

# Shelter Environmental Checklist

## Greening the Shelter

This checklist has been prepared to encourage the use of green and sustainable shelter and settlement approaches in local level planning and implementation. The collected information will act as guidance to further plan for a greener and climate friendly response and reconstruction from local and provincial level by providing status of the existing or planned buildings in reference to environment friendly, greener, and more sustainable practices.

### Objectives of the Checklist:

1. Assess the incorporation of environmental criteria focusing on Green Shelter (considering environmental impacts) for buildings and settlement.
2. Recommend practical solutions to make buildings greener and climate friendly with lesser environmental impact during construction and operations.

General Information			
Province		Organization Name	
District		Full Name	
Municipality		Position	
Geographical Region	<input type="radio"/> Mountain <input type="radio"/> Hilly <input type="radio"/> Lowland	Gender	<input type="radio"/> Female <input type="radio"/> Male <input type="radio"/> Others
Contact Number		Email Address	

Type of Disaster			
Scale of Disaster	Type of Disaster/Hazard		
<input type="radio"/> Local Level <input type="radio"/> Province Level <input type="radio"/> National Level	<input type="radio"/> Earthquake <input type="radio"/> Flood <input type="radio"/> Lightning/ Thunderbolt	<input type="radio"/> Landslide <input type="radio"/> Fire <input type="radio"/> High Winds	<input type="radio"/> Others

A. Initial Assessment			
<b>A.1. Undertake a broad-level assessment of damage in the sector including environmental factors:</b>			
<b>1.1 Number of households affected in the response area:</b>			
<b>1.2 Information on the socio-cultural nature of housing</b> Typical household size: Typical house size/Area:			
<b>1.3 Damage in Building (Structural component)</b> <input type="radio"/> Minor (Non-Structural Damage) <input type="radio"/> Moderate (Some Structural Damage but economically repairable) <input type="radio"/> Heavy/ Completely Damaged (Structurally Damaged, not economical to repair)			
<b>1.4 Landslide Risk</b> <input type="radio"/> Minor <input type="radio"/> Moderate <input type="radio"/> Heavy	<b>1.5 Flood Risk</b> <input type="radio"/> Minor <input type="radio"/> Moderate <input type="radio"/> Heavy	<b>1.6 Fire Risk</b> <input type="radio"/> Minor <input type="radio"/> Moderate <input type="radio"/> Heavy	<b>1.7 Earthquake Risk</b> <input type="radio"/> Minor <input type="radio"/> Moderate <input type="radio"/> Heavy
<b>1.8 High winds Risk</b> <input type="radio"/> Minor <input type="radio"/> Moderate <input type="radio"/> Heavy	<b>1.9 Lighting/ Thunderbolt Risk</b> <input type="radio"/> Minor <input type="radio"/> Moderate <input type="radio"/> Heavy	<b>1.19 Heat and Cold Waves</b> <input type="radio"/> Minor <input type="radio"/> Moderate <input type="radio"/> Heavy	



Humanitarian Aid  
and Civil Protection



from the British people



The UN Refugee Agency



Global Shelter Cluster  
ShelterCluster.org  
Coordinating Humanitarian Shelter



National Housing and Settlements  
Resilience Platform

# Shelter Environmental Checklist

## Greening the Shelter

<b>A.2. Review any existing integrated settlement plans or other plans prepared for the area to understand the context of site selection:</b>
<b>2.1 In case of relocation, has the proposed site been identified and mapped by the government for settlement?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>2.2 Does the planned settlement comply with existing Guidelines/bylaws for housing construction, local technology, and construction materials?</b> <input type="radio"/> Yes <input type="radio"/> No
<b>2.3 Is the design of shelters considering the possibility of more severe weather conditions?</b> <input type="radio"/> Yes <input type="radio"/> No
<b>2.4 While allocating sites for shelter, has the needs of the poor and marginalized been prioritized? (Evidence can be participation in planning meetings, etc.)</b> <input type="radio"/> Yes <input type="radio"/> No
<b>2.5 Information on local climate:</b> This information will help design the building as per microclimate. (Temp.: 28°C in Hills, 40°C in Lowlands in Summer and 12°C in Hills, 17°C in Lowlands in Lowlands, Avg. Precipitation: 600mm)  <b>Temperature:</b> <b>Precipitation:</b>

<b>B. Community and Affected Population Analysis:</b>								
<b>Information on the sociocultural nature of housing</b>								
<b>B.1 Predominant housing typology (Multiple Choice)</b>  <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"><input type="checkbox"/> SMM (Stone Masonry Mud Mortar)</td> <td style="width: 50%;"><input type="checkbox"/> SMC (Stone Masonry Cement Mortar)</td> </tr> <tr> <td><input type="checkbox"/> BMM (Brick Masonry Mud Mortar)</td> <td><input type="checkbox"/> BMC (Brick Masonry Cement Mortar)</td> </tr> <tr> <td><input type="checkbox"/> RCC (Reinforced Cement Concrete)</td> <td><input type="checkbox"/> Others</td> </tr> </table> Please Specify Others:	<input type="checkbox"/> SMM (Stone Masonry Mud Mortar)	<input type="checkbox"/> SMC (Stone Masonry Cement Mortar)	<input type="checkbox"/> BMM (Brick Masonry Mud Mortar)	<input type="checkbox"/> BMC (Brick Masonry Cement Mortar)	<input type="checkbox"/> RCC (Reinforced Cement Concrete)	<input type="checkbox"/> Others		
<input type="checkbox"/> SMM (Stone Masonry Mud Mortar)	<input type="checkbox"/> SMC (Stone Masonry Cement Mortar)							
<input type="checkbox"/> BMM (Brick Masonry Mud Mortar)	<input type="checkbox"/> BMC (Brick Masonry Cement Mortar)							
<input type="checkbox"/> RCC (Reinforced Cement Concrete)	<input type="checkbox"/> Others							
<b>B.2 Number of affected vulnerable households:</b> <a href="#">Click or tap here to enter text.</a>								
<b>B.3 Choose any of the following showing household diversity:</b> <table style="width: 100%; border: none;"> <tr> <td><input type="radio"/> Disabled</td> <td><input type="radio"/> Single Mother</td> <td><input type="radio"/> Heavy</td> <td><input type="radio"/> Child</td> </tr> <tr> <td><input type="radio"/> Senior Citizenship</td> <td><input type="radio"/> Marginalized</td> <td><input type="radio"/> None</td> <td><input type="radio"/> Other</td> </tr> </table> Please Specify Others:	<input type="radio"/> Disabled	<input type="radio"/> Single Mother	<input type="radio"/> Heavy	<input type="radio"/> Child	<input type="radio"/> Senior Citizenship	<input type="radio"/> Marginalized	<input type="radio"/> None	<input type="radio"/> Other
<input type="radio"/> Disabled	<input type="radio"/> Single Mother	<input type="radio"/> Heavy	<input type="radio"/> Child					
<input type="radio"/> Senior Citizenship	<input type="radio"/> Marginalized	<input type="radio"/> None	<input type="radio"/> Other					
<b>B.4 Presence of community-based organizations:</b> <input type="radio"/> Yes <input type="radio"/> No								
<b>B.5 Community engagement</b> <table style="width: 100%; border: none;"> <tr> <td><input type="radio"/> Local youth club</td> <td><input type="radio"/> User committee</td> <td><input type="radio"/> Women Community Group</td> </tr> <tr> <td><input type="radio"/> Working group</td> <td><input type="radio"/> Others.</td> <td></td> </tr> </table> Please Specify Others:	<input type="radio"/> Local youth club	<input type="radio"/> User committee	<input type="radio"/> Women Community Group	<input type="radio"/> Working group	<input type="radio"/> Others.			
<input type="radio"/> Local youth club	<input type="radio"/> User committee	<input type="radio"/> Women Community Group						
<input type="radio"/> Working group	<input type="radio"/> Others.							



# Shelter Environmental Checklist

## Greening the Shelter

<p><b>B.6 Availability of skilled human resources for shelter design and construction</b></p> <p><input type="checkbox"/> Engineer    <input type="checkbox"/> Sub-Engineer    <input type="checkbox"/> Overseer    <input type="checkbox"/> Mason    <input type="checkbox"/> Others</p> <p>Please Specify Others:</p>
<p><b>B.7 Available natural resources</b></p> <p><input type="checkbox"/> Stone    <input type="checkbox"/> Wood    <input type="checkbox"/> Sand    <input type="checkbox"/> Aggregate    <input type="checkbox"/> Bamboo    <input type="checkbox"/> Other</p> <p>Please Specify Others:</p>
<p><b>B.8 Pre-identified site for debris disposal and solid waste management:</b></p> <p><input type="radio"/> Yes    <input type="radio"/> No</p>
<p><b>B.9 Has guideline for Debris management been established for efficient resource management incorporating reuse, recycle, or repurpose:</b></p> <p><input type="radio"/> Yes    <input type="radio"/> No</p>
<p><b>C. Planning and Design:</b></p>
<p><b>C.1 Type of Proposed Site</b></p> <p><input type="checkbox"/> Emergency Shelter    <input type="checkbox"/> Existing Permanent Shelter    <input type="checkbox"/> proposed site for Relocation    <input type="checkbox"/> Other</p> <p>Please Specify Others:</p>
<p><b>C.2 Do the proposed sites affect the natural water resources and supplies?</b></p> <p><input type="radio"/> Yes    <input type="radio"/> No</p> <p>If yes, what can be the mitigation measures:</p>
<p><b>C.3 Is the proposed construction site prone to landslides, soil erosion, and flooding?</b></p> <p><input type="radio"/> Yes    <input type="radio"/> No</p> <p>If yes, what can be the mitigation measures (Incorporate safety lessen the impact of hazards, such as raised floors if flooding is a risk, to building safety codes, and use of light building materials in case of earthquakes.)</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%;"> </div> <div style="width: 45%; vertical-align: middle;"> <p>features to adherence</p> </div> </div>
<p><b>C.4 Do the proposed sites affect the natural water flow(watershed) such as stream lakes or rivers?</b></p> <p><input type="radio"/> Yes    <input type="radio"/> No</p>
<p><b>C.5 Does the proposed shelter design align with existing building housing typology i.e., locally, and culturally appropriate designs?</b></p> <p><input type="radio"/> Yes    <input type="radio"/> No</p>
<p><b>C.6 Does the shelter planning incorporate measures such as planting trees and other vegetation to provide shade, and installing green roofs to help control heat gain and minimize cooling demands?</b></p> <p><input type="radio"/> Yes    <input type="radio"/> No</p>

# Shelter Environmental Checklist

## Greening the Shelter

D. Construction Materials:	
<b>D.1 Which of the construction materials has been used majorly?</b>	
Natural Construction Materials:	Processed/Man-Made Construction Materials:
<input type="checkbox"/> Stone <input type="checkbox"/> Timber <input type="checkbox"/> Bamboo <input type="checkbox"/> Slate <input type="checkbox"/> CSEB Tiles <input type="checkbox"/> Mud <input type="checkbox"/> Clay Brick <input type="checkbox"/> Thatched Straw <input type="checkbox"/> Others Please Specify Others:	<input type="checkbox"/> Brunt Brick <input type="checkbox"/> Concrete <input type="checkbox"/> Glass <input type="checkbox"/> Paints <input type="checkbox"/> Composite Pa <input type="checkbox"/> Ceramic Tiles <input type="checkbox"/> Aluminum composite panel <input type="checkbox"/> Wall Papers <input type="checkbox"/> Autoclaved Aerated concrete <input type="checkbox"/> Rebar <input type="checkbox"/> Corrugated Galvanized Iron sheets. <input type="checkbox"/> PVC Panels <input type="checkbox"/> Others Please Specify Others:
<b>D.2 Which of the construction materials can be reused and recycled for reconstruction?</b>	
<b>D.1 In case of relocation, has the proposed site been identified and mapped by the government for settlement</b> <input type="checkbox"/> Wood <input type="checkbox"/> Stone <input type="checkbox"/> Clay Brick <input type="checkbox"/> Mud Brick <input type="checkbox"/> Timber <input type="checkbox"/> Brunt Bricks <input type="checkbox"/> CGI Sheets <input type="checkbox"/> Crushed Concrete Aggregates <input type="checkbox"/> Other  Please Specify Others:	
<b>D.2 Has the use of harmful materials such as toxic paints and plastics been planned for construction?</b> <input type="radio"/> Yes <input type="radio"/> No	

E. Energy efficiency and building comfort:
<b>E.1 Is the site microclimate considered for the building's location and positioning? (Locate buildings in favorable sites where possible e.g., sheltered areas in cold climates, and exposed to prevailing wind direction in hot climates)</b> <input type="radio"/> Yes <input type="radio"/> No
<b>E.2 Does the building design provide solar gain during winter?</b> <input type="radio"/> Yes <input type="radio"/> No
<b>E.3 Does the Building Design provide shading in the summer?</b> <input type="radio"/> Yes <input type="radio"/> No
<b>E.4 Are there sufficient wall openings (doors and windows) to provide cross ventilation in the building/design?</b> <input type="radio"/> Yes <input type="radio"/> No
<b>E.5 Does the roofing material have a design that helps to keep buildings cool during summer?</b> <input type="radio"/> Yes <input type="radio"/> No
<b>E.6 Is there a provision for planting or safeguarding deciduous trees in the planning process? (To promote shading and prevention of soil erosion)</b> <input type="radio"/> Yes <input type="radio"/> No
<b>E.7 Are low-energy lights such as LEDs?</b> <input type="radio"/> Yes <input type="radio"/> No
<b>E.8 What are the existing renewable energy sources being used?</b> <input type="checkbox"/> Solar Energy <input type="checkbox"/> Hydro <input type="checkbox"/> Biogas <input type="checkbox"/> Other  Please Specify Others:
<b>E.9 What are the planned renewable energy sources for the building?</b> <input type="checkbox"/> Solar Energy <input type="checkbox"/> Hydro <input type="checkbox"/> Biogas <input type="checkbox"/> Other  Please Specify Others:



Global Shelter Cluster  
ShelterCluster.org  
Coordinating Humanitarian Shelter



# Shelter Environmental Checklist

## Greening the Shelter

<b>E.10 Is the inclusion of renewable energy considered during the planning phase or not?</b> <input type="radio"/> Yes <input type="radio"/>
<b>E.11 What type of cooking fuel and stoves are used mostly? (For e.g., Induction, Rice cooker, etc.)</b> <input type="checkbox"/> Firewood <input type="checkbox"/> Electricity <input type="checkbox"/> LPG <input type="checkbox"/> Solar <input type="checkbox"/> Other  Please Specify Others:
<b>E.12 Are there any plans to reduce or change the current use of Firewood into Biogas or LPG?</b> <input type="radio"/> Yes <input type="radio"/> No
<b>E.13 Does the building design and planning consider the potential risks of extreme weather events and include measures to reduce the number of items or elements exposed to uprooting on the roofs and sides of the building?</b> <input type="radio"/> Yes <input type="radio"/> No

F. Water efficiency:
<b>F.1 Is there an existing provision for a rainwater harvesting system or has such provision been planned in the building?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>F.2 Has the use of renewable water heating systems been embraced or not?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>F.3 Is there any system that has been implemented or is being planned to decrease water usage such as greywater harvesting?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>F.4 Are there any considerations or planning for the multiple uses of water (water use plan) at the HH and community level?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable

G. Sourcing, use, and disposal of construction materials:
<b>G.1 Is there a possibility to use/ utilize local skills and materials for construction?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>G.2 Is there a possibility to incorporate principles of green logistics and procurement in the construction? (Procure from near marketplaces in bulk to minimize carbon emissions)</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>G.3 Have construction materials (sand, Gravel, Boulders, stone, cement, rebars) been procured from legally recognized quarries and entities with minimum environmental impact?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>G.3 Has timber for construction been harvested legally and responsibly from national and/or community forests or private land?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>G.1 Has the softwood timber been treated against insect attack for longer life using safe products?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>G.1 Has efficient building design typology considered waste and cost?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>G.1 Are there any provisions for efficient and safe Debris Management?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable



Global Shelter Cluster  
ShelterCluster.org  
Coordinating Humanitarian Shelter



# Shelter Environmental Checklist

## Greening the Shelter

H. Good Construction Practices:
<b>H.1 Has proper site protection work been designed for the construction sites?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>H.2 Have proper health and safety practices guidelines been established for construction sites?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>H.3 Has training been provided to masons and carpenters on the best construction practices for health, safety, and environment?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>H.4 Are there any proper storage facilities segregated as hazardous, flammable, toxic, etc. materials in the construction site?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>H.4 Are there any preventative measures incorporated into the design of buildings to protect against moisture damage and termite infestation, such as overhangs, porches, drainage systems, and barriers specifically designed for termites?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
I. Monitoring and Evaluation:
<b>I.1 Does the construction and building design comply with the existing National Building Code and bylaws?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>I.2 Has legal and sustainable sourcing of materials been carried out?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>I.3 Have health and Safety guidelines been implemented through Health and Safety, Environmental checks monthly?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>I.4 Have community audits and monitoring for construction quality and environmental impacts been carried out in regular intervals?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>I.5 Has Community feedback been collected and incorporated into design, construction, and monitoring?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>I.6 Have the measures incorporated in the above sections been evaluated for the effectiveness of environmental measures and their impacts?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>I.7 Type of Feedback received from the community regarding the overall planning and construction?</b> <input type="radio"/> Positive <input type="radio"/> Negative <input type="radio"/> Constructive <input type="radio"/> Other Please Specify Others:
<b>I.8 Has a mechanism been developed to document the lessons learned and incorporate the learnings into the next response?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable
<b>I.9 Has the project considered the steps to comprise gender and diversity in all stages such as planning, implementation, and monitoring?</b> <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Not Applicable



Humanitarian Aid  
and Civil Protection



UKaid  
from the British people



UNHCR  
The UN Refugee Agency



Global Shelter Cluster  
ShelterCluster.org  
Coordinating Humanitarian Shelter



National Housing and Settlements  
Resilience Platform