

Winterization Response Plan – Gaza 2024

Addressing Flood Risks and Harsh Weather Conditions

PEOPLE IN NEED: 2.1 MILLION PEOPLE

FINANCIAL REQUIREMENT: US\$ 242,000,000

Situation Overview

As winter nears, the situation of the population in Gaza is growing increasingly precarious, primarily because of the ongoing hostilities and resulting infrastructure damage.

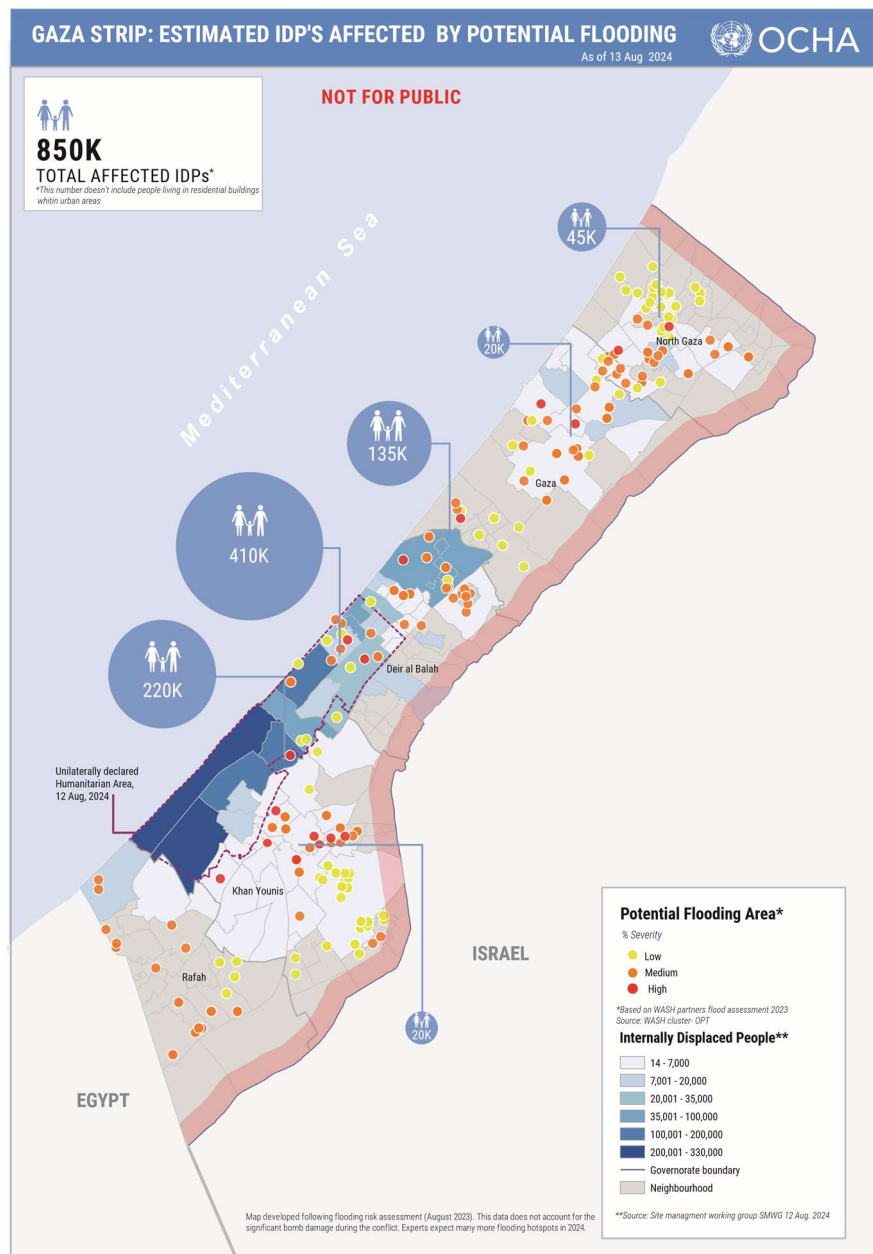
The winter season in Gaza typically starts around October and lasts through March or April. While not as extreme as some other regions, temperatures in Gaza can drop significantly during that time. Nighttime temperatures can fall to around 5-10°C (41-50°F), and occasionally even lower. Winter is also the rainy season in Gaza, with most of the annual rainfall occurring during these months, which leads to flooding in some areas.

Already dire living conditions will deteriorate further, putting hundreds of thousands at heightened risk of displacement, asset loss, health hazards, and limited access to essential services. The potential for flooding as we move into the latter half of 2024 adds to these challenges, with the winter season expected to be particularly harsh in 49 neighborhoods, where over 850,000 people are living in flood-prone areas or inadequate shelters. Heavy rains and dysfunctional stormwater infrastructure could lead to floods, overflow, and contamination of water supplies due to already severely damaged wastewater systems, posing serious risks to vulnerable populations.

The humanitarian crisis in Gaza since 7 October 2023 has been characterized by widespread destruction of infrastructure, with over 60% of WASH facilities damaged or destroyed, and stormwater systems blocked by debris. This devastation, coupled with limited repair capabilities, has severely compromised the ability of service providers to manage water and sanitation. Mass displacement affecting almost 90% of the population has further strained resources. Severe shortages of essential supplies, including WASH materials, food, fuel, and medical resources, are exacerbated by access restrictions and challenges in bringing in critical supplies. Widespread electricity blackouts and poor internet and mobile connectivity have hampered emergency services and mobility. The humanitarian response has been hindered by limited access to many locations, making comprehensive needs assessments difficult. These factors, combined with ongoing conflict causing further destruction and displacement, have left densely populated areas, particularly those hosting displaced people, vulnerable to winter weather and floods. This situation poses significant

risks of shelter destruction, water contamination, and disease spread, intensifying the already dire humanitarian conditions in Gaza.

This response plan aims to address the critical needs of over 2.1 million people in the Gaza Strip during the winter months and potential flood events, including more than 850,000 people who are living in flood prone areas. It mainly covers the activities to be implemented during the last quarter of 2024 (October-December 2024), with preparedness activities for the 3rd quarter of 2024.



Objectives of the Response Plan

This response plan aims to:

- Mitigate the immediate risks posed by winter weather and potential flooding.
- Protect the most vulnerable populations, particularly those living in flood-prone areas and inadequate shelters.
- Ensure the continuity of essential services, including healthcare, WASH (Water, Sanitation, and Hygiene), and emergency response operations.
- Provide targeted assistance to 2.1 million people in Gaza during the winter season.

Targeted Populations

- **Flood-Prone Areas:** Over 850,000 people residing in flood-prone areas, in 49 neighborhoods, including displaced people
- **Displaced Persons:** Families living in temporary shelters and IDP sites, with a focus on those in areas most vulnerable to flooding (around 1.9 million people)
- **Vulnerable Groups:** Children, the elderly, persons at risk of violence including to gender based violence, female headed households, pregnant and lactating mothers, PWD and those with pre-existing health conditions who are at higher risk of winter-related illnesses.

Key assumptions

Approval by authorities and safe passage of items to agencies operating in Gaza.

Enough fuel is available and safe transportation route from the warehouses to the distribution sites are secured.

Priority areas

The priority areas for response to potential flooding in the Gaza Strip can be identified by both the severity of the potential flooding, based on 2023 data flooding data, and the concentration of displaced people. The areas that are highly susceptible to flooding and have a large number of displaced people will require more immediate and intensive response efforts. Here are the priority areas to focus on:

Northern Gaza and Gaza City Area: Despite uncertainty about the current population and the fact that there isn't as much population concentration as in the middle area, there is historically a high potential for flooding in parts of North Gaza. Winterization assistance to approximately 350,000 people still residing there will be made worse by inaccessibility.

Middle Area, Khan Younis, Rafah: The central and southern areas of the Gaza Strip show a high to medium risk of flooding. This region has a very dense population of displaced people, with several locations exceeding 300,000 residents in some neighborhoods. The western part of this area is characterized by makeshift shelters on the beachfront, which are also at high risk.

Key Interventions

Shelter

- Providing winterization supplies, including warm clothing, blankets, tarpaulins, and heating materials.
- Enhancing shelter conditions to protect against cold and flooding, including sealing off kits and winterization kits.
- Distribute heating equipment and facilitate access to appropriate fuel sources for safe indoor heating.

WASH

- Emergency infrastructure-based flood mitigation and prevention: Reduced risk of flood damage to critical infrastructures such as roads, temporary dumping sites and storm tunnels through emergency temporary drainage systems and flood barriers.
- Floods mitigation and prevention at community level: Increased community preparedness and community-based flood mitigation measures.
- Emergency floods response at infrastructure level: Rapid restoration of essential services and infrastructure functionality, minimizing disruption to daily life and humanitarian activities.
- Access to emergency fuel/essential supplies: Ensured availability of critical resources, supporting continuous operation of emergency services, and aiding affected populations.
- Rapid WASH response to outbreak-prone communicable diseases: Reduced incidence of waterborne diseases through timely provision of clean water, sanitation, and hygiene response in catchment areas of upsurges cases
- Rapid WASH response to displacement due to floods: Improved living conditions and health outcomes for displaced populations by providing immediate access to safe water, sanitation, and hygiene response.

Protection

- Distribute targeted winterization and essential supplies (dignity kits, winter kits, warm clothing, shoes, blankets, heaters, and other critical NFIs to vulnerable groups, with

a focus on female-headed households, orphaned children, survivors of violence, elderly, disabled, chronically ill individuals, women, girls, and children.)

- Establish safe spaces for children: Set up large tents or temporary caravans to create rain-resistant child-friendly spaces, supporting at-risk children and survivors with critical supplies and protection services.

Nutrition

- Provision of winter-specific tents to establish baby friendly space for breastfeeding and service delivery points.

Education

- Establishment/ Support to already established temporary learning spaces in/around IDP shelters, with winterproof tents equipped with WASH facilities.
- Provision of winter clothes to children in the learning spaces.

Site Management Working Group

- Implementation of winter specific site improvement and maintenance works.

Support from the WFP Site Management an Engineering Project (SMEP)

In addition, various Cluster activities may benefit from the support provided by the (WFP) SMEP, including through clearance of roads impacted by flooding, removing debris, obstacles, and any blockages preventing access to essential infrastructures. In consultation with the relevant Clusters, SMEP will ensure that key and prioritized transportation routes remain operational. This clearance effort is pivotal to supporting emergency services and the delivery of supplies during adverse weather conditions.

Summary

Cluster	Number of people targeted	Financial requirement (USD)
Shelter and NFI	660,000	185,962,000
WASH	2,100,000	20,500,000
Protection	300,000	20,250,000
Nutrition	50,000	600,000
Education	625,000	20,000,000
Site Management WG	956,000	14,997,942
TOTAL	2,100,000	241,809,942

The plan, which is a subset of the Flash Appeal, requires 242 million USD to effectively respond to the needs of 2.1 million targeted individuals.

SHELTER/NFI

NUMBER OF PEOPLE TARGETED : 660,000

FINANCIAL REQUIREMENT: 185,962,000 USD (based on Flash Appeal)

In addition to colder temperatures, Gaza suffers from rain, high humidity and strong winds during winter. The areas available for the temporary settlement of displaced persons are not the most suitable (flood zones, exposed to sea winds). The lack of adequate shelter and energy to heat homes will exacerbate the significant multi-sectorial challenges that families already face. With over 1.5 million people living in makeshift shelters, tents, or damaged and unfinished buildings (as of 1 August 2024), the shelter cluster is prioritizing ensuring these shelters are sealed from the rain and cold. This is particularly important given the shortage of shelter materials and the current state of tents and makeshift shelters which will deteriorate further in the months leading up to winter. The shortage of adequate space for tents and makeshifts leads displaced people to settle in unsuitable areas that require drainage and levelling works and debris removal. Distributing emergency materials on time is essential to prevent people from returning to unsafe areas or structurally damaged buildings. Overcrowding in the sites makes it essential to distribute adequate heaters to prevent fires. Likewise, providing energy for heating is critical to avoid the burning of toxic materials (such as plastics or trash) or materials intended for shelter (such as timber) for warmth.

Activities	Type of Supplies needed	Facilitation required to implement the activity (ex: fuel)
Sealing off kit distributions (to help winterize existing makeshift shelter and tents, and to seal damaged buildings).	Clear plastic sheeting, Tarpaulin sheet, (duct tape) adhesive tape, rope, IEC ¹ material.	Approval by authorities and safe passage of items to agencies operating in Gaza.
Toolkits distribution (to improve conditions of makeshifts shelters, repair tents, remove debris, create and clean drainages, carry out minor repairs on damaged buildings)	Ropes, nails, hammer, shovel, hoe, handsaw, shear, tie wire, measuring tape, needle	As above
Framing Kits (to improve the makeshift shelters to give more useable covered space within the	Timber poles or Plastic poles.	As above

¹ Information Education Communication material – i.e. a leaflet with pictures and in Arabic explaining how the sealing off kit can be best used to achieve the desired outcome and extend the life of the material.

make-shift shelters which is necessary for winter when more activities are undertaken indoors)		
Tents distribution	Tents	As above
Tent winterization kit (to improve the protective conditions of the tents and reduce the energy consumption)	Winterization liner, partition, heat resistant floor for stove, insulated sleeping matt.	As above. Consider cash or vouchers modalities if markets allow it.
Winter clothes distributions	Winter clothing (jacket, sweater, trouser, hat, scarf, underwear, etc.)	As above
Thermal sleeping item distributions	Thermal mats, sleeping bags, blankets	As above
Heaters distribution. Depending on the type of fuel available	Stoves/heaters,	As above
Facilitating access to fuel (though in-kind or cash, important to avoid the use of salvage/shelter materials as fuel). Appropriate for the type of heater	Gas (is the most common fuel for cooking and heating), charcoal, firewood...	Increase the quantity of gas and other fuel allowed. If cash or voucher modality used then conditions are acceptable for this modality.

WASH

FINANCIAL REQUIREMENT: US\$ 20,000,000

NUMBER OF PEOPLE TARGETED: 2,100,000

Key risks

Impact of Stormwater Network Damage in the Gaza Strip

The stormwater network in the Gaza Strip, designed to manage water flow through pipelines, drainage channels, and pumping stations during the rainy season, has been completely damaged. This damage is expected to lead to an increase in flash floods, surpassing previous years' numbers. These floods will endanger lives and hinder the safe movement of people and humanitarian aid.

Floods can severely impact WASH systems by introducing harmful pathogens and chemicals into drinking water, leading to disease outbreaks. They can also damage sanitation infrastructure, causing sewage spills and further contamination. Additionally, floods disrupt access to clean water and sanitation services, making it challenging for communities to maintain hygiene.

Public Health Risks

The damage to both stormwater and sewage systems has resulted in sewage contaminating some stormwater basins. This overflow of contaminated water poses serious public health risks, especially with ongoing outbreaks of hepatitis A and polio. Additionally, hundreds of uncontrolled dumping sites exacerbate flooding by blocking drainage channels, spreading waste in water flows, and contaminating living areas. This can lead to significant infrastructure blockages and damage.

Floods can significantly increase the transmission of vector-borne diseases by creating breeding grounds for vectors in stagnant water. Effective vector control measures are crucial during and after floods to prevent outbreaks and protect public health.

Relocation and WASH Assistance

People are expected to spontaneously relocate to safer areas after the floods and will require access to basic and essential Water, Sanitation, and Hygiene (WASH) assistance.

Critical asks:

To effectively combat the challenges posed by floods, it is essential to take proactive measures. One of the key steps involves establishing pre-agreements with private contractors who specialize in emergency storm water channels and earthwork. These partnerships ensure that the necessary resources and expertise are readily available when disaster strikes.

In addition to these agreements, the entry of 15 dewatering mobile pumps, each with a capacity ranging from 200m³/h to 500m³/h, is crucial. These pumps will play a vital role in swiftly removing excess water from affected areas. To further bolster capabilities, the procurement of 15 additional pumps is also necessary.

Moreover, the acquisition of two combined jetting and vacuum trucks, along with the entry of six such trucks, is imperative. These vehicles are essential for sewage vacuum or ensuring the smooth flow of water through drainage systems. Additionally, the procurement and deployment of two prefabricated containerized dewatering pumping stations will provide a robust and efficient solution for managing floodwaters.

Lastly, it is critical to ensure the safe importation and transport of 40,000 liters per month of sodium hypochlorite solutions, containing 10-12% active chlorine. This chemical is vital for treating water, thereby preventing the spread of waterborne diseases in the aftermath of a flood.

By taking immediate action on these fronts, the ability to mitigate, prepare for, and respond to floods can be significantly enhanced, ultimately safeguarding communities and infrastructure.

Activities	Type of supplies needed	Facilitation required to implement the activity (ex: fuel)
Installation of Temporary Drainage Systems: Quickly setting up temporary drainage systems to redirect floodwaters away from critical infrastructures, including temporary dumping sites	Heavy equipment: large size Excavator, Backhoe Wheel Loader, Wheel loader, truck with large size crane	Funding and pre-agreement with contractors Access to place (coordination)
Clearing Blockages and culvert: Ensuring that existing drainage systems are free from debris and blockages to allow for efficient water flow.	Heavy equipment: large size Excavator, Backhoe Wheel Loader, Wheel loader, truck with large size crane	Funding and pre-agreement with contractors Access to place (coordination)
Removing and sealing off key open dumping sites situated in flood-prone areas	Heavy equipment: large size Excavator, Backhoe Wheel Loader, Wheel loader, truck with large size crane	
Consistent removal of solid waste during winter helps prevent new blockages and reduces vector populations	100 steel waste containers already procured. 200 steel waste containers or alternatives.	Funding Fast tracking procurement Advocacy for importation of supplies (Coordination)
Repairs of critical stormwater infrastructures to manage sewage and water flows effectively from the water basin	600 m of wastewater HPDE pipes for sewage and water flow from water basin	Funding Fast tracking procurement Advocacy for importation of supplies (Coordination) through Zikim for the North
In coordination with the SMWG, provide WASH facilities to relocated displaced persons	Heavy equipment: large size Excavator, Backhoe Wheel	New land /space Funding

from high-risk flood zones, such as storm basins and depressurized regions, to safer areas	Loader, Wheel loader, truck with large size crane	
Construction of community-based control Flood Barriers system: Constructing temporary floodwalls at the community and household levels, along with drainage channels.	Community and shelter Tools: Shovels, Wheelbarrows Hundred thousand of sandbags 50 x Desludging Pumps (Diesel Desludge diaphragm motor pump, 4", 25m ³ /h at 10m)	Funding and leadership to map risk areas in the makeshift Advocacy for importation of supplies (Coordination) Procurement – fast tracking
Rapid water removal with mobile High-Volume Water Pumps: Deploying a well-equipped rapid response team to address critical flooding situations, including potential sewage overflows	30 dewatering mobile pumps (full kits) and hoses ranging from 200m ³ /h to 500m ³ /h. 2 combined jetting and vacuum trucks 2 prefabricated containerized dewatering pumping stations	Funding Fast tracking procurement for 15 dewatering mobile pumps Advocacy for importation of supplies (Coordination)
Provision of emergency fuel to operate floods response and mitigation measures (operating the functional pumping station)	70 000 L/day of fuel	Funding Advocacy for regular fuel transport in the North
Conducting vector control measures by applying chemical sprays in flood-affected areas	Temephos larvicide (250 units) Sprayers - 100	Funding Approval for importation of 250 unit of temephos larvicide
Ensure the safety of workers responding to floods and working in sanitation by	Personal protective equipment and tools for basic	Funding Procurement of PPE -fast track

supplying them with necessary personal protective equipment (PPE)	maintenance of remaining and temporary drainage system including waterproof overall, vest, heavy duty gloves, rubber gloves, boots and hygiene kits for 1000 workers	Advocacy for import of PPE and hygiene kits for workers
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PROTECTION

FINANCIAL REQUIREMENT: US\$ 30,250,000 (based on Flash Appeal)

NUMBER OF PEOPLE TARGETED: 300,000

Conflict-affected persons face extreme conditions in Gaza. Some groups including female headed households, orphaned children, survivors of violence, torture and injury, elderly, disabled and those with chronic illness are among the most vulnerable, often facing difficulties in accessing essential resources and services. For these groups some of the primary needs will be NFIs, including shelter, blankets, warm clothing, dignity items, which are crucial for daily functioning. Supporting children at risk and survivors through critical supply provision is crucial as children are among the most affected population in Gaza. Children in Gaza are in desperate need for warm clothes and proper shoes during winter. Continued evacuation orders along with conflict is causing mass destruction of homes and loss of property and essential items including clothes. Critical for child protection services are large tents or temporary caravans to establish safe, rain resistant child friendly spaces. Dignity kits are another urgent need, particularly for women and girls with disabilities. These kits provide essential hygiene items that are critical for maintaining personal dignity, especially in overcrowded and unsanitary conditions that many families currently endure. Furthermore, the women and girls are in need for winter kits that would equip them with clothes and shoes adequate for winter, reducing the risk of social isolation and exploitation. Non-food items (NFIs) such as blankets, clothing, and household supplies are vital for ensuring basic living conditions. The destruction of homes has left families without essential items, increasing their vulnerability.

Activities	Type of Supplies needed	Facilitation required to implement the activity (ex: fuel)
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GBV Risk mitigation	Dignity Kits and Winter kits	Fuel, transportation, securing the distribution process, warehouse
Protection material assistance	Heaters, Non-food items	Fuel, transportation, securing the distribution process, warehouse
Provision of emergency clothing kits for women – including underwear	Non-food items	Fuel, transportation, securing the distribution process, warehouse
Support children at risk and survivors through critical supply provision	Rain-resistant child friendly tents, winter clothes	Fuel, transportation, securing the distribution process, warehouse

NUTRITION

FINANCIAL REQUIREMENT: US\$ 600,000 (based on Flash Appeal)

NUMBER OF PEOPLE TARGETED: 50,000

Malnutrition in children is the result of poor **diets**, **services**, and **caring** practices, and all three of these determinants are significantly impacted in the Gaza Strip. The nutrition cluster estimated more than 50,000 children in the Gaza Strip suffer from acute malnutrition. Over half of this estimate has been reached in the last seven months, and close to half of the remaining will be reached in the upcoming winter season. In addition, close to half a million children and pregnant and breast-feeding women need supplementation of essential nutritious foods. As most health facilities sustain damage, the nutrition cluster partners are establishing nutrition service delivery points following the movement of the population due to repeated evacuation orders.

Availing tents for service delivery, including baby-friendly spaces and prepositioning supplies, considering constrained physical access during winter, is essential.

	Type of Supplies needed	Facilitation required to implement the activity (ex: fuel)
Establish nutrition service delivery points following population movement.	100 High Performance tents (winter specific)	Approval by authorities and safe passage of items into Gaza
Weather protected Baby Friendly Spaces in IDP sites	100 high performance tents (winter specific)	Approval by authorities and safe passage of items into Gaza

EDUCATION

FINANCIAL REQUIREMENT: US\$ 20,000,000 (based on Flash Appeal)

NUMBER OF PEOPLE TARGETED: 625,000

The humanitarian situation in Gaza is getting worse, and humanitarian organizations are having difficulty bringing essential items into Gaza to meet the needs of the affected population. These items are unavailable in local markets, and current restrictions, delays, and bottlenecks at the crossings make providing aid even harder.

Since the war started, over 625,000 students and almost 23,000 teachers have been affected by school closures and attacks on education. This has left them without access to education or a safe learning environment. Partners have established about 48 Temporary Learning Spaces (TLS) and plan to increase these to over 200 as an alternative to proper infrastructure due to the damage to the education infrastructure. In addition, the Cluster has identified over 84 community-led initiatives, with more yet to be mapped. As of August 1, UNRWA has opened its shelters for learning activities to resume. With all these efforts to provide opportunities for access to education, a critical shortage of supplies leaves children with nothing and teachers without teaching aids to engage the students.

Given the current circumstances, the situation is highly concerning and is anticipated to worsen during winter. The extensive destruction of the education infrastructure implies that children will have no choice but to pursue their learning in makeshift tents, open spaces or damaged or incomplete structures. Unfortunately, the temporary and all learning spaces will not have proper temperature control, making it very challenging for children to focus and learn effectively. The Education Cluster will work with the WASH Cluster to ensure that anti-flood measures in and around the TLSs are taken, and WASH facilities in TLSs are provided as per WASH cluster strategy in a gender sensitive and disability accessible manner.

After thorough consultation, the Education Cluster has compiled a carefully considered list of items. The Cluster is urging these items to be approved to enable partners to allocate budgets and plan for the procurement and shipment of these items well before the upcoming winter season, which is just a few months away.

Activities	Type of Supplies needed	Facilitation required to implement the activity (ex: fuel)
Establish temporary learning spaces in/around IDP shelters with winterproof tents equipped with WASH facilities.	Winterproof tents, dignity kits, Handwashing Stations, Sanitary Supplies, movable toilets, and tarpaulins).	Fuel, advocacy for entry of supplies.

Provision of winter clothes to children in the learning spaces	School uniforms, jackets, shoes, hoodies, socks, scarves, underwear	Fuel, advocacy for entry of supplies.
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Site Management Working Group

FINANCIAL REQUIREMENT: US\$ 14,997,942

NUMBER OF PEOPLE TARGETED: 956,000

The escalation in hostilities in recent months has forced large scale displacements in Khan Younis, Deir al-Balah and areas, in north to certain extent. As the humanitarian space/ area shrinks, people are concentrating in sites which have limited infrastructure leading to safety, security, privacy and protection concerns. The partners of the Site Management Working Group (SMWG) intend to address the need for essential site level small to medium scale maintenance and improvement works especially in areas identified as flood prone areas based on the vulnerability score^[1].

These works may include (not exhaustive) construction or repair of pathways, staircase, drainage, drain covers, waste management pit rehabilitation or protection, small scale flood mitigation, garbage removal, site cleaning, street lighting etc. The prioritization of activities for implementation will be guided by inclusive community participation via safety audits. Safety audits aim to map community tensions, social inclusion, harmful coping mechanisms and access in the sites. The implementation of site improvement and maintenance led by the community and where possible, cash for work model will be implemented aimed at support the livelihood options at site/ community level. These works would be crucial during the winter months especially in low lying areas prone to flooding to maintain health and dignified living conditions of the displaced population.

Activities	Type of Supplies needed	Facilitation required to implement the activity (ex: fuel)
Implementation of winter specific site improvement and maintenance works	Toolkits (for site improvement and maintenance works), Street lighting	Approval by authorities and safe passage of items into Gaza

^[1] Priority locations were selected based on the vulnerability score issued by WASH cluster. The actual location of implementation may vary depending on the actual needs on the ground.