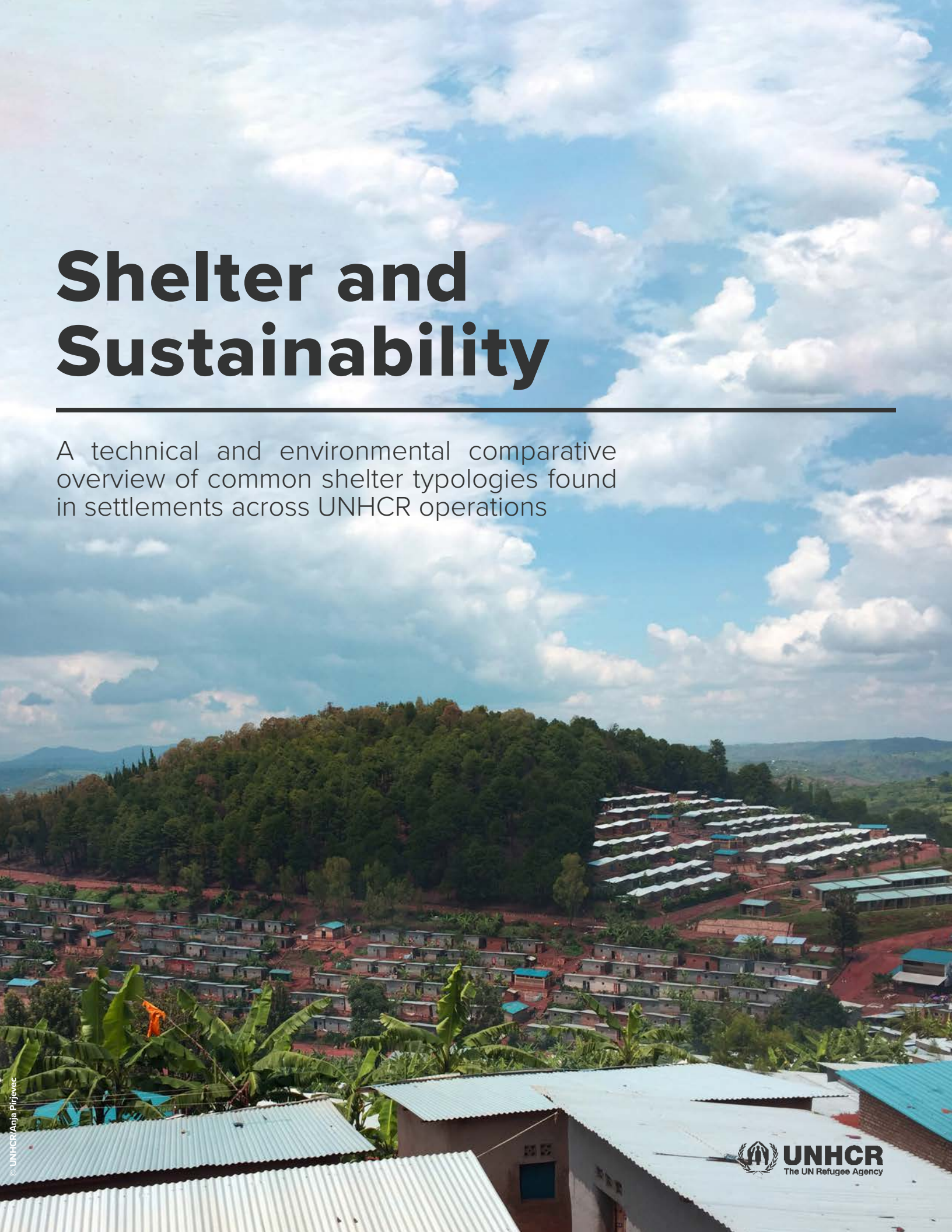
Shelter and Sustainability

A technical and environmental comparative overview of common shelter typologies found in settlements across UNHCR operations



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0.0 Contents


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I. Introduction

Refugees and others of concern to UNHCR have the right to adequate shelter, which should be ensured in all stages of the displacement cycle: prior to, during and after displacement. Adequacy of shelter goes beyond the mere physical living space. It includes security of tenure, affordability, habitability, accessibility, location, cultural suitability and availability of services, materials as well as infrastructure. Humanitarian crises impact access to safe and adequate shelter for women, girls, men and boys in different ways. Each step of a shelter program must be therefore considered with regard to different needs and “do no harm” principles. The identification of the specific needs, roles and capacities of the displaced populations is essential to ensure their participation and ownership. Providing culturally appropriate shelters which are conceived to be convenient for women and men of different age groups and backgrounds is crucial as well as it is the proximity of shelters to basic services and infrastructure. Protection principles should be mainstreamed across all aspects of shelter programing.

1.1 Purpose

Shelter cannot be looked at in isolation; any response must consider the settlement and the context in which the households are sheltered. Preferred shelter solutions must be designed and engineered on the basis of context-specific structural and performance requirements. The shelter should provide a secure and healthy living environment with privacy and dignity to persons of concern (PoCs) and protect them from a range of risks, including eviction, exploitation and abuse, overcrowding, poor access to services, and unhygienic living conditions. The development of an appropriate shelter response is a process and not simply the delivery of a product and it is important to ensure the social aspects and needs become also design drivers, alongside all the other characteristics and specifications assessed in this study.

This document is a comparative overview of different shelter typologies, which were recently implemented in various field locations and in different stages of a humanitarian response to forced displacement. Using established criteria to determine the technical performance, habitability, affordability as well as the environmental impact of each shelter design, this study outlines the real costs of shelter interventions taking into consideration the specificities of each context and material used.

The scope of the Shelter and sustainability overview is not to review or update the technical specifications of shelters presented in the UNHCR shelter design catalogue, which was developed as a quick reference tool presenting a diverse range of applied examples of shelter designs. Rather, it seeks to examine shelter designs, the life-cycle of the materials used and analyze possible strategies to increase the sustainability of humanitarian responses and reduce their carbon footprint, while at the same time ensuring shelter adequacy and suitability. Ultimately, this overview aims to assist humanitarian practitioners and host governments in evaluating the performance of shelter solutions, technically, culturally and environmentally, in a given context and response.

1.2 Intended users

This document is designed for use by all UNHCR staff and partners working in the shelter sector across different humanitarian contexts and countries. The information may be particularly relevant to practitioners who are supporting the development of shelter assistance programs with consideration to shelter type, operational context and the long- and short-term environmental impacts of humanitarian responses. The document should be used in conjunction with existing environmental assessment tools seeking to identify potential impacts of shelter and settlement interventions and the associated mitigation measures to be adopted.

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2. Assessment of shelter sustainability

The sustainability performance of shelter solutions presented in this document uses technical drawings and bills of quantities of types of designs that were implemented in different UNHCR operations and was carried out by comparing four main criteria (environmental impacts, technical performance, shelter habitability and costs of construction materials & labor) through a Life Cycle Sustainability Assessment (LCSA) approach. The LCSA is a trans-disciplinary framework which allows the comparison of different design options through a multi-criteria decision analysis with the aim of finding the best compromise between costs, environmental impacts and functionality for a specific shelter. By giving a comprehensive overview of the shelter response the LCSA allows informed decision making leading to the selection of the most appropriate shelter design to address the needs in a specific context.

2.1 Assessment methodology

General Considerations

In order to holistically evaluate the sustainability of a shelter response, the shelter type is evaluated considering a range of characteristics, to ensure their adequacy[†*] in the broad sense of the term, notably:

- Provide protection from the elements, a space in which the beneficiaries can live and store belongings, and privacy, comfort and emotional security;
- Provide a habitable covered living space that ensures a secure and healthy living environment;
- Address hazard risks and safety of the occupants;
- Build using similar materials and techniques as by the displaced population or the host communities;
- Adapt to take account of the local context and climate, cultural practices and habits, local skills, and available construction materials;
- Consider the wider settlement context in which the households are sheltered.

[†*] Based on Sphere Standards.

Shelter and settlement assistance should minimize as much as possible the negative impacts on the natural environment. Environmental impact assessments and mitigation strategies should accompany all shelter and site planning activities throughout the program cycle. Among the options available, the most sustainable materials and construction techniques should be prioritized. Energy supply as well as solid waste management practices should be taken into consideration early on in the planning phase to ensure safe, hygienic, reliable, affordable and environmentally sound systems. The protection, restoration and improvement of the natural environment in UNHCR operational sites should be mainstreamed throughout the program cycle and considered before, during and after the establishment of such sites with special attention on the impact of shelter interventions on the host population's needs for natural resources.

Each typology assessed throughout the study is accompanied by details on set up time, life span, number of workers, the level of expertise required for set up and finally the temperature range that the shelter is able to sustain in a given location.

Shelter life span

Shelter materials deteriorate with time. The shelter life span defines the period beyond which the shelter and/or its elements might begin to deteriorate.

Shelter set up time

Shelter set up time defines the time in hours or days needed to build the shelter with a specific