PALESTINE
SHELTER CLUSTER
Coordinating Humanitarian Shelter and Settlements

COMMUNITY-BASED SHELTER RESPONSE IN THE CONTEXT OF THE GAZA CRISIS

Technical Guide for Responding to Damaged Buildings

Household Interventions for Adapting Partially Damaged Buildings into Livable Spaces Using Alternative and Reclaimed Materials

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PALESTINE SHELTER CLUSTER

Gaza Local Coping Strategies TWG

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Part 1: Practices and coping mechanisms

1.1 Introduction

Amid the escalating humanitarian crisis in the Gaza Strip and the ongoing restrictions on the entry of essential aid and construction materials, communities have implemented different adaptation strategies to rehabilitate damaged buildings and transform them into livable shelters using alternative and reclaimed materials.

It is important to note that the practices documented here were recorded prior to the most recent evacuations and extended aid blockade which started on March 2025, at a time when at least some materials remained accessible.

The report presents findings that document community-led shelter adaptation practices and support humanitarian actors in identifying alternative shelter solutions. However, it should be noted that these copying mechanisms do not always meet minimum humanitarian standards or cluster recommendations, and should be adapted if the ideas are being incorporated into humanitarian programming

1.2 Methodology

This report is based on desk review and data collected by the members of the time-bound Gaza Local Coping Strategies Technical Working Group formed by the Shelter Cluster (in June 2025). The primary source of information constitutes the field data collected by HEKS/EPER and the MA'AN Development Center between April and July 2025 through the implementation of 255 specialized field visits targeting 85 families who had returned to their homes in Al-Nasr neighborhood following the announcement of the first ceasefire in the Gaza Strip, in addition to field observations, assessments, and previous experience of other members of the group.

Local practices for adapting damaged buildings

2.1 Roof and wall repairs

Repairing damaged walls:

- **Small cracks and holes:** These are generally left as they are due to the high cost of cement, and is considered a low priority in comparison to more significant damage in a building.
- **Large gaps or partially collapsed sections:** The collapsed parts of the building's external facade are rebuilt using reclaimed cement bricks, using cement if available, or alternatively, using a mixture of clay and straw as a substitute for cement mortar.

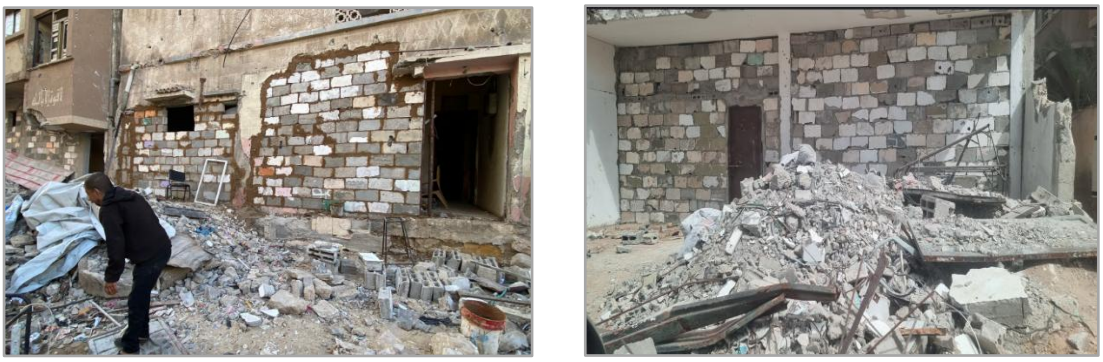


Figure1 Sealing off missing wall parts with reclaimed cement blocks to close the openings

If bricks are not available, gaps are filled using wooden boards, zinc sheets, or fabric tightly secured to a simple wooden frame or directly to the edges of the openings. Practices has shown for better reinforcement the lower part of the external wall on the upper floors of the building, two courses of reclaimed bricks or a horizontal zinc sheet has been used.

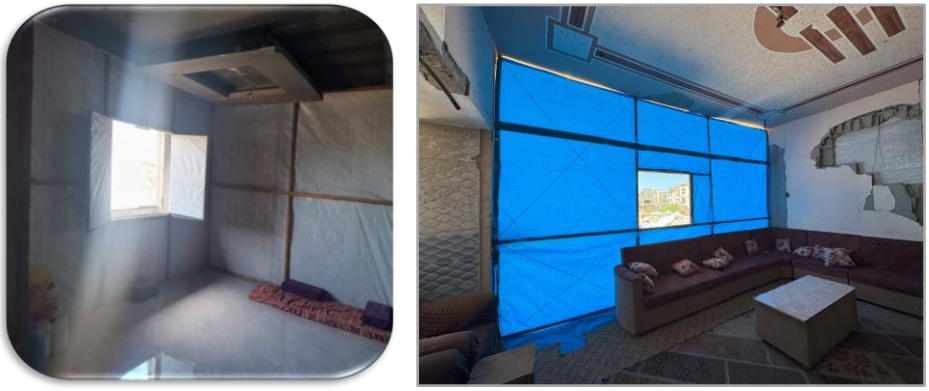


Figure2 Examples from Gaza of closing wall openings with tarpaulins

2.2 Repairing Roof Openings:

Openings in roofs are usually seen to be repaired using reclaimed metal sheets (zinc) or multiple layers of tarpaulins (plastic sheeting), which are securely fastened with adhesive (after cleaning the surfaces to ensure proper bonding) or nails with washers. Adequate overlapping with adjacent surfaces is maintained to prevent leakage. For larger openings, vertical wooden supports with horizontal crossbeams are sometimes constructed to cover the gap, after which the tarpaulin or plastic sheeting is laid over and tightly secured using ropes and wires. Residents primarily use tarpaulins to protect exposed areas from sun and rain while ensuring a minimum level of privacy.

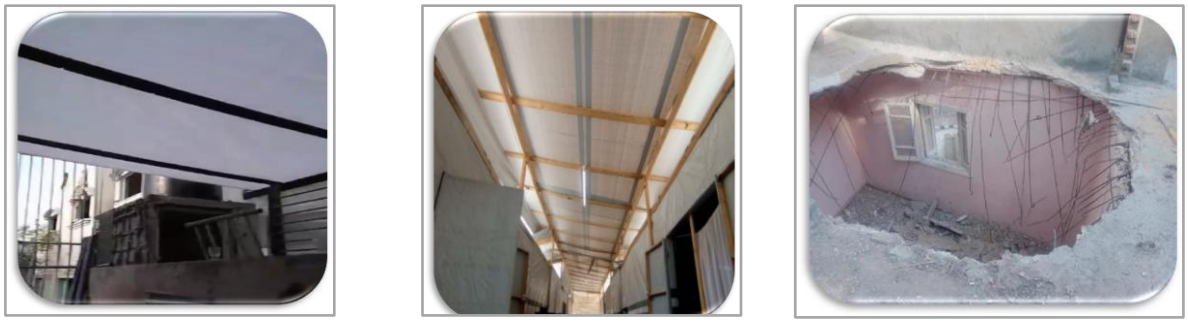


Figure3 Different examples of openings in ceilings and their treatment

2.3 Window and door repairs

- Broken glass was carefully removed to prevent injury.
- Openings were covered using strong plastic sheets or reclaimed wooden panels, secured with nails, pins, or adhesive tape.
- Old windows and doors, or parts of them, were reused and adapted to fit available openings, demonstrating flexibility and resourcefulness.

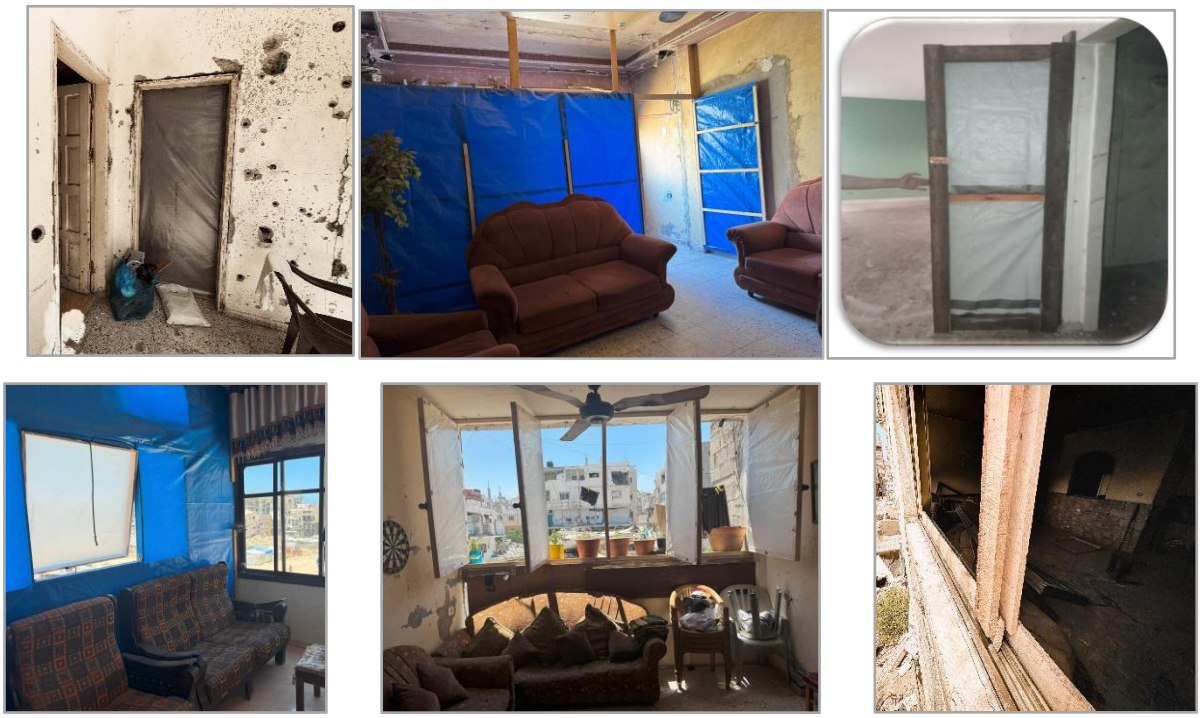


Figure 4 Different shots of window repair with tarpaulin and wood (Source: HEKS/EPER June 2025)

2.4 Improving internal living conditions

2.4.1 Floor repairs

To address damaged flooring in the absence of conventional materials:

- Thick nylon sheets or used carpets were laid over broken areas to reduce dust and improve hygiene.
- In sanitary areas, reclaimed tiles (ceramic, marble, or interlock) were used to create durable, moisture-resistant surfaces.
- Plastic sheeting was installed in sleeping areas to provide insulation and enhance comfort.

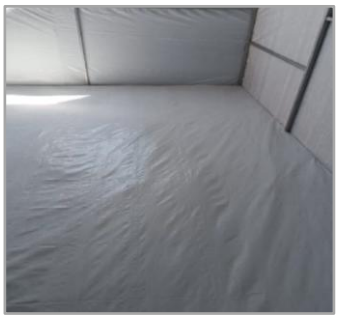


Figure6 Covering the floor with plastic tarpaulin

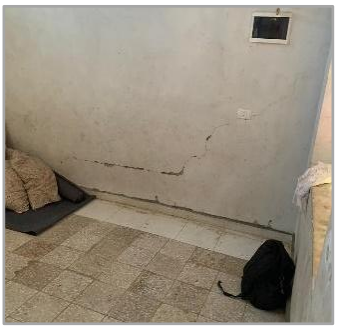
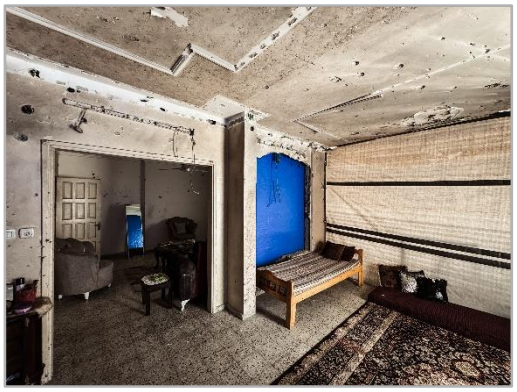


Figure5 Replace the damaged area with reclaimed tiles

Internal partitioning:

To provide some privacy or to separate different usage areas within damaged spaces, fabrics, wooden boards, or tarpaulins (plastic nylon sheets) were used to create temporary internal partitions.



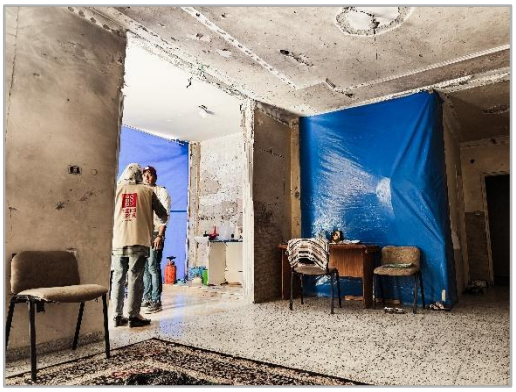


Figure7 Interior sealing off to walls inside the housing unit (source HEKS/EPER July 2025)

2.4.2 Sanitary Facilities

Sanitation remains one of the most critical and challenging aspects of shelter in emergencies due to its direct impact on dignity and public health. Below are some of the copying mechanisms by people:

- Temporary privacy was ensured by covering bathroom and shower openings with tarpaulins or blankets.
- In cases of severe damage where households do not have other alternatives and choose to stay in the same location, an internal space was designated and privacy was ensured using tarpaulins or blankets. Attempts were made to repair existing plumbing installations or to create new ones using reclaimed plumbing parts and materials in good condition.
- In cases of minor damage, repairs were carried out using available materials such as tarpaulins, covers, and reused plumbing accessories, including used but functional toilet seats, sinks, and faucets.

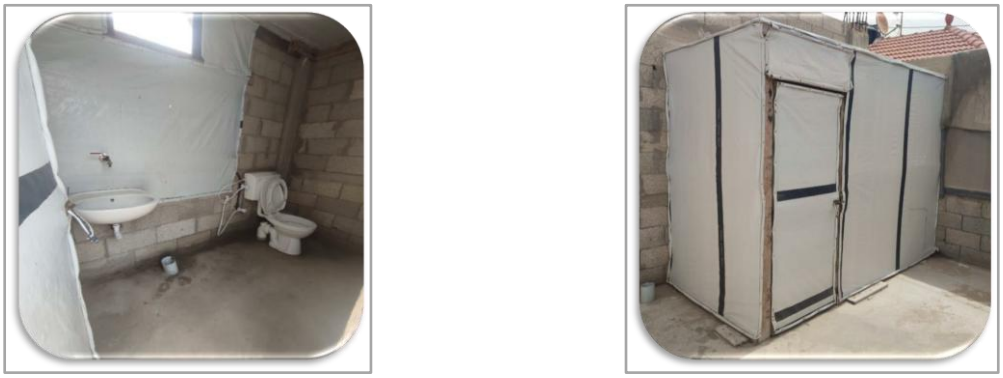


Figure8 Sealing off sanitary facilities in Gaza housing units (Source: MAAN, July 2025)

- Toilet seats salvaged from debris were reused when in good condition.

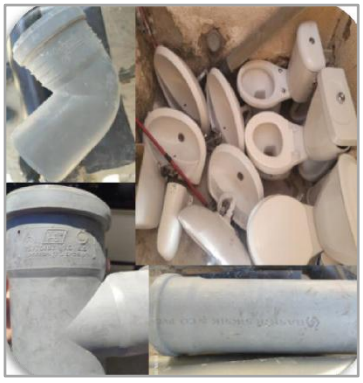


Figure 10 Accessories recovered from debris

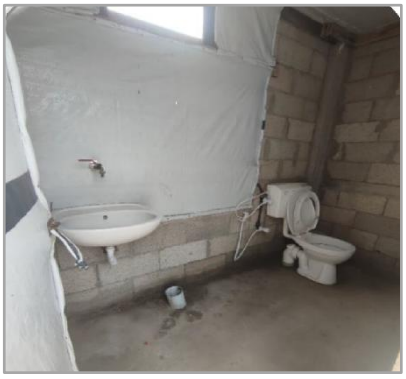


Figure9 Sealing off bathroom remodeling using restored fixtures in good condition

Figure 12 Reclaimed plumbing fixtures at a second sale point

2.4.4 Kitchen rehabilitation

Many residents have created cooking corners using reclaimed materials. Blocks are used to build bases for the washing basin (sink), while wooden boards, reclaimed tiles, or old marble pieces serve as countertops, sometimes covered with a layer of nylon. The cooking corner's location is carefully chosen to be isolated and away from flammable materials. For the washing basin, an opening is made in the countertop to install a reclaimed sink. Alternative solutions have been recorded, such as using large plastic water containers (16 liters), which are cut and fitted with drainage holes. Simple hanging shelves, similar to those used in tents, are also constructed to store lightweight kitchen utensils. This approach is applied in both shelter models under study (temporary shelters and rehabilitation of existing buildings).

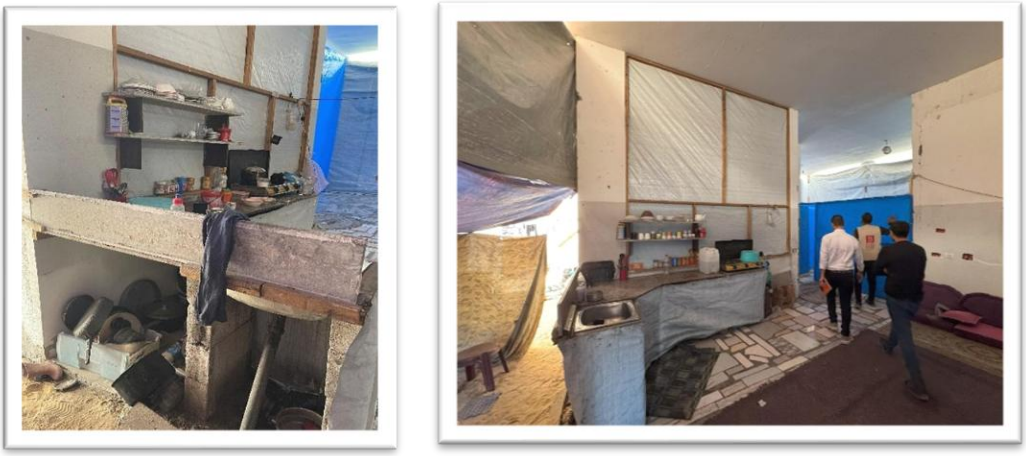
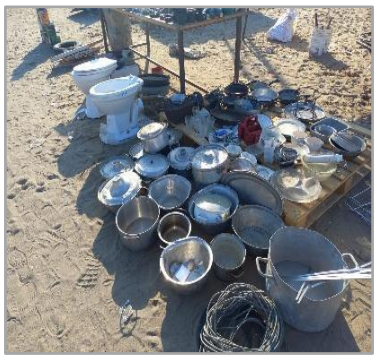


Figure 10 Kitchen corner made from reclaimed materials (Source: MAAN June 2025)

3- Reuse of materials in Gaza context:

In Gaza, where access to new materials is severely constrained, communities have developed adaptive practices of **reducing, reusing, and recycling,** optimizing available resources, repurposing debris and household items, and transforming waste into functional materials.



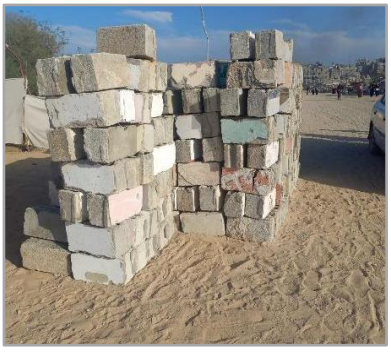


Figure 11 Samples of recovered materials at second sales point in Khan Yunis (source HEKS/EPER, April 2024)

3.Challenges in Adapting Damaged Buildings

1. Lack of Specialized Engineering Assessments: Residents rely on self-assessment of building safety due to the absence of technical evaluation and demining services, which exposes them to the risk of living in unsafe structures that may collapse later.
2. Limited Availability of Materials and Tools: Most repair materials are sourced from second-hand markets or debris, which limits the quality and effectiveness of repairs, especially in terms of resistance to weather conditions.
3. Lack of Technical Guidance: Families lack illustrated guidelines or on-site support explaining how to conduct safe and effective repairs using available resources. This often leads to improvised practices that may negatively affect structural safety.
4. Limited Women's Participation in Repairs: Repair work often requires physical effort or the use of tools that are typically beyond the reach or cultural norms for women, which restricts their ability to adapt living spaces according to their specific needs.
5. Risks related to UXO and Asbestos: Awareness needs to be raised through the community-level orientation programs on risks related to unexploded ordnances and asbestos.

4. Conclusion and Recommendations

The emergency shelter situation in Gaza presents a complex challenge as a protracted emergency with restricted access to materials and widespread infrastructure damage. Despite these constraints, affected communities are carrying out limited adaptations to improve their living spaces. It should be noted that to reach minimum emergency living space standards, it continues to remain critical to have access to shelter materials with consistent entry of aid. Importantly, these community-led solutions underscore the need for shelter responses that are not only technically sound but also flexible, inclusive, and grounded in the lived realities of those affected.

To strengthen emergency shelter response in Gaza, it is recommended that humanitarian agencies recognize local adaptation practices and encourage community participation and self-recovery through their emergency and early recovery programs. This includes providing versatile emergency shelter materials that communities can adapt for their use. Humanitarian shelter agencies when promoting the safe reuse of materials, must make sure to include training on quality control and hazard mitigation on safe handling of debris and asbestos. The Shelter Cluster will continue to serve a platform for documentation, exchange and integration of communities' local coping mechanisms, alongside emphasis on meeting humanitarian standards and dignified living conditions.