UNHCR The UN Refugee Agency | EMERGENCY HANDBOOK

Emergency Shelter Solutions and Standards

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Key points

- Ensure minimum standards of covered living space per person are respected
- Shelter solutions should be adapted to the geographical context, climate, cultural practice and habits, and local availability of skills and accessibility to adequate construction materials in any given context
- Consider the life span of shelter materials as they deteriorate with time. Further to the initial distribution, installation or construction, replacement, reinforcement or maintenance may be required
- Individual family shelter should always be preferred over communal accommodation as it provides the necessary privacy, psychological comfort, and emotional safety. Whenever possible, displaced people should be empowered to choose where to live, and to build their own shelters, promoting a sense of ownership and self-reliance

1. Overview

This section will provide guidance on the range of emergency shelter solutions and expected standards when providing emergency shelter.

Emergency shelter needs are best met by using locally available, sustainably sourced materials and construction methods. Only if adequate quantities cannot be quickly obtained locally, should emergency shelter material be brought into the country. The simplest structures and building methods are preferable, if they offer adequate safety and protection from weather conditions. Materials should be, to the extent possible, environmentally friendly and obtained from sustainable sources, especially wood, sand, etc. That said, plastic sheeting has become the most important shelter component in many humanitarian response operations, often in combination with rigid materials, as they offer flexibility and can be used in a variety of ways in both urban and rural settings.

2. Relevance for emergency operations

A shelter is not just bricks and mortar, or a tent, but a means to protect those uprooted. In emergencies, it is fundamental to provide shelter as part of the life-saving responsibilities and mandate of humanitarian actors, so that forcibly displaced people can enjoy a secure and healthy living environment that protects them from weather conditions, and offer them privacy, dignity, comfort, and emotional security.

3. Main guidance

Each type of emergency shelter may present advantages and disadvantages, depending on the context in which it is used. Consider the following points when deciding on the emergency shelter or combination of shelter types to be used in any given response:

Shelter solution	PROs	CONs
Family tents	Valuable in immediate relief phase; lightweight (for transport and distribution); proven design; can be winterised; large production capacities; quick to install.	inflexible; may be unstable in high winds or heavy snow; difficult to heat. Where tents are used for long durations, provisions for repair materials should be considered.

Plastic sheeting	Most important shelter component in many relief operations; UV-resistant; heavy duty; lightweight, flexible; large production capacities; known product, familiarity of their usage in many contexts; low cost.	Does not offer strong resistance against high winds or rains; negative environmental impact if not disposed of properly. Need extra materials to make a shelter, eg wood: collecting wood for shelters' support frames or stick skeletons can considerably harm the environment if collected from surrounding forests. It is therefore important to always consider sustainable sources of framing material which is suitable to support plastic.
Materials and tools for construction (shelter kits)	Suitable local materials are best, if available, and must be suitable for variance in the seasons, culturally and socially appropriate and familiar.	Required time and training.
Prefabricated shelter and containers	Permanent or semi-permanent structures; long lasting if adapted to local climatic conditions.	High unit cost; long shipping time; long production time; transport challenges; assembly challenges; inflexibility in customization; disregards cultural and social norms.
Refugee housing units	Durable and weather-resistant, lightweight and portable, modular design.	Higher unit cost in comparison to local solutions; may not fit cultural preferences and sensitivities; limited thermal insulation.

Rental subsidies/CBI	Greater sense of independence and freedom of choice; greater integration in a community; influx of income to host community.	Competitive market may result in price increases; inflation and speculation may occur; difficult to implement in places where financial institutions are not present, or cash transfer is not implementable; upgrades or repairs may be needed.
Shelter rehabilitation/upgrade	Aiming at more durable solutions; more adapted to developed/cold climate contexts.	More costly; takes more time; need to ensure HLP rights; need to respect local building codes, regulations and plans.

For transit and collective centers, please refer to related entries. For shelter upgrades, rehabilitation and more long term solutions, please refer to the entry on shelter guidance.

Emergency shelter considerations in warm climates

Minimum standards for floor space in warm climates are as follows:

- Minimum 3.5m2 of covered living space per person in tropical or warm climates, excluding cooking facilities or kitchen.
- Minimum height of 2m at the lowest point, with greater height being preferable to aid air circulation and ventilation.
- It is expected that in warm climates and based on cultural habits, certain activities will happen outside (e.g. cooking), hence kitchen space is not factored into above standard. Shaded external space adjacent to the shelter can be established, if possible, for these activities.

The design of shelter should, if possible, provide for modification by its occupants to suit their individual needs (e.g. internal partitioning for greater privacy), including future expansion.

In more developed contexts or where forcibly displaced people have access to income opportunities, more space should be factored in for extra belongings (e.g. washing machines, fridges), or for running home businesses (tailoring, hair dressing, etc.). Similar considerations for extra living space should be made when WASH facilities (bathing and toilet facilities) are provided at family level. Ensure close coordination with WASH actors in this regard. Check the WASH entry for more details.

Emergency shelter considerations in cold climates

Where cold weather with wind, rain and snow prevails over extended periods (3 to 5 months), minimum standards for floor space are as follows:

- Minimum 4.5m2 to 5.5m2 indoor living space per person.
- Max 2m ceilings to reduce the heated space.

In cold seasons/climates, more time will be spent inside the shelter (cooking, eating, studying), and more space is required to store belongings (e.g. warm clothes, blankets, etc.). In particular, persons with specific needs will require heated, enclosed spaces.

As for the standards in warm conditions, the design of shelter should, if possible, provide for modification by its occupants to suit their individual needs (e.g. internal partitioning for greater privacy), including future expansion.

In more developed contexts or where forcibly displaced people have access to income opportunities, more space should be factored for extra belongings (e.g. washing machines, fridges), or for running home businesses (tailoring, hair dressing, etc.). Similar considerations for extra living space should be made when WASH facilities (bathing and toilet facilities) are provided at family level. Ensure close coordination with WASH actors in this regard. Check the WASH entry for more details.

Shelters in cold conditions have to resist snow weight and wind forces, hence they are more complex and expensive. Thus, local conditions need to be considered in the standards for shelter in such situations. The following should be considered:

- Structural stability (to withstand snow- and wind-loads).
- Insulation of walls, roofs, floors, doors and windows.
- Protected and heated kitchens and sanitary facilities.
- Provision for heating.

To help people survive the impact of cold weather in an emergency, a response should focus on the following:

Individual survival. It is extremely important to protect the human body from heat loss. Particularly during sleep, it is important to be able to keep warm by retaining body heat with blankets, sleeping bags, clothing and shoes. Body heat can be generated by providing food with high calorific value.

Living space. It is very important to concentrate on a limited living space and to ensure that cold air can be kept out of this space. This can be done by sealing the room with plastic sheeting, sealing tapes and insulation materials. Windows and doors should be covered with translucent plastic sheeting and stapled on window and door frames. Walls, ceilings and floors of the living space should be designed to insulate from cold air and to retain warm air as efficiently as possible.

Heating. Keeping the inside of a shelter at a comfortable temperature (15 to 19° C) depends to a large extent on the outside temperature, the type of construction, the quality of the insulation, the orientation of the building, and on the type and capacity of the stove. Depending on conditions, a stove with 5 to 7 kW performance should have the capacity to heat a space with a floor area of 40 to 70 m2 in most cold areas. When the stove for heating is used for cooking as well, particular attention should be given to its stability and the use of a clean energy source. Fire risks must also be considered.

Post emergency phase

The SPHERE standards (2018) remain the internationally recognised quantifiable minimum standards for humanitarian responses. Nevertheless, it must be emphasized that these remain minimum standards and that it is imperative to consider the next stages of the sheltering process as early as possible in the emergency response. In protracted situations, an approach that is able to breach the division between emergency, transitional, and durable shelter and that links relief, rehabilitation and development should be sought.

Standards to be applied to transitional and/or durable shelters will depend on the context, and will be commonly defined by shelter partners and in close coordination with government authorities and development partners.

Checklist

- Evaluate geographical context, climate, cultural preference and local resources.
- Provide 3.5m2 covered space per person in warm climates, and 4.5-5.5m2 per person in cold climates.
- In arid climates that may present both cold and hot seasons, use the standard for minimum covered living space based on safest standards (i.e. based on cold standards).
- Ensure structural stability and consider modification by occupants (e.g. extra space, more internal partitioning, etc.).
- Acknowledge SPHERE standards as a minimum.

- Adapt shelter solutions based on local factors. Establish locally adjusted standards especially in more developed contexts.
- Collaborate with shelter partners, government, and development partners.
- Plan for more durable solutions beyond the emergency phase.

Annexes

UNHCR Policy on alternatives to camps, 2014

UNHCR, Shelter and Sustainability, 2021

UNHCR, Shelter Design Catalogue, 2016

4. Learning and field practices

Accessible to UNHCR staff only: UNHCR Shelter & Settlement Assessment Toolbox (...

Shelter Center Humanitarian Library

UNHCR Self Standing Tent

Assembly of an RHU Better Shelter

Family Tent

Refugee Housing Unit 1.2 Fact Sheet

5. Links

Global Shelter Cluster The Sphere Handbook 2018 UNHCR, The Master Plan Approach to settlement Planning, 2019

6. Main contacts

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