

## Morocco Earthquake Humanitarian Response Key Environmental Considerations Overview October 2023



### Introduction

This *Overview* provides a summary of guidance on environmental issues to be considered in assessing, planning and delivering assistance following the September 2023 earthquake in Morocco.

The *Overview* provides summary sector-based guidance on disaster-related environmental issues. In line with Sphere Standards, structured rapid assessments should be used to identify relief-related environmental issues to be included in the humanitarian response efforts.

Further information on assessing and addressing disaster-related environmental issues can be found on the [WWF Environment and Disaster Management](#) and [Environmental Emergency Centre](#) web sites. Specific support on environmental issues related to the humanitarian response to the Morocco earthquake can be requested by through this link <https://envirodm.org/contact/> or by email to [havedisastercallkelly@gmail.com](mailto:havedisastercallkelly@gmail.com). Comments and queries on the *Overview* are welcome.

The *Overview* was developed by the [Global Shelter Cluster Environment Community of Practice](#). The *Overview* is provided as general guidance and does not represent the official positions of any organization or agency.

### Disaster Overview

Details on the disaster in Morocco can be found at these sites:

- Relief Web Morocco: [Earthquake](#) - Sep 2023
- [ACAPS Morocco Earthquake](#)
- - useful background information on the earthquake-affected area and relief issues.

### Summary Guidance

Sector	Guidance Summary	Environmental/Risk Reduction Implication/Opportunity
<b>Shelter – Winter Conditions</b>	<ol style="list-style-type: none"> <li>1. Winter conditions can be expected in the Atlas Mountains beginning in October.</li> <li>2. Humanitarian shelter assistance should transition as quickly as possible from tents or other non-winterized options to transitional shelters designed for winter conditions, including snow loading and adequate and safe heating.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tents are generally not designed for constant family use under winter conditions, can be difficult to insulate, and may physically deteriorate over relatively short periods creating waste disposal challenge.</li> <li>2. Quickly shifting shelter assistance to structure designs appropriate for winter conditions will improve living conditions for the affected populations, reduce energy needs and provide a basis for meeting shelter needs over the medium term as permanent shelter is built.</li> </ol>
<b>Energy</b>	<ol style="list-style-type: none"> <li>1. Re-establishing electricity access to minimize use of alternate sources of energy (particularly the use of</li> </ol>	<ol style="list-style-type: none"> <li>1. Reestablishing banking activities, particularly cash points, to enable disaster affected to cover their energy</li> </ol>

	<p>disaster debris for heating and cooking).</p> <ol style="list-style-type: none"> <li>2. Provide heating and cooking options for emergency and transitional shelter which minimize natural resources used (e.g., use of fuel wood).</li> <li>3. Consider winterization options for lightly damaged structures to permit their use during the winter.</li> <li>4. Establish health-and-safety plans and guidance (e.g., for carbon monoxide poisoning) for emergency, traditional and winterized lightly damaged buildings.</li> </ol>	<p>and other needs through commercial markets.</p> <ol style="list-style-type: none"> <li>2. Deforestation associated with the collection of fuelwood can be addressed by providing alternative sources of fuel.</li> </ol>
<b>Environmental Information in Needs Assessments</b>	<ol style="list-style-type: none"> <li>1. Incorporate <a href="#">Rural/Urban Nexus Environmental Assessment Tool</a> and <a href="#">Rapid Environmental Assessment</a> information needs into needs assessments and provide environment-based analysis of assessment results.</li> <li>2. Incorporate environmental expertise in assessment and coordination teams.</li> </ol>	<ol style="list-style-type: none"> <li>1. Improve impact of humanitarian response by more clearly matching needs and resources and avoiding negative impacts from assistance.</li> <li>2. Improve ecological restoration for human security, water management, livelihoods, landslide risk reduction.</li> </ol>
<b>Debris Management</b>	<ol style="list-style-type: none"> <li>1. Assess the volumes and nature of disaster debris.</li> <li>2. Use established guidance to plan and execute debris management operations (See <a href="https://resources.eecentre.org/resources/disaster-waste-management-guidelines-dwmq-online/">https://resources.eecentre.org/resources/disaster-waste-management-guidelines-dwmq-online/</a>) and <a href="https://www.humanitarianlibrary.org/collection/debris-management">https://www.humanitarianlibrary.org/collection/debris-management</a>).</li> </ol>	<ol style="list-style-type: none"> <li>1. Quick clearance of debris will speed up physical rebuilding and reduce environmental sanitation hazards.</li> <li>2. Expert-developed and implemented debris management plans will lead to recycling and reuse of debris and reduce quantities disposed in poorly sighted and/or managed landfills or elsewhere causing potential physical degradation to local environment and ecosystem services.</li> <li>3. Efficient management of debris will reduce transport requirements (reducing CO<sup>2</sup> footprint) and reduce anarchic debris disposal.</li> <li>4. Well designed debris management should reduce air pollution and public health impacts from open fires being used to dispose of debris.</li> </ol>
<b>Winter and Spring Forecasting</b>	<p>Medium- and Long-term weather forecasts should be used to assess potential impacts from Winter and Spring weather, including risks of flooding, on shelter, energy and other needs and delivery of humanitarian assistance.</p>	<ol style="list-style-type: none"> <li>1. Winter forecasts of temperature and precipitation can be used to project heating and shelter (including clothing) needs.</li> <li>2. Spring forecasts can identify the potential for flooding and be used to identify flood zones as well as drainage systems which need to be cleared to reduce flooding risks.</li> </ol>

<b>WASH</b>	Damage assessments and response plans should include impacts of earthquake damage, debris management and shelter operations on the provision of water, sanitation and hygiene and include solid and liquid waste management.	<ol style="list-style-type: none"> <li>1. Shelter sites need sufficient water supplies and sanitation management capacities before occupation. Shelter sites without basic water and sanitation are not likely to be occupied and be a waste of resources.</li> <li>2. Solid and liquid waste needs to be properly collected and managed to limit environmental damage and improve public safety.</li> </ol>
<b>Procurement</b>	<ol style="list-style-type: none"> <li>1. Avoid air transport of non-life saving or life sustaining supplies.</li> <li>2. Shift to ground transport as quickly as possible.</li> <li>3. Shift to local environmentally and socially responsible procurement as soon as markets allow.</li> <li>4. Incorporate measures to reduce packaging to minimums.</li> <li>5. Develop waste management plans as part of supplies procurement planning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Minimize transport CO<sup>2</sup> footprint.</li> <li>2. Minimize packaging waste and pressure on existing waste management systems.</li> <li>3. Use environment-impact-based specifications for non-food items (NFI) and in planning distribution of funds to affected populations.</li> </ol>
<b>Fire Safety</b>	Minimize fire risk in emergency/transitional shelter from heating, lighting and cooking (see <a href="https://www.kindlingsafety.org/">https://www.kindlingsafety.org/</a> for more guidance.)	Fires destroy shelter and relief assistance, leading to an unnecessary doubling in the quantity of assistance for affected populations.
<b>Donated Commodities</b>	<ol style="list-style-type: none"> <li>1. Match donated commodities to assessed needs.</li> <li>2. Avoid sending commodities for which an explicit need has not been identified.</li> <li>3. Establish an online or physical market place for sharing commodities across response programs.</li> </ol>	Donated commodities can often exceed needs or be culturally or functionally inappropriate. Matching commodities to needs reduces unnecessary transport and eventual waste management requirements in the disaster-affected area.
<b>Nature-Based Recovery Options</b>	<ol style="list-style-type: none"> <li>1. The earthquake and aftershocks have destabilized hillsides leading to landslides, with the prospect of more landslides, including following periods of rainfall.</li> <li>2. Natural or nature-based interventions can be used to stabilize landslide-prone slopes.</li> <li>3. The potential for flooding due to landslides and other factors should be assessed and managed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Natural or nature-based approaches can be implemented using labor intensive public works, based on cash or food compensation and often are less costly than other engineered options.</li> <li>2. Natural or nature-based approaches can provide environmental and social benefits in addition to reducing landslide risks.</li> <li>3. Natural and nature-based guidance on flood risk management can be found here in the <a href="#">Flood Green Guide</a>.</li> </ol>