

ESK Technical Guidance Note

Gaza Response

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1 Acronyms

BoQ - Bill of Quantities

COGAT – Coordinator of Government Activities in the Territories, Gov. of Israel

ESK - Emergency shelter kit

EO - Explosive Ordnance

FSC - Forest Stewardship Council

HLP - Housing, Land and Property

IEC - Information, Education, Communication materials

IFRC - International Federation of the Red Cross

IOM - International Office of Migration

TSA TWG - Transitional Shelter Assistance Technical Working Group

UNHCR - United Nations High Commissioner for Refugees

SMC - Site Management Cluster

SC - Shelter Cluster

2 Introduction and Activity Description

Gaza is facing a protracted emergency, with a need to provide more adequate and robust emergency shelter solutions beyond tents and tarpaulin. The Technical Working Group (TSA TWG) has developed emergency shelter kits, consisting of framing materials, a sealing off kit and tools. The ESK, while still being an emergency shelter, can be incrementally upgraded to provide a safer and more dignified emergency sheltering and can provide more flexibility compared to tents. Shelter responses including ESKs can work with a household-led approach enabling the engagement of the wider base of skilled labour and capacity of households in Gaza.

Given the limited quantities and type of materials involved in the ESK it is envisaged that an emergency shelter built with these materials will last for 6 – 12 months, given the conditions in Gaza. This relates to both climate and repeated forced displacement where households may be able to gather items before they move or not. The guidance expands on the use of ESK for uses of stand-alone shelters, sealing off shelters and collective centres, but focuses on use of ESK for stand-alone shelters for displaced households as a priority intervention.

This document is intended to guide shelter actors with ESK programming expected to roll out in Gaza in 2025, subject to access. This guidance has been written for Gaza and should not be applied in West Bank.

3 Objectives

- Support households to live in more adequate and robust emergency shelter with a package of shelter materials, fixings and tools, technical orientation and support.
- Provide a package of materials to meet emergency shelter needs that can be used more flexibly (when compared to a tent). It can be used to build stand-alone emergency shelter, repair or upgrade makeshift shelter, used where people are living in damaged homes and can be used with varying plot size or shape.
- Uses a minimum amount of materials because of both access constraints (restrictions on materials entering Gaza) and to maximise coverage.
- Promotes frame construction which maximises the strength of the structure when only small section timber is allowed into Gaza and when the amount of materials must be minimised.

4 Applications

4.1 Stand alone

It is recommended that the ESK is prioritized to build or create a complete/standalone shelter for people sleeping in the open or replacing makeshift shelters and deteriorated tents, before it is provided for other uses as outlined below

4.2 Extension or improvement of existing shelter

In addition to building standalone shelters, ESK can also be targeted for shelter extensions for large families or families who are hosting, to enable decongestion and for strengthening or improving the conditions of existing shelters. The fact that the components included in the kit are basic construction materials allows for their use to find different solutions adapting to the conditions of the existing shelters. More than assembly instructions, the IEC material offers guidance on how to best utilize the elements. Therefore, the ESK and IEC is also useful for shelter extensions and improvements, for example to replace fabric or deteriorated tarpaulin cladding.

4.3 Damaged dwellings

The components of the ESK are suitable for carrying out emergency repairs and sealing in damaged buildings that have not suffered structural damage. The repairs made using an ESK should focus on ensuring a minimum safe space (core space). For more information on how to conduct emergency repairs, please refer to [Module 2- Humanitarian Shelter Repairs](#) and the IEC [Return to partially damaged buildings: sealing off and safety awareness messages](#). It is recommended that the assistance accompanied with technical monitoring and support, along with IEC materials.

4.4 Collective centres

ESKs can also be used to carry out emergency repairs or sealing off works in collective centres. The scope of these repairs should be carefully assessed to determine whether the use of ESK is the most appropriate solution. For interventions that exceed the scale of an individual household, distributing of kits may not be the most suitable approach. Instead, it may be more effective to estimate the specific quantities of components of the kit needed (BoQ) rather than the number of kits.

Note: Although the current ESK IEC provides construction technical principles, it does not fully address extensions, upgrades of existing shelters, or its application for collective centres. Shelter partners should adapt the IEC based on needs and programming.

5 Targeting and household selection

Thanks to the versatility of its components, the ESK can help to cover a wide range of shelter needs, but it is especially recommended for the following population groups:

1. **Displaced households** living in sites without access to a basic shelter or in tents and makeshift shelters that have deteriorated. Priority should be given to those experiencing:
 - Significant shelter structural instability or damage (e.g., extremely weak structures with little support, broken pieces, holes, tears, posing a clear safety risk and/or compromising protection from the elements).
 - Overcrowding, where multiple families are sharing inadequate shelter spaces.
 - Inadequate weatherproofing, leaving households exposed to extreme conditions (particularly heavy rain, snow, dust and wind).
2. **Households with severe or total damage to their houses that have returned to their places of origin** and have access to a plot of land to set up their temporary shelter. Consider provision of additional materials to large families (above 5 members) and/or households hosting other families in their plots to support setting up of new shelters or extensions.

When prioritizing, household **vulnerabilities** and needs must be considered, including:

- Pregnant or lactating women.
- Elderly individuals.
- People with disabilities or chronic illnesses.
- Female-headed households.
- Socially vulnerable groups (e.g., widows, divorced, or abandoned individuals)

Vulnerabilities should be considered not only when establishing households' selection priorities, but also when choosing the most appropriate **modality for program implementation**. After covering the above prioritization i.e. addressing the needs to provide stand-alone shelters and improve emergency shelters, ESK may be targeted for households for additional sealing off and partitions for those who have returned to damaged dwellings, are occupying non-residential living spaces, or are living in collective centres, for the purpose of sealing off and building partitions.

6 Kit Composition

The standard ESK composition can be found published in the Shelter Cluster website [HERE](#) and in the table below. Humanitarian agencies may adapt the composition of the kit slightly according to their programmes, implementation modality and logistical particularities, but the objectives and standards obtained should not differ substantially from those presented in this guide to harmonize assistance and avoid community tensions.

Emergency Shelter Kit (ESK)						
#	Item	Description	Unit	Qty	Unit Cost USD	Total Cost USD
opt A*	Batten 25 x 50 mm	2,40m long**. Untreated soft wood of class C16	piece	88	2.28	200.64
opt B*	Batten 50 x 50 mm	2,40m long**. Untreated soft wood of class C16	piece	56	4.32	241.92
2	50mm Timber Nails	Hot galvanised*** iron framing nails for wood	kg	1	2.9	2.9
3	75mm Timber nails	Hot galvanised*** iron framing nails for wood	kg	1	3.7	3.7
4	32mm Roofing nails	32mm, Large head hot galvanized***	kg	0.5	5.1	2.55
5	Handsaw	Carpenter saw for timber. Blade length of 500mm and an overall length of approximately 640mm. 8 or 9 TPI (teeth per inch), hardpoint., teeth from tempered and hardened steel.	unit	2	8	16
6	Claw Hammer	Good quality Carpenter type, Claw Hammer - Weight: 0.45 kg. Fiberglass/metal handle, replaceable. Head in forged steel, treated to achieve a martensitic structure, with dressed striking faces. Smooth surface and edges with no dents or cracks; no excess metal in the eye.	unit	1	5.8	5.8
7	Measuring Tape	3m or 5m builders metal tape.	unit	1	3.7	3.7
8	3mm Rope	Polypropylene, diam. 3mm, minimum 3 strands, twisted, preferably black or dark color	m	30	0.07	2.1
9	6mm Rope	Polypropylene, diam. 6mm, minimum 3 strands, twisted, preferably black or dark color	m	20	0.125	2.5
10	Tarpaulin	IFRC/IOM/UNHCR standard woven plastic (4 x 6m)	piece	3	11.7	35.1
11	Plastic film	Transparent or translucent plastic film 0.3mm thick, up to 50 sqm per shelter. Minimum width 4 m	sqm	50	0.7	35
12	IEC material	(Showing the best way to use ESK for the construction of an emergency shelter)	piece	1	0.5	0.5
					Option A	\$310
					Option B	\$352

* Two timber section options are proposed, 50x50 mm or 25x50 mm. While, logically, the 50x50 mm wooden

section is stronger than the 25x50 mm section when used individually, two 25x50 mm sections can be combined (tightly fixed together with nails, and glue if available, and with tarpaulin stretched in between the nailed sections) in a way that the overall structure is stiffened while using smaller profiles of wood, thereby optimizing the components of the kit and reducing logistic requirements. It is recognised that the small profiles of wood and the use of tarp for effectively bracing the structure is far from ideal but this is the reality of operating in Gaza when there are severe restrictions on what can be brought in and the cluster is trying to maximise coverage.

For most updated version of ESK specifications and quantities, refer to SC website or reach out to the SC Technical Coordinator.

CARE, Oxford Brookes and CRS in coordination with the SC, have developed IEC materials for a second version of the ESK, consisting of larger quantities of timber members than the ESK mentioned above. Shelter partners can adapt the IEC to kit quantities as required. [LINK](#) to IEC.

****Dimensions are indicative and can be modified to suit logistical requirements and market availability.**

***** Galvanized nails are essential because non-galvanized will quickly rust, lose integrity and rusty nails can also pose a significant tetanus risk.**

7 Implementation guidance

7.1 Preconditions

Emergency Shelter Kits can be used in various contexts. However, for each application, it is essential to ensure that the necessary conditions are considered for an effective distribution of ESK. The below is for individual plots or sites.

The optimal use of ESK is for constructing stand-alone emergency shelters on individual plots or sites. In these sites, particular attention must be given to meeting the minimum standards established by the Site Management Cluster. Some of these conditions are outlined in the table below.

	Site Feasibility Considerations
Availability and selection of land	Undertake coordination with Site Management Cluster (SMC) if upgrading existing sites or proposing to establish new. Prioritize working on sites that minimise safety and health risks. Coordinate with SMC, HLP TWG, and relevant clusters for due diligence support. Try to understand history of land use (who has lived here and believes they have rights to live there, who can use this land). Confirm (as much as possible) tenure with what is locally considered acceptable means of verification (document or testimony) and there are no overriding conflicting claims in terms of ownership or rights.
Type of land and clarity in terms of HLP (Housing, Land, and Property tenure).	
Clear of EO risk and debris	Currently access routes are prioritized for debris clearance. Current EO clearance is ongoing for critical services and humanitarian operations. As debris and EO clearance for residential areas will take time to operationalizes, in the first phase of ESK implementation, target empty lands and accessible areas free of debris and EO risk. In all cases consult with Mine Action Area of Responsibility lead UNMAS or partners.
Clear of flood risk	Reach out to SMC for their updated flood-risk map. Areas at low- flood risk can be considered for ESK incorporating household-level flood risk mitigation measure. For all areas where households are being supported with ESKs it should be clear to the shelter partners how the drainage will work when it rains (which is sometimes forgotten about when installation happens during the hot dry months). Shelter cluster partners should coordinate with SMC and WASH partners for support with drainage.
Access to infrastructure and basic services	Complement ESK assistance with essential services of WASH, solid waste management, communal spaces etc. Coordinate with Clusters to fill gaps on complementarity.
Preference of community for ESK	Community consultations on different shelter options in coordination with SMC and Protection. Consider cultural and conflict sensitivities in the community consultation process.

For more detailed information, please refer to [site planning tip sheet](#) developed by Site Management Cluster (SMC), WASH, and Shelter Clusters and reach out to SMC coordinators.

If supporting households to use ESKs within damaged buildings or around damaged buildings the agency needs to ensure that we are providing awareness messaging on identified risks and ideally not supporting households to live in a location that puts them at significant risk. It can be difficult to avoid supporting households in settings where they are at some risk (either from damaged buildings, environmental hazards or the conflict), and agencies may find they have a difficult balancing act because households may have no choice on where they live due to lack of options or may choose to live somewhere unsafe because it is their home and they are worried about loss of HLP rights or looting. It may also be appropriate to ensure households are making informed decisions to understand the risk they are at and to still support them if they are going to choose to live there regardless. The organisational risk to the agency has also to be considered in this instance. Please reach out to the Shelter Cluster Coordination team for further discussion on this point.

7.2 Modality selection

In-kind only at May 2025, due to there being no functional market and therefore a conditional cash modality is not appropriate.

7.3 Distribution

The most appropriate way to distribute the ESK will be determined by several factors, including the context in which they will be implemented and the profile of the beneficiaries.

Distributions options include:

Distribution of ESK at distribution points: This approach has the advantage of centralizing logistical efforts in a location. The distribution can be carried out quickly and in an orderly manner. It is generally recommended when the ESK will be implemented in a decentralized manner, for example, when households install the shelters on their own plots. This method is only acceptable if households have the capacity and means to transport the ESK to their final destination, the distance is reasonable, and the necessary security conditions are in place along the route.

Distribution of ESK at sites: This approach is ideal when the ESK will be implemented (used or installed) in a specific location (pre-identified and after conducting HLP due diligence). It reduces the transportation burden for households but may cause dissatisfaction if some households do not receive this assistance. It is crucial to establish transparent and objective selection criteria and to adequately explain them to both the beneficiaries and those excluded from the selection. Due to the nature of sites (lack of clear geographic boundaries between sites in many cases), we must not raise expectations with neighbouring sites and households who will not receive assistance. There needs to be careful community engagement in this respect.

7.4 Household-led vs Agency-led implementation modalities

There are a range of options including:

1) **Household-led ESK installation**, enabling freedom to choose how households want to construct their shelter. This approach requires that households have the knowledge and means to build it in a way that ensures the objective of an adequate shelter is achieved. Agencies will provide IEC materials, technical monitoring and support to households, and with direct implementation support to vulnerable households who are unable to assemble the ESK themselves.

2) **Distribution of semi-assembled ESK elements**, where the frames (modules) are manufactured in a workshop. For example, roof trusses or wall panels can be assembled in semi-industrial manner and then distributed to households for them to complete the installation of their shelters, along with technical monitoring and assistance, and with direct implementation support to most vulnerable households. This approach has the advantage of better-quality control over the modules, and repetitive, serial work can be scaled up efficiently.

3) **Agency-led ESK setup**, where they take responsibility for both the fabrication of the frames and the installation of the shelters. It can be an option for an agency present on the ground to support shelter needs on site/s. This approach is not widely recommended under limited funding and as it requires high operational capacity. In addition, it limits households' freedom of choice and their sense of ownership over the shelters.

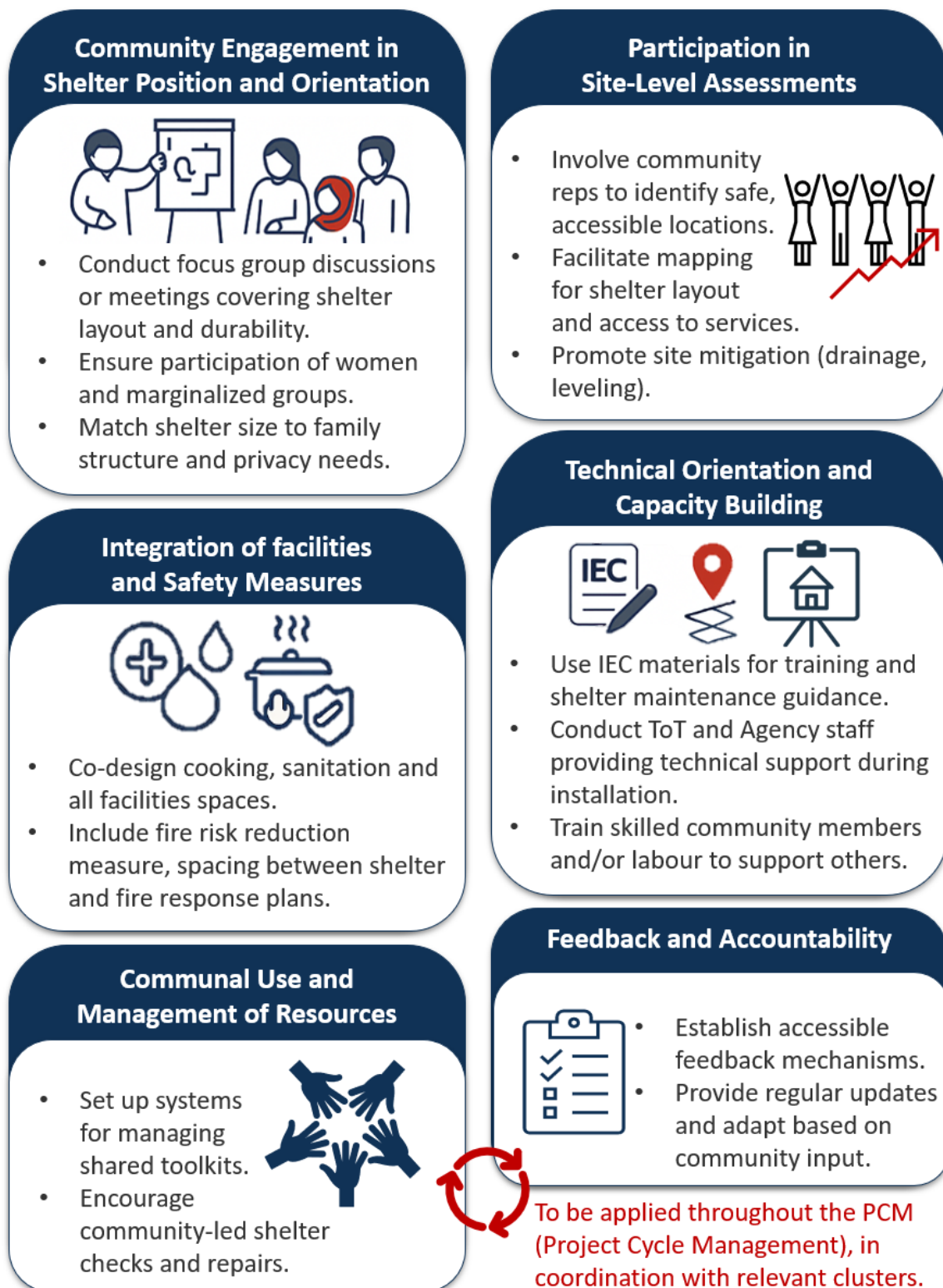
However, it may be appropriate in certain situations, such as for particularly vulnerable households that lack the capacity to construct their shelters adequately.

Note: The different implementation modalities are not mutually exclusive and can be combined. For example, agencies might identify and pay a trained carpenter to train others and help with the installation of several shelters. Cash-for-work opportunities should be integrated where possible to engage host communities or other site residents who have not received direct assistance. However, do not pay recipients of ESK support to work on their own homes. Cash-for-work should be focused on activities that have communal benefit (e.g. site levelling, debris clearance, drainage etc.) or for example assisting households who do not have able bodied persons who can install their own emergency shelter.

Consider ESK through a neighbourhood-based approach, covering multiple households in one area since the programming should have a strong community engagement component and the toolkits are communal i.e. one toolkit per 5 households.

7.5 Community consultation and orientation with households

Engaging communities early and throughout the intervention ensures that shelter solutions are tailored to local contexts, respectful of cultural sensitivities, and inclusive of community priorities. Building on practices such as the Neighbourhood-Based Approach and other Area-based site management approaches, the process should emphasize transparency, two-way communication, and active involvement of affected populations. Information on the agency complaints and feedback mechanism should also be shared.



7.6 Training of technical staff and technical assistance

A majority of Gazans have the know-how to build emergency shelters with scarce resources. Technical training should focus on emphasise key points such as the importance of corner bracing and how to fix the shelter to the ground and optimising the elements present in the kit and on techniques to prolong the durability of the shelters (especially tarpaulin and plastic film). Methods of speeding up processes to scale up the response should also be demonstrated as applicable (semi-industrial frame construction). It should be a two-way training where trainers should observe the common practices and listen to the priorities of trainees in order to optimise the final outcome of the shelters by incorporating relevant recommendations.

ToT: The trainers will pass on to the trainees (and future trainers) the techniques discussed and developed in the workshops. This training is expected to take place in Gaza when an agency is carrying out their ESK programming in Gaza and if there is technical expertise to conduct the training to SC partners. Agencies are encouraged to extend an invitation to other SC partners as possible.

In addition to training of technical staff for monitoring, the ESK implementation should also include a component of training carpenters, for both modalities, direct installation of shelters for most vulnerable households and also when relying on household driven construction.

Where possible the implementing agency should consider construction of 'model' ESK shelters to the design shown in the IEC materials to help households receiving ESK kits to best understand what is intended with the materials when it is possible for the materials to be used for a complete/standalone shelter. This can be done at the distribution location, in public places frequented by the population being assisted and on-site where households are building their homes.

Resources developed by the TSA TWG for training and implementation of ESK

Videos	on	IEC	installation	in	English	and	Arabic
IEC			in				Arabic
IEC in English							

7.7 Promotion of minimum standards (include site-level considerations)

The ESK response in Gaza should promote Sphere standards to ensure safe, dignified, and functional emergency shelter solutions for affected populations. Incremental improvements should be planned to enhance these standards over time, such as where possible supporting people to improve privacy and protection from weather elements, while closely coordinating with site management and protection clusters to address evolving needs. The following minimum standards should be promoted within the context that is specific to ESK:

- A) Minimum Shelter Size:
 - Prioritize increasing coverage based on targeting criteria for ESK, while aiming to meet minimum living space standards as per Sphere Shelter Standard 3 as far as possible (with indicator of 3.5m² / person of living space) .
 - Support households to adapt layouts to accommodate larger family sizes while maintaining cultural appropriateness.
- B) Ventilation:
 - Promote adequate airflow to prevent overheating and reduce health risks, particularly in densely populated sites.
 - Encourage simple methods such as cross-ventilation and openings for air circulation.
- C) Privacy Partitions:
 - Where possible support partitions for privacy within shelters, especially for women and girls, aligned with cultural and social norms.
 - Use locally available materials to create low-cost and flexible partitions.
 - When building several ESKs in one plot, households should be encouraged to stagger openings to promote privacy
- D) Accessibility:
 - Support households with individuals with disabilities and the elderly to create appropriate and accessible shelters and consider access pathways

- As appropriate support households to ensure pathways are levelled, and entry points to shelters are wide enough for mobility aids where this is possible (i.e. new sites or through supporting local relocation etc.).
- E) Critical Site-Level Considerations - These considerations are specific to ESK setup and do not replace broader site planning guidance, which is detailed in the Site Management Cluster documents:
 - **Shelter Spacing:** Promote sufficient distance between shelters to reduce fire risk and allow for safe movement.
 - **Ground and Elevation Conditions:** Support communities to ensure shelters are located on levelled ground and away from hazards such as flood-prone areas or unexploded ordnance.
 - **Anchoring:** Support households to ensure shelters are securely anchored to the ground or foundations to prevent displacement in high wind or unstable conditions.
- F) Housing Land and Property: Sphere recognises that displaced people can be supported to improve their living conditions in different types of accommodation. It does not mean prioritising owners for assistance, nor does it necessarily convey permanence or ownership.
 - Undertake due diligence in programme design and implementation. Achieve as much legal certainty about tenure as possible (the “secure enough” approach), given the context and constraints. [This document](#) produced by the HLP TWG can give further guidance that may be useful to practitioners when trying to undertake HLP due-diligence.
 - For those being supported on their own land or adjacent to their own land understand what documents may be required by people participating in a programme, noting that alternative means of verifications could be accepted such as utility bills or testimony from neighbours and community leaders. These alternatives will be needed since people might have lost, may not have, or be able to access, these documents.

7.8 Maintenance of ESK and Minimising the Need for Maintenance

Households should be orientated and trained on regular maintenance of the ESK, which is needed for lifespan of the ESK items to increase life span, tarps need to be checked for tears, timber for rot, and tools for rust or damage. To improve the durability of shelters, regular maintenance must be carried out, especially after rain or strong winds. The cover tarpaulins should be kept tight to prevent water from pooling. If water accumulates on the tarpaulins after rain, it must be removed immediately to prevent the weight from damaging the tarpaulins and deforming the structure. Connections should also be checked to see if they have deformed due to the weight.

It is important to inspect water infiltration, identify the entry points, and seal them. Wood deteriorates quickly if it remains wet. Ensure that the wood dries after the rain and does not remain in contact with water or damp soil. Drainage should be implemented around the shelter to prevent the wooden frames from coming into contact with water.

In the event of strong winds, secure the tarpaulins with ropes to prevent them from acting as sails. Keep doors and windows closed to prevent air from entering and increasing (wind) uplift.

Oiling metal parts for tools if possible, sharpening them if applicable, remove rust.

Community involvement and train people on basic repairs for independency, provide IEC materials on the best practices on the installation of the items.

7.9 Incrementally improving emergency shelter

The vision/aim and priority is to ensure that all displaced households across the Gaza Strip have access to at least a minimum standard of emergency shelter. Therefore, in the initial phases of the humanitarian shelter response the focus will be on maximizing coverage of basic emergency shelter kits.

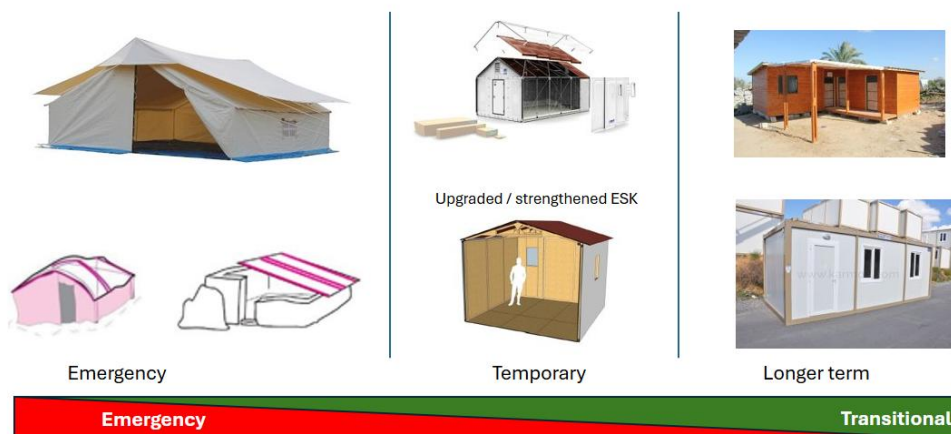
In later phases, partners should progressively supply additional materials to enhance emergency shelters, such as walling, roofing, and improving flooring and insulation, as well as to support households in constructing extensions and improving privacy. These improvements can be facilitated through direct distributions or cash/voucher assistance, depending on market conditions.

The Shelter Cluster aims to improve emergency shelters while working towards transitional and longer-term solutions, recognizing this will go in parallel as it is a protracted emergency: see image below. Households have

expressed needs for walls and no plastic/tarpaulin for walls, partners to consider providing OSB sheeting with ESK package as soon as access conditions improve and after piloting of basic ESKs.

Stand-alone shelters

Transitional Shelter Standards apply to stand-alone and other solutions



As Gaza continues to be in emergency stage with recurring displacement, it is expected that the emergency phase will continue for a long time, and even in parallel with early recovery efforts during a sustained ceasefire. ESK plays an important role in improving emergency shelters, until alternative solutions like transitional shelters and longer-term solutions are possible. Provision of an expanded ESK with walling and isolation from the floor enables a more dignified and robust temporary sheltering option until transitional shelters or recovery options are feasible.

7.10 Monitoring

In addition to technical monitoring during the implementation of ESK, agencies should conduct monitoring of the distribution process through exit interviews, complaint feedback mechanisms, and household-level shelter assistance satisfaction surveys through post distribution monitoring.

- Consider engaging the community in the monitoring process where applicable, for example: while implementing ESK on sites. Engage local volunteers and leaders to track shelter installation and report challenges.
- When access is limited, consider carrying out remote monitoring through phone surveys, messaging apps, and geotagged photos/videos to track progress. Encourage household self-reporting through accessible communication channels.

Key indicators could include:

1. Timeliness and Progress Indicators:

- a. Number of Shelter Kits Distributed. The target verses the planned kits.
- b. Installation Completion Rate.
- c. Installation Speed.

2. Quality and Compliance Indicators:

- a. Material Quality and Condition.
- b. Adequacy of the shelters (minimum living space, protection from weather elements, privacy (partitions))
- c. Use standardized checklists and conduct random spot inspections to verify quality. See Annex B

3. Beneficiary Satisfaction Indicators:

Could relate to selection criteria, materials, installation support, technical support

8 Coordination and reporting

- Collaborate with Site Management Cluster to prioritize site selection based on needs and safety, updating site data regularly.
- Coordinate with other clusters to integrate complementary services, such as with the WASH cluster for coordination around WASH facilities. Avoid duplication of efforts.
- Train and learn from local partners, authorities and community leaders to manage ESK-related activities.
- Align with Site Management Cluster monitoring systems and incorporate findings into coordination reports.
- Report activities to the OPT Shelter NFI cluster.

9 Programmatic risks

Risk Factor	Likelihood ¹	Impact	Mitigation Measures
COGAT approval delays or rejection	High	High	Engage with UNOPSs and involve the shelter cluster who will work with OCHA on advocacy.
Limited scanning capacity at border crossings	Medium	High	Discuss with Logistic Cluster to guide on big size cargo, follow the logistic cluster guidance
Palletization challenges (size, mould, leakage, insects)	High	High	Please see the section related to timber procurement.
Warehousing issues (humidity, air circulation, space)	Medium	Medium	These items should not stay in warehouses, try to dispatch the soonest, make sure your warehouses have no humidity and have proper ventilation.
Availability of good quality timber in the region	Medium	Medium	Identify multiple suppliers, conduct quality checks for samples, before delivery for the entire quantity, and after delivery.
Transport & keeping items dry	Medium	Medium	Use covered trucks if possible, waterproof packaging.
High costs transportation	High	High	Try to –purchase from regions that road trip can be an option.
Lack of technical capacity of communities and partners to implement ESK programming.	Medium	High	Provide training sessions, involve technical people, follow this guideline.
Low quality of items	Medium	High	Implement strict quality control at procurement and conduct regular inspections.
Access and capacity to monitor the entire procedure.	Medium	High	Involve community feedback, your partners feedback, try to monitor the targeting, installation, distribution.
Unforeseen security situation in Gaza/Looting/Access issues/escalation of conflict.	High	High	Partners should remain flexible and have alternative plans to deliver assistance, and keep advocating for delivery of assistance, raise concerns in clusters, keep themselves updated on the overall situation.
Site suitability (HLP, the terrain of the land, rubble, UXO, safety and security)	Medium	Medium	Coordinate with SMWG, Shelter Custer and relevant authorities.
Lack of community engagement	Medium	Medium	Use Shelter cluster developed IEC materials, have technical staff on ground for follow up, involve community leaders, etc.

¹ The likelihood and impact rate might change according to the situation and capacity of the partners.

Annex A: Timber procurement considerations

Item	Requirement/Description/guidance
Maturity of the tree	Ensure the tree has reached full maturity for quality of timber.
Location of the cut (Heartwood/Sapwood)	Heartwood is structurally stronger; sapwood is more prone to insects and fungi.
Type of timber	Sustainably sourced softwoods Procure wood from reputable sources, preferably from FSC certified sources or similar sustainable timber certification schemes.
Density (Weight reference)	Density can be estimated by the weight of the timber. $\text{Weight} = \text{Volume} \times \text{Density}$. The density of dried wood (at 15-18% moisture content) varies by type: Softwood (e.g., Pine, Fir): $\sim 400\text{-}600 \text{ kg/m}^3$. so for pine wood for (2.5*5CM) section the weight is 0.6 KG per meter.
Treatment method (Drying, Preservative)	Timber should be dried (air-dried or kiln-dried) to remove excess moisture. Preservatives can enhance durability but not recommended for Gaza response.
Moisture content (15-18%)	Required moisture content for construction-grade timber is 15-18%, measurable with a moisture meter. Can be measured by moisture meter.
Painting sections to avoid cracks/humidity	Sections should be painted to prevent cracks and humidity damage.
Procurement source (Local/Global)	Procure locally where possible to reduce humidity risks and carbon emission associated with transport.
Surface smoothening	Timber surfaces should be smoothed to improve usability.
Avoid chemically treated wood	Avoid chemically treated wood for health reasons. Use naturally resistant timber where possible.
Consider timber usage impact on fuel resources	Timber procurement should consider its impact on fuelwood resources.
Poles vs. Sawn timber selection	Poles are naturally stronger and cheaper, but sawn timber is more adaptable for construction.
Straight poles for construction	Straight poles are preferable for construction to ensure stability.
Visual Inspection: Knot size	Knots should not exceed 1/3 of the face dimension, with a maximum of 10 cm diameter and one per meter length.
Visual Inspection: Free from pests/rot	Timber must be free from pests and rot to ensure durability.
Visual Inspection: Sloping grain	Acceptable grain slope is 1 in 8 for structural strength.
Tolerance: Length/Thickness	Length tolerance: $\pm 5 \text{ cm}$; Thickness tolerance: $\pm 3\text{-}5 \text{ mm}$.
Crack limits	Max crack length: 15 cm at each end; shakes should not exceed half the thickness.
Palletization: Separation between rows	Separate timber rows by 2-3 cm to allow airflow and prevent moisture buildup. Shrink wrapped and use strong straps.

Refer to the [2009 Humanitarian Timber guidelines](#) when considering principles related to the sourcing and logistics related to timber.

Annex B: Quality and compliance checklist example

Note that an appropriate sampling methodology would be adopted (i.e. not all HH supported would be surveyed but a sample), and survey would take place approximately 2 to 4 weeks after ESK use:

Ref	Indicator	Notes / Composition of Indicator / Means of Verification
1	Spacing between shelters or measures on site for fighting fires is appropriate	Yes/No Visual observation (normally this space between structures would be height of structure but on many sites in Gaza this is not achievable, discuss with SMC for minimum distance for this indicator) Discussion with household on their knowledge on the site firefighting procedure in place.
2	Shelter is not at obvious risk of flooding and drainage around shelter has been created to reduce rot risk?	Yes/No Visual observation and/or discussion with household, community leaders or site management agency
2	Living space supported with ESK per person (m ² /person)	No. Of persons in household sharing living space Square meters of living space supported with ESK – measured Aiming for 3.5m ² /person where possible
3	Living space supported with ESK is water tight	Yes/No Visual observation on likelihood of water entering living space
4	Anchorage suitable for likely wind-loading over next 9 months	Yes/No Visual observation
5	Anchorage is appropriate and not likely to lead to rotting of superstructure timber in next rainy season (for example, separate timber has been used for anchorage that can be easily replaced if it rots).	Yes/No Visual observation
6	Timber connections appear to have appropriate strength (for example, an appropriate number of nails have used, wooden gusset plates at critical elements such as roof apex, binding materials appropriate).	Yes/No Visual observation
7	Bracing of structure has been included on at least 2 non-parallel sides and on the roof.	Yes/No Visual observation
8	Tarpaulin is suitably tight on sides and top such that will not accelerate wear from wind and there is no sag of roofing tarp (which could lead to pooling and damage of the structure).	Yes/No Visual observation
9	The emergency shelter has appropriate ventilation (such as a gap at the top of the shelter or appropriate window on at least two sides to promote cross ventilation).	Yes/No Visual observation

10	Escape from within shelter due to fire has been considered (such as door or window opening of appropriate size on a side which is not the same as main access door opening)	Yes/No Visual observation
11	Appropriate internal privacy can be created through partitioning (could be plastic or fabric sheet).	Yes/No Visual observation