenance workshop in Gaza city as there are no specialized workshop nor available materials in the southern governorates. Unfortunately, the coordination approval is not obtained yet.
- The remaining maintenance works under this contract depend on maintaining these motors to bring back 11 water facilities into operation.

12. Hiring of Heavy Machinery to Support CMWU in Repairing Activities at Gaza City

Through this contract the following repairs have been carried out in October in Gaza city:

- Maintain 2 Manholes in Al Samer area
- Maintain UPVC 14 inch Water Pipes at Sahaba area
- Maintain UPVC 10 inch and 6 inch Water Pipes at Al Ahrar street
- Maintain 12 inch UPVC Pipe at Al Yarmok Street
- Maintain 10 inch UPVC Pipe at Al Mena area
- Maintain 4" pipe (Two points) in AlRemal - near Shawa & Hosary building
- Maintain 2" pipe in AlRemal Al Jondi Al Majhool
- Maintain 4" pipe in AlRemal City Star Cross road
- Maintain 6" near Palestine Stediam
- Debris removal for Beer Al Sabee (Yarmok) Water Well
- Maintain 2" pipe in Al Nafaq Street
- Debris removal for the street near Dair Al Lateen to discover Water Point
- Install 12" Steel Pipes in Al Naser Street
- Debris removal In Municipal garage
- Welding 12" Steel Pipe in Al Naser Street
- Cleaning and preparing the Sabat well for operation.
- Maintenance of a 3" pipeline and a 4" pipeline on Al-Jalaa Street, with a length of 25 meters.
- Maintenance of a 4" pipeline at Abu Olba Intersection.
- Repairing plastic barrels inside the municipal garage.
- Inspection and maintenance of a 10" iron pipeline at the General Security intersection.
- Maintenance of a 6" pipeline at Palestine Roundabout.

- Maintenance of the Safa well.
- Maintenance of a 12" pipeline on Salah Al-Din Street, opposite Daloul Station
- Welding of 12" iron pipeline.
- Cleaning and removing fill from Sheikh Radwan Well No. 1.
- Clearing and removing fill at the municipal garage.
- Inspecting a 2" iron pipeline.
- Cleaning and removing fill at the Red Cross warehouse.
- Installing an end cap on a 2" iron pipeline.
- Locating and exposing a water network valve manhole.
- Additional cleaning and removal of fill at the Red Cross warehouse.

13. Maintenance and Rehabilitation of CMWU Central Warehouse in Khan Younis

Through ICRC support, the CMWU has started the rehabilitation and maintenance of its central warehouse in Khan Younis which was targeted during the war in January 2024. The work includes maintaining the admin building, one of the two damaged steel structures in addition to fuel tanks. This intervention aims to reactivate the warehouse to receive the required materials and spare parts for maintenance of water and wastewater infrastructure and facilities in all Gaza Strip.



2.6.2 Maintenance of Kuwaiti Water Tank in Al Nuseirat

Through ICRC support, the CMWU maintained the control panels of Al Kuwaiti water tank in Al Nuseirat which was damaged during the continuous bombing in AL Nuseirat area, the intervention aims to reoperate the tank to supply the needed water to more than 170 thousand people of residents and IDPs.



2.6.3 Maintenance of Main Sewage Pipeline in Al Nuseirat Camp

Through UNICEF support, the CMWU has maintained 8-inch diameter sewage pipeline in Al Nuseirat Camp 2. This pipeline was severely damaged by Israeli shelling, which led to accumulation large quantities of sewage in the area. The intervention aimed to protect more than 3,000 people from the hazards of sewage floods,



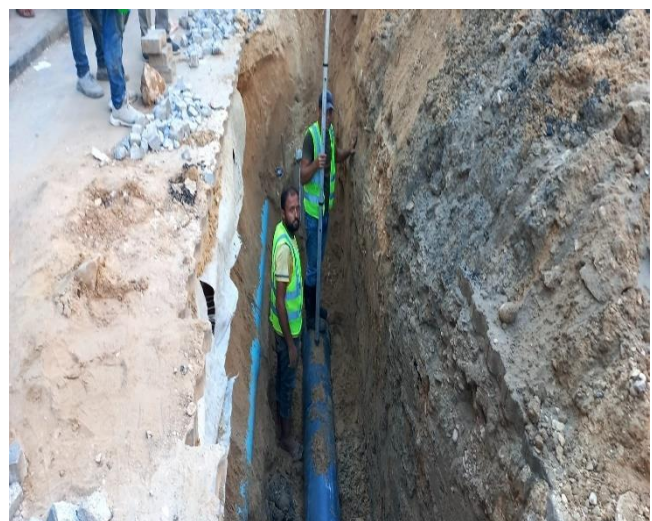
2.6.4 Maintenance and Repairing the Sewage Manholes in Al Maghazi

Through Oxfam fund and in partnership with PEF, the CMWU carried out repair and maintenance work for a number of sewage manholes in Al Maghazi area by replacing the damaged manholes rings, slabs with different diameters, the works took place at Al-Sultani and Abu Bakr Al-Siddiq Streets in Al-Maghazi Camp.



2.6.5 Maintenance of Al Hasayna Sewage pressure line

Through UNICEF support, the CMWU maintained the pressure transmission line of Al-Hasayna wastewater pumping station, with a diameter of 14 inches and a depth of 6.5 m, to mitigate the hazards of sewage floods in this vital area in Al Nuseirat. Al Hasayna PS currently serves more than 100,000 residents and IDPs.



2.6.6 Maintenance of Brackish Desalination plant in Dair Al Balah and East of Khan Younis

In cooperation with CARE and PARC, the CMWU started the project of maintaining brackish desalination plants in order to provide clean and safe water to the residents and IDPs who have been facing an increasing shortage of clean water.

The works started in Dair Al Balah desalination plant which will be rehabilitated to produce 40 cubic meters per day. These efforts aims to improve water supplies in the most affected areas



2.6.7 Maintenance and Repairing of Al Maghazi Water Reservoir

Through Oxfam fund and in partnership with PEF, the CMWU is still repairing and maintaining AL Maghazi main water tank, The works include fixing the damages of the tank itself in addition to some electrotechnical repairs. This intervention aims to reoperate the tank to serve and provide water access to more than 50,000 people.



2.6.8 Provide Safe Sewage and Rain water drainage near Al Bassa Desalination plant

Through UNICEF fund, the CMWU has intervened to solve the problem of sewage floods near Al Bassa seawater desalination plant in Deir al-Balah. The project includes installation of 350 meters of sewage pipes and rainwater gullies. The project aims to eliminate sewage floods that affects the environment and the public health, in addition to securing a safe access for the CMWU water tankers.



2.6.9 Maintenance and Repairing Electrical Generators of WASH Facilities

The CMWU through ICRC support still maintains the electric power generators in water and wastewater facilities, the maintenance works aim to remain these generators operational to ensure continuity of services in this challenging time and in the complete absence of GEDCO power supply.



2.6.10 Winterization Interventions

Under its continuous efforts for covering the most needed winterization interventions, The CMWU team has accompanied the UN coordinator for Humanitarian Affairs and Reconstruction of Gaza with UNICEF and OCHA representatives in their visit to Al Amal stormwater basin in Khan Younis. The arranged visit aims to reflect the risks of the damaged infrastructure in Khan Younis area where most of IDPs are concentrated, the team visited Al Amal stormwater basin which is the major basin for collecting the stormwater in Khan Younis and it is also affected during the military operations. During the visit the CMWU illustrated the importance of repairing the damages of Al Amal infrastructure under the coming winterization interventions to avoid the risks of floods especially many of IDPs tents are existing near and inside the basin area.



3 Challenges:

3.1. Targeting and destroying the CMWU Central Warehouses: The CMWU communicated with governmental, international and authorities such as the Palestinian Water Authority, OCHA and UNICEF in order to coordinate with the Israeli side in order to consider the CMWU central warehouses as a deconflicted location. All aforementioned institutions confirmed that the warehouses are deconflicted location upon the approval of the Israeli side, whereas accordingly, materials, equipment, and trucks continued to be stored in the warehouses accordingly. However, on January 21, 2024 at 11:12 p.m., the central warehouses were bombed with a guided missile likely by a reconnaissance plane, and the next morning direct bombardment of the warehouses continued and the warehouses caught fire with all what they containing of materials, equipment, tools, electrical and electromechanical spare parts, and heavy machinery

The damages resulted from targeting the CMWU warehouses are estimated to be at around 9 million USD, in addition to the construction value of the warehouses.

3.2. Coordination to supply fuel for Gaza and the north: Despite numerous attempts by the PWA, the CMWU, and UNICEF to bring diesel into Gaza, but the Israeli side refused to bring in the needed fuel and only allows few quantities to enter Gaza which are not enough to operate the facilities and to provide the minimum level of services.

3.3. Attempt to purchase materials from local contractors in Gaza City: The CMWU contacted donors to provide and purchase materials available with local contractors in Gaza City and transport them to the southern areas of the Strip. Despite the urgent need of materials, but the Israeli side refused all

attempts to coordinate for transporting these materials into southern areas,. These materials, which generally are of maintenance materials for water and sewage networks

3.4. Lack of materials: As a result of the indiscriminate bombing of a large part of the infrastructure of the water and sanitation sector and the lack of materials, this led to an exacerbation of the problem and the inability to repair what was destroyed except for a small part of it. On the other hand, the Israeli side is still preventing the entry of materials necessary to operate the water and sanitation system, especially generators, generators spare parts , and spare parts for networks and desalination plants.

3.5. Cutting off Mekorot water: frequent cut off the water supply of the three connections of Mekorot Company's water, affects severely on water supply in the three governorates especially Khan Younis which has destroyed infrastructure and water sources.

3.6. Cutting off the electricity supply: Since the beginning of the war, cutting off electricity from all lines supplying the Gaza Strip, in addition to stopping operation of the only power plant in Gaza from working, has led to damage on the water supply system, which has resulted into reducing the operation of te WASH facilities in a reduced capacity by using the already overloaded diesel generators as this led to a reduction in the amount of water from 100 liters to an average of less than 5 liters per person per day.

3.7. The systematic Israeli destruction of infrastructure: Since the first day of the war, the IDF deliberately to destroy the water sector infrastructure , whereas sewage treatment plants, pumping stations, the desalination plant in northern Gaza, the main lines, machinery and equipment were destroyed, especially in Gaza, Khan Younis and the north Gaza, which led to the difficulty of supply water through networks which led to a state of thirst among many people of Gaza and the north, in addition to the sewage flooding in many areas and neighborhoods, especially areas surrounding the Sheikh Radwan rainwater basin in Gaza City and Abu Rashid pond in Jabalia.

3.8. Difficulty of coordination during the war: Despite numerous attempts by the CMWU, PWA and international institutions such as OCHA, UNICEF, and the Red Cross to coordinate with the Israeli side to enter the necessary materials, equipment, and machinery to operate and maintain water and sewage systems. All of these attempts did not succeed in convincing the Israeli side to approve the coordination requests.

3.9. Targeting crews working in the water sector: The Israeli side deliberately targeted crews working in the water sector, as 7 workers in the CMWU, including engineers and field workers, were martyred, the last of which was targeting two water distribution workers in water tankers serving the displaced population.

3.10. The deterioration of the financial situation of the CMWU: As a result of the war on Gaza, all resources of funding for the CMWU activities stopped, especially after it stopped issuing water bills due to the inability of the population to commit to paying their water bills. This is in addition to stopping the implementation of all projects, which negatively affected the CMWU ability to finance its various expenses, such as Operating, maintaining, and paying the salaries of its employees and workers who are still performing their duties in operating and maintaining water and sanitation facilities to serve the residents of the Gaza Strip, especially in places of displacement. This is in addition to the inability of the CMWU to pay the dues of the CMWU sub-contractors from the private sector.