GUIDELINES for
RAPID ENVIRONMENTAL IMPACT ASSESSMENT IN DISASTERS

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

Version 4
February 2003

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Developed by:
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Version 4 incorporates changes made following a field test of
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consolidates Volumes 1 and 2 of Version 3. Comments on the
REA or this document should be sent to Charles Kelly, at
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The views and procedures presented in this document do not represent United
Nations, Government of Norway, USAID or CARE International policy.

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[1] Comments on the REA are encourages and should be sent to Charles Kelly at 72734.2412@Compuserve.com.

ACKNOWLEDGMENTS

Use and Structure of the REA

The *Guidelines for Rapid Environmental Impact in Disasters* (REA) provide a means to define and prioritize potential environmental impacts in disaster situations. The *Guidelines* is composed of five main parts and eight supporting Annexes. The main parts include an **Introduction to the REA**, and modules on **Organization** and **Community Level Assessments**, **Consolidation and Analysis** of assessment results and **Green Review of Relief Procurement**. The Annexes include information sources, forms used in the assessment and information useful in managing the REA process.

Good planning and preparation are important to a rapid execution of the REA. It is strongly recommended that the *Guidelines* **Introduction** be fully reviewed before an assessment. At least the **Organization Level Assessment** and **Consolidation and Analysis** modules should be used in any disaster impact assessment, while completion of the **Community Level Assessment** is strongly recommended. The **Green Review** module can be used independently of the other modules.

Executive Summary

The **Rapid Environmental Impact Assessment in Disaster** (REA) is a tool to identify, define, and prioritize potential environmental impacts in disaster situations. A simple, consensus-based qualitative assessment process, involving narratives and rating tables, is used to identify and rank environmental issues and follow-up actions during a disaster. The REA is built around conducting simple analysis of information in the following areas:

?   The general context of the disaster.

?   Disaster related factors which may have an immediate impact on the environment.

?   Possible immediate environmental impacts of disaster agents.

?   Unmet basic needs of disaster survivors that could lead to adverse impact on the environment.

?   Potential negative environmental consequences of relief operations.

The REA is designed for natural, technological or political disasters, and as a best practice tool for effective disaster assessment and management. The REA does not replace an EIA, but fills a gap until an EIA is appropriate. A REA can be use from shortly before a disaster up to 120 days after a disaster begins, or for any major stage-change in an extended crisis.

The REA does not provide answers as to how to resolve environmental problems. It does provide sufficient information to allow those responding to a disaster to formulate common sense solutions to most issues identified. Where solutions are not evident, the REA provides sufficient information to request technical assistance or to advocate action by a third party. The REA contributes to activity and environmental M&E, but does not replace a formal M&E system.

The REA does not require expert knowledge. Primary REA users are people directly involved in disaster response operations, with a basic knowledge of the disaster management process but no background in environmental issues. The REA process can be used by disaster survivors with appropriate support. The best results are expected to come when the REA is completed with structured input from survivors and organizations providing relief assistance. Sections of the REA can also can used for needs assessment and environmental impact screening during relief project design and review.

REA development is a Benfield Greig Hazard Research Centre-CARE International collaborative effort, with financial assistance of the joint UNEP/OCHA office in Geneva, Royal Norwegian Ministry of Foreign Affairs, Office of Foreign Disaster Assistance, USAID and CARE International.

REA Modules and Outcomes

Module	Outcomes
Organization Level Assessment	Identification of critical environmental issues related to the disaster from the perspective of organizations providing relief and recovery assistance.
Community Level Assessment	Identification of critical environmental issues related to the disaster from the perspective of communities and groups affected by a disaster.
Consolidation and Analysis	An identification and prioritization of environmentally-linked issues involving significant immediate threat to lives, well being and the environment.
Green Review of Relief Procurement	A screening of the procurement of relief commodities and services to minimize negative environmental impacts.

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Overview of REA Process

The Rapid Environmental Impact Assessment in Disasters (REA) process involves completing four modules according to the specific tasks indicated below. The REA process should begin with a review of the material contained in the **Introduction to the REA** section of the *Guidelines*, and proceed through the four modules, as summarized below:

Module One: Organization Level Assessment

1. Collect background information and identify assessment participants.
2. Draft two paragraphs describing the disaster for Section One.
3. Complete Section One: The **Context Statement.**
4. Complete Section Two covering **Disaster Related Factors Influencing Environmental Impacts.**
5. Complete Section Three covering **Possible Immediate Environmental Impacts of Disaster Agents.**
6. Complete Section Four covering **Unmet Basic Needs of Disaster Survivors That Could Lead to Adverse Impact on the Environment.**
7. Complete Section Five covering **Potential Negative Environmental Consequences of Relief Operations.**
8. Rank issues by importance within each section as indicated in the *Guidelines.*

Note that steps four to seven (Sections Two to Five) can be completed in break-out sessions.

Module Two: Community Level Assessment

1. Decide on how information on community perceptions of the environment will be collected.
2. If a questionnaire or focused discussion method is used, plan, test and administer the method in communities. See **Annex F** on community data collection.
3. Compile the results of the community level assessment into usable form (a report or completed questionnaire) for each community.
4. If other assessments are used, ensure that all the information needed for this module is collected or extracted from existing assessmen t 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.

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 Table** and consolidate the issues into a single list.
2. Place the single list of issues on the **Issues and Actions Table** and identify initial actions and issues and actions.
3. Prioritize these issues and actions according to the impact on life, welfare and environment hierarchy.

Module Four: Green Review of Relief Procurement

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

Introduction to the REA

Background

There is a strong link between environmental damage and disasters. Identifying, evaluating and responding to critical environmental issues during a disaster is key to effective disaster relief and recovery operations. In normal, non-disaster, situations an environmental impact assessment (EIA) can be used to identify possible environmental impacts and mitigation measures. However, as indicated in the box below, a disaster is radically different from normal conditions, making an EIA inappropriate[2]. Most governments and humanitarian assistance organizations specifically allow for not doing an EIA in emergencies, recognizing that a full EIA would considerably slow emergency assistance.

These guidelines for a **Rapid Environmental Impact Assessment** (REA) fill a gap in the range of tools available to assess environmental impacts during disasters. The REA is designed to provide input on environmental conditions in disaster situations in a way which is convenient for the fast moving, time compressed operational environment faced in responding to a disaster.

The REA is one of several initiatives to improve the linkages between sustainable environmental management and disaster response. Leaders in this area include United Nations Environment Program (UNEP, www.unep.org and www.reliefweb.int/ocha_ol/programs/response/unep), CARE International, UNHCR (www.unhcr.ch), the World Wide Fund for Nature (www.BSPonline.org) and Benfield Greig Hazard Research Centre (www.bghrc.com/DMU/DMUsetup/Project/REA.htm).

Contextual Differences:
Normal & Disaster Environmental Assessments

Normal Conditions	Disasters
Considerable lead time	Sudden onset
Legal requirement often exists (country &/or donor)	Rarely a legal requirement but some donor may ask for it
Deliberate & pro-active	Reactive
Will take time, be thorough & extensive: comprehensive data collection	May need to be partial in coverage
"No project" option is a possible outcome	"No project" outcome is not an option
Location chosen	Unpredictable location
Duration planned	Uncertain duration
Beneficiary population identifiable & static	Beneficiary population heterogeneous & dynamic
Environmental goals may be made compatible with socio-economic ones	Priority given to "life saving" activities sometime difficult to reconcile with environmental goals

Source: UNHCR and CARE International

These organizations have not only focused on their own needs, but seek to develop means and methods to assist all interested organizations and communities to better deal with environmental issues before, during and after disasters.

The REA was developed as a collaborative effort of the Benfield Greig Hazard Research Centre, University College London (www.bghrc.com) and CARE International (www.care.org). The REA guidelines and background materials can be accessed at www.bghrc.com/DMU/REA/REAGuidelines.htm.

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[2] For further information on environmental impact assessments, see www.iaia.org or the environment section of the Food Aid Management web site (www.foodaid.org/envmt3.htm).

Funding for this collaboration has come from the United Nations Environment Program, Royal Norwegian Ministry of Foreign Affairs, Office of U.S. Foreign Disaster Assistance USAID and CARE International. The REA development is guided by an international advisory board and in collaboration with over twenty non-governmental organizations (NGOs) and international organizations (IOs)

Concepts and Outcomes

The REA is based on the concept that identifying and incorporating environmental issues into the early stages of a disaster response will make relief activities more effective and lay a foundation for a more comprehensive and speedy rehabilitation and recovery. The process and structure of the REA recognize that those who respond to disasters have little time for in depth research and are not likely to be environmental specialists.

Under these conditions, the first step in effective response is to identify and define the nature and importance of the challenges faced in dealing with the impact of a disaster. This is what the REA does: identify, frame and prioritize environmental issues in such ways as to allow the negative impacts to be minimized or avoided during the immediate response to a disaster.

A completed REA identifies critical environmental issues. Some issues arise from conditions existing before the disaster. Others are new to the location or population experiencing the disaster. The nature and impact of environmental issues will change during and after the disaster and new issues may arise. For these reasons, the output from an REA is not a static assessment but one to be reviewed and revised throughout the post-disaster period.

The REA **does not provide answers as to how to resolve the critical issues** identified in the assessment. A completed REA **does provide sufficient information to allow those involved in responding to a disaster to formulate common sense solutions** using information otherwise available to address, mitigate or avoid the issues raised in the assessment.

Key Terms Used in the REA
Advocacy: Act of pleading for, supporting or recommending, used in the sense of Advocate: one who pleads for or in behalf of another.
Disaster: An event beyond the immediate means of the affected populations to cope and which threatens lives or immediate well being. Disasters are caused by the interaction of people and a hazard. In the REA, "emergency" has the same basic meaning as "disaster".
Hazard An event or condition which could result in a disaster, as in the hazard of flooding.
Mitigation: Steps taken before a disaster to reduce the impact of the disaster or steps taken during a slow onset disaster to mitigate negative impacts and reduce the need for relief assistance.
Prevention: Actions taken before a disaster to ensure a hazard has no impact.
Recovery: Process of supporting emergency-affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical well being.
Rehabilitation: Short-term `recovery of basic services and initiation of repair of physical, social, and economic damages.`
Relief: Immediate assistance to save lives and meet basic needs of disaster affected populations.
Remediation: Action to rectify a deficiency to an adequate standard of safety. Most often used with respect to technological disasters.
Response: `Actions in the face of an adverse event aimed at saving lives, alleviating suffering, and reducing economic losses.`
Sustainable: The use of a resource at a rate which is equal to or less than the rate of replacement.
Based on: *Field Operations Guide* (USAID) and *Australian Emergency Management Glossary*

Where common sense solutions are not evident or issues are complicated or unclear, a REA **provides sufficient information to request appropriate technical assistance or advocate appropriate action** by a third party. Technical assistance can come through posing specific questions to specialists, or developing simple terms of reference for on-site

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specialized technical or material assistance. Sources of technical advice and assistance are identified in **Annex A**. Technical assistance is often available locally and this source should not be overlooked.

Approach

The REA uses a simple, guided, consensus-based qualitative assessment process incorporating narratives, rating tables and action lists to develop an overall assessment of critical environmental issues and follow-up actions during a disaster. The REA does not call for any quantitative data collection, recognizing that this is both time consuming and operationally difficult in most disasters.

However, quantitative data should be collected and used whenever possible if data collection and use does not detract from the overall relief effort. In addition, a clear documentation of the REA process and collection of environmental data during a disaster will make an EIA for post-disaster recovery planning easier and more accurate.

REA Process

The REA process is designed to:

1. Collect information needed to assess environmental impacts,

2. Provide a simple steps for analyzing this information to identify important issues and,

3. Review procurement decisions to reduce the potential negative environmental impacts of emergency assistance.

The REA process focuses on the perceptions and concerns about environmental issues and disaster-environment linkages at two levels. The first level is that of organizations involved in responding to a disaster. This level includes government, non-government and private organizations that provide external assistance and support in response to a disaster.

The second level is that of communities and groups within communities which are affected by a disaster. Experience shows that those providing disaster relief and those affected directly by a disaster often have different perceptions of the impact of a disaster and corresponding relief needs. Identifying organization and community perceptions separately and then consolidating these environmental concerns into one set of issues and actions will improve the efficiency of relief efforts by diminishing the gap in understanding between relief providers and survivors.

Assessment Modules

A complete REA is accomplished through four modules. The first two modules, an **Organization Level Assessment** and a **Community Level Assessment**, are designed to collect the basic information necessary to identify critical environmental issues. These modules focus on five areas:

1. The general context in which the disaster is taking place,

2. The identification of disaster related factors which may have an immediate impact on the environment,

3. The identification of possible immediate environmental impacts of disaster agents,

4. The identification of unmet basic needs of disaster survivors that could lead to an

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adverse impact on the environment, and,

5. The identification of potential negative environmental consequences of relief operations.

Information on the first two areas establishes the overall context of disaster-environment interactions. The next three topical areas focus on issues which have direct links to relief operations. These topical areas are discussed in greater detail in the **Organization Level Assessment** module described below.

The information collection process differs between the two modules. The **Organization Level Assessment** uses a combination of narrative and rating tables which correspond closely to the five topical areas summarized above. The **Community Level Assessment** can use one of several sources, including a specifically designed questionnaire, focused discussions, or information collected during other types of assessments (e.g., a food security assessment). The tasks to complete these two assessments are described in more detail in the respective modules below.

It is possible to complete a rapid environmental impact assessment using only the **Organization** or the **Community** level assessment module. Using only the **Organization Level Assessment** is conceivable when there is no opportunity to collect information from communities, as is likely in rapid onset disasters. Given this possibility, the **Organization** level module also provides basic guidance on how to link assessment outcomes to immediate relief actions. It is **strongly recommended** that if only an **Organization Level Assessment** is initially done that a **Community Level Assessment** be completed as soon as possible to avoid any gaps between organization and community level perceptions of environmental issues and how these issues should be addressed.

On the other hand, sometimes only a **Community Level Assessment** can be completed and analyzed. However, limiting the REA to only community level input presumes those organizations (and their personnel) responding to a disaster do not have their own perceptions of environmental issues and will completely accept the community perceptions. The reality is that organizations (and especially their funding sources) usually hold strong views on the nature and modalities of relief assistance. Conducting both **Organization** and **Community Level Assessments** ensures that assistance providers and survivors are, at the least, not working at cross purposes.

The consolidation and analysis of issues identified in the assessment occurs in the two assessment modules and through a separate **Consolidation and Analysis** module. In the **Organization Level Assessment,** a preliminary ranking of issues occurs as the result of the issue rating process. In the **Community Level Assessment,** a preliminary ranking of issues occurs through the process of extracting information from a questionnaire, reports on focused discussions or from other assessment reports.

The **Consolidation and Analysis** module moves the analysis process further by providing simple procedures to help consolidate and prioritize the issues identified in the assessments. The consolidation and analysis process does not identify specific solutions to the issues identified, but does provide a simple approach to initiate the process of addressing the issues identified.

The final module, a **Green Review of Relief Procurement**, aids relief organizations in identifying whether the services and material assistance they are providing in response to a disaster have the least negative environmental impact possible. This module lays out the background to green (sustainable) procurement and provides a simple evaluation tool for use in emergency procurement.

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A number of sources of information can be used to support the completion of the rapid environmental impact assessment. Annexes to this *Guidelines* include sources of information on environmental and disaster issues (**ANNEX A**), general guidance on managing group meetings (**ANNEX C**) and on participatory rapid appraisal (**ANNEX F**).

Best Practice

The REA has been developed as the best practice for rapid environmental impact assessment in disasters. As a best practice, the REA will evolve to take into account changes in the way disasters are managed and new information sources and procedures.

The REA process has also been linked, where appropriate, to the minimum humanitarian assistance standards described in the Sphere Project Manual (see www.sphere.org). However, completing the REA is not dependent on the Sphere standards, and the REA can easily be used in conjunction with alternates to the Sphere standards.

Applicability

The REA is designed for use in all types of disaster situations, including natural, technological and political events.[3] The REA supplements specific technical assessments and actions initiated following a technological disaster.

In political disasters, such as a civil war, there may be considerable periods when the affected populations are in disaster-like conditions. The REA is most useful when there is a significant rapid change in these conditions, such as a change in the mode of conflict, livelihoods or mechanisms of assistance. For instance, the REA process would be extremely useful in developing a rapid response to assisting returning populations following a peace agreement ending a civil war.

However, an assessment of rapid changes in a long-term situation needs to take into consideration that there are likely to be overlapping short-and long-term environmental issues. Some of these issues can be addressed through immediate relief efforts, but others need more substantial long-term solutions. These longer term solutions need to be based on a more detail environmental impact assessment than that provided in a REA.

The REA can be used in multiple or concurrent disasters. In these situations there is a need to differentiate between the impacts of the different disasters, and corresponding different relief options and operations. For instance, the human and environmental impacts of an earthquake and a drought are different. Addressing environmental issues arising from each disaster will occur in different time frames and require different types of assistance. These differences need to be taken into account in the assessment process, and in the process of linking actions to issues identified during the assessment.

The REA can be used to provide input into a Monitoring and Evaluation (M&E) system (discussed below). It also has uses as the basis for an environmental impact check list in relief project design and as a basis for reviewing plans and operations. This process is best done in collaboration with the persons designing or running the relief operation.

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[3] UNHCR has developed information and assessment tools for considering environmental impacts in refugee situations. These materials are useful for internal displacements are a valuable supplement to the REA. See http://www.unhcr.ch/cgi-bin/texis/vtx/home?page=PROTECT&id=3b94c47b4&ID=3b94c47b4&PUBLISHER=TWO

When to Do a REA

The REA is designed for use during the critical disaster response period, from when a warning of a disaster is first received until conditions have stabilized, normally within 120 days after a trigger event. This 120-day period provides time to begin an EIA as part of the recovery and rehabilitation process. The REA, besides identifying immediate environmental factors relevant to the relief operations, provides data and insight that can be incorporated into the EIA.

The REA should be started as soon as practicable after a warning or start of a disaster. The initial (baseline) assessment should be followed by periodic updates to ensure the REA accurately represents current environmental and disaster conditions. The frequency of the updates depends on the nature of the disaster. They should be more frequent in large, quickly evolving events than smaller, more stable disasters.

The immediacy of disaster impact and urgency of relief should be taken into account in deciding on whether to use a REA or a formal environmental impact assessment process. For instance, the REA can provide a quick identification of critical environmental issues following a major earthquake leading to considerable damage and relief needs over a large area. On the other hand, a REA may not be as urgent, or even appropriate, for a drought which develops over several years, where impacts are seasonal and time is available to develop a formal EIA.

The REA can be used before a disaster to anticipate environmental issues and impacts. However, if there is any significant early warning (e.g., in excess of 60 days), it is likely more useful to initiate an EIA as part of the pre-disaster planning and mitigation efforts.

The REA provides a "snap-shot" of environmental conditions at the time it is completed. By setting out prioritized critical issues the REA allows for some anticipation of environmental impacts. These impacts, and the impact of REA-identified actions, can be assessed through revisions of the initial REA.

Because the REA is based on perceptions and (often) incomplete data, it should not be used to make hard-and-fast predictions of environmental impacts. The REA results, like much in the relief phase of a disaster, are subject to uncertainty and unanticipated changes.

Steps can be taken to prepare for a REA as part of disaster preparedness efforts. Pre-disaster tasks can include:

1. Training staff in the use of the REA,

2. Collection of background information (particularly for **Section One: Context Statement**),

3. Reviewing potential hazards and their impacts on potential disaster areas and survivors (**Section Three: Identification of Possible Immediate Environmental Impacts of Hazards**), and,

4. Screening possible relief interventions for negative environmental impacts (**Section Five: Identification of Potential Negative Environmental Consequences of Possible Relief Activities**),

5. Developing skills and systems to quickly collect information from communities for the **Community Level Assessment** module.

Taking these steps will considerably shorten the time needed to conduct the REA during a disaster.

Link to Formal Environmental Impact Assessments

A REA does not replace a formal EIA. Rather, it fills the gap between the start of a disaster and when the formal EIA process can be initiated. This gap is expected to correspond closely to the 120 day relief operations period, with the EIA process coming to play with the design and planning of recovery programs.

Data collected, and data collection systems established, through a REA can provide important inputs into an EIA. A well-documented REA will aid considerably in defining the scope and coverage of an eventual EIA and data collected as part of the REA or subsequent M&E efforts may have use in completing a normal EIA.

Users

The REA is intended to be used by persons with no specific background in environmental issues and relatively little background in disaster management. The primary REA users are expected to be government, NGO or IO staff conducting field assessments or directly managing relief operations.

The REA can be used by communities experiencing a disaster, although this will require additional planning to ensure community participants understand the REA concepts and procedures. In any case, **community involvement in the REA should be sought whenever possible**. The **Community Level Asse ssment** module is specifically designed for this purpose.

The REA can be used by headquarter or donor staff to screen projects under design or review. In particular, Sections Four and Five of the **Organization Level Assessment** module can be used to quickly assess whether a proposed project has considered and is addressing salient environmental issues. The **Green Review of Relief Procurement** module is designed to screen whether procurement proposed under a project has taken into account steps to minimize negative impacts on the environment.

Personnel Requirements

Ideally an initial REA will be completed by a group of persons directly involved in the disaster response. A group approach promotes the presentation of various views and perspectives on environmental issues and disaster impact. This limits the chance that issues or problems will be missed in the initial assessment or an individual's own personal views will result in a narrow perspective of environmental conditions. This group process should be managed by one person charged with leading the assessment process, collecting background information, and recording and keeping a file of the assessment results.

The REA can be done by a single person. Care is needed, however, to ensure that this person has adequate time and means to collect the information needed to accurately complete the REA modules. In addition, having one person completing all four modules of the REA will likely take considerable time and detract from the rapid nature of the assessment.

The assessment process laid out in the **Organization Level Assessment** module is best

completed by a group of ten to twelve persons. This allows for a diversity of views and for the larger group to be broken -up into working groups for work on the rating forms. When the REA involves planned or on-going projects, the key staff of these projects should be involved in completing and updating the REA.

The **Community REA Questionnaire** (provided for in the **Community Level Assessment** module) can be done by one person, although it is preferable for at least two persons to work together on completing the questionnaire. To cover as many communities as possible, several teams can concurrently administer an assessment questionnaire or other data collection procedure to a number of communities.

The REA results should be updated periodically and this updating done by the same group which completed the original assessment. A single person can update a REA, although this person needs to have a good knowledge of how the disaster is progressing and of changes in impacts and relief requirements.

As noted, the REA can be done with (or even by) disaster survivors. This will involve more pre-assessment preparation to ensure the community understands the concepts and basis for the REA process, and add to the time and workload of the overall assessment. However, the benefits, in improved understanding of local concerns for the environment and closer links between survivor needs and assistance plans, can be significant and warrant the extra workload.

Time Required for Completion

The time needed to complete a full REA depends on

- ? The nature of the disaster,
- ? Whether both **Organization** and **Community Level Assessments** are completed,
- ? The level of preparation of those completing the assessment work, and
- ? The amount of training on the REA which has been provided.

Time Needed for REA Completion

Organization Level Assessment: 4 hours to 1 1/2 days depending on preparation. 4 to 6 hours of preparation will greatly shorten the time needed for group assessment. A follow-up validation meeting (recommended if several parties are involved the assessment) should require 2 hours.

Community Level Assessment: 1 day per community. 1 to 2 days to extract and complete preliminary analysis of information, depending on source of information.

Consolidation and Analysis: 3 hours up to 2 days (if large group discussions are involved), including time to write -up results.

Green Review of Relief Procurement: No additional time required if integrated into procurement process.

Experience indicates that anywhere from about four hours to one and a half days can be It is recommended that four to six hours be allocated to preparation for the **Organization Level Assessment**, addressing planning, collection of background information, drafting parts to the **Context Statement**, and translation of key materials as needed. As in many tasks, less preparation results in more time needed to complete the actual assessment.

If a number of organizations are involved in the **Organization Level Assessment**, a second meeting of the participants in the initial assessment is recommended to validate results once

the REA has been completed. This validation meeting can require up to two hours with a similar period of time for preparation of briefing materials.[4]

Time needed to complete the **Community Level Assessment** depends on whether the assessment can be based on existing information sources (i.e., other assessments) or whether there is a need for a separate community data collection effort. Experience indicates that administering a questionnaire or focus discussion process in a community requires two to four hours per group contacted. In practical terms, this means collecting information from one community per day if the communities are reasonably accessible, with the total number of days dependent on the number of communities included in the assessment and the number of survey teams.

The extraction and preliminary analysis of community information, whether from questionnaires, focused discussions or other assessment reports requires anywhere from 4 hours to one day depending on how well records are kept and the number of groups covered in the assessment. Needing to read several assessment reports to become familiar with the information available can add to the time required.

Completing the preliminary analysis at the end of each community visit can shorten the time required to complete a preliminary analysis. As with the **Organization Level Assessment**, good planning and preparations are critical to a rapid completion of the assessment process.

Completing the **Consolidation and Analysis** module can require from three hours to up to a day and a half of group discussions and up to an additional one half day to write-up results. The time needed for this module can be shortened by having the analysis done by one person, although the advantage of using a group process for validation and buy-in to the assessment results is significant.

The work needed to complete the **Green Review of Relief Procurement** module is relatively short if information is available on the services or materials to be procured. Ideally, the check list review should be completed as procurement specifications are developed or procurement plans are reviewed. In this situation, the **Green Review of Relief Procurement** should not add measurable to the time needed to complete the normal emergency procurement process.

When considering the time needed to complete the REA it should be kept in mind that the REA is a **rapid, not a comprehensive**, assessment. The REA is not designed to clarify all possible environmental issues linked to a disaster, or to provide detailed answers to issues which are identified as being critical. Efforts to address issues identified during the assessment should take place after the assessment and not unnecessarily lengthen the assessment process itself.

Completion of the whole REA by a single individual will take somewhat longer than completion with group participation, particularly because of the time needed to contact and interview knowledgeable persons. Updating or revising an initial REA, if done regularly and by someone knowledgeable about the disaster, should take no more than a couple of hours.

The REA will generate follow-up activities. This work is closely related to tasks necessary for an efficient relief operation and should not add significantly to the disaster-related work load. However, these follow-up activities may lead to work in areas where relief operations have

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[4] Note that the REA is intended to provide input into planning and operations and will not necessarily generate a detailed assessment report. In the absence of a formal report, meeting with assessment participants may be the most effective way to share the resuts of the assessment.

not been given sufficient attention, and generate new workloads.

Diversity

The gender, social, cultural, ecological, and economic diversity of the area covered by a rapid environmental impact assessment should be considered in organizing and conducting the assessment. Perception of environmental conditions, salient issues and ways to address environmental issues can vary by gender, age, social status, culture and economic status.

Participants in the REA should reflect the gender, social and cultural diversity of the population within the area for which the assessment is being conducted. This is particularly true for the **Community Level Assessment** where contacts with communities should include an accurate representation of the different groups within a community. In turn, this implies that persons participating in the REA be aware of the diversity of groups within the assessment target area. The REA is of little value if it does not represent the social environment of the area affected by a disaster.

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Monitoring and Evaluation

The REA can contribute to the monitoring and evaluation (M&E) of relief activities and environmental impacts. The initial REA provides a baseline on environmental conditions and issues, and an indica tion of possible environmental impacts of relief activities.

REA updates provide information useful to monitor progress toward objectives and changes in impact on the environment. This information can be used in evaluating relief and environmental interventions. The REA can also point to environmental issues to be included in the follow-up to emergency interventions as well as identify possible indicators for a formal M&E system.

Users are cautioned that REA is not a stand-alone M&E system but a tool ava ilable to a formally organized and managed M&E process. A formal M&E system needs additional information not provided by the REA. Over time the REA results will likely become less important as formal M&E data collection systems are instituted. The UNHCR *Environmental Indicator Framework: A Monitoring System for Environment-Related Activities in Refugee Operations* provides a process and indicator details which can be adapted to most disaster response situations and complement monitoring data collected through the use of the *Guidelines*.

A Note on Rating Metrics

Simple rating scales are used widely in the REA. Although specific rating procedures and scales are set out in the *Guidelines*, the rating methods or scales can be changed to reflect local preferences. However, the original intent of the scaling should be maintained. Any new methods and scales should be used consistently during the assessment and any revisions.

A second issue in rating metrics is the differences in values assigned to specific metric ranges (e.g., 1 to 10 or low, medium and high) by different raters. In a group, this is not a major concern as the process of developing an action list for each Section and for the synthesis comes from a consensus process. In contrast, if only one person does the REA ratings, then her/his perceptions are clear from the ranking outcome.

Differences in the values assigned by an individual to each step of a rating (e.g., the values of 1 to 10 in a ten-step rating) can be a problem when a REA update is done by a group substantially different in membership or background than the group who did the initial assessment. Ideally, REA updating should be done by substantially the same group which did the initial REA. If there is no significant continuity between initial REA and update groups, it may be best to consider the "update" as a new REA, reflecting new conditions and new perceptions of these conditions. This means, of course, that the whole REA process should be completed anew.

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 goup0 of ten to twelve filed personnel and can take as little as four hours if a comparable period is dedicated to preparations.

Introduction

The **Organization Level Assessment** identifies critical environmental issues linked to a disaster from the perspective of staff working for government, non-government and private organizations providing relief and recovery assistance. The assessment is accomplished by completing a narrative and a set of rating forms covering most environmental issues which can arise in a disaster. The narrative and rating pro cess, involving five Sections, is described below, with the purpose, process and expected outcomes for each Section covered. The narrative outline and rating forms are provided in **Annex B** .

How to Complete the Module

This module can be completed by an individual. However, it is recommended the module be completed by a group of between ten and twelve individuals. These individuals should have at least general knowledge of the disaster event or location in which the disaster is taking place. If a larger (or very diverse) group is used to complete this module then additional preparation is recommended to minimize the actual group work time. It is also optimum for the group doing the assessment to be from a variety of backgrounds and diversity of experiences. Suggestions on how to manage a group assessment process are provided in **Annex D** .

If more than seven people are involved in completing this module, a combination of single and break-out group sessions is recommended. With this approach, the **Context Statement** is completed in a single group of all the assessment participants. The remaining four module Sections are completed by break-out groups.

The results of the break-out group ratings can be compared and complied into a single list for each Section , at the end of each Section session or once all the Sections are completed. The compilation process is accomplished by presenting the issues and rankings for each Section made by each break-out group in a single table (e.g., flip chart) and reaching agreement within the group as to a final rating based on the individual break-out group scores.

Agreement is most easily reached by averaging the scores provided for each issue by each

break-out group. For instance, if one break-out group rates an issue as 5.2 and the other group rates the same issue as 8.5, then the final rating would be 6.85. Although somewhat simplistic, the averaging approach is in keeping with the need for completing the assessment process as rapidly as possible.

Break-out groups provide more opportunity for discussion and reduce the likelihood of a few individuals dominating deliberations. **It is critical that all the break-out groups use the same rating scales and procedures**. These scales and procedures need to be made clear at the beginning of the break-out sessions and monitored during the assessment by the assessment leader.

Once all the Sections of the **Organization Level Assessment** are completed by the break-out groups, a single group session is needed to compile a single ranked list of issues. For the **Context Statement** this involves participants identifying critical issues highlighted in the statement through a moderated discussion led by the assessment leader and voting on the ranking issues from most to least important.

Ranking issues from the other four Sections in the module is based on ranking each issue within a Section by the rating score it received. (Comparison of issues between Sections is done in the **Consolidation and Analysis** module.) In other words, issues should be organized from high to low by their individual rating. For instance, three issues with ratings of 7.2, 3 and 6.9 would be ranked as 3, 6.9 and 7.2 .[5] If two or more issues have the same rating, then the group can vote to rank the issues from most important to least important and the results incorporated into the overall raking of issues for the section. A simple hierarchy for deciding importance is provided in the **Consolidation and Analysis** module.

Planning and Resources

Completing the **Organization Level Assessment** module can require from four hours to one day and a half depending on level of preparation and nature of the group completing the assessment. From four and six hours should be allocated to prepare to completing the module. The assessment process can be completed in one sitting, or in a series of back-to-back sessions over the shortest period possible.

Preparations for completing the module should cover the following points:

?   Ensure it is clear who will lead the overall assessment, including coordination of follow-up actions, and integration of results into project design and management.

?   Identify and collect key background information, including maps and reports (see below).

?   Draft a preliminary **Context Statement** for review by assessment participants. Providing a draft **Context Statement** helps participants to have a common understanding of the disaster under assessment and facilitates the identification of additional information to be included in the statement.

?   Decide which parts of Rating Form 2 (**Identification of Possible Immediate Environmental Impacts of Disaster Agents**) and Rating Form 4 (**Potential Negative Environmental Consequences of Possible Relief Activities**) do not apply to the disaster under assessment and can be eliminated. Care should be taken to avoid inadvertently eliminating any important aspect of the disaster-environment

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[5] Note that for some sections, a low number is more significant in terms of negative environmental impact than a higher number, so a higher rating does not necessarily mean a higher ranking of importance in the assessment.

linkage. And it if should be kept in mind that environmental impacts may change and evolve during a disaster, and these changes should be taken into account when up-dating an assessment.

? Determine the appropriate rating scales for Rating Forms 1 and 3. See **A Note on Rating Metrics** above.

? Review Rating Form 3 and decide whether the assessment will focus on the thirteen basic needs alone, or cover each of the indicators of basic needs.

? Review Rating Form 4 to ensure it includes local coping mechanisms and actions if they are known.

? Identify assessment participants and ensure that they will be available as needed for group assessment sessions and follow-up activities.

? Review the terms used in the assessment and ensure that they are understandable to participants. This is particularly important if the assessment will be completed by persons who are not native English speakers. See the **Key Terms Used in the REA** box in **INTRODUCTION** for a starter list of terms.

? Provide rating forms, background information and a list of key terms to participants early enough before assessment sessions that time is available for review.

? At the start of the assessment, review the instructions for using the *Guidelines* to ensure they will be understood by participants.

The **Organization Level Assessment** requires minimal resources. Copies of the REA forms (**Annex B**) should be available to each participant, with extra copies to be used for summarizing results. A writing board or overhead projector and flip charts will be useful. The following resources will also facilitate the assessment work:

? A map of the disaster area (several copies are recommended).

? Contact lists of persons and organizations involved in responding to the disaster and local environmental concerns (including a local phone directory). Note that this list forms part of the **Context Statement**.

? Disaster situation reports, development project documents and environmental impact assessments covering the area and population being assessed.

? Background information on the culture, economy, history and environment of the disaster affected area.

Section One: The Context Statement

The **Context Statement** places the disaster in the context of overall impact, providing a summary of the emergency situation, response requirements and highlighting pre-existing salient factors which frame or impact an environmentally aware response. The **Context Statement** serves to ensure that all those working on the REA are "singing from the same sheet of music". In addition, the **Statement** identifies:

? Salient environmental issues existing before the disaster/assessment,

? Sources of information,

? Legal or policy requirements related to the management of environmental issues in a disaster,

? Environmental aspects of the emergency which may require actions only available

from specialized organizations or companies[6] and,

? The need for further assessment/information collection and technical assistance[7] in addressing problems associated with environmentally unique locations.

The **Context Statement** (found in **Annex B**) is developed by providing a narrative summary of the disaster and answers to five questions. Comments on the significance of each section and guidance on addressing issues identified are provided in the form. This comments and guidance should be used as reference in the identification of critical issues as input into the **Consolidation and Analysis** module.

It is most efficient for an assessment team leader (in the case of a team assessment) to draft sections which cover the narrative requirement and provide answers to the five questions. This draft of the **Context Statement** can then be reviewed by the assessment team and changes made as appropriate. Note that most of the information needed for the **Context Statement** is the same as required for disaster impact assessment and relief planning.

Once the **Context Statement** is completed, participants should identifying critical issues highlighted in the statement. This is best done through a moderated discussion led by the assessment leader and voting on the ranking of issues from most to least important. The critical issues thus identified are used in the **Consolidation and Analysis** module.

Specific notation of the geographic location of environmental problems, potential hazardous sites and locations where special attention is indicated should be made in completing the **Statement**. Marking key information on a map of the disaster area is recommended as a way to easily record and present the information assembled for the context statement and during the whole assessment process.[8]

Local sources of information, including communities, individuals and institutions, should be used whenever possible. The *Field Operations Guide for Disaster Assessment and Response* (Office of Foreign Disaster Assistance, http://www.usaid.gov/ofda/resources/fog/fog_v3.pdf) provides detailed guidance and checklists which can be helpful in completing this and other sections of the REA. When possible, quantitative data should be used in the REA and systematically collected for use in updating an initial assessment.

Section Two: Disaster Related Factors Influencing Environmental Impacts

There are a number of factors which may positively or negatively influence the severity of environmental impacts during and following a disaster. These factors are related to the spatial, social and economic conditions under which the disaster survivors live and indicate environmental impact issues which may need to be addressed as part of the disaster

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[6] A need for specialized response often arises from technology -related aspects of a disaster, but can also be critical in dealing with bio-diversity and natural resource issues, such as a disaster which affects an area inhabited by an endangered species.

[7] Technical assistance can be available from in-house experts or consultants providing advice from a distance or coming to the disaster site itself.

[8] Computer-based geographic information systems (GIS) are invaluable in archiving and presenting data collected for the REA (see www.reliefweb.int for more on maps and GIS sources). However, a simple hand-drawn map may be largely adequate in the early phases of most disasters and a lack of technological tools should not limit the mapping process.

response. Identifying the importance of these factors aids in determining which relief activities to avoid or to use to mitigate negative environmental impacts, and where these interventions should be targeted.

The nature of these factors varies. Several factors, including population density, extent of the disaster area, whether the survivors are displaced, or resource availability, are clearly spatial (geographic). Other factors, such as self-sufficiency, sustainability, social solidarity[9], or environmental resilience[10] are facets of how people and place interact and therefore also have a spatial element. A number of the factors relate to the survivors themselves, for instance the density of settlements or social structure. Other factors, such as environmental resilience, sustainability and absorptive capacity, are essentially environmental but defined by human action.

The comparative subjective rating of disaster related factors influencing environmental impacts is accomplished using **Rating Form 1 (Annex B)**. The rating process involves two steps.

Step One
A rating of each factor is completed based on the respective scale to indicate its importance as a possible negative impact on the environment. Ratings can be whole numbers or whole numbers and fractions.

Possible negative environmental implications of each factor are noted on the form. These short summaries provided guidance as to negative impact for use in the rating process.

The rating scales can be changed to suit user preferences but alternate rating metrics need to maintain the position that a higher rating means greater impact.

Step Two
Once each factor is rated, individual ratings are then ranked from highest to lowest value. The rating scales used in the form are organized so that the higher an individual rating, the greater potential negative environmental impact can be expected. The highest rated factors indicate issues which are prime candidate for immediate relief interventions.

Not all 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.

Alternately, the environmental impact of other factors may resolve themselves. This would be the case where the population density in a temporary shelter decreases as people return to their normal homes. Changes in the importance of the factors should be reviewed with each REA update.

Section Three: Identification of Possible Immediate Environmental Impacts of Hazards

Hazards which contributed to the disaster can have direct or indirect negative impacts on the environment. Relief interventions to address impacts on the environment may be critical to eliminating threats to the lives or well being of the disaster survivors. An example is a tidal surge that passes through a fertilizer factory, contaminating nearby ponds used for drinking

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[9] The degree to which disaster survivors, and survivors and non-affected populations, work together.

[10] The ability of the environment to recover from the impact of the disaster or other shock.

water. Here the need is to quickly identify the environmental problem and solutions and/or need for further assessment.

In other cases, hazards may require immediate and long-term responses. An example is the collapse of a mine tailings retention dam due to heavy rains, with the tailings contaminating a drainage basin and river bottom sediment. Here the need is to identify the problem in sufficient detail so that: (1) immediate steps can be taken to avoid contact with the contaminated area, and (2) for remediation to be included in the post-disaster EIA and recovery plans.

The identification and rating of possible immediate environmental impacts of different hazards present during a disaster provides a quick way to focus on significant immediate threats to lives and well being. Those threats with high rating values should receive greater and more immediate attention than threats with lower values.

The focus in this REA section is on hazards which can have an immediate impact on the environment. Hazards not normally associated with disasters are not explicitly considered. An example of what is not covered is the alkalization of soils due to improper irrigation. Soil contamination due to unusual flooding is covered in the following form.

Some hazards include a number of distinct threats to life, welfare or the environment. In this section hazards are associated with specific threats to lives and well being to aid in the assessment process. An example of a hazard/threat combination is flooding (the hazard) which leads to the deposition of contaminated sediment which can cause health problems (the threat) on farm land used for rice cultivation.

Hazards expected to have a major contribution to the cause or impact of the disaster are identified using **Rating Form 2 (Annex B)**. The hazards, and threats posed by these hazards, should be rated and ranked according to the four step process described below.

Step One
Individual hazard/threat combinations should be rated 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 and threats 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 hazards/threats 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.

Note that the rating process can be considerably shortened if clearly inappropriate hazards and threats are eliminated from the rating form. However, the significance of hazards and threats can change during a disaster or where there may be multiple disasters. A quick review of all possible disaster agents at each revision of the assessment is recommended.

Step Two
Second, each hazard/threat combination given an *unknown* or *significant* rating should then be rated as to size of area affected. Area affected is used as a determinant of significance of

a threat for two reasons. First, the larger the area affected, the greater the number of disaster survivors who are likely to be affected. Second, impacts affecting larger areas are likely to require more extensive responses and be significant within the overall disaster response.

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. Note that setting the lower and upper limits to the size of the medium area also sets the upper limit to the small area and the lower limit for what is to be consider as a large area. The area size criteria can be changed to suit user preferences, but should not be made overly complex.

Step Three
The ratings for hazard significance and area affected ratings are multiplied. The resulting scores (using the scales in **Rating Form 3** in the **Annex**) range from zero to six (if all non-relevant hazard/threat combinations had not been previously eliminated.)

Step Four
The scores for each hazard/threat combination are ranked from highest to lowest. The resulting ranking indicates hazard/threat combinations which should receive greater immediate attention (highest ranked) and ones which receive lower priority attention or be addressed during recovery or developmental efforts.

Rating Form 2 also provides general indications as to response options and the need for specialized assessment, planning or response assistance. Each option requires further work to become an effective response, and other options may be identified in the course of further assessments and planning.

In some cases, information available locally combined with simple sampling methods will allow experts distant from the disaster to determine the significance of a threat and formulate plans for further assessments or response activities. Input from disaster survivors and neighboring non-affected populations should also be solicited.

In other cases, local or expatriate technical assistance may be needed on-site to deal with the threats and involve considerable time and expense. Organizations doing the REA need to consider how deeply they are willing to be involved in dealing with threats to the environment. **Advocacy**, particularly after clearly defining an environmental threat, with government or specialized organizations, **may be more effective over the long-term** than taking on a new and complex role in dealing with environmental problems during a disaster.

The following steps can be taken to facilitate the work on this Section and post assessment assistance planning process.

1. Marking on a map the area(s) which have been identified as affected by the hazard threats and likely source area of the threat if one exists. Example: area flooded and location of the fertilizer factory that was flooded. The affected area would be downstream from the factory, not the whole area flooded.

2. Collecting contact information if the expected threat has a site-specific origin. Example: Names and phone numbers of factory managers. This information and information on local sources of technical assistance may already be collected under Section One.[11]

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[11] Also see Guidelines For Environmental Assessment Following Chemical Emergencies, Joseph Bishop, Joint

3. Identifying sources of information on the physical nature of the threat. Example: Flow rates and levels of flood waters carrying possibly contaminated sediment.

4. Identifying, if possible, sources of pre-disaster data on environmental and health conditions related to the expected threat. Example: Tests of soil and human blood levels of organo-chloride pesticides before disaster.

This information should be included in a request for technical assistance although an initial alert report as to a possible threat should not be delayed while this information is being collected.

Some overlap between this Section and Section One, particularly Questions Three, Four and Five, is to be expected. Responses to this Section and Section One should be cross-checked. This cross-checking will identify any small area but intense threats which should be identified as critical issues at the end of this assessment.

Section Four: Identification of Unmet Basic Needs of Disaster Survivors

Identifying unmet basic needs highlights areas in which the survivors' own relief efforts and external assistance are not likely to be adequate. Needs which are not being met may result in environmental damage from the survivor's efforts to cover basic needs. These impacts can be direct (e.g., cutting wood for cooking fires) or indirect (e.g., cutting wood to sell to buy water). Links between the way needs are being met and possible environmental impacts are generally obvious, but may require quick investigation to ensure information is accurate and complete.

In some cases, the basic needs of a disaster-affected population were not being fully met before the disaster. Considering the change in how well basic needs are being met before and after a disaster can provide useful insight into the relative needs of the disaster survivors and provide an indication of where recovery assistance can also be used to improve the pre-disaster level of development of the affected populations.

It is important to determine whether meeting a basic need is taking place in a sustainable way over a reasonable time period. Sustainable is used here to mean that a resource will not disappear, be reduced in availability below minimum needs, or degrade to an unacceptable quality. Needs met in an unsustainable way over the short (120-day) disaster response period will lead to problems in the relief effort. Thus, sustainability is a key component of effective disaster response.

It is important to note that in a disaster, damage to the environment can be accepted if this damage is an unavoidable consequence of saving lives and maintaining basic welfare. Noting this damage is important in planning remediation efforts as part of the recovery and rehabilitation phases.

Rating Form 3 (**Annex B)** provides a list of thirteen basic need categories and indicators, largely drawn from the Sphere standards (www.sphere.org). A simple two step process, described below, is used to identify how well the basic needs of disaster affected populations are being met. This form should be completed based on actual conditions and not expectations or promises of aid.

UNEP/ECHO Environmental Unit, United Nations, Geneva, 1999 for further guidance on reporting.

Step One
Each of the basic need categories is rated on how well needs are being met before the disaster and under current (disaster) conditions, and on the sustainability of efforts to meet needs. As noted, sustainability here is used to refer to the 120 day period following the assessment. Ratings can be whole numbers or whole numbers and fractions.

The indicators provided under each need can be used in deliberations on how well a need is being met. Disaster situation and other reports are a good source of data and information on whether needs are being met. Sources of quantitative data used should be noted for future reference.

The rating scale used is organized so that the higher a rating the greater the degree to which the need is being met. Low ratings means needs are not being met and are targets for emergency assistance. The rating scale can be changed to accommodate user preferences but any scale used should be consistent for all needs being rated.

A comparison of the degree of change between the level of needs met pre- and post-disaster is also possible. But the primary indicators of importance in terms of immediate relief are the post-disaster ratings and ranking of issues since these indicate where immediate relief is needed.

Step Two
A prioritized list of survivor needs is created based on the relative value of the rating for each need. Needs with low rating values, or which are not being met in a sustainable manner, should be placed at the top of the list. The needs at the top of the list (i.e., least needs being met, or being met in a unsustainable manner) are priorities for relief efforts.

Interventions to address low ratings should be developed as part of the normal response assessment and planning process. Not all organizations conducting the assessment will be capable of responding to all issues identified through this rating but should be pro-active in passing on the results to other organizations able to make appropriate interventions.

In general, relief operations focus at bringing conditions for an affected population back to the level existing before a disaster. However, for some populations this level may be significantly below acceptable standards for normal life, as indicated by the first column of the rating form. This situation raises the question as to whether relief and recovery efforts should lead to an improvement on pre-disaster conditions. This question should be dealt with according to each organization's specific policies and procedures.

Alternate Rating Process
A second option is available for the needs rating process. In **Step One**, each of the 39 indicators for the 13 basic needs is rated separately as to whether the indicator is being met or not. (This rating uses the same procedures as used for the 13 basic needs.) These 39 ratings, along with whether they are being met in a sustainable manner, are then ranked as described in **Step Two**.

This process takes more time and information, and should only be done if specific information is available on each of the indicators. The results allow for a more specific targeting of relief to address specific unmet needs which may be linked to negative environmental impacts. In addition, this more detailed assessment is very useful in an initial disaster assessment when immediate decisions are needed on targeting immediate relief and no in depth assessment is available.

Section Five: Identification of Potential Negative Environmental Consequences of Possible Relief Activities

Disaster relief activities focus on saving lives and stabilizing well being and living conditions. The need for an urgent response often does not allow time to assess possible negative environmental consequences or secondary impacts of emergency interventions. The rapid identification of potential negative environmental consequences of possible relief activities provides a way to quickly recognize and mitigate these negative impacts.

This Section focuses exclusively on relief efforts. It anticipates that some (and possibly most) relief activities will not be developed based on detailed pre -disaster plans. Activities may be developed and implemented by organizations with no pre-disaster familiarity with an affected population or area. The need to act quickly will require a process where the objectives and process by which relief operations are conducted are decided on a daily or weekly basis in the field.

These conditions create a strong likelihood that environmental consequences will not be fully assessed and mitigated. A list-based approach provides a quick way to identify (1) possible negative impacts of relief interventions and (2) how to develop ways to avoid or mitigate these impacts.

It should be recognized that not all negative impacts can be mitigated or avoided during relief operations. Where this is the case, the problem areas should be addressed as part of plans and programs during the post-disaster recovery period.

An identification of negative impacts of relief assistance can lead to three outcomes. The first is a decision to postpone or cancel a relief action because it will result in unacceptable environmental damage. This decision should not be taken lightly, as it may result in more immediate hardship for the disaster survivors.

The second (preferred) outcome is to change ongoing activities or plans to incorporate environmental impact mitigation or avoidance measures. The **Green Review of Relief Procurement** module is specifically designed help minimize negative environmental impacts from the procurement of supplies and services.

The third (and least preferred) option is to accept negative environmental impacts due to relief assistance as unavoidable and preferable to not providing assistance. This could be the case, for instance, with the use of pesticides to control a disease outbreak. In this case, impact mitigation and remediation actions should be included in other elements of the relief effort or in post-disaster recovery programs.

The identification of potential negative environmental consequences of possible relief activities is accomplished by completing **Rating Form 4** (**Annex B**) in a three step process.

Step One
Each of the possible relief interventions listed are reviewed to determine (yes or no) whether the intervention is planned or underway as part of the disaster relief effort. The review process can be shortened if interventions which are not likely are eliminated from the rating form before the rating takes place. However, this pruning should not eliminate possible future interventions.

The interventions summarized in **Rating Form 4** cover the most common types of relief assistance. Other types of interventions are possible and need to be assessed for negative impacts.

Step Two
In the second step, relief interventions which are planned or underway are then screened (yes/no) to determine whether potential negative environmental impacts have been addressed in project design or operations. Potential negative impacts which have not been address 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.

Step Three
The third step is to identify which of the interventions

1. Should be changed to avoid negative impacts,

2. Need to be implemented despite negative impacts, which should be in turn addressed through other short-or long-term interventions, or

3. Should be canceled or avoided due to possible or actual negative impacts.

These determinations will aid in the **Consolidation and Analysis** process (see module 3) and in planning and design. Of course, canceled interventions do not need to be considered further unless they are judged to have already caused environmental damage.

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.

To the degree possible, the disaster survivors and their neighbors should be involved in discussions about mitigating the negative environmental impacts of relief activities. **Decisions to accept environmental damage as necessary for effective relief delivery should not be taken without consultation with survivor representatives if at all possible.**

The avoidance/mitigation options listed on the form can require further assessment and planning, possibly involving specialists and requiring community involvement, to be used effectively in countering the negative impacts noted. The **Key Resource** list in Annex A should be consulted as a starting point for information and advice on ways to avoid or mitigate environmental impacts.

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 o r 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. Approximately one day per community is needed to collect information direct from a community, with at least two persons in each group working in community.

Introduction

Community inpu t into the identification and prioritization of environmental issues during a disaster is critical to the success of the REA and to the effective overall relief efforts. At one level, a considerable part of the post-disaster relief effort is undertaken by the disaster survivors themselves. The REA needs to identify and assess these efforts to anticipate and help define ways to address any resulting negative environmental impacts.

At another level, a best practice for relief operations is that they take in to account the views and needs expressed by disaster affected populations. A community level assessment of environmental issues serves to incorporate these views and needs into the REA. This makes the REA results more representative of the local (as opposed to external organization level) views of the disaster and its impacts. The overall expected result is for relief operations to be more effective since they will respond more closely to the needs and expectations of the disaster survivors.

The **Community Level Assessment** module is intended to assist those doing a REA to collect and perform a preliminary analysis of community level information to identify critical environmental issues. The module contains two sections, one dealing with information collection and the other a simple process for using the information collected to identify issues. These sections are described below.

Information Collection Options

There are two basic options for collecting information on community perceptions about the environment and related relief needs and expectations. The first is to use a specifically designed data collection tool and conduct community level data collection from a sample of the communities (and groups within these communities as appropriate) in the disaster affected area.

The second option is to use other assessment efforts to collect needed information, and later extract the information on environmental issues using a method set out below. Using another assessment process, for instance those used for a h ousehold food security or a

water and sanitation assessment, is possible because most of the information needed on environment-disaster linkages is also collected as part of these types of assessments.[12] (Sources on other types of assessments are provided in **Annex A.**)

The advantage of a separate REA community level survey is that the assessment process can focus on a more detailed understanding of environment-disaster linkages from the community perspective. The disadvantages are the time and resources needed to conduct a representative survey of communities in the disaster-affected area. At a practical level, organizations involved in providing relief may not have the time, resources or skilled personnel to devote to an extensive community survey without compromising the overall objectives of the emergency relief effort.

The advantages of using another assessment (either planned or already conducted) to collect or extract information on environmental issues lie in the efficient use of resources. In other words, one assessment serving two purposes is more efficient. The major disadvantages are that the other assessments need to cover all the information requirements for the REA (a particular problem if an already conducted assessment is used for this module) and that a depth of information on environmental issues may not be available from assessments which focus on other issues.

Basically, the information collected in another assessment needs to be sufficient to allow for the answering of the questions and identification of coping strategies covered in the **Community Assessment Summary** form (**Annex E**). Specific questions which can be used in other assessments can be gleaned from the REA **Community REA Questionnaire** in **Annex D**.

The choice of one or the other option depends on policies, resources and capacities of the organization(s) conducting the REA. In most quick onset disasters it is unlikely organizations will be able to devote time and resources to a stand-alone community level REA assessment. In these situations, incorporating REA information requirements into other assessments may be most effective.

There is a greater chance that a stand-alone community level assessment can be done for slow onset disasters, if only because these types of disasters often clearly involve environmental issues. However, parallel and competing surveys should be avoided, and a REA assessment should incorporate (or be incorporated into) other assessment efforts whenever possible. The following three sections of this module discuss a REA-only community assessment approach.

Questionnaire versus Focused Discussion

The first issue in deciding to collect REA information directly from communities is deciding on which data collection method to use, with a questionnaire or a focused discussion the most likely options. In the former, a fixed list of questions is asked of one or more groups in the community and the answers recorded for later use. In the later, communities are presented with a set of general topics and then allowed to discuss these topics and the resulting discussion recorded for later use. This later approach is often associated with participatory rapid appraisal (PRA, see http://www.worldbank.org/wbi/sourcebook/sba104.htm#top and other sources listed in

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[12] There is a considerable overlap between the REA information needs and a generic livelihood assessment (add web address), although it is unlikely an extensive livelihoods assessment could be done in a rapidly evolving disaster.

ANNEX A for more details on PRA).

The advantage of the focused discussion approach is that the discussions allow participants to openly express their views without being closely guided by the interviewer. The advantage of the questionnaire approach is that it focuses the information collection effort, making the collection process more rapid than with open ended discussions. In addition, it takes less skill to administer a questionnaire than manage a focused discussion, an important consideration if there is limited time to train surveyors and complete the assessment.

The choice of whether to use the questionnaire or focused discussion approach is strongly governed by the time available to do the assessment and the skill levels of those who will do the community assessments. A compromise between the two methods is to use the questionnaire method but construct as many of the questions as possible in a way which allows for open-ended answers.[13] This approach allows for the community information collection process to proceed relatively quickly but provides community members opportunities to express their views on the topics being raised in the questionnaire.

The following section discusses the questionnaire approach in more detail on the presumption that this approach is the most convenient approach in the absence of any other on-going or already conducted assessment which can be used for this module. However, the REA users should feel free to use the focused discussion or other data collection method more suited to an organization's means or the circumstances of a specific disaster. The bottom line is that whatever method is used, sufficient information to complete the **Community Assessment Summary** form in **Annex E** should be collected from a broad cross section of a community.

Community Assessment Questionnaire

The **Community Assessment Questionnaire** is a tool which can be used to rapidly collect information on environmental conditions in a community and the perceptions of community members on these conditions. The questionnaire is organized into four sections:

1. Introduction,
2. General Information, in two sections completed by the interviewer and the community groups. Some of this information will need to be collected only once for each community while other items will need to be collected from each group interviewed.
3. Disaster Information, completed based on questions posed to the community groups.
4. Basic Needs, completed largely on questions posed to the community groups.

The questionnaire also collects information on coping strategies used in the community, and this information will be used in the **Community Assessment Summary**.

The four sections of the questionnaire, along with information collected on coping strategies means that the questionnaire broadly follows the outline of assessment information needs presented in the **Introduction** to the *Guidelines* and collected in the **Organization Level Assessment**. As a result, assessment information from organization and communities can be compared in the **Consolidation and Analysis** module.

Information collected during the early parts of a community level meeting may answer questions posed later in the questionnaire. To ensure that all necessary information is

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[13] This approach was used in the Ethiopian and Indonesian field test and was fairly successful in terms of time needed to collect information and the range of information and views collected.

collected and the questionnaire follows the sections of the *Guidelines*, some duplication of questions is unavoidable. These later questions can be skipped if information collected earlier in a session makes them redundant.

The community assessment questionnaire is administered through group discussions led by someone who is not a community member, aided by a translator when appropriate. Of various methods available, a moderated group discussion structured around the questionnaire is considered the quickest, requiring the least complicated data collection process. Other methods can be used when appropriate, and for more on information collection methods in a community, see
http://www.worldbank.org/wbi/sourcebook/sba104.htm#top .

Ideally, the questionnaire should be administered to a broad cross section of a community. This cross section should include male elders, women, the disabled, youth, senior citizens, community elders and others to represent the social, cultural and economic variability of the community surveyed and the objectives of the assessment. However, it is unlikely that a rapid assessment will be able to conduct more than one group meeting in each community surveyed. The most likely approach will be to hold a single community meeting at which as many distinct groups in the community are present, and manage this meeting in such a way as to draw out the views of these different groups.

Collecting data (based on the same questions) from community elders and women separately helps to identify if there is a diversity of views about the environment and disaster impact within the community. Meetings with other well defined groups within a community are appropriate if time allows. Group meetings should be complemented by narrative observations by the team conducting the assessment.

It is expected that a single group meeting in a community will take no more than three hours. This time limit anticipates the need for translation and clarification and that there will be a moderate level of discussion within a group in establishing a single answer to any questions posed. Based on experience, the total time in a community (formalities, meeting and follow-up) where only one group meeting takes place will be approximately four hours.

The administration of the questionnaire should follow standard community assessment practice, including transparency and non-discrimination. When possible, personnel conducting the community sessions should have practical or theoretical background in community assessment methods. See **ANNEX F,** and
http://www.worldbank.org/wbi/sourcebook/sba104.htm#top for more background on how to conduct an assessment in a community.

As with the **Organization Level Assessment,** the community assessment process is intended to be rapid and lead to an identification of issues related to the environment and the disaster. These issues may require additional investigation and clarification, but serve (initially or later) as input into disaster response planning and operations management.

The minimum staff requirement for the community-level data collection is one person. However, in most cases it is expected that two persons will conduct the community meetings, aided by a translator if needed. Ideally, the two persons administering the questionnaire would be of different gender and have experience in collecting information at the community level (preferably in PRA methods). Where two people administer the questionnaire, one should lead the discussions and the second record the answers and observe the group participating in the session.

A good approach to speeding up the community data process and including as many communities as possible is to have several teams administer the questionnaire concurrently

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to a number of communities. This approach can be useful in increasing the number of communities reached, particularly when local conditions mean that only one community can be covered per team per day.

Persons administering the questionnaire should do so in a similar manner. A short training in PRA methods and the REA process, including a role play with the questionnaire, is recommended to ensure that all staff involved in the assessment have a similar background and will use similar methods.

The selection of communities in which to conduct the questionnaire will depend on a number of factors, including access, the impact of the disaster, time available to do the assessment and staff availability. It is recommended that communities be selected with input from locally knowledgeable persons and represent a cross-section of physical, cultural and social characteristics of a disaster-affected area.

Specific attention should be paid to the logistics and organization of conducting the community questionnaire. At a minimum:

? The questionnaire should be translated into the language in which it will be administered and terms and concepts clarified for the team and translator doing the community visits.

? The administration of the questionnaire should tested before general use and those using the questionnaire practice administering the questionnaire through a role play or other technique to work out how the questionnaire will be administered, and answers to expected questions from community members.

? Copies of blank questionnaire forms, writing paper and similar supplies should be available to each team. Adequate supplies of other resources such as flip chart paper or maps should be available before the community sessions begin.

? A logistics and security plan should be developed before the community visits begin and reviewed and shared with appropriate parties. This plan should include call-in and contact procedures if problems are encountered during or while traveling to and from communities.

? Each team using the questionnaire should establish roles and tasks within the team, including who will lead in administering the questionnaire, who will record information and who will deal with the cultural and courtesy aspects of meeting with a community group. This can include arranging drinks or contacting local security officials to explain the nature of the meeting.

? It is best if the assessment results are formally recorded and discussed by the team at the end of each day. If this is not possible, then a specific time in the assessment schedule should be set aside for compiling, recording and reviewing the results of the community level meetings.

Generating Condensed Community Assessment Information

Each questionnaire will generate a wealth of information, and is of considerable use in planning relief operations and as input for monitoring change during and following a disaster. This information needs to be processed in two ways.

First, as indicated above, information collected in each community and use of the questionnaire needs to be formally documented. This is most easily done by writing out complete answers to each question along with the observations of the person(s) who administrated the questionnaire at the end of the form. This information can then be

transcribed using a computer and then printing out the resulting completed questionnaires for future reference.

Second, information from the community needs to be assembled into a single list of grossly prioritized issues. The information on this list should generally correspond to the information collected in the **Organization Level Assessment** so that issues identified in each assessment can be compared in the **Consolidation and Analysis** module.

The assembly and prioritization process is accomplished through a two step process using the **Community Assessment Summary** form in **Annex E**. The form contains a set of questions based on possible environmental issues which may be affecting a community.

Step One
Answer each question with a *yes* or *no* using the information from the community questionnaire.

Step Two
The resulting identification of the prevalence of issues is then prioritized by scoring each answer according to whether the response for a community is a 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. These scores are then totaled. Questions with the highest values are considered to be the issues which the greatest prevalence and expected importance from the community perspective.

Step Three
Once the scoring and ranking is completed, the final section of the summary form, dealing with coping strategies and actions, can be completed. In this section, coping strategies and actions identified through the information collected in a questionnaire are listed and subjectively assessed as to whether they are having a positive, negative or positive and negative impact on the environment. Information about the specific nature of the strategies and specific communities and groups involved should be recorded.

The rating and ranking process is very overly simple and is intended to quickly extract the information from the questionnaires for use in the overall REA. It is expected that as part of any formal relief or recovery project design the relevancy of these issues will be validated with the communities (or community representatives) through community meetings or other methods.

The same method can be used with the results of other assessments. Based on a review of the assessment reports or supporting documentation, the questions on the **Community Assessment Summary** form are answered and scored as described above and information on coping strategies and actions entered as indicated.

Personnel Requirements

The **Community Assessment Summary** form should be completed by a team of at least three persons. The process works best when all involved have reviewed all the questionnaires (or other assessment reports) and participate in the consolidation and ranking process. Ideally, members of the teams which conducted the assessment should complete the **Community Assessment Summary**.

The staff, resources and time needed to complete the **Community Level Assessment** depend on whether a separate REA questionnaire is used and the number of communities visited. At a minimum, two information collection teams of two persons each are

recommended, with each requiring a veh icle (and translator if appropriate). Each team can complete one community per day, with the total time needed to collect data dependent on the number of communities visited. Completion of the assessment summary can take up to two days depending on how we ll the questionnaires are process or if other assessment materials need to be reviewed. However, with good preparation, the assessment summary should not take more than one half of a day.

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 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 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. 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.

Introduction

The purpose of the **Consolidation and Analysis** module is to develop a single prioritized list of environmental issues which should be addressed in relief and recovery efforts. The consolidation and analysis process involves three simple steps, complemented by a project intervention analysis matrix. This module is not intended to generate a detailed report on the REA assessment but provide a simple tabular presentation of critical issues identified in the assessment and an indication of further action to address these issues.

Three types of actions are anticipated:

1. The **redesign or re-orientation** of existing relief or recovery effort, or **design new projects** to resolve or mitigate critical issues. An example is changing the location and manner in which building waste is disposed following an earthquake to limit ground, water and air pollution.

2. **Acquiring additional information** to determine the nature, extent or importance of a specific issue. This information can come from local sources, from within an organization or from external experts. When additional information is available a decision on further action can be made (see 1 above or 3 below). An example is a concern that chemicals in drinking and washing water are toxic and pose an immediate threat to health. When the nature and level of this issue is defined, a decision can be made as to whether the issue needs to be addressed through a project format or advocacy. (See **ANNEX A** for sources of information.)

3. **Advocacy** on behalf of disaster survivors with appropriate authorities or organizations to address a critical issue. This type of action would be taken when an issue is outside the scope of ongoing or planned relief or recovery efforts, or where an issue is directly related to the mandate or legal responsibilities of another organization. An example is when local government authorities are not enforcing regulations governing logging and sustainable extraction of forest resources to the disadvantage of indigenous populations.

Decisions on which actions to take with respect to individual critical issues depend on the mandate, policies and resources of a specific organization. However, it can be anticipated that there will be at least one organization with a potential role in addressing any critical

issues arising during a disaster and that communities have an important role to play regardless of the nature of the issue.

Consolidating Issues

The first step in the consolidation and analysis process is to develop a simple listing of critical issues identified in the **Organization** and **Community Level Assessments**. This is accomplished by filling in the **Issue Consolidation** form in **ANNEX G**. Ideally three, but no more than five, of the top ranked issues from each form developed in the two assessments should be entered into the respective column in the form.

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.

Finally, 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.

The point of the consolidation process, and the whole REA effort, **is to identify environmental issues which need immediate attention as part of critical disaster relief operations.** Overloading the consolidation list will prevent the most important issues being addressed and waste the limited resources available to respond to a disaster.

Once the two sets of issues are listed then the person or group (preferred) conducting the consolidation and analysis process should identify common issues in both assessments and consolidate these issues into single issue statements. This commonality can be between the two assessments and also between a different section or sections of each assessment. For instance, if water is indicated as a critical issue in both assessments sections dealing with unmet needs and also in the **Context Statement**, then these three issues can be consolidated into one issue.

Identification of Critical Issues and Actions

The results of the consolidation process can be transferred to a second form dealing with **Issues and Actions** (**Annex H**). This form has three columns, one for the issues consolidated from the previous form, a second for an initial identification of actions to address these issues and a third for an overall prioritization of the issues listed. (A fourth column can be added to indicate who will have responsibility for specific actions if this is appropriate.) The items listed under the **Recovery Issues** section should be documented in a separate short report to those overseeing the relief and recovery process.

The identification of actions to respond to the critical issues should be based on the three types of actions summarized above (redesign, re-orient or design a new project, collect more information, advocacy) and use of a rapid brainstorming approach to quickly identify the next steps in addressing the issues. Reference should be made to the original assessment documents if there is a need to clarify the origin and nature of an issue.

At this stage, **the focus of the REA is not to completely resolve the issues which have been identified**, but to simply identify how best to start addressing an issue. A tendency to make this step more complicated than necessary should be recognized and avoided.

The process of identifying actions is less of a challenge for issues which relate directly to physical tasks and activities, and more of a challenge for issues which are more conceptual in origin. For instance, identifying an action to address a critical issue caused by poor water quality and quantity is more straightforward than identifying how to address a critical issue related to environmental resilience.

In most cases, conceptual issues (which generally come from the **Context Statement** and **Disaster Related Factors with Immediate Impact on the Environment** sections of the assessments) 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.

Prioritizing Issues and Actions

Once actions have been identified the next step is to prioritize the actions based on the nature of the corresponding issues. This step may not be necessary if only a few issues are listed. However, the shortage of time and resources, characteristic of a disaster, mean that some level of formal or informal prioritization will usually be necessary.

The simplest approach to prioritization is to review the issues and actions based on three questions:

1. Does the issue pose an immediate theat 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 live are given the highest priority.

Issues for 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.

If a large number of critical issues remain after an initial REA, this may be due to the lack of available information on the issues and factors covered in the assessment. However, if a large number of issues remain after several revisions of the REA, this may indicate that relief operations are facing significant operational problems or that little or no attention is being paid to environmental issues. This situation should be called to the attention of senior management within the organization doing the REA and those overseeing the overall relief operation. These operational problems and lack of attention to environmental issues may themselves become a topic of advocacy.

Planning and Resources

The consolidation and analysis process can be done by an individual, but is recommended to be done by the persons who participated in the **Organization** and **Community Level Assessments**. A open forum discussion format is ideal for presentation of the issues to be consolidated, brainstorming on actions and prioritization. The use of flip charts, overheads or computer generated projections will facilitate the consolidation and prioritiza tion process and the recording of the final results.

The time needed to complete the consolidation and prioritization process can range from several hours to several days. Factors affecting the length of this process include participant familiarity with the assessment information, the complexity of the issues identified, the extent of preparation for the group session, the group management skills of the assessment leader and time needed to write up the results. Good preparation and group management skills should reduce the consolidation and prioritization process to less than one half day even in a disaster resulting in a number of complex environmental issues.

Using Assessment Results

Using the REA results in project planning and design is the same as using the products of other assessment tools. The results of the *Guidelines*-based assessment should be combined with other assessments (for instance, of household food security or health and sanitation) to develop a clear problem statement, goal and objectives addressing the specific problems which have been identified.[14]

In many cases, issues identified in the REA assessment relate directly to issues identified in other types of assessments, although the resulting problem statements and solutions (objective s) are not always specifically environmental in approach or process. Where the REA process, *Guidelines* results and environmental focus add value in the project design process is through a continued attention on environmental impacts and the provision of an environmental focus for relief plans and projects.

Updating the REA Results

Updating the REA results involves a relatively simple process of verifying whether new issues can be classified as priorities by the three questions (impact on life, welfare or the environment) presented above. As a disaster evolves, the nature and importance of environmental issues will change, as will priorities for relief and recovery efforts. As a result, the whole REA assessment needs to be update regularly, and should eventually evolve into a formal EIA for longer term recovery and reconstruction programs.

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[14] The subject of emergency project design is too broad to be covered in this document Reference can be made to The Oxfam Handbook of Development and Relief (Oxfam, 1995) or the Library pages at www.reliefweb.int for further guidance on emergency project design.

REA Module Four: Green Review of Relief Procurement[15]

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 independently from the other modules of the REA, but is closely linked to Section Five (**Identification of Potential Negative Environmental Consequences of Possible 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.

Introduction

Possible negative environmental impacts of relief assistance are covered under **Section Five** of the **Organization Level Assessment** module. However, this level of the assessment is fairly broad and cannot be used to screen each item or service procured in the relief effort. The **Green Review of Relief Procurement** module provides a means, through the use of a simple check list, to screen individual procurement actions to ensure that these procurement result in the least possible negative impact on the environment. Also provided in this module is background on Green (alternately Sustainable) procurement and how the concept can be more generally applied to relief operations.

To date, green procurement appears to be largely a local and unconnected phenomenon for relief and development organizations. The UNHCR and WFP have green procurement policies and procedures, but the extent to which these are followed internally or are required to be followed by partners is unclear. Similar policies of other donors either don't exist, are not well known or regularly followed.

NGOs in general do not appear to give much attention to green procurement in emergency response or development activities. Exceptions include CARE and other NGOs in Bangladesh, which have taken steps to make their disaster assistance more "green", for instance reducing the use of plastic in the packaging of relief supplies. At the same time, green procurement is an area where relatively easy positive environmental gains can be achieved at minimal cost, or even cost savings.

Green Procurement

Green procurement is basically the

> ...*selection of products and services that minimize environmental impacts. It requires a company or organization to carry out an assessment of the environmental consequences of a product at all the various stages of its lifecycle. This means*

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[15] Redrafted from a memo on green procurement prepared for CARE Ethiopia, 31 October 2003.

considering the costs of securing raw materials, and manufacturing, transporting, storing, handling, using and disposing of the product.

Green procurement is rooted in the principle of pollution prevention, which strives to eliminate or to reduce risks to human health and the environment. It means evaluating purchases based on a variety of criteria, ranging from the necessity of the purchase in the first place to the options available for its eventual disposal. (From **Green Procurement**, www.bsdglobal.com.)

Green procurement is part of the Sustainable Procurement approach promoted by the UNEP, whereby

... organizations buy supplies or services by taking into account:

?   *the best value for money considerations such as price, quality, availability, functionality, etc.;*

?   *environmental aspects ("green procurement": the effects on the environment that the product and/or service has over its whole lifecycle, from cradle to the grave);*

?   *the entire Life Cycle of products;*

?   *social aspects: effects on issues such as poverty eradication, international equity in the distribution of resources, labor conditions, human rights. (From **Sustainable Procurement**, www.uneptie.org)*

The Sustainable Procurement approach goes beyond green procurement and requires consideration of social impacts. This broader view can be integrated into a rights-based approach to identifying, procuring and providing assistance.

A common tangible impact of green procurement is lower expenses for such things as fuel, utilities, supplies and maintenance. These savings usually off-set higher costs associated with procuring an item or resource with a lower negative impact on the environment. The bottom-line impact of savings exceeding costs is why many large businesses have adopted green procurement.

NGOs don't have a profit rational for pursuing green procurement. NGOs do have an obligation to use donated funds as wisely as possible. Wise use can mean (1) making funds go as far as possible, typically by holding down expenses, and (2) not spending funds today in ways which will result in otherwise avoidable expenses in the future, as would be the case if procurement lead to avoidable environmental damage.

Conceptually, green procurement involves

...applying the 4 R's methodology (Reduce, Reuse, Recycle and Recover) at each phase of the materiel life-cycle (planning, acquisition, operations, utilization and maintenance, and disposal), procurement activities can be more environmentally responsible. When purchasing, environmental considerations should be integrated with other criteria such as performance, life expectancy, quality, and value for money (cost), as far as possible. (From **Green Procurement Checklist**, under Greener Procurement, www.ec.gc.ca.)

Green Procurement in Disasters

The challenge of green procurement in emergency response is to manage the process of selecting a greener product or service in a way which does not delay the provision of assistance. Unlike normal green procurement, urgency can override the environmental

impact-like process normally used to select the most environmentally positive product or service.

The urgency-in-emergency reality means that much in the way of identifying and selecting more environmentally positive products and services should be done **before a disaster** as part of the preparedness and planning process. This pre-disaster process can follow the "4R" process summarized above and the procurement review checklist contained at the **Green Procurement Checklist** noted above. (Also see out **Environmentally Preferable Purchasing** at www.epa.gov/opptintr/epp/pilot/index.htm.)

Four areas in which greener procurement criteria can be applied to emergency procurement are summarized below. These focus areas are drawn from work by WFP, UNHCR and other sources.

Energy Efficient Equipment
The focus here is on equipment which is designed to use less energy, such as by automatically going into a sleep mode when not being used. The best examples are copiers and "Green Star" computer equipment. Other energy efficient-rated equipment include items like refrigerators and air conditioners, which may have an "EnerGuide" label, or provide energy rating information on labels.

This focus are also includes vehicles. Preference should be given to buying vehicles with greater mileage per kilometers. The size of a vehicle (often a good indicator of fuel efficiency) should be matched with the expected task: A Toyota 4x4, and its higher fuel consumption and operating cost, is not needed if all the vehicle will be used for is running around a capital city.

Waste Reduction
As with the Bangladesh example, the idea is to reduce unnecessary waste, usually by reducing, changing or eliminating packaging. But waste reduction means not providing unnecessary or unusable assistance, or food that people throw away for that matter.

Waste reduction also covers recurrent management (e.g., vehicle maintenance) and site management (e.g., buildings). For example, a vehicle which leaks oil is wasting oil and an office with air conditioners and open windows wastes energy. This aspect of waste reduction is less in the procurement domain that in those of fleet and facility maintenance[16].

Recycling
Attention to recycling usually focuses on finding new or alternate uses for once-used items. The use of scrap office paper is a good example, and should likely be institutionalized.

The recycling focus goes further to include purchasing items which have been recycled (printer cartridges) or include recycled parts (some computers) or material (e.g., copy paper and envelopes). The recycling focus basically comes down to two questions:

1. Is there another use for this item once it is no longer needed for the reason we bought it, and

2. Does this item include recycled sections?

Complementing both questions is whether items can be recycled to the provider, as can be the case with printer cartridges, or other re-users?

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[16] Separate from, but related to, green procurement is green management, including tasks like ensuring vehicles are well maintained (and thus use less fuel), windows and doors work (to keep in or out cool air) and in-office recycling.

Reduce Energy Requirements

This area is similar to energy efficient equipment, but the focus is on minimizing the down-stream energy requirements needed to use assistance items. For instance, reducing energy requirements can be accomplished by providing food aid which requires the least energy possible to prepare at the beneficiary level. An example is milling maize before distribution, where this milling requires less energy and results in less short-term damage to the environment than preparation and cooking at the user level.

Green Procurement in Emergencies Checklist

The elaborate review process to define the sustainability or greenness of a procurement used in normal times will not work in emergencies. In disaster conditions, the objective is to procure the greenest or most sustainable items without compromising the assistance effort.

Probably the best way to do this is to use a simple yes/no screening process based on the focus areas summarized above. This approach has been formalized into the following checklist.

The checklist can be complete for each item or class of items to be procured. The best point at which to complete the checklist is when the results of needs assessments are being turned into assistance requests.

Alternatively, the checklist can be used by procurement staff to try to select the greenest product or service from a range of available options. Use by procurement staff would, of course, require ensuring that an item or service eventually selected was acceptable to field staff and beneficiaries.

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 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 will another business be sold the item and recycle it when it is no longer needed for the emergency?			
Do the items or services being procured require the lowest possible energy for proper and safe use by disaster survivors?			

Answering "no" 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.

In some cases, more green items are available, but at a higher cost. For some organizations, environmental impact can be considered as part of the cost review of procurement actions, and a higher cost justified on this basis.

Answering "no" to one of the questions in the list also indicates that actions will likely be needed to address environmental impacts which occurred because the least environmentally negative item could not be procured. These impact mitigation actions need to be incorporated into relief and recovery planning to mitigate or remediate any negative environmental consequences.

Annex A Key Resources

<u>Web Resources</u>

? www.bghrc.com: Disaster Management: Background documents on the REA Project.

? www.bsponline.org: Biodiversity Support Program (also available as CD).

? www.foodaid.org/envmt3.htm: Resource and procedure documents on EIAs, including but not limited to food aid activities.

? www.fao.org/participation/ft_find.jsp: Participatory rapid appraisal information and links.

? www.humaninfo.org: World Environmental Library, Medical and Health Library, Collection on Critical Global Issues (also available as CDs)

? www.iaia.org: Information and resources on impact assessments.

? www.reliefweb.int: Information on current disasters, background on past disasters and assistance, library of key documents and links to other organizations involved in disaster management.

? www.reliefweb.inf/ocha_ol/programs/response/UNEP: Link to UNEP/OCHA office, with useful background information and numerous links to other disaster-related sites.

? www.sphere.org: Sphere project materials and manual (Manual also available commercially in hard copy).

? www.unep.org: Links to environmental background resources and APELL program on preparedness for technological emergencies.

? www.unhabitat.org/cdrom/governance/html/yellow37.htm: Link to participatory rapid appraisal information.

? www.unhcr.ch/environ/enviro.htn: Information on environmental impact of refugees, applicable to displaced populations in general.

? www.worldbank.org/partication: Participatory rapid appraisal and related information.

? http://www.worldbank.org/wbi/sourcebook/sba104.htm#top: additional information on participatory rapid appraisal.

<u>Document Resources</u>

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SEEDS for the Indian Human Settlements Programme, Housing and Urban Development Corporation, India, 1995.

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Annex B Organization Level Assessment Forms

Context Statement

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

These paragraphs ensure that the group completing the REA is in agreement as to the nature of the disaster and response priorities. In addition, the paragraphs identify what types of assistance the group completing the REA anticipates providing (e.g., health care for a medical NGO). This organizational mandate defines which issues identified in the REA will receive direct attention and be flagged for the attention of other organizations.

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.

Sources to consider:

?   Affected communities and key local resource persons.

?   Local, regional and national government environment, development and planning offices.

?   Trade associations (local, national and international).

?   Local industry.

?   Universities, including programs covering the Environment, Agriculture, Development, Urbanization, Planning, Geography, and Public Health, among others.

?   NGOs, particularly local and international environmental NGOs.

?   UN System, particularly UNEP, UNDP, WHO (health and sanitation), FAO (agro-chemicals and agro-bio-diversity information), ILO (worker health), UNICEF (women and children) and others.

?   Donors with development projects in the disaster area, including international financial organizations (e.g., World Bank, Asia Development Bank).

List existing data collection systems and contact information for local specialists. The answers to this question should be updated as the relief operation progresses.

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.

Note whether these concerns are related to the disaster or not. It may be that after a disaster a community or group of disaster survivors are more worried about a pre-existing threat to their environment than the damage caused by the disaster. These pre-existing concerns may be major drivers in how the survivors wish to respond to the disaster. A delicate balance may be needed between responding to the immediate disaster impact and problems existing before the disaster.

Consider whether this is an action you wish to initiate. If yes, formulate an initial request for assistance that briefly describes the disaster, the nature of the toxic substances released or which may be released, the location of the release site and local contacts[17].

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.

Note that this question can cover a wide range of sites. Impacts can be direct (damaged buildings) or indirect (lack of electricity), and include impacts arising from a site (a chemical release from a factory) or impacts on a site (chemicals flowing into a river containing an endangered species).

A list of the locations, uniqueness (e.g., nature of industrial process or endangered species) and expected or known impacts of the disaster should be developed. The list should include contact information for those persons or organizations responsible for managing or knowledgeable about the sites.

Consider whether this is an action you wish to initiate. If yes, formulate an initial request for assistance that briefly describes the disaster and the nature and location of concern. Before making a request for assistance, attempt to contact the organization or individuals responsible for the site and ascertain what other assistance may be available and whether additional assistance is required[18].

Note that mines and industrial sites may have in-house capacities to deal with potential environmental problems following a disaster. These capacities (and any from the government) should be taken into account in considering whether to initiate a separate response or to work collaboratively with the affected organization. Similar sources of in-house and government capacities are less likely for other environmentally unique sites, but should be investigated.

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[17] 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.

[18] See footnote 6.

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. The preference is for contact to be made directly with the disaster survivors through, for instance, a community-level disaster impact assessment. Alternately, or before community-level assessments can be completed, information on local concerns about the disaster and the environment can available from those who are close contact with the affected communities or groups.

Environmental concerns on the part of the survivors or neighboring communities (the most immediate source of assistance) will be major drivers in framing the local response to the disaster. Disregarding these concerns risks creating a gap between external and internal response and reduces the effectiveness of relief operations. In addition, environmental concerns which existed before a disaster will likely be exacerbated by the disaster, and thus likely priority areas for intervention.

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, to those completing the REA. Normal rules, regulations and procedures related to the environment are often waived in disaster situations, but should be followed as closely as possible during a disaster.

Rating Form 1: Disaster Related Factors with Immediate Impact on the Environment

Factor	Range	Rating	Implication
Number of persons affected (relative to total population in disaster area).	Few (1) to Many (10)		The greater number affected the greater potential impact on the environment.
Duration: Time since onset of disaster.	Short period (1) to Long period (10)		The longer the disaster the greater the potential impact on the environment.
Concentration of the affected population.	Low (1) to High (10		The more concentrated (or dense) the living conditions of the survivors, the greater potential impact.
Distance disaster survivors have moved since the beginning of the disaster.	Short (1) to Far (10)		The further survivors have to move, the greater the potential impact on the environment.
Self-Sufficiency: 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 (1) to Low (10)		Low self-sufficiency after the disaster implies greater risk of damage to the environment.
Social solidarity: Solidarity between disaster survivors and non-affected populations.	High (1) to Low (10)		Low solidarity may indicate the likelihood of conflict over resources and limits to the ability of survivors to meet needs.
Cultural homogeneity: The similarity of cultural beliefs and practices between disaster survivors and non-affected populations.	High (1) to Low (10		A lack of common cultural structure may result in disagreement over resource use.
Asset distribution: The distribution of economic and other assets within disaster affected population after the start of the disaster.	Generally Equitable (1) to Highly Concentrated (10)		Concentration of assets with one part of a population can lead to tensions with less-well endowed groups over use of environmental assets.
Livelihood options: The number of options that disaster survivors have to assure their livelihoods after the start of the disaster.	More (1) to Fewer (10)		The fewer the number of livelihood options indicates the disaster survivors may pose higher pressure upon fewer resources of the environment.
Expectations: The level of assistance (local and external) which the disaster survivors expect to need to survive.	Low (1) to High (10)		In the absence of adequate assistance, high expectations can lead to high demand on local resources.

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Factor	Range	Rating	Implication
Availability of natural resources, or whether the environment can meet the needs of the disaster survivors in a sustainable fashion.	High (1) to Low (10		A lack or limited availability of resources may jeopardize sustainability and will lead to environmental damage and likely problems for relief operations. 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.
Capacity to absorb waste: The environmental, social and physical structures available to handle waste produced by the survivors.	High (1) to Low (10)		Low waste absorptive capacity will lead to environmental damage.
Environmental Resilience: Ability of eco-system to rebound from the disaster itself and from relief and recovery activities which cause environmental damage.	High (1) to Low (10)		Low resilience likely means high fragility and greater possibility of long-term environmental damage.

Rating Form 2: Identification of Possible Immediate Environmental Impacts of Disaster Agents[19]

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3) , Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
Flooding: 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.	Chemicals (including salt) present at levels exceeding acceptable standards.				1. Identify and assess level of chemicals present. 2. Limit use of water sources with contaminated sediment and plants and animals collected from these sites. 3. Specialized technical assistance likely needed for assessment and planning.
Flooding: Polluted Water. Water contains hazardous pathogens, or chemicals.	Pathogens or chemicals present at levels which exceed acceptable standards.				1. Identify and assess level of pathogens or chemicals present. 2. Limit use of contaminated water and plants and animals collected from contaminated water. 3. Consider water purification to meet immediate needs. 4. Specialized technical assistance likely needed for assessment and planning.

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[19] Note that Hurricane/Cyclone/Typhoon should be treated under each impact agent: flooding, sea surge, and wind.

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3) , Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
Flooding: Transport of contaminated solids other than sediment. Flood waters contain physical items which pose a threat, including but not limited to, animal carcases and hazardous materials containers.	1. Presence of dead animals. 2. Presence of hazardous chemical containers. 3. Presence of significant level of floating debris in flood waters.				1. Quantify number and volume of solids by three threat types (animals, hazardous chemical containers, other debris). 2. Develop and publicize ways to deal with solids. Consider special collection and safety activities, and ensure safe disposal procedures and locations. 3. Specialized technical assistance like ly needed for assessment and planning and in handling disposal.
Flooding: Erosion (water). Flood waters remove usable soil and cover usable land with sediment.	1. Loss of critical infrastructure, e.g., dikes, irrigation system. 2. Loss of immediately productive land, e.g., land for cultivation or harvesting natural resources.				1. Remove or protect infrastructure under threat. 2. Remove plants and other productive assets from flooded land before loss or coverage with sediment. 3. Remove sediment a fter flooding. 4. Specialized assistance likely needed.
Flooding: 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	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				1. Replace or remove infrastructure under threat. 2. Flood -proof and decommission sites at risk. 3. Identify nature of potential or actual pollution due to flooding/flood damage and develop response plans (see above). 4. Specialized assistance likely needed

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3) , Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
risk of pollution (e.g., damage to sewage treatment plant).	or mining sites, oil and gas transmission systems, garbage dumps, and chemical waste sites.				for any significant response.
Wind, including tornados. Damage/loss of crops, land cover and infrastructure.	Reduced food supply, economic (exploitable) natural resources and infrastructure, specifically shelter and public and commercial facilities.				1. Short-term food and economic assistance to assist survivors until 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.
Wild Fire: 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.
Wild Fire: Air Pollution. Air contains hazardous chemicals and high	Chemicals and/or particulate matter present at levels which exceed				1. Identify and assess level of chemicals or particulate matter present. 2. Develop methods to purify air for

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3) , Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
concentrations of particulate matter.	acceptable standards.				individual and indoor use, with focus on persons with air-related health problem. 3. Technical assistance probably needed for assessment and response.
Wild Fire: 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 measurers. 2. Identify and reinforce/remove critical infrastructure under threat.
Wild Fire: 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.				1. Institute activities to restore or modify damaged habitat. 2. Make alternate habitats available to species under threat.
Drought: 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)				1. Wind erosion control measures. 2. Shift to drought-tolerant crops/ground cover.
Drought: Wind. Chemical composition of dust.	Chemicals present at levels which exceed acceptable standards.				1. Identify and assess level of chemicals present. 2. Limit movement of dust and institute measures to limit dust inhalation (see above and under wildfire). 3. Specialized assistance likely needed for assessment.

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3) , Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
Drought: Wind. Drying effect of wind on vegetation (failure to mature, increased likelihood of fire).	Vegetation drying faster than normal.				1. Institute modified cultivation or harvesting procedures, e.g., early harvesting, irrigation. 2. Develop fire management plan, including fire breaks, training and bio-mass reduction.
Drought: 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 at critical crop development stages.				1. As above. 2. Implement water conservation methods, e.g., mulching. 3. Consider temporary reallocation of available water supplies to ensure proper crop development (for irrigation-dependent crops). 4. Identify alternate used for crops which do not mature properly, e.g., as livestock feed.
Drought: 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.

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3), Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
Hail. 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.
Snow, 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.
Phytosanitary (Pest) Outbreak. Damage to economic crops from pests or disease.	Damage significantly above normal[20].				1. Integrated pest management methods, with pesticides application as appropriate. Procedures for safer use of pesticides should be followed (including user education) and containers disposed of according to international

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[20] "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 and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3), Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
					standards. 2. For medium to large scale pest disaster it is likely that special technical assistance and program management will be required.
Disease. 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.
Disease. Epizootia (animal, not human) Mortality and morbidity of non-human animals affecting food intake, assets 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.				1. Improving water supply and quality, sanitation, pollution reduction and living condition, e. g., crowded conditions. 2. Safe and environmentally sound disposal of dead animals. 3.The general lack of experience with animal health emergencies indicates specialized technical assistance will be needed throughout the response.
Land Mass Movement, including land slides, slumps, and other down slope movement.	1. Damage to infrastructure or other resources. 2. Significant increase in				1. Remove infrastructure at risk. 2. Install containment structures and filtration systems for contaminated water.

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3), Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
1. Direct damage to infrastructure and natural resources. 2. Direct or indirect pollution of water sources.	water sediment load.				3. Specialist assistance is likely to be required to plan response.
Earthquake 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 "**Mass Movements**". 5. Develop solid waste disposal plan, including procedures for recycling as much waste as possible and minimizing air a water pollution and ensuring sanitary landfill standards are met. 6. Specialized technical assistance is likely to be required in design of waste disposal plan.

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3), Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
Volcano: 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.				1. Establish safety zones around volcano and attempt to limit human and other access to high risk areas. 2. Likely require specialized assistance to assess nature of volcano, high risk areas and effective safety precaution.
Volcano: 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.	1. Significant loss of productive assets or infrastructure. 2. Air or water quality below standards. 3.Threat of sedimentation, flooding or erosion due to presence of ash or lava.				1. Identity area at risk from ash falls and lava flows before eruption and implement evacuation and resource management plans. 2. Remove ash fall and lava. 3. Remove or maintain productive resources or infrastructure under threat. 4. Develop alternate uses for land covered with ash or lava, e.g., use for construction material. 5. Develop water and air quality monitoring program and remedial measures as appropriate. 6. Implement erosion and surface water management plan to manage sedimentation process and changes to water quality. 7. Specialized technical assistance likely needed to deal with water/air quality issues.
Armed Conflict (between and within	1. Active military efforts to cause damage.				1. Development of protected systems for delivery of minimum supplies of

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3), Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
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.	2. Inability or reduced ability to deliver minimum supplies of water, food, sanitation services and basic care due to fighting or infrastructure damage				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.
Armed Conflict: Unconventional warfare (including terrorism and ethnic cleansing). Disruption of normal social and economic support systems (i.e., theat to ability of populations to meet basic needs). Damage to and disruption of infrastructure systems.					Development of protected systems for delivery of minimum supplies of critical items (water, food, sanitation services, health care).
Armed Conflict: Use of chemical, biological, nuclear, radiation or high yield conventional	Releases of hazardous substances via air, water or land, with intention to due harm.				1. Rapid response teams to limit releases of hazardous materials. 2. Decontamination of affected populations and areas. Note that

Hazard and Threat	Guidance as to Significant Threat Threshold	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the area affected: Large (3) , Medium (2), Small (1)	Impact Score (Threat rank x Area Affected)	Initial Response Options
explosives (in conventional and unconventional warfare). Immediate or delayed death to non combatants and other living entities (e.g, cattle).					decontamination efforts will require significant steps to properly dispose of contaminated materials.
Technological: 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.	1. Level of release above established norm (local or international, as appropriate). 2. Rate of release (e.g., explosion) poses significant threat to life or well being.				1. Limit additional damage by removing populations from affected areas and providing response teams with protective clothing and support. 2. Treat exposure symptoms as per standard medical response, taking care not to pass on contamination during treatment. 3. Dispose of contaminated items in way to limit additional land, water or air pollution. 4. Likely specialized assistance will be needed for all phases of the response.
Technological: Explosion, from fixed or mobile source (e.g., tank truck). Destruction of lives, productive assets and infrastructure.	1. Humans at risk. 2. Potential or actual damage to productive assets (natural resources, commercial facilities or infrastructure).				1. Before disaster, develop risk zoning and change land use to reduce risk from explosion. 2. Design facilities/vehicles to reduce risk of explosion. 3. Establish warning and evacuation plans and shelters. 4. After explosion, consider items in previous section.

Rating Form 3: Unmet Basic Need of Disaster Survivors

Basic Needs and Indicators (* indicates Sphere Standard)	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)	Is the use of resources to meet this need sustainable over the next 120 days? (Yes/No)
Water* 1. 15 liters of water per person per day. 2. Flow at w ater collection point at least 0.125 liters per second. 3. 1 water point per 250 people. 4. Distance from shelter to water point no more than 500 meters. 5. 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 from short-term use. (Note: contaminates includes human and industrial waste and pesticides.)			
Shelter* Average of 3.5- 4.5 square meters of covered space per person providing protection from weather and sufficient warmth, fresh air, security and privacy.			
Heating or cooling. In hot climates , shelter materials, construction and ventilation adequate to keep in-shelter temperature 10 degrees centigrade below outside temperature. In cold climates, shelter material, construction, and heating ensures internal temperature no less than 15 degrees centigrade.			
Clothing* Clothing is appropriate for climatic conditions, gender, age, safety, dignity, and well-being.			
Food* 1. 2,100 kilo-calories per person per day. 2. 10-12% of total energy from protein. 3. 17% of total energy from fat. 4. Food distribution is equitable, fair and covers basic needs (together with other food items available). 5. Adequate micro- nutrient intake.			
Fuel* 1. Fuel availability meets immediate needs. 2. Fuel-economic and low smoke wood stoves, gas or kerosene stoves and cooking pots with well-fitting lids are available.			
Lighting Sufficient to meet security requirements and for normal economic and social activities.			

Basic Needs and Indicators (* indicates Sphere Standard)	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)	Is the use of resources to meet this need sustainable over the next 120 days? (Yes/No)
Domestic Resources* Each household unit has access to adequate utensils, soap for personal hygiene and tools. (Specific minimum needs identified in Sphere Handbook Chapter 4, Section 4).			
Transport 1. Adequate to deliver goods and services to displaced at reasonable cost and convenience. 2. Adequate to permit disaster survivors to reach goods and services at reasonable cost and convenience.			
Personal Safety* 1. Disaster survivors have sufficient personal liberty and security at all times. 2. Camps, temporary shelter sites or resettlement sites are safe and have adequate access to basic services. 3. Opportunities for violence are minimized to the extent possible. (**Opportunities for violence should be noted and linked to environmental issues when appropriate**. For instance, fishing near a poorly defined cease fire line.)			
Health Care* 1. Disaster survivors have adequate and timely access to care for injuries and health problems arising from the disaster. 2. Health management interventions are appropriate for chronic and acute health risks faced by disaster survivors and taking into account age and gender of survivors. (See Sphere Standards for specifics.) 3. Adequate care available for disaster survivors with chronic diseases or disabilities.			
Disease Vectors (reduction of health consequences from vectors)* 1. Disease vectors and nuisance pests are under control. 2. Disaster survivors are located outside disease vector breeding or resting sites, or sites are modified or other interventions are used to keep presence of pests at acceptable level. 3. Chemicals used to control vectors is in accordance with local/national and international norms.			
Waste Management (liquid and solid) * 1. Toilets are clean and safe with a maximum of 20 people per toilet. 2. Use of toilets is arranged by household(s) and/or segregated by sex. 3. Toilets are no more than 50 metres from dwellings, or no more than one minute's walk. 4. Environment is acceptably free of solid waste			

Basic Needs and Indicators (* indicates Sphere Standard)	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)	Is the use of resources to meet this need sustainable over the next 120 days? (Yes/No)
contamination, including medical wastes. 5.Refuse is disposed of in a way to avoid creating health and environmental problems. 6. No dwelling is more than 15 meters from a refuse container or household refuse pit, or 100 meters from a communal refuse pit. 7. No contaminated or dangerous medical wastes in the living or public spaces.			
Environmental Conditions 1. Location of disaster survivors is not subject to immediate hazards, including flooding, pollution, landslides, fire, or volcanic eruptions. 2. Environment is free from risk of water erosion, from standing water and with a slope of no more than 7%.* 3. Smoke and fumes are below nuisance levels and pose no threat to human health. 4. Animal management minimizes opportunities for diseasetransmission, solid and liquid waste and environmental degradation. 5.Uncontrolled extraction of natural resources by disaster survivors is not taking place. 6. 45 square meters space is available per person in camp, temporary shelter area or resettlement site, with provision made for living, social and commercial activities.* 7. Firebreaks are at least: 2 meters between dwellings, 6 meters between clusters of dwellings, and 15 meters between blocks of clusters.* 8. Graveyard (s) are appropriately located and sized.			

Rating Form 4: Potential Negative Environmental Consequences of Possible Relief Activities

Intervention	Is the intervention underway or planned? (Yes/No)	Potential Negative Environmental Consequences	Are potential negative consequences already addressed? (Yes/No)	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 **Community Level Assessment** module..
Agro-chemicals		1. Danger to applicators and human beings through exposure to pesticides in application, handling or storage.		1. Avoid or minimize use or use products with low toxicity. 2. Establish training and education programs on agro-chemical safety. 3. Establish system for safer handling, cleaning and disposal of containers and equipment. 4. Provide education and extension advice on use of pesticides. Limit quantities available to actual agricultural needs. 5. Use Integrated Pest Management approaches.
		2. Impact on non-target organisms in soil, water and air.		
Seeds [21], tools and fertilizer		1. Loss of agro-bio-diversity.		1. Use local seeds where possible, procured and distributed through existing channels. 2. Limit introduction of non-local seeds to varieties tested locally and known to local users. 3. Avoid introduction of genetically modified seed varieties not already in use in the country[22]. 4. Provide environmental education on use of
		2. Introduction of non-sustainable/invasive species and varieties.		
		3. Damage to traditional seed management systems.		

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[21] Note that food aid, if provided as whole grain, may be used as seed, and should be screened according to this section..

[22] This option applies to food aid grain provided as whole grain.

Intervention	Is the intervention underway or planned? (Yes/No)	Potential Negative Environmental Consequences	Are potential negative consequences already addressed? (Yes/No)	Selected Avoidance or Mitigation Options
		4. Increased resource extraction due to availability of more effective means.		tools and develop s ustainable resource extraction plan where appropriate. 5. Provide education and extension advice on use of fertilizers. Limit quantities available to actual agricultural needs.
		5. Damage to soil and water from overuse of fertilizers.		
Harvesting wild plants/fruits		Over or unsustainable harvesting.		Establish sustainable harvest system based on a balance between rates of extraction and regeneration.
Expansion of Area or Type of Cultivation.		Loss of habitats and reduced bio-diversity. Deforestation. Soil erosion.		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. Loss of habitats and reduced bio-diversity.		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.
		2. Introduction of new animal diseases or expansion of existing diseases.		
New farming or livestock raising activities.		1. Loss of habitats and reduced bio-diversity.		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.
		2. Introduction of new animal or plant diseases or expansion of existing diseases.		
		3. Land degradation and erosion from land clearing or grazing.		
Irrigation (expanded)		1. Increased disease transmission.		1. Increase preventive and curative health care. 2. Increase disease surveillance. 3. Establish sustainable management plan for water use.
		2. Soil degradation and water logging.		

Intervention	Is the intervention underway or planned? (Yes/No)	Potential Negative Environmental Consequences	Are potential negative consequences already addressed? (Yes/No)	Selected Avoidance or Mitigation Options
		3. Aquifer depletion.		4. Change types of crops/cropping systems and water use. 5. Establish filtering system for weed propagules.
		4. Weed dispersal.		
Fishing		1. Over or unsustainable harvesting.		1. Develop and follow a sustainable resource harvesting plan. 2. Monitor aquatic resource use and undertake education program for resource users. 3. Limit or avoid introduction of new fish varieties and fish production methods.
		2. Damage or destruction of habitats.		
		3. Introduction of exotic species of fish, parasites and diseases.		
Construction, including shelter, public buildings and infrastructure.		1. Scarce natural resources are over exploited for construction activities.		1. Develop and follow resource management and land use management plans. 2. Assess hazards in area where construction will take place and change siting or methods accordingly. 3. Ensure construction methods reflect known hazards and risks and are used to reduce vulnerability.
		2. Construction site in area of increased hazard compared to location or conditions before disaster.		
		3. Construction increases risk of flooding, erosion or other hazards.		
		4. Construction methods do not take into account risk of disaster.		
Roads, paved or other, new and existing.		1. Exploitation of new lands/increased exploitation of existing lands.		1. Develop and follow land use plans. 2. Limit access to roads. 3. Verify road design against flooding/drainage risk assessment. 4. Incorporate erosion mitigation measures in road construction activities.
		2. Flooding and drainage problems.		
		3. Landslides and soil erosion.		
Water Supply		1. Increased opportunities for disease transmission.		1. Establish and maintain water treatment system. 2. Design and maintain water supply structure to minimize standing water and vector breeding sites. 3. Plan water provision based on anticipated
		2. Increase in population density.		
		3. Overuse of ground or surface		

Intervention	Is the intervention underway or planned? (Yes/No)	Potential Negative Environmental Consequences	Are potential negative consequences already addressed? (Yes/No)	Selected Avoidance or Mitigation Options
		water supplies.		need and sustainable land use plan for delivery area. 4. Establish water resource use plan and monitor use and supply. 5. Consider economic incentives to conserve water.
Sanitation, including latrines, waste treatment and transport infrastructure, and solid waste management.		1. Creation of hazardous waste sites.		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.
		2. Pollution of land, water and air.		
		3. Increased disease transmission and presence of disease vectors.		
Health Care		1. Pollution from disposal of medical and other waste.		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.
		2. Increased demand for traditional medical herbs and plants.		
Industry (new or re-starting)		1. Air, soil and water pollution.		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. 3. Develop plans for the supply of services (e.g., water, education) for expected population in industrial area. 4. Develop and implement a sustainable resource use plan for target industry.
		2. Unplanned and unmitigated solid and liquid waste disposal.		
		3. Increased road and other traffic.		
		4. Increased population and demand for services.		
		5. Increased and unsustainable resource extractio n.		

Intervention	Is the intervention underway or planned? (Yes/No)	Potential Negative Environmental Consequences	Are potential negative consequences already addressed? (Yes/No)	Selected Avoidance or Mitigation Options
Change in cooking or food processing procedures.		1. Increased fuel harvesting.		1. Use fuel efficient stoves and cooking methods.
		2. Increased air pollution.		2. Develop and implement a resource management plan for resources needed to cook or support costs of food preparation.
		3. Increased resource harvesting to cover food preparation costs.		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. Unsustainable resource extraction.		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. Waste produced which cannot be disposed of properly.		2. Waste disposal plans meeting appropriate standards incorporated into enterprise business plan and monitored.
		3. Enterprises sited in hazardous locations.		3. Hazards and risks of location of enterprises assessed and appropriate mitigation measures identified before support provided.
Relief Supplies		1. Packaging creates solid waste disposal problem.		1. Use biodegradable, multi-use or recyclable packaging where possible. 2. Collect packaging as part of distribution program.
		2. Personal hygiene materials are not disposed of properly and pose health and sanitation problems.		3. Develop program of education and facilities for safe disposal of personal hygiene materials.
		3. Relief assistance inappropriate or not acceptable to survivors and discarded.		4. Base assistance on needs assessment including survivor input. 5. Don't provide inappropriate materials. 6. Select assistance based on local social and
		4. Relief creates new and unsustainable consumption habits on part of survivors.		economic conditions and sustainability of supply.
Rubble removal		1. Creation of disease vector breeding sites, leading to increased disease levels.		Develop and follow plans to recycle rubble and dispose of unusuable materials in way which minimizes negative environmental impact.

Intervention	Is the intervention underway or planned? (Yes/No)	Potential Negative Environmental Consequences	Are potential negative consequences already addressed? (Yes/No)	Selected Avoidance or Mitigation Options
		2. Obstruction of existing drainage/water flow systems, leading to flooding and sanitation problems.		
		3. Failure to recycle rubble, leading to greater natural resource extraction than necessary.		
(Re)Settlement		1. Negative change 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. Settlements subject to new or greater hazards than before disaster.		
Training		New skills learned leading to greater extraction of resources or production of waste.		Include environmental education and waste management options in training programs.
Demining and Unexploded Ordinances		"Protected" land open for use, leading to unsustainable use.		Establish and follow land use plans for areas open to use following demining/clearance of unexploded ordnance.

Annex C Guidelines on Management of Meetings

(TO BE DEVELOPED AND ADDED)

Annex D Community REA Questionnaire

Community Data Collection Form
General Information (to be provided by data collection team)
1. Date

2. Name of Village

3. Person/s conducting the assessment

4. Distance of community from main road and district capital:

5. Nature of access to the community: paved, all season, dirt track, no road.

6. Ethnic group/s present in the community:

7. Description of the community. Including physical location, types of housing, physical layout and natural environment (agro-climatic zone, presence of rivers, lakes, parks, nature reserves).

8. Is the community near any unique environmental areas (e.g, national park, industrial site)?

Introduction (to be made at beginning of meeting)
Experience has shown that disaster relief assistance does not always have the intended outcome. In some cases, assistance can result in new problems. In other cases, assistance may not be appropriate and not address the disaster impact. Or assistance could be used to address pressing problems, but these problems were not recognized at the time that the assistance was provided.

We are particularly concerned about this problem and are continually trying to improve how relief and development assistance is provided. One area where we recognize a special need is in the links between environmental conditions and disasters.

To develop a better understanding of how we can use disaster relief to better address environmental conditions, we are working on developing tools to assess the importance of linkages between the environment and disasters. One of these tools is used to identify the concerns which communities have about the linkages between environment and disasters. This is the tool which we would like to use with the community today.

The assessment meeting should take not more than _____ hours and will involve our asking a number of questions, some of which can be answered quickly, and so of which may require some discussion. Feel free to take as much time as needed to answer the questions.

At the end of the meeting we will have a review of the information collected and ask your help to identify the areas in which disasters is having the greatest environmental impact.

General Information (from questions posed to the group)
9. Number of people currently _____ and normally _____ living in community.

10. Description of the origin of the community (when settled and where first settlers came from):

11. Nature of livelihood system: herding, agro-pastoral, farming, industry, other wage labor

(indicate what type of labor). Indicate if more than one system is used, and number 1 to 5 in terms of importance.

12. Do (1) most families have about the same wealth, or (2) are there a lot of poor and a few wealthy families in the community?

13. Are families supported by only one type of work, or by several family members with different occupations?

14. How does the group describe the environment in which the community is located? Specifically ask about how the community has changed in the past ten years, changes to agriculture land, forests, pasture, supplies of raw materials, access and availability of water and pasture, and changes in rainfall.

15. Does the community have any specific concerns about the environment? Specifically ask about fire, drought, floods, water and air pollution and other hazards, and recent changes to environmental conditions.

16. Are there any areas which the community considers as special, such as holy sites, locations of natural resources or places which are protected by tradition? (Where possible, identify exact location.)

17. What are the rules that the community has governing the use of natural resources (agriculture land, forests, pasture, water)?

18. How does the community resolve a dispute over the use of natural resources (forest, pasture or land use), water or other natural resources?

19. How would the group describe a good future for the community? (Prompt for types of work, types of housing, access to water, electricity, roads, education and health status.)

20. Are there any development projects working with the community and what do they do?

Disaster Information
21. Does the group see the location of the community as one that is safe from floods, erosion, and other problems?

22. Has the community been affected by any of the following in the past year.[23]

Flood
Wildfire
Strong Winds
Erosion
Crop pests or diseased
Human diseases
Animal diseases
Conflict
Accidents (e.g., fire burning someone)
Drought
Ask if any similar events are not included in this list.

23. For each type of event identified, ask whether this event was considered a disaster, that

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[23] This list should be revised to reflect a specific disaster event. See Rating Form 2 for additional hazards.

is, why was it different than normal conditions?

24. For each item identified as a "disaster" above answer the following questions.

25. What was the cause and impact of the disaster?

26. When did the disaster start and how long is it expected to continue?

27. Has all the community been affected by the disaster?

28. How many people have left the community due to the disaster, where did they go and when are they expected back?

29. Has the type of work that people do to support families changed since the start of the disaster? If yes, note changes.

30. What has the community done to address the disaster?

31. Has the community been able to address (1) most, (2) some, (3) few of the impacts of the disaster from their own resources?

32. Has the community received (1) considerable, (2) some, (3) little assistance from neighboring areas or from community members who do not live in the community in response to the disaster?

33. Has the community received any assistance from the government or NGOs to deal with the disaster? (Yes/no). If no, skip to number 38

34. What kind of assistance was received? (List, including origin if possible)

35. Was this assistance considered to be (1) a lot of assistance, (2) enough assistance, (3) just some assistance, (3) little assistance?

36. Has this assistance (1) improved, (2) stabilized or (3) not had much impact on conditions in the community?

37. Has the assistance which has been provided caused any problems for the community? (Prompt for impact on the environment.)

38. When the disaster is over, how long does the community think it will take for environmental conditions to return to normal?

39. Since the disaster began, how do people in the community get money? (List sources)

Basic Needs
This section asks about current conditions in the community affected by the disaster.
40. How does the community get water: purchase, wells, cisterns, lakes and ponds (indicate more than one if needed).

41. Are these source different than before the disaster?

42. Is this water considered clean and safe to drink?

43. Is there enough water for everyone in the community?

44. Was there enough clean water before the disaster?

45. Does the community have any problems with shelter since the disaster? If there are problems, note what they are.

46. How do community members get materials to build a house: purchase, collect from country side, receive as gift?

47. Do community members have enough clothing to meet their needs? If not, how will additional clothing be secured: purchase, manufacture, gift?

48. Do all the community members have enough food? If not, who is most affected by the lack of food?

49. How does one get food: own production, purchasing in market, gift? (Indicate importance if more than one source.)

50. Is there enough fuel for cooking and other uses?

51. Has the supply of fuel changed because of the disaster?

52. Where does the fuel come from (purchase, free collection, other means - note) and who purchases or collects the fuel?

53. Have community members lost any household resources (utensils, soap for personal hygiene, bedding, tools) do to the disaster?

54. How will these be replaced: sale of assets, gift, purchase?

55. Do people in the community have any concerns about personal safety, either in the community or when outside the community? Who is affected?

56. Is there adequate health care for the community?

57. Has the availability of health care changed since the disaster?

58. Is health care free, including drugs?

59. If health care is not free, how do community members pay the costs involved?

60. Does the community use latrines?

61. If yes, are there enough latrines?

62. If no, is the cost of a latrine the reason why people do not have them?

63. Is there any pesticide used in the village?

64. If yes, have the users received training on safe use and is the community aware of the dangers of excessive pesticide application?

Observation should be made as to the way that human, animal and other waste is disposed. Basic questions are:
    Is the community clean of human/animal waste and garbage? (yes/no).

Are waste sites (where people throw waste or use as a toilet) distant from the community (yes/no).

Are the obvious insect breeding sites (particularly for flies and mosquitos) in the community? (yes/no).

Is the community graveyard distant from housing and water supplies, and, if there is a clinic in the community? (yes/no).

Are medical wastes disposed of safely? (yes/no)

Additional observations:

Annex E Community Assessment Summary Form

Community Assessment Su mmary Form[24]

#	Item/Question	Community 1	Community 2	Community 3	Community 4	Importance Ranking [25]
Context Questions: Score Yes = 1 ("bad") or No = 0. Corresponds to Sections One and Two of the **Organization Level Assessment**.						
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 be en 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 culturally homogeneity low?					
11	Are assets concentrated?					
12	Is livelihood base limited (not diversified)?					
13	Are expectations high?					
14	Is resource use unsustainable?					
15	Is capacity to absorb waste limited?					
16	Does the environment have limited resilience?					
Disasters/Hazards, Yes = 1 ("bad") or No = 0. Corresponds to Section Three of **Organization Level Assessment**.						
17	Is drought a reported problem?					
18	Is wildfire a reported problem?					

[24] Add columns equal to the number of c ommunities or groups who participated in the assessment.

[25] 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.

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).					

Unmet Needs No = 1 ("bad") or Yes = 0. Corresponds to Section Four of the **Organization Level Assessment**.

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 pesticides used safely?					

Community Relief/Coping Actions. Corresponds to Section Five of the **Organization Level Assessment**[26]

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

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[26] Add additional rows as needed.

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Annex F Guidelines on Community Assessments

The following information is taken from a manual developed by CARE Uganda, and is presented here with kind approval of CARE Uganda. Note that the material presented below was created for use in monitoring and evaluating development programs and will need to be adapted for use in disasters.

(to be edited and added)

Annex G Issues Consolidation Table

Issues Consolidation Table

Topical Area	Organization Level Issues	Community Level Issues
Context Statement		
Disaster Related Factors With Immediate Impact on the Environment		
Possible Environmental Impacts of Disaster Agents		
Un met Basic Needs		
Potential Negative Environmental Consequences of Assistance		
Other Critical Issues		

?78?

Topical Area	Organization Level Issues	Community Level Issues
Recovery Issues		

?79?

Annex H Issues and Actions Table

Issues and Actions Table

Issues	Actions	Priority