

# QUICK GUIDE

## RAPID ENVIRONMENTAL IMPACT ASSESSMENT IN DISASTERS



Developed by  
**Benfield Hazard Research Centre, University College London and  
CARE International**

Prepared by  
Charles Kelly, Affiliate, Benfield Hazard Research Centre



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Prepared by  
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## Introduction

This is a **Quick Guide** to doing a rapid environmental impact assessment (REA) in a disaster. The **Quick Guide** is based on the **Guidelines for Rapid Environmental Impact Assessment in Disasters**. The **Guidelines** and additional information on assessing environment-disaster linkages are available at [www.benfieldhrc.org/SiteRoot/disaster\\_studies/rea/rea\\_index.htm](http://www.benfieldhrc.org/SiteRoot/disaster_studies/rea/rea_index.htm).

The **Quick Guide** was developed to respond to concerns that the full **Guidelines** (at 110 pages) is too large to be easily used in a disaster. The **Quick Guide** focuses specifically on the steps and forms necessary to complete a REA. It does not include the background information, guidance and references contained in the **Guidelines**.

The expected **Quick Guide** user has a basic understanding of the REA process, either through reviewing the **Guidelines** or from participating in training on the REA. The **Quick Guide** presumes that the user is able to plan and manage the different aspects of a successful rapid assessment, including community data collection if necessary. In any case, users should review the **Guidelines** before embarking on any major assessment.

The **Quick Guide** user should keep in mind the following points:

- The REA does not resolve critical environmental issues in a disaster but provides:
  - sufficient information to formulate common sense solutions or
  - an indication of the additional information needed to identifying solutions.
- The REA uses a subjective approach and is best done by a group of 10 to 12 individuals familiar with the disaster situation and conditions before the disaster.
- The REA can be used in any type of disaster but is more applicable to quick onset disasters when an environmental impact assessment (EIA) is not possible.
- The REA is designed for use by relief assistance personnel but can be done by an individual, and can be done by disaster-affected communities with appropriate preparation.
- The REA is best done in the period from just before a disaster up to 120 days after a disaster. An EIA should be used if there is considerable warning of a disaster and after 120 days.
- The time needed to complete a REA depends on the disaster context, whether a community assessment is completed and the level of pre-assessment preparation. As a rule of thumb:
  - The **Organizational Level Assessment** requires from 4 hours to 1 ½ days.
  - The **Community Level Assessment** requires 1 day per community per assessment team, with 1 to 2 days to complete the analysis of survey results.
  - **Consolidation and Analysis** requires 3 hours up to 2 days if a large group discussion is involved in identifying actions and priorities.
  - The **Green Review of Relief Procurement** does not add time to the assessment or assistance process if integrated into procurement procedures.
- Data collection and analysis should take into account the social and cultural diversity of the populations being covered by the assessment.
- The metrics (scales and terminology) used in the rating forms can be changed as long as the original scale relationships are maintained.
- REA outputs can be used as input into monitoring and evaluation and as input into an eventual EIA.
- Recording the results of a REA as input into relief and recovery planning is important. This is particularly true of the results of a REA-focused Community Level Assessment.

## Overview of REA Process

The Rapid Environmental Impact Assessment in Disasters (REA) process involves completing four modules according to the specific tasks indicated below.

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### Module One: Organization Level Assessment

1. Collect background information and identify assessment participants.
2. Draft three paragraphs describing the disaster for Section One.
3. Complete Section One: The **Context Statement**.
4. Complete Section Two covering **Factors Influencing Environmental Impacts**.
5. Complete Section Three covering **Environmental Threats of Disasters**.
6. Complete Section Four covering **Unmet Basic Needs**.
7. Complete Section Five covering **Negative Environmental Consequences of Relief Activities**.
8. Rank issues by importance within each section as indicated in the *Guidelines*.

Note that Sections Two to Five can be completed in break-out sessions.

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### Module Two: Community Level Assessment

1. Decide on how to collect information on community perceptions of the environment.
2. If a questionnaire or focused discussion method is used, plan, test and administer the method in communities.
3. Compile the results of the community level assessment into usable form (a report or completed questionnaire) for each community.
4. If data from other assessments are used, ensure that all the information needed for this module is collected or extracted from existing assessment reports.
5. Complete the **Community Assessment Summary Form** based on the information collected or drawn from other assessments.
6. Rank the issues by relative importance within each section of the form.

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### Module Three: Consolidation and Analysis

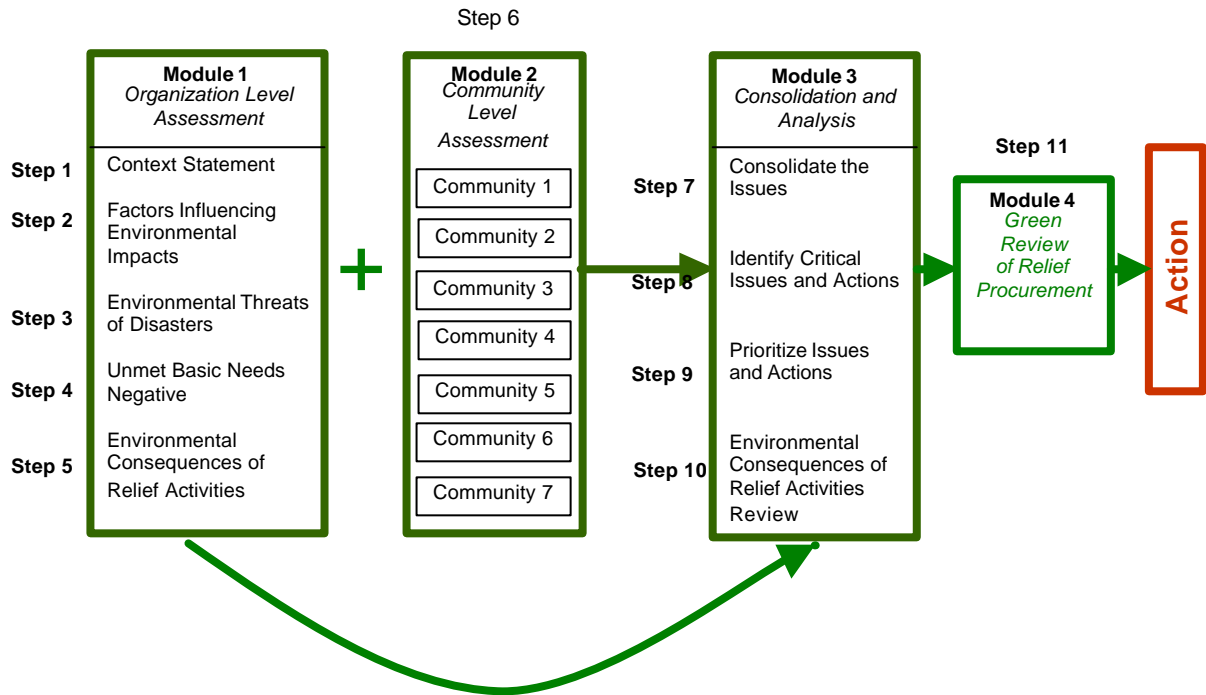
1. Include three to five issues from each section or section of the **Organization and Community Level Assessments** on the **Issues Consolidation Form** and consolidate the issues into a single list.
2. Place the single list of issues on the **Issues and Actions Form** and identify initial actions and issues and actions.
3. Prioritize these issues and actions according to the impact on life, welfare and environment hierarchy.
4. Review the potential environmental impact of the actions and make changes are appropriate.

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### Module Four: Green Review of Relief Procurement

1. Review the guidance provided in **Green Review of Relief Procurement** module.
2. Complete the procurement screening table provided in the module.
3. Make changes to procurement plans as appropriate.

# The REA Process



## REA Module One: Organization Level Assessment

### Module Summary

The **Organizational Level Assessment** module focuses on critical environmental issues from the perspective of government, non-government and private relief organizations. The assessment uses narrative and rating forms covering environmental issues which can arise in a disaster and provides limited guidance on how to address these issues. This assessment can be done without the companion **Community Level Assessment** as an immediate input into needs assessments and the planning of relief operations, particularly during short onset disasters although completion of the **Community Assessment** is recommended when time allows. The assessment can be completed by an individual, but is best done by a group of ten to twelve field personnel and can take as little as four hours if a comparable period is dedicated to preparations.

### Section One: The Context Statement

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The **Context Statement** places the disaster in the context of overall impact, summaries the emergency situation, response requirements and highlighting pre-existing salient factors which frame or impact an environmentally aware response. The following statement format includes descriptive information on completing the statement.

#### Context Statement Format

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**1. Provide three short paragraphs which summarize the (1) cause/s and most evident impacts of the disaster, (2) whether the weather or other conditions at the disaster site will change and if these changes will affect environmental conditions and relief needs, and (3) priority disaster relief efforts and specific programmatic areas of interest to the party completing the REA.**

**2. What sources are likely to be able to provide information on the environment in the area affected by the disaster? Provide contact information and a description of the information available if possible.**

A simple table with three columns covering information sources, a short description of the information and contact information is sufficient to answer this question.

**3. Have there been, or are there currently, concerns about the release of potentially toxic substances affecting humans or the environment? If yes, summarize the information available and indicate how additional information can be collected.**

The answer to this question should include input from disaster survivors as well as local government and assistance organizations if at all possible. If the answer is yes it is likely that specialist technical advice and assistance will be needed to assess the impact and remediation of the releases<sup>1</sup>.

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<sup>1</sup> For industrial sites or technology-based problems, see Guidelines for Environmental Assessment Following Chemical Emergencies, Joseph Bishop, Joint UNEP/ECHO Environmental Unit, United Nations, Geneva, for guidance on hazardous incident reporting.



**4. Are there environmentally unique sites in the disaster area and have any been (or may be) affected directly or indirectly by the disaster?**

An environmentally unique site is broadly any location where environmental conditions are significantly different from surrounding areas. These include concentration of industry, mines, nature reserves, natural parks, areas of unique bio-diversity or natural resources and, in many cases, historical and cultural sites. If the answer to this question is yes, it is likely that technical advice and assistance will be needed to assess and address environmental impacts in or arising from the uniqueness of these sites.

**5. Are there any concerns about the environmental impact of the disaster on the part of the survivors or neighboring communities? Briefly describe the nature and cause of the local concern and link to the disaster for each problem noted.**

Answering this question requires contact with disaster survivors or those with close knowledge of the disaster survivors, for instance, staff of local environmental NGOs.

**6. Are there any local or national laws, or donor or organizational policies and procedures which impact how environmental issues will be assessed or managed? If yes, summarize the requirements and how they will be addressed.**

Specific details of local and national laws and regulations may not readily be known to those involved in a disaster and require additional investigation. Donor and organizational policies should be known, or easily accessible.

## **Section Two: Factors Influencing Environmental Impacts**

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### **Step One**

Rate each factor listed in Rating Form 1 based on the respective scale to indicate the factor's importance as a possible negative impact on the environment. Possible negative environmental implications for each factor are noted as guidance in the rating process.

The rating scales are organized so that lower rating numbers indicate factors more likely to result in negative impacts and which therefore should receive a higher priority for attention. In other words, a one is a higher priority for action than a five.

Note that the numerical direction (1 to 10 or 10 to 1) assigned to each rating range can differ between factors. This is done to generate rating results for each factor which consistently correspond to low numbers indicating higher priority for action.

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### **Step Two**

Once each factor is rated, individual ratings are then ranked from lowest to highest number. The factors with lowest numbers should be considered as priorities for action, with the level of priority decreasing as the number increases.

Note, however, that not all priority issues identified in the rating process will become targets for immediate action. Some issues may not be easily susceptible to relief interventions or should be deferred to the recovery phase. Decisions on whether issues can be addressed immediately or need to be deferred to the recovery phase can be taken at the consolidation and analysis stage of the assessment (**Module Three**).

## Rating Form 1: Factors Influencing Environmental Impacts

Factor	Range	Rating (Low rating indicates higher priority for action.)	Implication
<b>Number of persons affected</b> (relative to total population in disaster area).	Few (10) to Many (1)		The greater number affected the greater potential impact on the environment.
<b>Duration:</b> Time since onset of disaster.	Short period (10) to Long period (1)		The longer the disaster the greater the potential impact on the environment.
<b>Concentration</b> of the affected population.	Low (10) to High (1)		The more concentrated (or dense) the living conditions of the survivors, the greater potential impact.
<b>Distance</b> disaster survivors have moved since the beginning of the disaster.	Short (10) to Far (1)		The further survivors have to move, the greater the potential impact on the environment.
<b>Self-Sufficiency:</b> After the start of the disaster, the ability of survivors to meet needs without recourse to additional direct extraction from the environment or external assistance.	High (10) to Low (1)		Low self-sufficiency after the disaster implies greater risk of damage to the environment.
<b>Social solidarity:</b> Solidarity between disaster survivors and non-affected populations.	High (10) to Low (1)		Low solidarity may indicate the likelihood of conflict over resources and limits to the ability of survivors to meet needs.
<b>Cultural homogeneity:</b> The similarity of cultural beliefs and practices between disaster survivors and non-affected populations.	High (10) to Low (1)		A lack of common cultural structure may result in disagreement over resource use.
<b>Asset distribution:</b> The distribution of economic and other assets within disaster affected population after the start of the disaster.	Generally Equitable (10) to Highly Concentrated (1)		Concentration of assets with one part of a population can lead to tensions with less-well endowed groups over use of environmental assets.

Factor	Range	Rating (Low rating indicates higher priority for action.)	Implication
<b>Livelihood options:</b> The number of options that disaster survivors have to assure their livelihoods after the start of the disaster.	More (10) to Fewer (1)		The fewer the number of livelihood options indicates the disaster survivors may pose higher pressure upon fewer resources of the environment.
<b>Expectations:</b> The level of assistance (local and external) which the disaster survivors expect to need to survive.	Low (10) to High (1)		In the absence of adequate assistance, high expectations can lead to high demand on local resources.
<b>Availability of natural resources,</b> or whether the available natural resources meet the needs of the disaster survivors in a way which can continue without degradation to the environment or future availability of the resources.	High (10) to Low (1)		Excessive use of natural resources leads to environment damage. Relief can be used to reduce excessive resource demand or repair damage done to the environment. The resources in question are water (for human consumption and for other uses), forest resources (timber, firewood), agriculture land (soil and water quality), et cetera.
<b>Capacity to absorb waste:</b> The environmental, social and physical structures available to handle waste produced by the survivors.	High (10) to Low (1)		Low waste absorptive capacity will lead to environmental damage.
<b>Environmental Resilience:</b> Ability of eco-system to rebound from the disaster itself and from relief and recovery activities which cause environmental damage.	High (10) to Low (1)		Low resilience likely means high fragility and greater possibility of long-term environmental damage.

## Section Three: Environmental Threats of Disasters

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### Step One

Review **Rating Form 2** (below). Eliminate hazards which not relevant to the assessment.

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### Step Two

Rate individual hazard/threat combinations as to whether they pose *no*, an *unknown* or *significant* threat to the disaster affected population. Guidance on determining significant threat threshold is provided to assess the significance of a threat.

The guidance on threat significance may refer to information not immediately available, for instance, the presence of chemicals exceeding acceptable levels. These hazards then fall into the *unknown* category, requiring further investigation before they can be fully assessed. Quantitative data relative to specific threats identified as important in the initial assessment should be collected and used to update the initial assessment whenever possible.

Discrete hazard/threat combinations should be rated separately. Specific combinations may need to be added to the form to address specific disaster situations. For example, under **Disease**, measles and malaria would be rated separately if both are considered to be threats following a disaster.

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### Step Three

Rate each hazard/threat combination given an *unknown* or *significant* rating as to the physical (geographical) size of the area affected.

Area affected is used to determine the significance of a threat for two reasons:

1. The larger the area affected, the greater the number of disaster survivors who are likely to be affected.
2. Impacts affecting larger areas are likely to require more extensive responses and be significant within the overall disaster response.

Small intense threats are identified through the **Context Statement**.

**Rating Form 2** provides three indications of area affected: *small*, *medium*, and *large*. The determination of affected area should be relative to the total area affected by the disaster. For instance, a hazard which affects only 10% of the total area of a disaster could be considered as affecting a relatively small part of the disaster area, while a hazard which affects 80% of a disaster area can be considered as relatively large. The area size criteria can be changed to suit user preferences, but should not be made overly complex.

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### Step Four

Multiply the ratings for hazard significance and area affected. The resulting scores range from one to six.

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### Step Five

Rank the scores for each hazard/threat combination from highest to lowest. The resulting ranking indicates hazard/threat combinations which should receive greater immediate attention (highest ranked). Hazard/threat combinations which receive lower priority attention can be addressed during recovery or developmental efforts.

Some overlap with **Section One**, particularly Elements 3, 4, and 5, is to be expected. The results of this **Section** and **Section One** should be cross-checked to identify any small area but intense threats which should be identified as critical issues at the end of the assessment.

## Rating Form 2: Environmental Threats of Disasters<sup>2</sup>

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
<p><b>Flooding:</b> Transport of contaminated sediment. Sediment contains hazardous organic or inorganic chemicals (including high levels of salt). Secondary risk from sediment when dried after a flood.</p>	<p>Chemicals (including salt) present at levels exceeding acceptable standards.</p>				<ol style="list-style-type: none"> <li>1. Identify and assess level of chemicals present.</li> <li>2. Limit use of water sources with contaminated sediment and plants and animals collected from these sites.</li> <li>3. Specialized technical assistance likely needed for assessment and planning.</li> </ol>
<p><b>Flooding:</b> Polluted Water. Water contains hazardous pathogens, or chemicals.</p>	<p>Pathogens or chemicals present at levels which exceed acceptable standards.</p>				<ol style="list-style-type: none"> <li>1. Identify and assess level of pathogens or chemicals present.</li> <li>2. Limit use of contaminated water and plants and animals collected from contaminated water.</li> <li>3. Consider water purification to meet immediate needs.</li> <li>4. Specialized technical assistance likely needed for assessment and planning.</li> </ol>
<p><b>Flooding:</b> Transport of contaminated solids other than sediment. Flood waters contain physical items which</p>	<ol style="list-style-type: none"> <li>1. Presence of dead animals.</li> <li>2. Presence of hazardous chemical containers.</li> </ol>				<ol style="list-style-type: none"> <li>1. Quantify number and volume of solids by three threat types (animals, hazardous chemical containers, other debris).</li> </ol>

<sup>2</sup> Note that Hurricane/Cyclone/Typhoon should be treated under each impact agent: flooding, sea surge, and wind.

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
pose a threat, including but not limited to, animal carcasses and hazardous materials containers.	3. Presence of significant level of floating debris in flood waters.				<ol style="list-style-type: none"> <li>2. Develop and publicize ways to deal with solids. Consider special collection and safety activities, and ensure safe disposal procedures and locations.</li> <li>3. Specialized technical assistance likely needed for assessment and planning and in handling disposal.</li> </ol>
<b>Flooding:</b> Erosion (water). Flood waters remove usable soil and cover usable land with sediment.	<ol style="list-style-type: none"> <li>1. Loss of critical infrastructure, e.g., dikes, irrigation system.</li> <li>2. Loss of immediately productive land, e.g., land for cultivation or harvesting natural resources.</li> </ol>				<ol style="list-style-type: none"> <li>1. Remove or protect infrastructure under threat.</li> <li>2. Remove plants and other productive assets from flooded land before loss or coverage with sediment.</li> <li>3. Remove sediment after flooding.</li> <li>4. Specialized assistance likely needed.</li> </ol>
<b>Flooding:</b> Damage to Infrastructure (from erosion or force of flood waters). Flood waters damage or destroy built environment, limiting operation of critical functions (e.g., safe water delivery), or increasing risk of pollution (e.g., damage to sewage treatment plant).	Damage which (1) seriously limits or stops use of critical infrastructure, including roads, water treatment, power, emergency services, or (2) creates potential sources of pollution, e.g., industrial or mining sites, oil and gas transmission systems, garbage dumps, and chemical waste sites.				<ol style="list-style-type: none"> <li>1. Replace or remove infrastructure under threat.</li> <li>2. Flood-proof and decommission sites at risk.</li> <li>3. Identify nature of potential or actual pollution due to flooding/flood damage and develop response plans (see above).</li> <li>4. Specialized assistance likely needed for any significant response.</li> </ol>
<b>Wind</b> , including tornados. Damage/loss of crops, land	Reduced food supply, economic (exploitable)				<ol style="list-style-type: none"> <li>1. Short-term food and economic assistance to assist survivors until</li> </ol>

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
cover and infrastructure.	natural resources and infrastructure, specifically shelter and public and commercial facilities.				vegetation/crops recover or are replanted. 2. Assistance to replace/repair damaged infrastructure. 3. Dispose of debris in manner that does not increase air, land or water pollution.
<b>Wild Fire:</b> Damage to Infrastructure. Wild fire can damage or destroy infrastructure, limiting operation of critical functions or increasing risk of pollution.	Damage which (1) significantly limits or stops use of critical infrastructure, including roads, water treatment, power, emergency services, or (2) affects control systems for industrial sites, e.g., power supply to a chemical factory.				1. Remove or decommission infrastructure under threat. 2. Identify potential or actual pollution due to wildfire damage and develop response plans (see above). 3. Specialized assistance likely needed for any significant response.
<b>Wild Fire:</b> Air Pollution. Air contains hazardous chemicals and high concentrations of particulate matter.	Chemicals and/or particulate matter present at levels which exceed acceptable standards.				1. Identify and assess level of chemicals or particulate matter present. 2. Develop methods to purify air for individual and indoor use, with focus on persons with air-related health problem. 3. Technical assistance probably needed for assessment and response.
<b>Wild Fire:</b> Erosion (following fire). Wildfire removes land cover leading to increased erosion.	Immediate threat to (1) critical infrastructure, or (2) habitats providing food and income to disaster survivors.				1. Institute erosion control measures. 2. Identify and reinforce/remove critical infrastructure under threat.



Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
<b>Wild Fire:</b> Loss of Habitat. Wildfire damages or destroys habitat resulting in negative impact on species using habitat before fire.	Lack of alternative habitats for species under threat.				<ol style="list-style-type: none"> <li>1. Institute activities to restore or modify damaged habitat.</li> <li>2. Make alternate habitats available to species under threat.</li> </ol>
<b>Drought:</b> Wind. Unusually dry land more susceptible to aeolian (wind) erosion.	Significant dust clouds and evidence of wind movement of soils (e.g., soil forming dunes)				<ol style="list-style-type: none"> <li>1. Wind erosion control measures.</li> <li>2. Shift to drought-tolerant crops/ground cover.</li> </ol>
<b>Drought:</b> Wind. Chemical composition of dust.	Chemicals present at levels which exceed acceptable standards.				<ol style="list-style-type: none"> <li>1. Identify and assess level of chemicals present.</li> <li>2. Limit movement of dust and institute measures to limit dust inhalation (see above and under wildfire).</li> <li>3. Specialized assistance likely needed for assessment.</li> </ol>
<b>Drought:</b> Wind. Drying effect of wind on vegetation (failure to mature, increased likelihood of fire).	Vegetation drying faster than normal.				<ol style="list-style-type: none"> <li>1. Institute modified cultivation or harvesting procedures, e.g., early harvesting, irrigation.</li> <li>2. Develop fire management plan, including fire breaks, training and bio-mass reduction.</li> </ol>
<b>Drought:</b> Drying of Crops. Lack of water (from rainfall or irrigations) for normal crop development.	Insufficient water for normal crop grown. Note that impact can due to a lack in total amount of water available, or periods of a lack or insufficient of water				<ol style="list-style-type: none"> <li>1. As above.</li> <li>2. Implement water conservation methods, e.g., mulching.</li> <li>3. Consider temporary reallocation of available water supplies to ensure proper crop development (for</li> </ol>

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
	at critical crop development stages.				irrigation-dependent crops). 4. Identify alternate used for crops which do not mature properly, e.g., as livestock feed.
<b>Drought:</b> Drying of water courses and lakes/ponds. 1. Lack of water supply for personal and commercial uses. 2. Increase health problems. 3. Decease in water quality. 4. Loss of income/food supply sources.	1. Water less than 15 liters per person per day. 2. Increase in skin and other sanitation-related diseases above pre-drought levels. 3. Water does not meet international/local standards. 4. Significant reduction of food supply or income.				1. Improve supply and quality of water. 2. Monitor and respond to health problems. 3. Develop alternative sources of food and income.
<b>Hail.</b> Damage to crops and land cover.	Loss of food supply and economic (exploitable) natural resources.				1. Short-term food and economic assistance to assist survivors until vegetation/crops recover or are replanted. 2. Dispose of damaged vegetation in manner that does not increase air, land or water pollution.
<b>Snow</b> , including associated high winds, and ice storms (unusually heavy or persistent). 1. Damage to infrastructure and natural resources. 2. Limiting access to fields and other natural resources. 3. Heavy runoff.	Snow or ice presence, in time or quantity, above average.				1. Implement snow safety activities to protect infrastructure from damage. 2. Shift crops and planting methods to take into account late planting and soil moisture conditions. 3. Develop water management plan for runoff, including erosion prevention and flood management. 4. Develop management plan for damaged vegetation and snow removal.

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
<b>Phytosanitary (Pest) Outbreak.</b> Damage to economic crops from pests or disease.	Damage significantly above normal <sup>3</sup> .				<ol style="list-style-type: none"> <li>1. Integrated pest management methods, with agro-chemical application as appropriate. Procedures for safer use of agro-chemicals should be followed (including user education) and containers disposed of according to international standards.</li> <li>2. For medium to large scale pest disaster it is likely that special technical assistance and program management will be required.</li> </ol>
<b>Disease.</b> Human Mortality and morbidity reducing social and economic activity and increasing personal hardship.	Disease incidence significantly above normal. Note that specific criteria and methods exist to determine if an epidemic is occurring or a threat, and should be used to assess threat significance.				Disease control-related measures focusing on environmental factors such as water supply and quality, sanitation, pollution reduction and living condition (e. g., other hazards like flooding or crowded conditions). Many responses are likely to be common sense and relate to other threats to disaster survivors.
<b>Disease.</b> Epizootia (animal, not human) Mortality and morbidity of non-human animals affecting food intake, assets and	Disease incidence significantly above normal. Note that specific criteria and methods exist to determine if an epidemic is				<ol style="list-style-type: none"> <li>1. Improving water supply and quality, sanitation, pollution reduction and living condition, e. g., crowded conditions.</li> <li>2. Safe and environmentally sound</li> </ol>

<sup>3</sup> "Normal" is usually defined as average recorded losses over specific period. Can also be assessed based on qualitative assessment of agriculture community as to whether losses are significantly above normal.

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
increasing personal hardship.	occurring or a threat, and should be used to assess threat significance.				disposal of dead animals. 3. The general lack of experience with animal health emergencies indicates specialized technical assistance will be needed throughout the response.
<b>Land Mass Movement</b> , including land slides, slumps, and other down slope movement. 1. Direct damage to infrastructure and natural resources. 2. Direct or indirect pollution of water sources.	1. Damage to infrastructure or other resources. 2. Significant increase in water sediment load.				1. Remove infrastructure at risk. 2. Install containment structures and filtration systems for contaminated water. 3. Specialist assistance is likely to be required to plan response.
<b>Earthquake</b> 1. Damage to critical infrastructure, leading to (i) threat to or loss of life and injuries, or (ii) hazardous materials incidents. 2. Changes in land forms (e.g., mass movement)	1. Human death or injury 2. Any hazardous materials release. 3. Any damage that stops or significantly slows the delivery of critical services (water, health care, power, gas, heating, food) 4. Any land form change due to the earthquake.				1. Develop rescue plans (best done before the disaster). 2. Develop and implement hazardous materials response plans (best done before the disaster). 3. Respond to damage to infrastructure as per other disasters. 4. Respond to land form changes as per " <b>Mass Movements</b> ". 5. Develop solid waste disposal plan, including procedures for recycling as much waste as possible and minimizing air and water pollution and ensuring sanitary landfill standards are met.

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
					6. Specialized technical assistance is likely to be required in design of waste disposal plan.
<b>Volcano:</b> Superheated ash, gas flows and large scale explosions. Rapid destruction of environment.	Volcano producing ash/gas clouds or evidence of large scale explosions in the past.				<ol style="list-style-type: none"> <li>1. Establish safety zones around volcano and attempt to limit human and other access to high risk areas.</li> <li>2. Likely require specialized assistance to assess nature of volcano, high risk areas and effective safety precaution.</li> </ol>
<b>Volcano:</b> Ash falls (including materials deposited following a massive explosion) and lava flows. Covering and/or destruction of productive (natural) resources, damage or destruction of built environment, pollution of water resources, health impacts from air pollution.	<ol style="list-style-type: none"> <li>1. Significant loss of productive assets or infrastructure.</li> <li>2. Air or water quality below standards.</li> <li>3. Threat of sedimentation, flooding or erosion due to presence of ash or lava.</li> </ol>				<ol style="list-style-type: none"> <li>1. Identify area at risk from ash falls and lava flows before eruption and implement evacuation and resource management plans.</li> <li>2. Remove ash fall and lava.</li> <li>3. Remove or maintain productive resources or infrastructure under threat.</li> <li>4. Develop alternate uses for land covered with ash or lava, e.g., use for construction material.</li> <li>5. Develop water and air quality monitoring program and remedial measures as appropriate.</li> <li>6. Implement erosion and surface water management plan to manage sedimentation process and changes to water quality.</li> <li>7. Specialized technical assistance likely needed to deal with water/air quality issues.</li> </ol>

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
<p><b>Armed Conflict</b> (between and within countries): Active fighting by military units (“conventional warfare”). Intentional damage to infrastructure, including power, water, sewage and industrial capacity due to active fighting. Limitations on ability to deliver basic supplies to non-combatant populations.</p>	<p>1. Active military efforts to cause damage. 2. Inability or reduced ability to deliver minimum supplies of water, food, sanitation services and basic care due to fighting or infrastructure damage</p>				<p>1. Development of protected systems for delivery of minimum supplies of critical items (water, food, sanitation services, health care). 2. Use of neutral parties to deliver supplies and manage efforts to address damage caused by fighting. 3. Debris should be recycled or disposed in a way to minimize air, water and land pollution.</p>
<p><b>Armed Conflict:</b> Unconventional warfare (including terrorism and ethnic cleansing). Disruption of normal social and economic support systems (i.e., threat to ability of populations to meet basic needs). Damage to and disruption of infrastructure systems.</p>					<p>Development of protected systems for delivery of minimum supplies of critical items (water, food, sanitation services, health care).</p>
<p><b>Armed Conflict:</b> Use of chemical, biological, nuclear, radiation or high yield conventional explosives (in conventional and unconventional warfare). Immediate or</p>	<p>Releases of hazardous substances via air, water or land, with intention to due harm.</p>				<p>1. Rapid response teams to limit releases of hazardous materials. 2. Decontamination of affected populations and areas. Note that decontamination efforts will require significant steps to properly dispose of contaminated materials.</p>

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
delayed death to non combatants and other living entities (e.g., cattle).					
<b>Technological:</b> Hazardous Material Release (fixed site and during transport, including road, water, rail or air accidents). Release of chemicals or compounds that pose immediate threat to life and well being.	<ol style="list-style-type: none"> <li>1. Level of release above established norm (local or international, as appropriate).</li> <li>2. Rate of release (e.g., explosion) poses significant threat to life or well being.</li> </ol>				<ol style="list-style-type: none"> <li>1. Limit additional damage by removing populations from affected areas and providing response teams with protective clothing and support.</li> <li>2. Treat exposure symptoms as per standard medical response, taking care not to pass on contamination during treatment.</li> <li>3. Dispose of contaminated items in way to limit additional land, water or air pollution.</li> <li>4. Likely specialized assistance will be needed for all phases of the response.</li> </ol>
<b>Technological:</b> Explosion, from fixed or mobile source (e.g., tank truck). Destruction of lives, productive assets and infrastructure.	<ol style="list-style-type: none"> <li>1. Humans at risk.</li> <li>2. Potential or actual damage to productive assets (natural resources, commercial facilities or infrastructure).</li> </ol>				<ol style="list-style-type: none"> <li>1. Before disaster, develop risk zoning and change land use to reduce risk from explosion.</li> <li>2. Design facilities/vehicles to reduce risk of explosion.</li> <li>3. Establish warning and evacuation plans and shelters.</li> <li>4. After explosion, consider items in previous section.</li> </ol>

## **Section Four: Unmet Basic Needs**

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### **Step One**

Rate each basic need on how well it is being met:

1. Before the disaster (column 1), and
2. Under current disaster conditions (column 2).

At the same time, assess, with a yes/no answer, whether the use of resources to meet this need will lead to a significant reduction in quantity or quality of these resources the next 120 days (column 3).

The indicators provided to the right of each basic need can be used in deliberations on how well a need is being met. The more an indicator is met and the more indicators met for each need increases the score for a particular indicator.

The rating scale used is organized so that a low rating in the current condition column means the specific need is being met only poorly or not at all.

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### **Step Two**

Prioritized the unmet needs for action by:

1. Ranking each unmet need from lowest to highest score based on the score in column 2. Needs with lower numbers (that is, at the top of the list) have a greater priority for action as they are more likely to lead to negative impacts on the environment as survivors attempt to meet these needs.
2. Identifying needs where the use of resources to meet these needs will likely deteriorate in quantity or quality over the next 120 days. Needs which are being met but at resource use rates which will lead to a deterioration of quantity or quality warrant mitigation measures to avoid future problems for relief operations and the environment. Ranking needs in this category depend on:
  1. How soon the deterioration is likely to occur and,
  2. How critical the need is the survivors.

An immediate deterioration affecting a highly critical need would lead to the need being ranked at the top of the list regardless of whether the need was being met (i.e., received a 10) at the time of the assessment.



## Rating Form 3: Unmet Basic Needs

Basic Needs	Were needs being met before the disaster? Rate from 1 (not being met) to 10 (being met).	Are needs being met at present? Rate from 1 (not being met) to 10 (being met).	Will the quality or quantity of the resources used to meet this need be reduced significantly in the next 120 days? (Yes/no)	<b>Indicators</b> (Based on Sphere indicators. The closer the indicators are met in full, the higher the score. These indicators are guides. Use depends on available data and familiarity of users with Sphere Standards. )
Water				1. 15 liters of water per person per day. 2. Waiting time at point of delivery not more than 15 minutes. 3. Distance from shelter to water point no more than 500 meters. 4. Water is palatable and of sufficient quality to be used without significant risk to health due to water-borne diseases, or chemical or radiological contamination during short-term use. (Note: contaminates includes human and industrial waste and agro-chemicals.)
Food				1. Minimum food needs met: On average, 2,100 kilo-calories per person per day, 10-12% of total energy from protein, 17% of total energy from fat, and adequate micro-nutrient intake. 2. Food supplies are accessible at affordable prices and supply and costs are stable over time. 3. Food distribution is equitable, transparent, safe and covers basic needs (together with other food items available).
Shelter				1. At least 3.5 square meters of covered space per person providing protection from weather and fresh air, security and privacy. 2. <u>In hot climates</u> , shelter materials, construction and ventilation adequate to keep in-shelter temperature 10 degrees centigrade below outside temperature. 3. <u>In cold climates</u> , shelter material, construction, and heating ensure internal temperature no less than 15 degrees centigrade 4. Camps, temporary shelter sites or resettlement sites are safe and have adequate access to basic services. . 5. 45 square meters space is available per person in temporary camps or shelters, with provision made for living, social and commercial activities.
Personal Safety				1. Disaster survivors have sufficient personal liberty and security at all times. 2. Opportunities for violence are minimized to the extent possible. <b>Opportunities for violence should be noted and linked to specific environmental issues when appropriate.</b>
Health Care				1. Disaster survivors have adequate, timely and affordable access to care for injuries and health (including psychosocial) problems arising from the disaster. 2. Health management interventions are appropriate for chronic and acute health risks

<b>Basic Needs</b>	<b>Were needs being met before the disaster? Rate from 1 (not being met) to 10 (being met).</b>	<b>Are needs being met at present? Rate from 1 (not being met) to 10 (being met).</b>	<b>Will the quality or quantity of the resources used to meet this need be reduced significantly in the next 120 days? (Yes/no)</b>	<b>Indicators</b> (Based on Sphere indicators. The closer the indicators are met in full, the higher the score. These indicators are guides. Use depends on available data and familiarity of users with Sphere Standards. )
				faced by disaster survivors and take into account age and gender. (See Sphere Standards for specifics.)
<b>Waste management (liquid and solid)</b>				<ol style="list-style-type: none"> <li>1. Toilets are clean and safe, with a maximum of 20 people per toilet and are no more than 50 meters from dwellings</li> <li>2. Use of toilets is arranged by household(s) and/or segregated by sex.</li> <li>3. Environment is acceptably free of solid waste contamination, including medical wastes.</li> <li>4. Refuse containers are easily available and refuse is disposed of in a way to avoid creating health and environmental problems</li> <li>5. No contaminated or dangerous medical wastes in living or public space.</li> </ol>
<b>Environmental Conditions</b>				<ol style="list-style-type: none"> <li>1. Location of disaster survivors is not subject to immediate hazards, including flooding, pollution, landslides, fire, or volcanic eruptions, or effective mitigation measures have been taken.</li> <li>2. Environment is free from risk of water erosion, from standing water and with a slope of no more than 6%.</li> <li>3. Smoke and fumes are below nuisance levels and pose no threat to human health.</li> <li>4. Animal management minimizes opportunities for disease transmission, solid and liquid waste problems and environmental degradation.</li> <li>5. Uncontrolled extraction of natural resources by disaster survivors is not taking place.</li> <li>6. Graveyard (s) is appropriately located and sized.</li> </ol>
<b>Fuel</b>				<ol style="list-style-type: none"> <li>1. Fuel availability meets immediate needs.</li> <li>2. Low smoke and fuel-efficient wood stoves, gas or kerosene stoves and cooking pots with well-fitting lids are available.</li> </ol>
<b>Lighting</b>				Sufficient to meet security requirements and for normal economic and social activities.
<b>Domestic Resources</b>				Each household unit has access to adequate utensils, soap for personal hygiene and necessary tools. (Specific minimum needs identified in Sphere Handbook Chapter 4, Section 2).
<b>Clothing</b>				Clothing is appropriate for climatic conditions, gender, age, safety, dignity, and well-being.
<b>Transport</b>				<ol style="list-style-type: none"> <li>1. Adequate to deliver goods and services to displaced at reasonable cost and convenience.</li> <li>2. Adequate to permit disaster survivors to reach goods and services at reasonable cost and convenience.</li> </ol>

## Section Five: Negative Environmental Consequences of Relief Activities

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### Step One

Review each possible relief intervention listed on **Rating Form 4** to determine (yes or no) whether the intervention is planned or underway as part of the disaster relief effort.

The interventions summarized in **Rating Form 4** cover the most common types of relief assistance. Interventions not listed but planned or underway should be added and assessed for negative impacts in step two.

Note that the **Coping Strategy** intervention needs to be updated for each disaster. These coping strategies are likely to be significant in scale and scope (upwards of 80% of disaster relief can be provided by the survivors themselves), with consequent impacts on the environment

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### Step Two

Screen planned or on-going relief interventions to determine whether potential negative environmental impacts have been addressed in project design or operations. Screening is done by answering the questions in the third column with a yes or no in the fourth column.

Potential negative impacts which have not been addressed, that is “no” answers, become issues which require follow-up as a result of the assessment. (All interventions should be monitored in real time for negative impacts and this list amended accordingly.)

The form includes two sources of information on each type of intervention to aid in the screening process:

1. Summaries of significant potential negative environmental impacts, and,
2. Possible avenues for consequence avoidance or mitigation. This later information can help identify ways to address negative impacts when they are identified.

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### Step Three

Identify which of the interventions:

1. Should be changed to avoid negative impacts,
2. Need to be implemented despite negative impacts, but where these negative impacts should be addressed through other short-or long-term interventions, or
3. Should be canceled or avoided due to possible or actual negative impacts.

## Rating Form 4: Negative Environmental Consequences of Relief Activities

Intervention	Is the intervention underway or planned? (Yes/No)	Questions on whether potential negative environmental consequences of proposed interventions have been addressed.	Yes/No answer to the question immediately to the left.	Selected Avoidance or Mitigation Options
Local Coping Strategies		To be added based on specific disaster conditions. Negative environmental consequences often involve a loss of natural resources, bio-diversity or conflict over scarce resources.		Avoidance/mitigation options should be developed specifically for each possible negative consequence. This process should involve input from survivors and can be facilitated with information collected through the <b>Community Level Assessment</b> module.
Agro-chemicals		1. Is the danger to applicators and humans from exposure in the application, handling or storage of agro-chemicals addressed?		<ol style="list-style-type: none"> <li>1. Avoid or minimize use or use products with low toxicity.</li> <li>2. Establish training and education programs on agro-chemical safety.</li> <li>3. Establish system for safer handling, cleaning and disposal of containers and equipment.</li> <li>4. Provide education and extension advice on use of agro-chemicals. Limit quantities available to <b>actual agricultural needs</b>.</li> </ol>
		2. Are negative impacts on non-target organisms in soil, water and air avoided or minimized?		
Seeds <sup>4</sup> , tools and fertilizer		1. Is the loss of agro-bio-diversity prevented?		<ol style="list-style-type: none"> <li>1. Use local seeds where possible, procured and distributed through existing channels.</li> <li>2. Limit introduction of non-local seeds to varieties tested locally and known to local users.</li> <li>3. Avoid introduction of genetically modified seed varieties not already in use in the country<sup>5</sup>.</li> <li>4. Provide environmental education on use of tools and develop resource extraction plan which avoids negative environmental impacts where appropriate.</li> </ol>
		2. Is the introduction of species and varieties which are invasive or cannot be used without locally unavailable inputs avoided?		
		3. Is damage to traditional seed management systems avoided?		
		4. Is the potential for increased resource extraction due to availability of more effective means of farming addressed?		

<sup>4</sup> Note that food aid, if provided as whole grain, may be used as seed, and should be screened according to this section.

<sup>5</sup> This option applies to food aid grain provided as whole grain.

Intervention	Is the intervention underway or planned? (Yes/No)	Questions on whether potential negative environmental consequences of proposed interventions have been addressed.	Yes/No answer to the question immediately to the left.	Selected Avoidance or Mitigation Options
		5. Is the potential for damage to soil and water from overuse of fertilizers addressed?		5. Provide education and extension advice on use of fertilizers. Limit quantities available to actual agricultural needs.
Harvesting wild plants/fruits		Are steps taken to avoid harvesting rates which exceed production capacity or reduces future production capacity?		Establish harvest system based on a balance between rates of extraction and regeneration.
Expansion of Area or Type of Cultivation.		1. Is the potential for the loss of habitats and reduced bio-diversity addressed? 2. Is the possibility of deforestation addressed? 3. Is the potential for soil erosion addressed?		1. Establish and use land use plans which take into account habitat diversity and sustainability of land use systems. 2. Re- and a- forestation programs. 3. Soil conservation activities.
Expansion of Livestock Use		1. Is the potential for the loss of habitats and reduced bio-diversity addressed? 2. Is the potential for the introduction of new animal diseases or expansion of existing diseases addressed?		1. Develop and implement a land use plan which takes into account habitat diversity and sustainability of land use systems. 2. Establish/expand animal disease monitoring and control system.
New farming or livestock raising activities.		1. Is the potential for loss of habitats and reduced bio-diversity addressed? 2. Is the potential for the introduction of new animal diseases or expansion of existing diseases addressed? 3. Is the potential for land degradation and erosion from land clearing or grazing addressed?		1. Develop and implement a land use plan which takes into account habitat diversity and sustainability of land use systems. 2. Establish/expand animal disease monitoring and control system. 3. Institute land conservation activities.
Irrigation (expanded)		1. Is the risk of Increased disease transmission addressed? 2. Is potential for soil degradation and water logging addressed? 3. Is the potential for aquifer depletion addressed? 4. Is the potential for weed dispersal through irrigation water addressed?		1. Increase preventive and curative health care. 2. Increase disease surveillance. 3. Establish management plan for water use which assures adequate water for current and future needs. 4. Change types of crops/cropping systems and water use. 5. Establish filtering system for weed propagules.

Intervention	Is the intervention underway or planned? (Yes/No)	Questions on whether potential negative environmental consequences of proposed interventions have been addressed.	Yes/No answer to the question immediately to the left.	Selected Avoidance or Mitigation Options
Fishing		1. Is harvesting which exceeds production capacity or reduces future production capacity prevented?		<ol style="list-style-type: none"> <li>1. Develop and follow a resource harvesting plan which assures adequate supplies for current and future needs.</li> <li>2. Monitor aquatic resource use and undertake education program for resource users.</li> <li>3. Limit or avoid introduction of new fish varieties and fish production methods.</li> </ol>
		2. Is the potential for damage or destruction of habitats from fishing methods addressed?		
		3. Is the introduction of exotic species of fish, parasites and diseases prevented?		
Construction, including shelter, public buildings and infrastructure excluding roads.		1. Are plans and procedures established to prevent scarce natural resources from being over exploited for construction activities?		<ol style="list-style-type: none"> <li>1. Develop and follow resource management and land use management plans.</li> <li>2. Assess hazards in area where construction will take place and change siting or methods accordingly.</li> <li>3. Ensure construction methods reflect known hazards and risks and are used to reduce vulnerability.</li> </ol>
		2. Are plans and procedures established to ensure that the construction site is not in an area of increased hazard compared to location or conditions before disaster?		
		3. Are plans and procedures in place to avoid increases risk of flooding, erosion or other hazards due to the construction?		
		4. Do construction methods and procedures take into account the risk of disaster?		
Roads, paved or other, new and existing.		1. Are there plans and procedures designed to avoid the exploitation of new lands or increased exploitation of existing lands due to the road?		<ol style="list-style-type: none"> <li>1. Develop and follow land use plans.</li> <li>2. Limit access to roads.</li> <li>3. Verify road design against flooding/drainage risk assessment.</li> <li>4. Incorporate erosion mitigation measures in road construction activities.</li> </ol>
		2. Are procedures and plans developed to prevent flooding and drainage problems due to the road work?		
		3. Are there plans and procedures to avoid landslides and soil erosion due to the road work?		
Water Supply		1. Are increased opportunities for disease transmission avoided?		<ol style="list-style-type: none"> <li>1. Establish and maintain water treatment system.</li> <li>2. Design and maintain water supply structure to</li> </ol>

Intervention	Is the intervention underway or planned? (Yes/No)	Questions on whether potential negative environmental consequences of proposed interventions have been addressed.	Yes/No answer to the question immediately to the left.	Selected Avoidance or Mitigation Options
		2. Are there plans and procedures to avoid an increase in population density having a negative environmental impact? 3. Is the overuse of ground or surface water supplies avoided? 4. Are chemicals used to clean or purify water managed in such a way to avoid human health dangers or contamination of the environment?		minimize standing water and vector breeding sites. 3. Plan water provision based on anticipated need and use plan for delivery area which allows current and future needs to be met. 4. Establish water resource use plan and monitor use and supply. 5. Consider economic incentives to conserve water. 6. Use hazardous chemicals as recommended and limit inappropriate use through education.
Sanitation, including latrines, waste treatment and transport infrastructure, and solid waste management.		1. Is the creation of hazardous waste sites avoided? 2. Is additional pollution of land, water and air avoided? 3. Is an increase in disease transmission and presence of disease vectors avoided?		1. Establish and maintain sites for sanitary and safe waste disposal operating at international standards. 2. Limit waste movement through appropriate collection systems meeting accepted best practices. 3. Minimize opportunities for disease transmission and vectors. 4. Establish and maintain environmental monitoring program covering air, land and water pollution.
Health Care		1. Is pollution from disposal of medical and other waste avoided? 2. Is an increased demand for traditional medical herbs and plants which exceeds sustainable yield avoided?		1. Establish system for safe disposal of all wastes (solid and liquid). 2. Develop a resource management plan for harvesting of local medicinal herbs and plants.
Industry (new or re-starting)		1. Are plans and procedures in place to avoid and increase in air, soil and water pollution? 2. Is the unplanned and unmitigated disposal of solid and liquid waste avoided? 3. Is an increase in road and other traffic avoided or mitigated?		1. Develop pollution mitigation and abatement plans, incorporating financial incentives where appropriate. 2. Develop site use plans incorporating transport and population support needs based on level of industrial operation.

Intervention	Is the intervention underway or planned? (Yes/No)	Questions on whether potential negative environmental consequences of proposed interventions have been addressed.	Yes/No answer to the question immediately to the left.	Selected Avoidance or Mitigation Options
		4. Are there plans and procedures in place to address the environmental impact of increased population and demand for services?		3. Develop plans for the supply of services (e.g., water, education) for expected population in industrial area.
		5. Is an increased and unsustainable resource extraction avoided?		4. Develop and implement a sustainable resource use plan for target industry.
Change in cooking or food processing procedures.		1. Is increased fuel harvesting avoided or mitigated?		1. Use fuel efficient stoves and cooking methods.
		2. Is increased air pollution avoided?		2. Develop and implement a resource management plan for resources needed to cook or support costs of food preparation.
		3. Is an increase resource harvesting to cover food preparation costs avoided?		3. Consider organizing cooking process to reduce air pollution and fuel demand (e.g., communal kitchens, dining halls).
Creation of Small or Medium Enterprises (SME)		1. Is unsustainable resource extraction avoided?		1. Environmental impact review performed for each enterprise supported. A simple checklist may be sufficient if a number of similar types of SME are to be supported.
		2. Is the waste produced disposed of properly?		2. Waste disposal plans meeting appropriate standards incorporated into enterprise business plan and monitored.
		3. Are steps taken to avoid siting enterprises in hazardous locations?		3. Hazards and risks of location of enterprises assessed and appropriate mitigation measures identified before support provided.
Relief Supplies		1. Are steps taken to ensure that relief packaging does not create a solid waste disposal problem?		1. Use biodegradable, multi-use or recyclable packaging where possible.
		2. Are steps taken to ensure that personal hygiene materials are disposed of properly and pose no health and sanitation problem?		2. Collect packaging as part of distribution program.
		3. Are steps taken to ensure that relief assistance is appropriate or acceptable to survivors and not discarded?		3. Develop program of education and facilities for safe disposal of personal hygiene materials.
		4. Are there procedures to ensure that relief does not create new and unsustainable consumption habits on part of survivors?		4. Base assistance on needs assessment including survivor input. 5. Don't provide inappropriate materials. 6. Select assistance based on local social and economic conditions and sustainability of supply.



Intervention	Is the intervention underway or planned? (Yes/No)	Questions on whether potential negative environmental consequences of proposed interventions have been addressed.	Yes/No answer to the question immediately to the left.	Selected Avoidance or Mitigation Options
Rubble removal		1. Is the handling and disposal of rubble done in a way to avoid the creation of disease vector breeding sites, leading to increased disease levels?		Develop and follow plans to recycle rubble and dispose of unusable materials in way which minimizes negative environmental impact.
		2. Are rubble removal efforts also clearing obstructions to existing drainage/water flow systems so that flooding and sanitation problems can be avoided?		
		3. Is rubble being recycled to that greater natural resource extraction is not necessary?		
(Re)Settlement		1. Do resettlement plans address possible negative environmental impacts due to changes in land use and bio-diversity?		1. Develop and follow land use plan in reconstruction and siting of settlements. 2. Conduct hazard and risk assessment of existing and new settlements sites and incorporate results into site selection, planning and construction methods.
		2. Are assessments and mitigation procedures been used to ensure that new settlements are not subject to new or greater hazards than before disaster?		
Training		Are steps taken to ensure that new skills learned do not lead to greater extraction of resources or production of waste?		Include environmental education and waste management options in training programs.
Demining and Unexploded Ordinances		Do demining/ordnance removal plans include procedures to avoid environmental damage to lands and resources which had not been previously exploited due to mines and unexploded ordnance?		Establish and follow land use plans for areas open to use following demining/clearance of unexploded ordnance.

## REA Module Two: Community Level Assessment

### Module Summary

The **Community Level Assessment** focuses on critical environmental issues from the perspective of communities affected by a disaster. The assessment can either use the direct collection of information from communities or information collected through other assessments to complete a simple process to identify environmental issues which are most prevalent in disaster-affected communities. The process of identifying and prioritizing community level issues requires one to two days, depending on sources of information and at least three persons.

### Two Options: Direct Survey or Existing Assessments

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There are two basic options for collecting information on community perceptions about the environment and related relief needs and expectations:

- Use a specifically designed data collection tool to conduct community level data collection from a sample of the disaster-affected communities and groups within these communities as appropriate. The **Guidelines** provides extensive information on how to conduct a direct community level assessment. If the direct community assessment option is chosen, then the instructions and procedures in the **Guidelines** should be followed to generate the information which will be summarized in this module.
- Extract information on environmental issues using the method set out below from other assessments and disaster impact reports. Using other assessments is possible because most of the information needed on environment-disaster linkages is also collected as part of other disaster impact assessments.<sup>6</sup>

However, for this process to be successful the information collected in another assessment needs to be sufficiently detailed to answer the questions and identify coping strategies covered in the **Community Assessment Summary Form** below.

In general, it is less costly to use existing assessments, or include disaster-environment focused questions in another assessment than to conduct a stand-alone community assessment.

### Community Assessment Summary

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#### Step One

Answer each question in the **Community Assessment Summary Form** (below) with a yes or no based on information collected through a direct assessment or extracted from other assessments of the conditions in the disaster-affected communities.

Note that the **Community Assessment Summary Form** uses data for separate communities. If community specific data is not available, skip to Step Three.

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<sup>6</sup> There is a considerable overlap between the REA information needs and a generic livelihood assessment, although it is unlikely an extensive livelihoods assessment could be done in a rapidly evolving disaster.

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### **Step Two**

Total the scores for each question according to whether the response for a community is yes or no, as indicated in the form. Note that the significance of yes and no answers and the respective scoring changes between different sections of the form.

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### **Step Three**

Prioritize the questions by ranking from highest to lowest based on the total score for each question. Higher scores indicate issues which are considered to be the more important from the community perspective.

If there was insufficient data on communities to provide yes/no answers to each question (e.g., only a summary of another assessment was available), then those conducting this part of the assessment need to arbitrarily rank the questions in terms of importance based on the information provided by the assessment report. This is not a preferred approach and should only be used if community-level assessment results are not available.

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### **Step Four**

Complete the final section of the summary form, dealing with coping strategies and actions.

To complete this step, assessment results should be used to identify relief and coping strategies used by the community and these actions should be entered in the first column of the form. Each action should be judged as to whether it is having a positive or negative impact on the environment (second column).

Some actions can have both impacts concurrently or at different times. Further details on the actions and strategies should be provided in the third column to help understand the scope and overall impact of each action.

It is important to note that the rating and ranking process is intended to quickly extract the information from assessment documents and does not produce an in-depth assessment. The relevancy and importance of the issues identified should be validated with communities as part of any formal relief or recovery project design process.

## Community Assessment Summary Form

	Item/Question	Community 1	Community 2	Community 3	Community 4	Importance Ranking <sup>7</sup>
<b>Context Questions:</b> Score Yes = 1 ("bad") or No = 0. Corresponds to Sections One and Two of the <b>Organization Level Assessment</b> .						
1	Did the community report environmental concerns?					
2	Did the community report environmental problems?					
3	Are there unique areas near the community?					
4	Are a large number of persons affected by the disaster?					
5	Has the disaster been going on for a long time?					
6	Are the disaster survivors concentrated?					
7	Have the survivors moved a great distance?					
8	Is level of self-sufficiency low?					
9	Is social solidarity low?					
10	Is cultural homogeneity low?					
11	Are most assets concentrated with a few individuals?					
12	Is livelihood base limited (not diversified)?					
13	Are expectations high?					
14	Will current resource use reduce adequate availability in the future?					
15	Is capacity to absorb waste limited?					
16	Does the environment have limited resilience?					
<b>Disasters/Hazards,</b> Yes = 1 ("bad") or No = 0. Corresponds to Section Three of <b>Organization Level Assessment</b> .						
17	Is drought a reported problem?					
18	Is wildfire a reported problem?					

<sup>7</sup> The importance ranking is calculated by adding the number of similar answers based on one answer (e.g. yes) being 1 and the other 0, with the higher numbers indicating greater importance.

19	Is conflict a reported problem?					
20	Is animal disease a reported problem?					
21	Is human disease a reported problem?					
22	Are other hazards reported problems (note response for each hazard separately).					
<b>Unmet Needs</b> No = 1 ("bad") or Yes = 0. Corresponds to Section Four of the <b>Organization Level Assessment</b> .						
23	Are adequate supplies of potable water available for humans?					
24	Are adequate supplies of potable water available for animals?					
25	Is shelter adequate for local expectations?					
26	Is food adequate?					
27	Is fuel adequate?					
28	Are household resources adequate?					
29	Is personal safety adequate?					
30	Are human health conditions adequate?					
31	Is waste management appropriate?					
32	Is the control of insects and breeding sites adequate?					
32	Are agro-chemicals used safely?					

**Community Relief/Coping Strategies.** Corresponds to Section Five of the **Organization Level Assessment**<sup>8</sup>

Strategy/Action	Indicate Positive (+) or Negative (-) Impact on Local Environment	Comments including whether the action is common for all or only a select number of communities or groups within the communities.

<sup>8</sup> Add additional rows as needed.

## REA Module Three: Consolidation and Analysis

### Module Summary

The **Consolidation and Analysis** module focuses on critical environmental issues from the perspective of government, non-government and private relief operations. The assessment uses simple tables to list and rank environmental issues identified in the **Organizational** and **Community Level Assessments** or one assessment alone. The consolidation and analysis process can be completed using only one assessment, but it is recommended that both assessments be incorporated into the consolidation and analysis process when possible. The assessment can be completed by an individual, but is best done by a group of ten to twelve field personnel and can take as little as four hours if a comparable period is dedicated to preparations.

### Consolidating Issues

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#### Step One

Develop a simple list of critical issues identified in the **Organization** and **Community Level Assessments** using the **Issues Consolidation Form** below.

Preferably three, but no more than five, top ranked issues from each assessment form developed in the two assessments should be entered into the respective columns in the form. The **Context Statement** should be reviewed to identify three to five issues based on the information collected to develop the statement.

Critical issues identified during the assessment which may not be covered by the issues listed on the two assessment forms can be entered under **Other Critical Issues**. These types of issues are often specific to a location and a particular disaster.

Issues which may not be immediately critical but need to be considered for long-term recovery should be listed under **Recovery Issues**. These longer term issues will not be addressed as part of the REA, but passed on for consideration in the design of longer term recovery programs.

#### Step Two

Develop a single list of issues by consolidating all duplicate and substantially similar issues listed in the two columns. Duplication can be:

- Within each assessment, e.g., water being mentioned several time in the community assessment, or
- Between assessments, e.g., water being mentioned in the organizational and community level assessments.

Duplicate items should be marked (e.g., with a star) as they indicate issues which have a higher frequency, and are likely more important in terms of disaster-environment linkages.

### Identification of Critical Issues and Actions

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#### Step One

Transfer the results of the consolidation process to the first column of the **Issues and Actions Form**.

## Step Two

Identify simple and specific actions to address each issue using a rapid brainstorming approach. Actions fall into four groups:

1. Redesign or re-orient an existing project or activity
2. Design a new project
3. Collect more information
4. Advocacy

**The focus of the REA is not to completely resolve issues which have been identified, but to identify how best to start addressing an issue. Avoid making this step more complicated than necessary.**

Original assessment documents should be reviewed if there is a need to clarify the origin and nature of an issue. It is less of a challenge to identify actions for issues related to the physical tasks and activities. It is more of a challenge to identify actions for issues which are more conceptual in origin.

In most cases, conceptual issues (which generally come from the **Context Statement** and **Factors Influencing Environmental Impact** sections) are addressed by incorporating them into the manner in which relief and recovery assistance is provided. For instance, if self-sufficiency is identified as a critical issue, then relief and recovery activities should be designed and implemented in a way which promotes self-sufficiency.

The items listed under the **Recovery Issues** section should be covered a separate short report, to be passed to those involved in recovery planning and operations (as only a written document or also through a public information meeting.) Documentation and referral is important to ensure that information collected during the assessment is not lost and has a positive impact on recovery, reconstruction and development efforts following a disaster.

## Prioritizing Issues and Actions

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Prioritize the actions list on the form based on the nature of the corresponding issues. The prioritization is based on answers to three questions:

1. Does the issue pose an immediate threat to life?
2. Does the issue pose an immediate threat to welfare? or
3. Does the issue pose an immediate threat to the environment?

**Issues for which the answer is yes to the first question are given top priority.** Among these issues, the ones involving the greatest threat to life are given the highest priority.

Issues with yes answers to the other questions have correspondingly lower priority for action, and can be ranked according to the level of threat to welfare or the environment, as appropriate.

**The prioritization process should give attention to issues which were mentioned more than once at the consolidation stage** (e.g. marked with a star). These issues are more likely to be of greater importance to communities and assistance providers and should be given priority within each priority category (i.e., threat to life, welfare or the environment).

## Reviewing Environmental Consequences of Relief Operations

Once issues and actions have been prioritized, a second review of possible negative environmental impacts needs to be completed using the procedure set in **Module One, Section Five: Negative Environmental Consequences of Relief Activities**.

Planned actions should be changed, when possible, to reduce negative environmental impacts. If negative impacts cannot be avoided, then mitigation measures should be incorporated into relief or recovery activities.

### Issues Consolidation Form

Organization Level Issues	Community Level Issues
<b>Context Statement</b>	
<b>Factors Influencing Environmental Impacts</b>	
<b>Environmental Impacts of Disaster Agents</b>	
<b>Unmet Basic Needs</b>	
<b>Negative Environmental Consequences of Assistance</b>	
<b>Other Critical Issues</b>	
<b>Recovery Issues</b>	





## REA Module Four: Green Review of Relief Procurement

### Module Summary

The **Green Review of Relief Procurement** module focuses on a screening of the procurement of materials and services to ensure that these procurements have the least negative environmental impact possible under emergency procurement conditions. This assessment can be done independent of other modules of the REA, but is closely linked to **Section Five (Negative Environmental Consequences of Relief Activities)** of the **Organization Level Assessment**. The **Green Review** can be done by an individual or group. The **Review** will not add measurably to time required for procurement if integrated into the normal procurement planning and review process.

### Step One

Review each type or category of item to be procured against the questions in the **Greenness Procurement Screening Checklist** below.

A “no” answer does not preclude procuring an item or service. **A “no” answer does indicate that other items or services might be better if they can be secured without delaying the delivery of relief assistance.**

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### Step Two

Consider whether the issues identified by no answers can be addressed by changing the nature or process of the procurement without affecting disaster assistance objectives. If changes are not possible, then plan for mitigation actions to be incorporated into relief and recovery activities to address any negative environmental consequences.

## Greenness Procurement Screening Checklist

Question	Yes	No	Not Applicable
Is the piece of equipment selected rated as the most energy efficient of the type of items needed and available?			
Is the least possible packaging used?			
Have field personnel or beneficiaries identified this item or service as critical with a high likelihood of being used in during the disaster?			
Does the item or service to be procured include recycled parts or materials, and are these parts and materials more costly than alternate items or services?			
Can the item (and packaging) selected for procurement be reused or recycled after it is no longer needed for the emergency?			
Will the supplier take back, or can another business be sold the item and recycle it, when it is no longer needed for the emergency?			
Have alternate, environmentally friendly, energy sources been chosen when they are economically justified and can be supported by local capacities?			
Do the items or services being procured require the lowest possible energy for proper and safe use by disaster survivors?			