

Rapid Environmental Impact Assessment in Disasters Workshop

Participant's Workbook



Prepared by
InterWorks LLC
for
**Benfield Hazard Research Centre
and CARE International**

RAPID ENVIRONMENTAL IMPACT ASSESSMENT IN DISASTERS

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COVER PHOTO CREDITS

1. Dead fish lay on the dry bottom of the Ding An reservoir on Hainan Island, China. Photo: AFP.
<http://www.smh.com.au/articles/2002/05/23/1022038458561.html>
2. Results of Hurricane Georges in Dominican Republic, 1988
<http://www.paho.org/Images/PED/DominicanRepublicb10.jpg>
3. Ashfall from Volcanoes-Montserrat. <http://www.paho.org/Images/PED/montserratb6.jpg>
4. Children in heavily littered Manila Bay, gathering litter in order to try to sell it. Photo: Hartmut Schwarzbach. ©UNEP:
<http://marinelitter.gpa.unep.org/picture/admin/showpic.phtml?Id=260&Calledfrom=picture.phtml>
5. These scenes are from "Ibada-Elume spill-fire explosion. Spill lasted for several days before fire erupted. Ibada-Elume, Okpe L.G.A, Delta State. (ERA Field report #73)"
http://www.waado.org/Environment/OilFires_2000/ElumeRiverFire/FireImages.html

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Workshop Agenda

Day 1: Background and Overview

Time	Session #	Session title
0830	1.1	Welcome , introductions, and workshop objectives.
0900	1.2	The environment – disaster connection
1015		Break
1030	1.3	REA conceptual framework
1200		Lunch
1300	1.4	Disaster management context
1430		Break
1445	1.5	Rapid assessment in disasters
1545	1.6	Participant feedback
1600		Adjourn

Day 2: REA at the Organizational Level

0830	2.1	Review of Day 1
0845	2.2	Module One: Context statement
0930	2.3	Factors influencing environmental impacts
1015		Break
1030	2.4	Environmental threats of disasters
1130	2.5	Unmet basic needs
1215		Lunch
1300	2.5	Unmet basic needs, continued
1345	2.6	Potential negative consequences of possible relief activities
1445		Break
1500	2.7	Participant experience presentations related to REA
1530	2.8	Review
1600		Adjourn

Day 3: REA Process: pulling it all together

0830	3.1	Review of Day 2
0845	3.2	Module Two: Community Level Assessment
1015		Break
1030	3.3	Module Three: Consolidation and Analysis
1200		Lunch
1245	3.3	Module Three, continued
1315	3.4	Module Four: Green Review of Relief Procurement
1415		Break
1430	3.5	REA implementation issues
1530	3.6	Evaluation and closing.
1600		Adjourn

Workshop objectives

After attending this workshop, you should be able to:

- *Describe the purpose and rationale of the REA*
- *Describe how disasters and the environment are interconnected*
- *Be able to implement all four modules of an REA in an emergency situation*
- *Be able to make recommendations on disaster response programming that take into consideration REA results*

Workshop Evaluation Form

Rapid Environmental Impact Assessment in Disasters

Surname (optional): _____ First Name: _____

Please circle to what extent you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1. Subject matter was adequately covered	5	4	3	2	1
2. Content was suitable for my background and experience	5	4	3	2	1
3. Program was well-paced	5	4	3	2	1
4. Training materials were relevant	5	4	3	2	1
5. Participants were encouraged to take an active part	5	4	3	2	1
6. The program met my individual objectives	5	4	3	2	1
7. Program was relevant to my job	5	4	3	2	1
8. I would recommend this program to my colleagues	5	4	3	2	1
9. I feel adequately prepared to conduct an REA	5	4	3	2	1

Please rate the following, as applicable (5=excellent to 1=poor).

10. Lecture method	5	4	3	2	1
11. Facilitation team	5	4	3	2	1
12. Small group sessions	5	4	3	2	1
13. Meeting space	5	4	3	2	1
14. Meals/refreshments	5	4	3	2	1
15. Overall organization	5	4	3	2	1
16. Other participants	5	4	3	2	1

17. Was the seminar length: correct? too short? too long?

18. Were there: just enough participants? too few? too many?

21. What is your overall rating of this course?

Excellent Very good Good Fair Poor

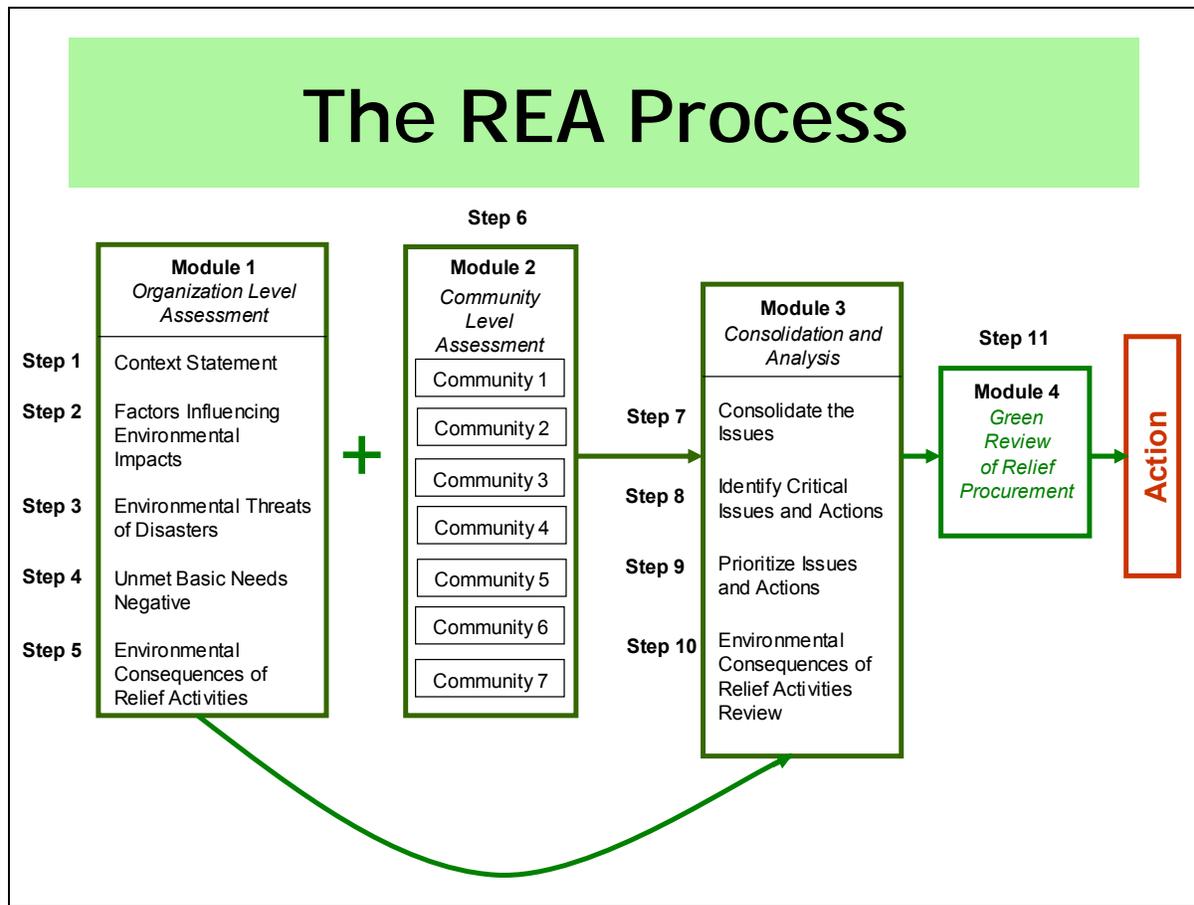
Please rate the individual workshop sessions

5 = Excellent 4 = Good 3 = Average 2 = Poor 1 = Unacceptable 0 = Does not apply

Session No. & Title	Quality	Value to my Work
1.1 Welcome & Objectives	5 4 3 2 1 0	5 4 3 2 1 0
1.2 The environment – disaster connection	5 4 3 2 1 0	5 4 3 2 1 0
1.3 REA conceptual framework	5 4 3 2 1 0	5 4 3 2 1 0
1.4 Disaster management context	5 4 3 2 1 0	5 4 3 2 1 0
1.5 Rapid assessment in disasters	5 4 3 2 1 0	5 4 3 2 1 0
2.2 Module One: context statement	5 4 3 2 1 0	5 4 3 2 1 0
2.3. Factors influencing environmental impacts	5 4 3 2 1 0	5 4 3 2 1 0
2.4 Environmental threats of disasters	5 4 3 2 1 0	5 4 3 2 1 0
2.5 Unmet basic needs	5 4 3 2 1 0	5 4 3 2 1 0
2.6 Potential negative consequences of possible relief activities	5 4 3 2 1 0	5 4 3 2 1 0
2.7 Participant experience	5 4 3 2 1 0	5 4 3 2 1 0
3.2 Module Two: community level assessment	5 4 3 2 1 0	5 4 3 2 1 0
3.3 Module Three: consolidation and analysis	5 4 3 2 1 0	5 4 3 2 1 0
3.4 Module Four: green review and relief procurement	5 4 3 2 1 0	5 4 3 2 1 0
3.5 REA implementation issues	5 4 3 2 1 0	5 4 3 2 1 0

Please turn this form into the workshop facilitator. Thank you.

The REA Process



Summary of the Guidelines for Rapid Environmental Impact Assessment

Element	Process	Outcomes
Context Statement	Answer six questions	Disaster summarized. Perceived environmental issues, information sources, need for further assessment/information and environmentally unique disaster-related assistance requirements identified.
Identification of Disaster Related Factors With Immediate Impact on the Environment	Complete Form No.1	Factors requiring attention to mitigate or avoid negative environmental impacts identified (and prioritized).
Identification of Environmental threats of disasters	Complete Form No. 2	Significant immediate threats to lives and well being identified (and prioritized).
Identification of Unmet Basic Needs	Complete Form No. 3	Unmet needs with likely environmental impact identified (and prioritized).
Identification of Potential Negative Consequences of Possible Relief Activities	Complete Form No. 4	Negative impacts of, and possible changes to, ongoing or planned activities identified (and prioritized).
Synthesis Action List	Complete Synthesis Form	Prioritized list of critical issues and actions to address these issues. Issues which may require action after the relief phase are also identified.

Key Terms Used in the REA

<i>Advocacy</i>	Act of pleading for, supporting or recommending, in the sense of Advocate: one who pleads for or in behalf of another.
<i>Disaster</i>	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”.
<i>Environment</i>	The physical, chemical and biological surroundings in which disaster-affected and local communities live and develop their livelihoods. It provides the natural resources that sustain individuals, and determines the quality of the surroundings in which they live. It needs protection if these essential functions are to be maintained. The Sphere standards address the need to prevent over-exploitation, pollution and degradation of environmental conditions. Their proposed minimal preventive actions aim to secure the life-supporting functions of the environment, and seek to introduce mechanisms that foster the adaptability of natural systems for self-recovery. ¹
<i>Hazard</i>	An event or condition which could result in a disaster, as in the hazard of flooding.
<i>Livelihood</i>	The capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base. ²
<i>Mitigation</i>	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.
<i>Prevention</i>	Actions taken before a disaster to ensure a hazard has no impact.
<i>Recovery</i>	Process of supporting emergency-affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical well being.
<i>Rehabilitation</i>	Short-term recovery of basic services and initiation of repair of physical, social, and economic damages.
<i>Relief</i>	Immediate assistance to save lives and meet basic needs of disaster affected populations.
<i>Remediation</i>	Action to rectify a deficiency to an adequate standard of safety. Most often used with respect to technological disasters.
<i>Response</i>	Actions in the face of an adverse event aimed at saving lives, alleviating suffering, and reducing economic losses.
<i>Risk</i>	The expected losses due to a particular hazard. Risk is the product of hazard and vulnerability.
<i>Sustainable</i>	The use of a resource at a rate which is equal to or less than the rate of replacement.
<i>Threat</i>	The specific impending danger or harm that may result from the occurrence of a hazard.

Based on: Field Operations Guide (USAID) and Australian Emergency Management Glossary (www.ema.gov.au).

¹ This definition is proposed for the 2003 edition of the Sphere Handbook. http://www.sphereproject.org/handbook/rev_index.htm .

² (Adapted from http://www.livelihoods.org/info/guidance_sheets_pdfs/section1.pdf and Chambers, R. and G. Conway (1992) Sustainable rural livelihoods: Practical concepts for the 21st Century. IDS Discussion Paper 296, Brighton.)

Session 1.2. The environment – disaster connection



Exercise: Disaster/environment case studies

Instructions: Read the following short disaster descriptions. Answer the questions provided as you read through each case. Discuss key aspects for the case with your partner(s) before agreeing on your answers.

Case 1A: Chelyabinsk: The Most Contaminated Spot on the Planet

The complex officially known as Chelyabinsk-40 is located in Chelyabinsk province, on the east side of the southern Urals. It is situated in the area around Lake Kyzyltash, in the upper Techa River drainage basin among numerous other interconnected lakes. Between Lake Kyzyltash and Lake Irtyash is Chelyabinsk-65, the military-industrial city called Sorokovka - "forties town". Construction was started on the first buildings of the new city in November 1945. This is where they built the first plutonium production reactor in just 18 months. The people of the Chelyabinsk Region have suffered from several nuclear disasters related to this complex ever since.

For over six years, the complex systematically dumped radioactive waste into the Techa River, the only source of water for the 24 villages that lined its banks. The four largest of those villages were never evacuated, and only after 35 years did the authorities reveal to the population why they strung barbed wire along the banks of the river during that period. Recently, as a result of Kyshtym-57's (a local environmental group) fight for radiation victims, a new law was introduced which allowed residents of a village to resettle themselves elsewhere. Unfortunately, the new law was limited to only one village.

In 1957, the area suffered its next calamity when the cooling system of a radioactive waste containment unit malfunctioned and exploded. About two million curies spread throughout the region, exposing to radiation over a quarter million people. (One curie relates to the activity of one gram of radium, which is about 37 billion disintegrations per second.) Less than half of one percent of these people was evacuated, and some of those only after years had passed.

Q. What are the possible effects of this type of human-made disaster on the environment?

Q. 10 years later a serious drought struck the region. Can you foresee any effects that this natural disaster might have on this situation?

Case 2A: Hurricane Hugo in St. Croix, 1989

On September 18, 1989, Hurricane Hugo slammed the Virgin Islands and Puerto Rico with heavy rain and winds of 200 kph, before turning northwest toward the southern Bahamas. Unofficial counts placed the death toll in the Caribbean area at more than 20, with tens of thousands reported homeless

In the Virgin Islands, according to amateur-radio reports, between 50 and 80 percent of the homes on St. Croix were destroyed. An operator in St. Thomas reported that work crews had started clearing debris but that at least five days would be needed to restore electric power and telephone service.

Q. What other damage might you expect from this storm?

Q. What response activities should be carried out?

Q. What possible environmental impacts may be expected?

Case 3A: Santa Clara I Arsenic Spill

A large Panamanian ship, the Santa Clara I, got caught in a fierce coastal Atlantic storm Jan. 3, 1992, 30 miles off the coast in New Jersey in the US. Part of the vessel's cargo, a poisonous chemical, washed overboard during the storm into a major shell fishing area. The vessel was transporting tractor-trailer-sized containers of arsenic trioxide from New York City to Baltimore by way of the Delaware Bay. Arsenic trioxide is extremely poisonous. It is used to manufacture glass, enamel and weed killer; as a rodent and insect killer; and for preserving animal hides.

Four of the large containers, each holding 108 100-liter drums of arsenic, washed overboard in the storm-tossed waters. After several days of searching, the U.S. Coast Guard, using a helicopter with sonar, located three containers in waters 35 meters deep. The Coast Guard searched a 175-square-kilometer area before giving up on the fourth container. It was not found. Some of the 100-liter drums had imploded because of the water pressure, releasing small amounts of arsenic into the ocean, according to a district investigator who handled the case.

Q. What is the possible effect of this disaster on the environment?

Q. What should be done immediately?

Case 4A: Indonesian Forest Fires - 1997

Uncontrolled forest fires devastated huge areas of Indonesia in 1997. The event was widely described as a devastating natural disaster. From September through December, smoke and haze from large scale forest and land fires severely affected several countries in South East Asia. Most of the fires were in Indonesia, but Malaysia, Thailand, and the Philippines also experienced unusually severe fires due, in part, to extremely dry conditions brought about by the El Niño phenomenon. It has been estimated by the World Wide Fund for Nature (WWF) that 7,500 Km² of forest were destroyed by the fires with 262 deaths; and the haze affected 70 million people in six countries. Factories, schools, and offices were closed, while tourism suffered a sharp decline in affected areas; and an estimated 20 million people did not see their shadows for up to three weeks.

Q. What are the possible environmental effects?

Q. Who is most likely to be affected?

Case 5A: Hurricane Mitch, 1998

Honduras – On 30-31 October 1998, Hurricane Mitch produced torrential rains, resulting in catastrophic flooding and landslides throughout Honduras. In southern municipalities, extensive flooding reportedly destroyed pesticide factories. On 26-28 November, the International Medical Corps, in collaboration with the Honduran Secretariat of Health and the Center for the Study and Control of Contaminants, requested assistance from the US Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health in conducting an environmental exposure assessment and in evaluating potential health effects related to chemical contamination of potable water and soil.

Q. What environmental assessment might be required, and where would you start?

Case 6A: Orissa Drought 2000

More than 10 million people in the eastern Indian State of Orissa were hit by a severe drought. Officials say the state incurred a huge loss in its paddy crops worth more than 7bn rupees (US\$150.7m approx.). This calamity comes after a powerful cyclone over a year earlier that killed close to 10,000 people and affected 15 million others.

The Orissa Minister for Revenue told the BBC that close to 12,000 villages in 19 of the state's districts had been affected by drought. He said this calculation was made on the basis of reports from district collectors who assessed the possible loss of crops due to the failure of rainfall in the last season.

Government action

The minister said that the government had taken all the measures it could to ensure food is available to those affected. The state government has also decided to waive land rents and exempt tuition fees for students in villages that have been hit by the drought. The state has asked the federal government for around 4bn rupees (US\$86.1m approx.) as relief money. Delhi has already released 100,000 tons of food grain to assist the state launch Food for Work programs.

Q. How did this disaster likely affect the environment?

Q. How might human-made effects have affected the scale of this disaster?

Case 1B: Drought and Chelyabinsk

The complex had been using Lake Karachay as a dumping basin for its radioactive waste since 1951. In 1967, a significant drought reduced the water level of the lake, and gale-force winds spread the radioactive dust throughout twenty-five thousand square kilometers, further irradiating half a million people with five million curies (a unit used to measure radioactivity).

Q. Describe the links between the environment, the Chelyabinsk complex, and disaster.

Q. What should have been done?

Case material is from <http://www.logtv.com/chelya/cheldis.html> -This page consists of excerpts of an article "A First Look at the Soviet Bomb Complex", by Thomas B. Cochran and Robert S. Norris

Case 2B: Some Environmental Issues in St. Croix

Most of the coral reefs around St. Croix in the Virgin Islands are shallow fringing reefs that parallel the island's coastline. Extensive barrier reefs with well-defined lagoons are found around Buck Island Reef National Monument north of St. Croix and along the island's southeastern shore.

Fifteen to twenty years ago it was possible to find entire stands and impressive, isolated colonies of Elkhorn coral around Buck Island, but few large, live colonies can be found there now. The primary culprit appears to have been white band disease, first observed in the U.S. Virgin Islands in the early 1970's. At Buck Island, white band disease and physical destruction from Hurricane David and Tropical Storm Frederic (1979) reduced the live coverage of elkhorn coral from 85% to 5%. In 1989 Hurricane Hugo led to even further declines. Numerous new colonies of elkhorn coral, which had developed from sexually produced larvae and from branch fragments, were seen at Buck Island in the summer of 1995. A few months later, Hurricanes Marilyn and Luis destroyed several of these.

A refinery on the island of St. Croix suffered serious damage during the passage of Hurricane Hugo in 1989. In addition to other damage, several petroleum storage tanks were damaged which led to a significant oil spill and aerosol disbursement of oil onto numerous crops, open areas, and roofs on the island. A fuel oil tank at a nearby water treatment plant ruptured, leading to a serious oil spill in Christiansted Harbor after secondary containment also failed.

Q. What is the possible effect of this damage on the environment and what might be done in response?

Q. What environmental assessment measures might be taken in understanding environmental vulnerability to storms in St. Croix?

Case 2C: Some Vulnerability Issues in St. Croix

Recent history demonstrates the potential for significant damage to chemical and petrochemical structures in strong hurricanes. Are the structures truly designed for hurricane wind speeds? A commonly held perception is that if an engineered structure is "designed to code" then it will withstand all but perhaps the most intense hurricane with very minimal damage. Current design standards have significant limitations that are not always appreciated. They are primarily life safety codes. Factors such as environmental damage and economic impact are often not considered. One of the primary wind damage mechanisms is debris impact, but only recently have the standards begun to address that issue. Most significant of all, the codes and standards do not address some of the structure types most commonly found in chemical plants.

The aerosol distribution of oil from the damaged storage tanks in St Croix resulted in fouling of roofs across the island in the downwind path of the tanks. All houses in St Croix are required by local building codes to be designed to collect rain into household cisterns for drinking water. One of the responses to Hurricane Hugo in St. Croix was the systematic cleaning of roofs and household cisterns due to the contamination of the drinking water from the wind-disbursed oil.

Q. What environmentally related programs might be put in place to reduce future environmental impacts from storms in St. Croix?

Case material is taken from: <http://biology.usgs.gov/s+t/SNT/noframe/cr134.htm>
Coral Reefs of the U.S. Virgin Islands

And Michael York - Washington Post Staff Writer
Tuesday, September 19, 1989; Page A01 - The Washington Post

Case 3B: Santa Clara I and the Oysters

An eight-square-kilometer area surrounding where the containers were found was closed to commercial fishing May 15. Commercial fishing resumed 11 August 1992. Because this form of arsenic dissolves slowly in cold water, the leaking containers posed no immediate danger to swimmers or consumers. However, it was theoretically possible for the chemicals to contaminate area clam, oyster and scallop beds as well as other marine life such as shrimp, crabs and fish.

This made inspection of seafood caught in the area urgent. Before the cleanup even began, government inspectors worked with several food, health and environmental agencies to determine if the chemicals posed any threat to consumer seafood products. To make sure no contaminated seafood had already found its way into stores, the inspectors spoke with many Cape May shellfish harvesters to find out where they had fished after the accident. The team also collected 17 boxes, each containing 22 samples, of ocean quahogs (large clams used in chowder), scallops, and surf clams harvested in the wreckage area and tested them for arsenic. None was found.

The Coast Guard and a salvage company cleaned up the spill using remotely operated equipment. They used robots to put the 25-gallon drums into larger 55-gallon drums and pump marine cement around them. This stabilized the small drums so they could be brought to the surface without further contamination.

Q. What further environmental questions should be answered in response to this situation?

Case materials is from - <http://www.fda.gov/bbs/topics/CONSUMER/CON00177.html>

Case 4B: The Haze - 1997

Malaysia – In 1997, the uncontrolled forest fires in Indonesia resulted in severe smoke pollution in seven countries throughout Southeast Asia. Peak episodes occurred in September 1997 and again in March-April 1998 when ambient concentrations of fine particulate matter increased more than tenfold. During those same periods, respiratory-related hospital admissions increased significantly. Principal findings of studies that the World Health Organization compiled indicated that the haze episodes presented a substantial health risk to the public. In Malaysia, haze concentration levels exceeded ambient air quality standards and guidelines for particulate matter in most exposed areas of the country.

Q. What environmental assessment could have been useful in responding to the haze disaster?

In February 1997, the Ministry of Science and Technology of Malaysia requested the U.S. government's assistance in assessing short- and long-term public health impacts of haze. The Health Studies Branch and the Air Pollution and Respiratory Health Branch of the Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health were given the assignment. In collaboration with the Ministry of Health, the team evaluated the feasibility of conducting 1) an environmental exposure assessment, 2) a study of children under 12 years of age and selected health outcomes related to the constituents of haze, and 3) a study of maternal exposure to haze during pregnancy and birth outcomes.

Case material from: From CDC <http://www.cdc.gov/nceh/hsb/emergency.htm>

Case 5B: Hurricane Mitch, 1998

The Center for Disease Control and Prevention's Health Studies Branch (HSB) conducted an investigation in the neighborhood of Istoca in the department of Choluteca, Honduras. HSB selected this community of approximately 3,100 residents in 440 households because it was severely hit by the hurricane and because 300-400 barrels of pesticides were known to have been released in the neighborhood. The investigation consisted of an environmental exposure assessment – including environmental and biological monitoring among 45 children aged 15 to 18 years – and a subjective questionnaire assessment of 155 households to identify potable water sources and potential health effects in Istoca.

HSB later worked with the International Red Cross to provide post-disaster long-term follow-up of the changing needs among Latin American populations affected by Hurricane Mitch.

Q. What pre-disaster steps are required for agencies and organizations to be able to prioritize response related to possible environmental damage from disasters?

From CDC <http://www.cdc.gov/nceh/hsb/emergency.htm>

Case 6B: Orissa Drought 2000

Orissa relies heavily on rainfall for its paddy crops, which cover more than half of the state's cultivated area. Tens of thousands of people have migrated to other parts in the country looking for work. Experts say the drought has essentially been the result of human-made factors.

A leading state environmentalist, Behari Das, told the BBC that the state receives more than the national average range of rainfall and yet suffers from drought. He said that the unrelenting destruction of forestland and the lack of a water conservation policy were two key factors.

Q. What environment-friendly responses might be included as part of the overall humanitarian response to the drought?

Case material from - http://news.bbc.co.uk/2/hi/south_asia/1120626.stm
BBC News - By Nageshwar Patnaik in Bhubaneswar

Session 1.3. REA contextual framework

Exercise

Workshop participants should form six groups.

Group one will be asked to report on “When to do a REA.”

Group two will report on the “Links to formal environmental impact assessments.”

Group three will report on who are the “users of REA.”

Group four will report on the “Personnel requirements to implement an REA.”

Group five will report on “How to achieve diversity in an REA”

Group six will report on “REA contribution to Monitoring and Evaluation.”

You have 10 minutes to review the section of the Guidelines that pertains to your topic, then summarize your presentation for the rest of the participants on the key points of your topic. Write your key points on a flip chart.

Session 1.4. Disaster Management Context



Exercise: Disaster Management

Your facilitator will instruct you on the exercise regarding disaster management activities.

Session 1.5. Rapid Assessment in Disasters



Exercise 1: Organizing assessments

REA assessments are implemented in the context of other assessments. To integrate the results of an REA assessment with other assessment efforts, it is important to understand the process and methods of assessments in general. The following exercise helps develop this overview of this process.

You are asked to divide into four groups, each one assigned one of the following topics:

1. Who conducts assessments?
2. Why are assessments conducted (their purpose)?
3. When are assessments conducted (referring to disaster and environmental assessments)?
4. Where are assessments conducted?

You have 10 minutes to answer the question posed to your group. Write your response on a flip chart and prepare to present your findings to the whole group.



Exercise 2: Planning an assessment

The facilitator will provide materials and instructions for this exercise. You will be given photos taken after Cyclone Inez and given the following assignment:

You are in charge of planning a response to the disaster impact (illustrated in your photos) caused by Cyclone Inez.

1. Given the situation illustrated in the photos, what do you need to assess? What information do you need to collect to plan your response?
2. How and where will you collect this information?
3. Who are the actors that need to know this information?

Session 2.2: Context Statement



Exercise: Reviewing a Context Statement

This session corresponds to Step 1 of the REA Process.

The following is a draft Context Statement prepared after the recent flooding in Suremia. In small groups compare this statement with the instructions for developing a Context Statement in Annex B of the *Guidelines for REA*. This Annex immediately follows this exercise on page 32

Task 1. Determine if all six questions have been satisfactorily answered, using the criteria presented in that Annex.

Task 2. Identify the top three issues of concern that emerge from an analysis of this statement. (You will be asked to recall these later in the Module on Consolidation and Analysis.)

Context Statement Case Study: Suremia cyclone and flood

1. The pressure of population and economic disparity has forced the marginalized and most vulnerable sections of the community to settle in the areas adjacent to river banks. These human settlements use embankments on the river for meeting their space requirements. The embankments have become weak and breach easily during rainy season leading to flood of farm lands, villages and townships. Since rivers entering into Suremia from neighboring countries where major dams have been constructed, release of a large quantity of water in these rivers from the dams contribute to the intensity of the impact of floods. Vares port located at the estuary is reported to have contributed to rise in riverbeds due to blockade at the mouth of rivers. In August'03 heavy rains in upper catchment areas Suremia's river system resulted in heavy floods. (See Annexure for damage). The total loss in monetary terms was estimated at US\$ 20 million. The floods receded after 15-20 days of its onset and the water in the inundated villages dried up two weeks thereafter. Stagnating water, unhygienic condition in the temporary camps resulted in epidemic-diarrhea and respiratory disease resulting in 100 deaths. Food, water, animal care/feed became the most pressing needs of population.

The loss of crop affected the livelihood options of the people, whose coping capacity has already been stretched, leaving them badly dependent on relief. Farmers have no source of income till harvesting of next crop. Sand deposits on productive agriculture land has made agriculture field uncultivable for the coming season. They have no seed stock for a fresh crop based on retained moisture. There are reports of migration of young boys and girls to other states in search of income and livelihood.

The state Government's timely action in terms of evacuation and relief in terms of food immediately after onset of the disaster was welcome by the community. CARE has been supporting communication in two of the impacted districts through its network of partners. A network of NGOs is coordinated by Nature's Club. CARE decided to support community in two districts with relief support based on need identified in consultations with Government officials. The relief included providing supplementary nutrition for children, poly sheets for temporary shelter and some personal resource. Though the government has indicated its plan to support farmers by providing seed, the state continues to look towards central government for financial support.

2. Government monitored flood situation through its control room set up in Turos and each district headquarters. These control rooms also coordinated efforts of other NGOs operating in these districts. The flood related information is available from the following sources.

- 1) Office of State Relief Commissioner, Turos.
- 2) Office of District Collector, each district
- 3) Local office of Block Development Officer
- 4) At grass root level information is also available at City Hall office.
- 5) Major INGOs and NGOs working in the area

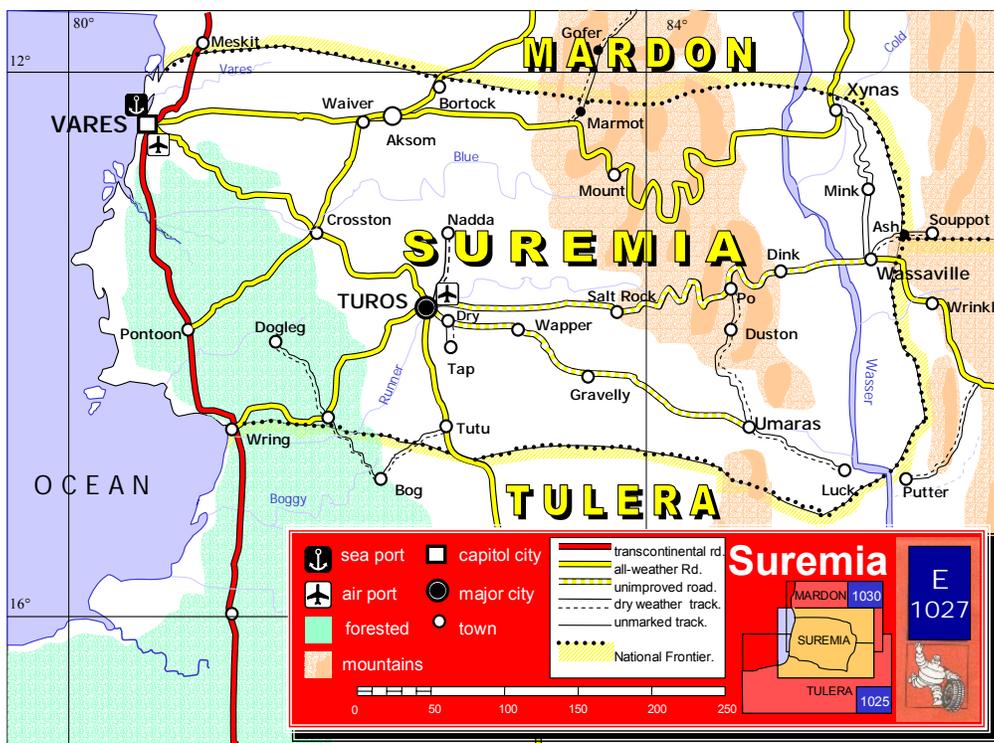
3. No release of toxic chemical/ contamination hazardous substance is reported.

4. In these two districts there are the following unique sites which were also affected.

- 1) Bhitari bio-reserve forest
- 2) Mangrove forest of Kendra coast
- 3) Vares port/ fertilizer though port/ fertilizer factor were not affected, Reserve forest and mangroves have been suffering due to repeated floods.

5. Though floods have become a regular part of the life in Suremia due to deforestation and degradation of environment in the catchment areas of the river systems in the state, the intensity of the flood has been on the rise. After independence of the country in 1947 a number of major water works in the upper reaches have contributed to the degradation of ecology. Each flood brings with it silt and top soil from upper reaches to the plains in coastal areas leading to siltation of farm lands and also river beds.

6. No local or national laws govern how the environmental impact of the disaster should be assessed.



ANNEXURE 1

IMPACT OF DISASTER

Suremia	District 1	District 2
GP affected-	1433	217
Villages affected-	6655	704
Houses damaged-	187,000	28655
Fully damages	129,269	
Partial damage	80,500	
Population affected-	3,540,103	927,525
Flood casualty (Human)-	58	6
Crop area affected -	475,000	77,500
Paddy crop lost	200,000	
Cattle damage-	2249	106

Prepared by participants at the REA workshop in Bhubaneswar, Orissa, India, Nov. 2003.

Annex B Organization Level Assessment Forms

Context Statement

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

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

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 contacts³.

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 required⁴.

³ For industrial sites or technology-based problems, see [Guidelines for Environmental Assessment Following Chemical Emergencies](#), Joseph Bishop, Joint UNEP/ECHO Environmental Unit, United Nations, Geneva, for guidance on hazardous incident reporting.

⁴ See footnote 6.

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.

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 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 be available from those who are in 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.

Session 2.3: Factors influencing environmental impacts



Exercise 1

Refer to Rating Form 1 below. Each of you will be assigned one of the factors (in the left hand column of the Rating Form). Then prepare to answer the following questions:

1. Where would you find the information you need to make a judgment on the rating?
2. Do you agree with the “implication” (in the right hand column)? Or do you have questions about the meaning of the implication?

This exercise corresponds to STEP 2 in the REA Process.

Rating Form 1: Factors Influencing Environmental Impacts

Factor	Range	Rating (Low rating indicates higher priority for action.)	Implication
Number of persons affected (relative to total population in disaster area)	Few (10) to Many (1)		The greater number affected the greater potential impact on the environment.
Duration: Time since onset of disaster.	Short period (10) to Long period (1)		The longer the disaster the greater the potential impact on the environment.
Concentration of the affected population.	Low (10) to High (1)		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 (10) to Far (1)		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 (10) to Low (1)		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 (10) to Low (1)		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 (10) to Low (1)		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 (10) to Highly Concentrated (1)		Concentration of assets with one part of a population can lead to tensions with less-well endowed groups over use of environmental assets.

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



Exercise 2: Below is a nearly completed Rating Form 1 that was filled out after the cyclone/flooding in Suremia. Calculate the average rating for Group 1 and Group 2. Then identify the top three priority factors based on the results of your calculation. (You will need to recall these three top priority factors when you complete the Consolidation and Analysis module.)

Rating Form 1: Factors Influencing Environmental Impacts ⁵

Factor	Range	Rating (1 to 10)			Implication
		Group 1	Group 2	Average	
Number of persons affected (relative to total population in disaster area).	Few (10) to Many (1)	2,1	0,9		The greater number affected the greater potential impact on the environment.
Duration: Time since onset of disaster.	Short period (10) to Long period (1)	1,1	1,2		The longer the disaster the greater the potential impact on the environment.
Concentration of the affected population.	Low (10) to High (1)	6,5	2		The more concentrated (or dense) the living conditions of the victims, the greater potential impact.
Distance disaster victims have moved since the beginning of the disaster.	Short (10) to Far (1)	7,7	8,1		The further victims have to move, the greater the potential impact on the environment.
Self-Sufficiency: After the start of the disaster, the ability of victims to meet needs without recourse to additional direct extraction from the environment or external assistance.	High (10) to Low (1)	3	4,8		Low self-sufficiency after the disaster implies greater risk of damage to the environment.
Social solidarity: Solidarity between disaster victims and non-affected populations.	High (10) to Low (1)	5	8		Low solidarity may indicate the likelihood of conflict over resources and limits to the ability of victims to meet needs.
Cultural homogeneity: The level of cultural similarity among disaster victims hold similar cultural beliefs and with neighboring non-affected populations.	High (10) to Low (1)	5,5	7,4		A lack of common cultural structure may result in disagreement over resource use

⁵ Adapted from "Rapid Environmental Impact Assessment Field Test Report" 8 January - 1 February 2003 Kalimantan, Indonesia. Prepared by: Charles Kelly, with contributions of Mario Pareja

Asset distribution: The distribution of economic and other assets within disaster affected population after the start of the disaster.	Generally Equitable (10) to Highly Concentrated (1)	5,4	5,4		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 which disaster victims have to assure their livelihoods after the start of the disaster.	More (10) to Fewer (1)	2,8	1,7		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 victims expect to need to survive.	Low (10) to High (1)	3,3	1,6		In the absence of adequate assistance, high expectations can lead to high demand on local resources.
Availability of natural resources, or whether the available natural resources meet the needs of the disaster survivors in a sustainable fashion.	High (10) to Low (1)	2,5	3,4		Excessive use of natural resources leads to environment damage. Relief can be used to reduce excessive resource demand or repair damage done to the environment. The resources in question are water (for human consumption and for other uses), forest resources (timber, firewood), agriculture land (soil and water quality), et cetera.
Capacity to absorb waste: The environmental, social and physical structures available to handle waste produced by the victims	Great (10) to Small (1)	2,7	1,8		Low waste absorptive capacity will lead to environmental damage.
Environmental Resilience: Ability of eco-system to rebound from relief and recovery activities which cause environmental damage.	High (10) to Low (1)	0,8	1		Low resilience likely means high fragility and greater possibility of long term environmental damage.

Session 2.4: Environmental threats of disasters

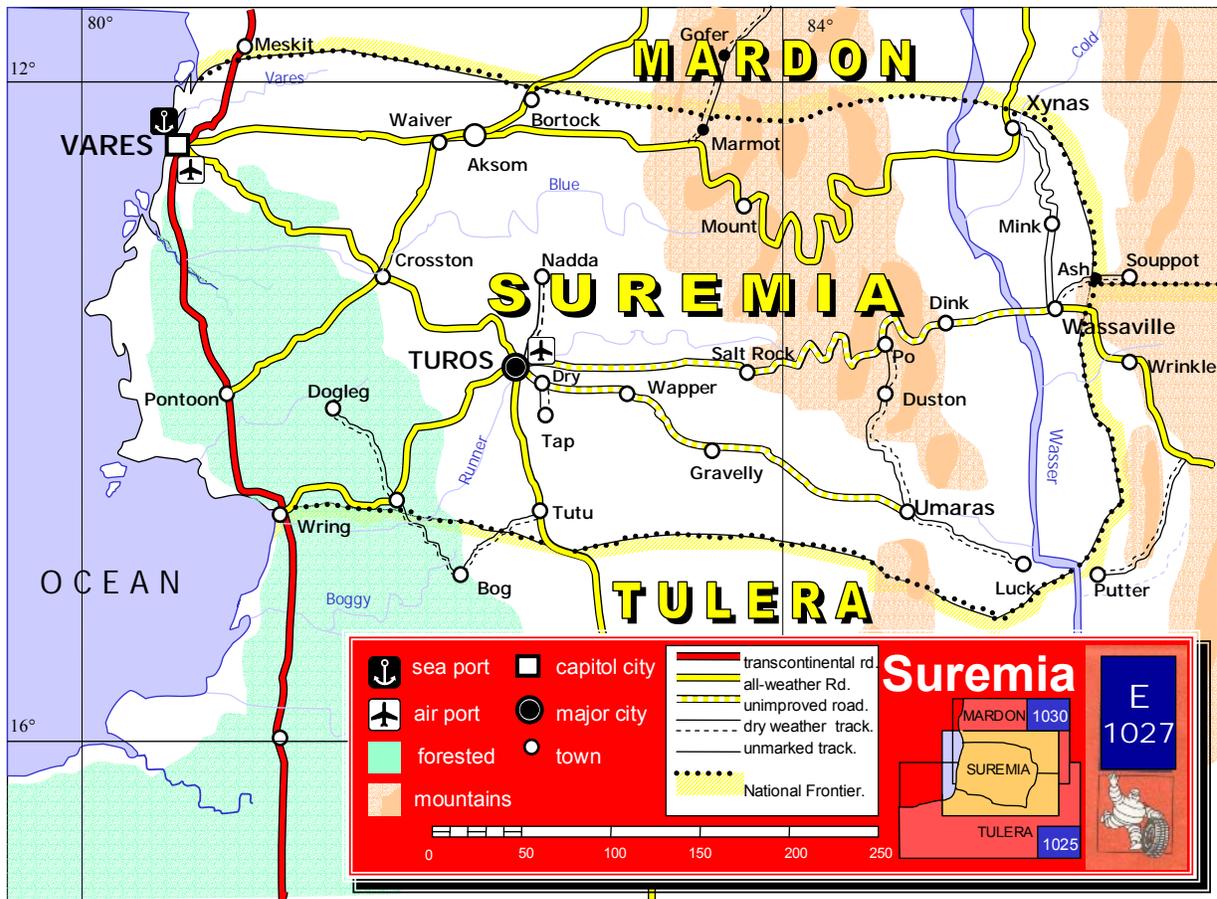


Exercise: Case study environmental impact.

Read the Suremia Cyclone case study below. Then implement Rating Form 2 to determine possible immediate environmental impacts of this cyclone. First, cross out those hazards that do not apply to this case, then complete the form that starts on the page following the case study. (You will need to recall this information when you complete the Consolidation and Analysis module.)

This exercise corresponds to STEP 3 of the REA Process

Suremia: Cyclone situation report No. 4, November 1, 2003



Background

On October 23, 2003, Cyclone Inez, began its sweep through Suremia, leaving some 300 people dead and another 3,500 displaced. This disaster has affected 15% of the country's area and over 20% of the country's population. Massive rains turned several normally placid creeks and streams into raging rivers dragging away everything in their path. In the worst affected areas, streets are filled with up to up to one meter of mud.

Infrastructure, Economy and Agriculture



In one affected area, an estimated 25% of the water distribution systems are down. Another area reported damage to its hydroelectric power plant. Some of the affected areas and critical facilities may have increased vulnerability to continuing flood hazards due to the increased sediment load from landslides into the drainage networks.

Flooding of the Boggy River cut new channels and scoured the land surface. This resulted in large deposits of sediment on the coastal plain and on agricultural fields, particularly those adjacent to the Boggy River. At least 15 percent of crops are destroyed. Some assessments place the immediate loss of productive land at 20% of the total productive land in the country. There were also reports of irrigation systems damaged beyond repair. The status of the three pesticide factories located along the Blue River, in the affected northern region, is not yet known. In one affected community, television coverage showed barrels of pesticides being dragged away by the raging river.

The status of the farmers' livestock remains unclear. Most small farmers raised a few milk cows and a few pigs.

Displacement and health



About 3,500 people have been displaced by the cyclone and now live in even more crowded and unsanitary conditions than before. Some of these displaced have moved into temporary public facilities such as schoolyards and sports stadiums. Others are living with relatives or in make-shift homes on marginal land. Alarmed by poor living conditions of the displaced, the Ministry of Health has warned that they are at significant risk of epidemic diarrheas, cholera, dengue, and upper respiratory infections. "Clean water has been scarce in some of the affected areas, and people lack fuel to boil dirty

water," says Consuela Esteban, press officer for PAHO. "Chronic dysentery doesn't grab the headlines, but it is responsible for far more loss of life [than other illnesses in the region after the storm]," says James Moreno, health specialist for the Suremia Red Cross.

Environment



Cyclone Inez stripped vegetation from the westernmost areas of Suremia, and resulted in over 100 hectares of mangrove loss and erosion. Large areas of forest were decimated due to debris flows. In the affected West Coast, the cyclone damaged several coconut and palm tree plantations.

The Gulf of Guevara received indirect impacts related to extreme precipitation that fell within the large watersheds draining into the Gulf.

The cyclone seems to have caused land erosion to the island and breakage of corral reefs off Suremia's north coast. Mainland river discharges also carried garbage, sediment and fallen trees out to these islands and corral reefs.

Rating Form 2: Environmental Threats of Disasters⁶

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
<p>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.</p>	<p>Chemicals (including salt) present at levels exceeding acceptable standards.</p>				<ol style="list-style-type: none"> 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.
<p>Flooding: Polluted Water. Water contains hazardous pathogens, or chemicals.</p>	<p>Pathogens or chemicals present at levels which exceed acceptable standards.</p>				<ol style="list-style-type: none"> 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.
<p>Flooding: Transport of contaminated solids other than sediment. Flood</p>	<ol style="list-style-type: none"> 1. Presence of dead animals. 2. Presence of hazardous 				<ol style="list-style-type: none"> 1. Quantify number and volume of solids by three threat types (animals, hazardous chemical

⁶ Note that Hurricane/Cyclone/Typhoon should be treated under each impact agent: flooding, sea surge, and wind.

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
waters contain physical items which pose a threat, including but not limited to, animal carcasses and hazardous materials containers.	chemical containers. 3. Presence of significant level of floating debris in flood waters.				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 likely 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 after 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).

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
risk of pollution (e.g., damage to sewage treatment plant).	or mining sites, oil and gas transmission systems, garbage dumps, and chemical waste sites.				4. Specialized assistance likely needed 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.				<ol style="list-style-type: none"> 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.				<ol style="list-style-type: none"> 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 concentrations of	Chemicals and/or particulate matter present at levels which exceed acceptable standards.				<ol style="list-style-type: none"> 1. Identify and assess level of chemicals or particulate matter present. 2. Develop methods to purify air for individual and indoor use, with

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
particulate matter.					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	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
Drought: Wind. Drying effect of wind on vegetation (failure to mature, increased likelihood of fire).	Vegetation drying faster than normal.				<ol style="list-style-type: none"> 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.				<ol style="list-style-type: none"> 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. <ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 				<ol style="list-style-type: none"> 1. Improve supply and quality of water. 2. Monitor and respond to health problems. 3. Develop alternative sources of food and income.

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
Hail. Damage to crops and land cover.	Loss of food supply and economic (exploitable) natural resources.				<ol style="list-style-type: none"> 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). <ol style="list-style-type: none"> 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.				<ol style="list-style-type: none"> 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 ⁷ .				<ol style="list-style-type: none"> 1. Integrated pest management methods, with agro-chemical application as appropriate. Procedures for safer use of agro-chemicals should be followed (including user

⁷ “Normal” is usually defined as average recorded losses over specific period. Can also be assessed based on qualitative assessment of agriculture community as to whether losses are significantly above normal.

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
					<p>education) and containers disposed of according to international standards.</p> <p>2. For medium to large scale pest disaster it is likely that special technical assistance and program management will be required.</p>
<p>Disease. Human Mortality and morbidity reducing social and economic activity and increasing personal hardship.</p>	<p>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.</p>				<p>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.</p>
<p>Disease. Epizootia (animal, not human) Mortality and morbidity of non-human animals affecting food intake, assets and increasing personal hardship.</p>	<p>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.</p>				<ol style="list-style-type: none"> 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.

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
<p>Land Mass Movement, including land slides, slumps, and other down slope movement.</p> <p>1. Direct damage to infrastructure and natural resources.</p> <p>2. Direct or indirect pollution of water sources.</p>	<p>1. Damage to infrastructure or other resources.</p> <p>2. Significant increase in water sediment load.</p>				<p>1. Remove infrastructure at risk.</p> <p>2. Install containment structures and filtration systems for contaminated water.</p> <p>3. Specialist assistance is likely to be required to plan response.</p>
<p>Earthquake</p> <p>1. Damage to critical infrastructure, leading to (i) threat to or loss of life and injuries, or (ii) hazardous materials incidents.</p> <p>2. Changes in land forms (e.g., mass movement)</p>	<p>1. Human death or injury</p> <p>2. Any hazardous materials release.</p> <p>3. Any damage that stops or significantly slows the delivery of critical services (water, health care, power, gas, heating, food)</p> <p>4. Any land form change due to the earthquake.</p>				<p>1. Develop rescue plans (best done before the disaster).</p> <p>2. Develop and implement hazardous materials response plans (best done before the disaster).</p> <p>3. Respond to damage to infrastructure as per other disasters.</p> <p>4. Respond to land form changes as per "Mass Movements".</p> <p>5. Develop solid waste disposal plan, including procedures for recycling as much waste as possible and minimizing air and water pollution and ensuring sanitary landfill standards are met.</p> <p>6. Specialized technical assistance is likely to be required in design of waste disposal plan.</p>

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
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.				<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 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. 				<ol style="list-style-type: none"> 1. Identify 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.

Hazard	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
Armed Conflict (between and within countries): Active fighting by military units (“conventional warfare”). Intentional damage to infrastructure, including power, water, sewage and industrial capacity due to active fighting. Limitations on ability to deliver basic supplies to non-combatant populations.	1. Active military efforts to cause damage. 2. Inability or reduced ability to deliver minimum supplies of water, food, sanitation services and basic care due to fighting or infrastructure damage				1. Development of protected systems for delivery of minimum supplies of critical items (water, food, sanitation services, health care). 2. Use of neutral parties to deliver supplies and manage efforts to address damage caused by fighting. 3. Debris should be recycled or disposed in a way to minimize air, water and land pollution.
Armed Conflict: Unconventional warfare (including terrorism and ethnic cleansing). Disruption of normal social and economic support systems (i.e., threat to ability of populations to meet basic needs). Damage to and disruption of infrastructure systems.					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	Guidance as to whether the hazard presents a significant threat.	Does this threat exist for the disaster area? Yes (2), Unknown (1), No (0)	Is the physical area affected: Large (3), Medium (2), Small (1)?	Impact Score: Threat presence (score for column three) x Size of area affected (score for column four)	Initial Response Options
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.	<ol style="list-style-type: none"> 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. 				<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 1. Humans at risk. 2. Potential or actual damage to productive assets (natural resources, commercial facilities or infrastructure). 				<ol style="list-style-type: none"> 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 2: Environmental Threats of Disasters ⁸

(Hazards not specific to Central Kalimantan have been removed.)

Hazard	Threat	Guidance as to Significant Threat Threshold	Threat? Yes (2) Unknown (1), No (0)		Area Affected Large (3) Medium (2) Small (1)		Impact Score (Threat rank x Area Affected)			Initial Response Options
			Group I	Group II	Group I	Group II	Group I	Group II	Average	
1. Flooding, including sea surge.										
A. Transport of contaminated sediment.	Sediment contains hazardous organic or inorganic chemicals (including high levels of salt).	Chemicals (including salt) present at levels exceeding acceptable standards.	2	2	3	2	6	4	5	<ol style="list-style-type: none"> 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.
	Secondary risk from sediment when dried after a flood.	Chemicals present at levels exceeding acceptable standards.	2	2	2	3	4	6	5	<ol style="list-style-type: none"> 1. Identify and assess level of chemicals present. 2. Limit or avoid use of sediment, and plants and animals collected from sediment sites. 3. Limit movement of dust from dried sediment. 4. Specialized technical assistance likely needed for assessment and planning

⁸ Note that Hurricane/Cyclone/Typhoon should be treated under each impact agent: flooding, sea surge, and wind.

B. Polluted Water	Water contains hazardous pathogens, or chemicals.	Pathogens or chemicals present at levels which exceed acceptable standards.	2	2	1	3	2	6	4	<ol style="list-style-type: none"> 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.
C. Transport of contaminated solids other than sediment.	Flood waters contain physical items which pose a threat, including but not limited to, animal carcasses and hazardous materials containers.	<ol style="list-style-type: none"> 1. Presence of dead animals. 2. Presence of hazardous chemical containers. 3. Presence of significant level of floating debris in flood waters. 	2	2	1	3	2	6	4	<ol style="list-style-type: none"> 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 likely needed for assessment and planning and in handling disposal.
D. Erosion (water)	Flood waters remove usable soil and cover usable land with sediment.	<ol style="list-style-type: none"> 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. 	2	2	1	3	2	6	4	<ol style="list-style-type: none"> 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 after flooding. 4. Specialized assistance likely needed.

E. Damage to Infrastructure (from erosion or force of flood waters)	Flood waters damage or destroy built environment, limiting operation of critical functions (e.g., safe water delivery), or increasing risk of pollution (e.g., damage to sewage treatment plant).	Damage which (1) seriously limits or stops use of critical infrastructure, including roads, water treatment, power, emergency services, or (2) creates potential sources of pollution, e.g., industrial or mining sites, oil and gas transmission systems, garbage dumps, and chemical waste sites.	2	2	1	3	2	6	4	<ol style="list-style-type: none"> 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 for any significant response.
2. 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.	2	2	1	1	2	2	2	<ol style="list-style-type: none"> 1. Short term food and economic assistance to assist victims 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.
3. Wild Fire										
A. Damage to Infrastructure	Wild fire can damage or destroy infrastructure,	Damage which (1) significantly limits or stops use of critical	2	2	1	3	2	6	4	<ol style="list-style-type: none"> 1. Remove or decommission infrastructure under threat. 2. Identify potential or actual pollution due to wildfire damage

	limiting operation of critical functions or increasing risk of pollution.	infrastructure, including roads, water treatment, power, emergency services, or (2) affects control systems for industrial sites, e.g., power supply to a chemical factory.									and develop response plans (see above). 3. Specialized assistance likely needed for any significant response.
B. Air Pollution	Air contains hazardous chemicals and high concentrations of particulate matter.	Chemicals and/or particulate matter present at levels which exceed acceptable standards.	2	2	3	3	6	6	6 (l)		1. Identify and assess level of chemicals or particulate matter present. 2. Develop methods to purify air for individual and indoor use, with focus on persons with air-related health problem. 3. Technical assistance probably needed for assessment and response.
C. 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 victims.	2	2	2	3	4	6	5		1. Institute erosion control measures. 2. Identify and reinforce/remove critical infrastructure under threat.
D. Loss of Habitat	Wildfire damages or destroys habitat resulting in negative impact on species using habitat before	Lack of alternative habitats for species under threat.	2	2	3	3	6	6	6 (l)		1. Institute activities to restore or modify damaged habitat. 2. Make alternate habitats available to species under threat.

	fire.									
4. Drought										
B. Drying of Crops.	Lack of water (from rainfall or irrigations) for normal crop development.	Insufficient water for normal crop grown. Note that impact can due to a lack in total amount of water available, or periods of a lack or insufficient of water at critical crop development stages.	2	2	3	3	6	6	6	<ol style="list-style-type: none"> 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.
C. Drying of water courses and lakes/ponds.	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	2	2	1	2	2	4	3	<ol style="list-style-type: none"> 1. Improve supply and quality of water. 2. Monitor and respond to health problems. 3. Develop alternative sources of food and income.

7. Phytosanitary (Pest) Outbreak	Damage to economic crops from pests or disease.	Damage significantly above normal ⁹ .	2	2	3	3	6	6	6 (II)	<p>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 standards.</p> <p>2. For medium to large scale pest disaster it is likely that special technical assistance and program management will be required.</p>
8. Disease (non-plant)										
A. 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.	2	2	3	2	6	4	5	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 victims.

⁹ "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.

B. Epizootia	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.	2	2	1	1	2	2	2	<ol style="list-style-type: none"> 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.
12. Armed Conflict, between and within countries.	Intentional damage to infrastructure, including power, water, sewage and industrial capacity.	<ol style="list-style-type: none"> 1. Active military efforts to cause damage. 2. Releases of hazardous substances via air, water or land, due to military action. 3. Failure to deliver minimum supplies of water, food, sanitation services and basic care due to infrastructure damage. 	2	2	3	3	6	6	6	<ol style="list-style-type: none"> 1. Rapid response teams to limit releases of hazardous materials. 2. Development of protected systems for delivery of minimum supplies of critical items (water, food, sanitation services, health care). 3. Debris should be recycled or disposed in a way to minimize air, water and land pollution.
13. Technological										
A. Hazardous Material Release (fixed site and during transport, including road,	Release of chemicals or compounds that pose immediate	1. Level of release above established norm (local or international, as	2	2	1	1	2	2	2	<ol style="list-style-type: none"> 1. Limit additional damage by removing populations from affected areas and providing response teams with protective clothing and support.

water, rail or air accidents)	threat to life and well being.	appropriate). 2. Rate of release (e.g., explosion) poses significant threat to life or well being.									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.
B. 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).	2	2	1	1	2	2	2		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.

Session 2.5. Unmet basic needs



Exercise: Assessing unmet needs

Two weeks after the flooding caused by massive cyclone rains in Suremia, an NGO/donor assessment mission, seeking to fine-tune previous assessment findings, visits a number of temporary villages in the worst affected southern municipalities. At the schoolyard, local officials have opened up an adjacent field where temporary shelters have been set up to accommodate recent arrivals of flood displaced.

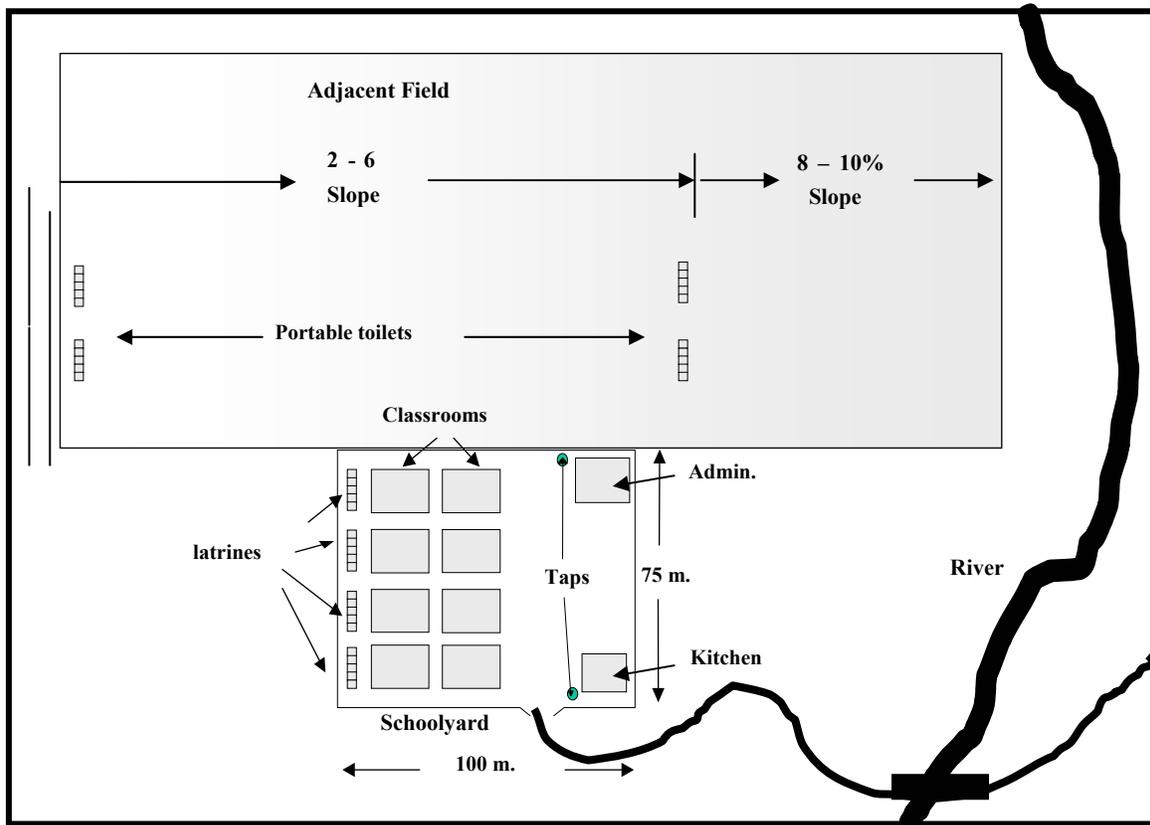
Task:

- Analyze the assessment information on the following page to determine whether or not the circumstances constitute emergency conditions – and, therefore, warrant an immediate, extraordinary response.
 - Which particular findings clearly determine whether or not there is an emergency?
 - Which findings indicate difficult conditions but clearly require additional data collection?
 - Would you recommend that additional needy people be sheltered at this site?

Demonstrate your analysis of this assessment information

Refer to the REA Guidelines and “Sphere Project Indicator Highlights” as needed.

- Fill in Rating Form 3: Unmet Basic Needs as per your analysis for the sectors assigned to your group. (You will need this information later for the Consolidation and Analysis module.)



Assessment Findings

Demographics

- Village leaders claim there are about 2,500 disaster survivors in the schoolyard and field due to recent arrivals.
- From your brief tour around the schoolyard, the population appears physically healthy although emotionally distraught. The leadership seems well-organized and capable.
- Children under five years old seem to represent only about 4-5% of the flood displaced population.
- Six deaths have been reported among this population in the last two weeks.

Wat/San

- Water sources are the two schoolyard taps and a local river.
- Long lines of displaced are waiting to use the schoolyard taps where water is running clean although water pressure is very low.
- The survivors tell you that it takes about a minute at a tap to fill a 10 liter container. However, the taps have water pressure only in the evening from sundown to around midnight.
- A water engineer tells you the river has a flow of at least 500 cu. m. of water per hour.
- The site looks clean, although foul odors are emanating from the school latrines. The 20 school latrines are supplemented by 20 portable toilets recently placed in the adjacent field. The portable toilets are just beginning to smell foul as well.

Health

- Several cases of measles have been reported in the past few days.
- A report provided by a local nurse indicates the following:
 - 50% of all medical complaints at a nearby clinic used by the displaced relate to diarrhea.
 - 30% relate to acute respiratory infection
 - 20% relate to broken bones, snake bites and other miscellaneous health needs

Site & Shelter

- The site is quite bare, and there are large areas of standing water in and around the schoolyard near the water taps, at the west end of the field, and near the washing areas.
- The eight school classrooms - each measuring 20 m. X 15 m. - are being used to shelter the displaced.
- During a quick tour of the adjacent field, the team counts about 75 tents each of which measures 4 m X 4 m.

Food & Nutrition

- People in the schoolyard and in the field look thin, but relatively healthy. The amount people are eating from the food aid provided by a local NGO over the past 2 weeks totals about 1600 - 1800 kcal/person/day.

Logistics & Distribution

- The road to the school has been badly eroded. Currently only a small 4X4 vehicle can make it across the bridge and up the hill.
- The school storeroom, located in back of the school kitchen, is leaking badly.
- Warehouse records obtained from the local NGO providing food assistance indicate a general daily ration of approximately 2000 kcal/person.

Sphere Project Indicator Highlights

Demographics

- A “typical” demographic profile of a population:
 - 0-4 years: 12% of population
 - 5-9 years 12%
 - 10-14 years 11%
 - 15-19 years 9%
 - 20-59 years 49%
 - 60+ years 7%

Wat/San

- At least 15 liters of water per person per day is collected
- Flow at each water collection point is at least 0.125 liters per second
- There is at least 1 water point per 250 people
- The maximum distance from any shelter to the nearest water point is 500 meters
- Maximum of 20 people per toilet
- Toilets are no more than 50 meters from dwellings

Health

- A death rate of less than 1/10,000/day
- Epidemics/diseases are controlled
- Measles vaccination coverage reaches more than 95% of all children 6 months to 12 years
- There is access to adequate food, water and sanitation facilities
- Interventions are designed to be responsive to the identified major causes of excess death, disease and injuries.

Site & Shelter

- The covered area per person averages 3.5-4.5 sq. meters.
- If plastic sheeting is provided for shelter, it meets the specifications defined by UNHCR.
- The site provides 45 sq. meters for each person, including space for infrastructure but excludes land for agriculture
- The site gradient is not more than 7%.
- Social, health, sanitation and other essential facilities are safely accessible for everyone, and are lit at night if necessary.

Food & Nutrition

- Minimum nutrition requirements: 2,100 kcals per person per day
- There is no increase in levels of severe malnutrition and/or there is no increase in numbers registered for therapeutic care.
- Severe malnutrition exists for children 6 months to 10 years who have less than 70% median weight for height ratio.

Logistics & Distribution

- Adequate storage structures are in place and proper management of stores is conducted.
- Safe stewardship practices are maintained to ensure that all commodities are safeguarded until distribution to recipient households.
- People receive the quantities and types of commodities planned.
- Use 0.5 kg of dry food per person per day for logistics planning purposes.

Rating Form 3: Unmet Basic Needs

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

Basic Needs	Were needs being met before the disaster? Rate from 1 (not being met) to 10 (being met).	Are needs being met at present? Rate from 1 (not being met) to 10 (being met).	Will the quality or quantity of the resources used to meet this need be reduced significantly in the next 120 days? (Yes/no)	Indicators (Based on Sphere indicators. The closer the indicators are met in full, the higher the score. These indicators are guides. Use depends on available data and familiarity of users with Sphere Standards.)
				Opportunities for violence should be noted and linked to specific environmental issues when appropriate.
Health Care				1. Disaster survivors have adequate, timely and affordable access to care for injuries and health (including psychosocial) problems arising from the disaster. 2. Health management interventions are appropriate for chronic and acute health risks faced by disaster survivors and take into account age and gender. (See Sphere Standards for specifics.)
Waste management (liquid and solid)				1. Toilets are clean and safe, with a maximum of 20 people per toilet and are no more than 50 meters from dwellings 2. Use of toilets is arranged by household(s) and/or segregated by sex. 3. Environment is acceptably free of solid waste contamination, including medical wastes. 4. Refuse containers are easily available and refuse is disposed of in a way to avoid creating health and environmental problems 5. No contaminated or dangerous medical wastes in living or public space.
Environmental Conditions				1. Location of disaster survivors is not subject to immediate hazards, including flooding, pollution, landslides, fire, or volcanic eruptions, or effective mitigation measures have been taken. 2. Environment is free from risk of water erosion, from standing water and with a slope of no more than 6%. 3. Smoke and fumes are below nuisance levels and pose no threat to human health. 4. Animal management minimizes opportunities for disease transmission, solid and liquid waste problems and environmental degradation. 5. Uncontrolled extraction of natural resources by disaster survivors is not taking place. 6. Graveyard (s) is appropriately located and sized.
Fuel				1. Fuel availability meets immediate needs. 2. Low smoke and fuel-efficient wood stoves, gas or kerosene stoves and cooking pots with well-fitting lids are available.

Basic Needs	Were needs being met before the disaster? Rate from 1 (not being met) to 10 (being met).	Are needs being met at present? Rate from 1 (not being met) to 10 (being met).	Will the quality or quantity of the resources used to meet this need be reduced significantly in the next 120 days? (Yes/no)	Indicators (Based on Sphere indicators. The closer the indicators are met in full, the higher the score. These indicators are guides. Use depends on available data and familiarity of users with Sphere Standards.)
Lighting				Sufficient to meet security requirements and for normal economic and social activities.
Domestic Resources				Each household unit has access to adequate utensils, soap for personal hygiene and necessary tools. (Specific minimum needs identified in Sphere Handbook Chapter 4, Section 2).
Clothing				Clothing is appropriate for climatic conditions, gender, age, safety, dignity, and well-being.
Transport				<ol style="list-style-type: none"> 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.

Rating Form No. 3: Unmet Basic Needs¹⁰

Basic Needs: * indicates Sphere Standard	Needs being met before the disaster 1 (not being met) to 10 (being met)			Needs being met at present: 1 (not being met) to 10 (being met)			Sustainable ? (Yes/No)	Indicators of Needs Being Met
	Group I	Group II	Average	Group I	Group II	Average		
Water*	9,5	9,1	9,3	5,1	7,3	6,4	Yes	1. 15 liters of water per person per day. 2. Flow at water 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: includes human and industrial waste and pesticides.)
Shelter*	8	9,3	8,7	8	7,9	8	Yes	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.
Clothing*	8	9,2	8,6	8	8,9	8,5	Yes	Clothing is appropriate for climatic conditions, gender, age, safety, dignity, and well-being.
Food*	5,7	7,7	6,7	4,3	6	5,2 (II)	Yes	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). 4. Adequate micro-nutrient intake.
Fuel*	7,3	8,7	8	4,9	8,1	6,5	Yes	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	6,5	9	7,6	5,5	9,2	7,4	Yes	Sufficient to meet security requirements and for normal economic and social activities.
Household Resources*	6,8	8,9	7,9	6	7,6	6,8	Yes	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).

¹⁰ From "Rapid Environmental Impact Assessment Field Test Report" 8 January - 1 February 2003 Kalimantan, Indonesia. Prepared by: Charles Kelly, with contributions of Mario Pareja

Transport	7,1	7,6	7,4	4,9	6	5,5	Yes	<p>1. Adequate to deliver goods and services to displaced at reasonable cost and convenience.</p> <p>2. Adequate to permit disaster victims to reach goods and services at reasonable cost and convenience.</p>
Personal Safety*	7,8	7,1	7,5	5,7	6,4	6,1	Yes	<p>1. Disaster victims have sufficient personal liberty and security at all times.</p> <p>2. Camps, temporary shelter sites or resettlement sites are safe and have adequate access to basic services.</p> <p>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.)</p>
Health*	7,2	8,6	7,9	4,3	6,5	5,4 (III)	Yes	<p>1. Disaster victims have adequate and timely access to care for injuries and health problems arising from the disaster.</p> <p>2. Health management interventions are appropriate for chronic and acute health risks faced by disaster victims and taking into account age and gender of victims. (See Sphere Standards for specifics.)</p> <p>3. Adequate care available for disaster victims with chronic diseases or disabilities.</p>
Waste Management (liquid and solid)*	6	5,9	6	5,3	5,9	5,6	Yes	<p>1. Toilets are clean and safe with a maximum of 20 people per toilet.</p> <p>2. Use of toilets is arranged by household(s) and/or segregated by sex.</p> <p>3. Toilets are no more than 50 metres from dwellings, or no more than one minute's walk.</p> <p>4. Environment is acceptably free of solid waste contamination, including medical wastes.</p> <p>5. Refuse is disposed of in a way to avoid creating health and environmental problems.</p> <p>6. No dwelling is more than 15 metres from a refuse container or household refuse pit, or 100 metres from a communal refuse pit.</p> <p>7. No contaminated or dangerous medical wastes in the living or public spaces.</p>
Environmental Conditions	6,9	8	7,5	5,3	4,4	4,9 (I)	Yes	<p>1. Location of disaster victims is not subject to immediate hazards, including flooding, pollution, landslides, fire, or volcanic eruptions.</p> <p>2. Environment is free from risk of water erosion, from standing water and with a slope of no more than 7%.*</p>

								<p>3. Smoke and fumes are below nuisance levels and pose no threat to human health.</p> <p>4. Animal management minimizes opportunities for disease transmission, solid and liquid waste and environmental degradation.</p> <p>5. Uncontrolled extraction of natural resources by disaster victims is not taking place.</p> <p>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.*</p> <p>7. Firebreaks are at least: 2 meters between dwellings, 6 meters between clusters of dwellings, and 15 meters between blocks of clusters.*</p> <p>8. Graveyard(s) are appropriately located and sized.</p>
Vector Control*	5,5	7,9	6,7	5	7,1	6	Yes	<p>1. Disease vectors and nuisance pests are under control.</p> <p>2. Disaster victims are located outside vector breeding or resting sites, or sites are modified or other interventions are used to keep presence of pests at acceptable level.</p> <p>3. Pesticides use is according to local/national and international norms.</p>

Session 2.6: Negative environmental consequences of relief activities



Exercise: Project Proposal to respond to the Suremia Cyclone

Instructions: Read the following project description. Then turn to Rating Form 4 on the next page. Find the type of intervention on the form that corresponds to this example in the exercise. Fill in the form as it relates to the appropriate intervention(s) identified in the left hand column of the form.

This exercise corresponds to STEP 5 of the REA Process.

Housing reconstruction programme

An international NGO's early post-disaster needs assessment indicates a large need for reconstruction of housing. Approximately 2,000 homes were destroyed by the storm in two of the villages where it has worked in the past. The NGO proposes to reconstruct 500 houses for the poorest of the disaster survivors on municipally owned land adjacent to the Chico River.

The core house will replicate the local traditional home of wood frame with wood siding, 6 m x 6 m and corrugated steel roofing sheets. The project will utilize locally available lumber, harvesting as much as possible from trees felled by the storm. Some timber will also be harvested from the project land itself as part of the site clearance to prepare for the new construction.

The disaster affected population will also derive economic benefits as the project will hire unemployed local youth to build the houses, under the direction of an expatriate NGO project manager.

Rating Form 4: Negative Environmental Consequences of 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.		<ol style="list-style-type: none"> 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 ¹¹ , tools and fertilizer		1. Loss of agro-bio-diversity.		<ol style="list-style-type: none"> 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 country¹².
		2. Introduction of non-sustainable/invasive species and varieties.		
		3. Damage to traditional seed management systems.		

¹¹ Note that food aid, if provided as whole grain, may be used as seed, and should be screened according to this section.

¹² 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.		4. Provide environmental education on use of tools and develop sustainable 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. 2. Introduction of new animal diseases or expansion of existing diseases.		1. Develop and implement a land use plan which takes into account habitat diversity and sustainability of land use systems. 2. Establish/expand animal disease monitoring and control system.
New farming or livestock raising activities.		1. Loss of habitats and reduced bio-diversity. 2. Introduction of new animal or plant diseases or expansion of existing diseases. 3. Land degradation and erosion from land clearing or grazing.		1. Develop and implement a land use plan which takes into account habitat diversity and sustainability of land use systems. 2. Establish/expand animal disease monitoring and control system. 3. Institute land conservation activities.
Irrigation (expanded)		1. Increased disease transmission. 2. Soil degradation and water logging. 3. Aquifer depletion.		1. Increase preventive and curative health care. 2. Increase disease surveillance. 3. Establish sustainable management plan for water use. 4. Change types of crops/cropping systems

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. Weed dispersal.		and water use. 5. Establish filtering system for weed propagules.
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 excluding roads		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 need and sustainable land use plan for delivery area.
		2. Increase in population density.		
		3. Overuse of ground or surface water supplies.		

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
				<ul style="list-style-type: none"> 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.		<ul style="list-style-type: none"> 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.		<ul style="list-style-type: none"> 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.		<ul style="list-style-type: none"> 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 extraction.		

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.		<ol style="list-style-type: none"> 1. Use fuel efficient stoves and cooking methods. 2. Develop and implement a resource management plan for resources needed to cook or support costs of food preparation. 3. Consider organizing cooking process to reduce air pollution and fuel demand (e.g., communal kitchens, dining halls).
		2. Increased air pollution.		
		3. Increased resource harvesting to cover food preparation costs.		
Creation of Small or Medium Enterprises (SME)		1. Unsustainable resource extraction.		<ol style="list-style-type: none"> 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 disposal plans meeting appropriate standards incorporated into enterprise business plan and monitored. 3. Hazards and risks of location of enterprises assessed and appropriate mitigation measures identified before support provided.
		2. Waste produced which cannot be disposed of properly.		
		3. Enterprises sited in hazardous locations.		
Relief Supplies		1. Packaging creates solid waste disposal problem.		<ol style="list-style-type: none"> 1. Use biodegradable, multi-use or recyclable packaging where possible. 2. Collect packaging as part of distribution program. 3. Develop program of education and facilities for safe disposal of personal hygiene materials. 4. Base assistance on needs assessment including survivor input. 5. Don't provide inappropriate materials. 6. Select assistance based on local social and economic conditions and sustainability of supply.
		2. Personal hygiene materials are not disposed of properly and pose health and sanitation problems.		
		3. Relief assistance inappropriate or not acceptable to survivors and discarded.		
		4. Relief creates new and unsustainable consumption habits on part of survivors.		
Rubble removal		1. Creation of disease vector breeding sites, leading to increased disease levels.		Develop and follow plans to recycle rubble and dispose of unusable materials in way which minimizes negative environmental impact.
		2. Obstruction of existing		

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
		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.

Rating Form No. 4: Negative Environmental Consequences of Relief Activities¹³

(activities not planned have been eliminated)

Intervention	Underway Or Planned?		Potential Negative Consequences	Already Addressed?		Selected Avoidance or Mitigation Options
	Group I	Group II		Group I	Group II	
Seeds, tools and fertilizer			1. Loss of agro-bio-diversity.	Y	Y	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. Provide environmental education on use of tools and develop sustainable resource extraction plan where appropriate. 4. Provide education and extension advice on use of fertilizers. Limit quantities available to actual agricultural needs.
			2. Introduction of non-sustainable/invasive species and varieties.	Y	Y	
			3. Damage to traditional seed management systems.	Y	Y	
			4. Increased resource extraction due to availability of more effective means.	Y	Y	
			5. Damage to soil and water from overuse of fertilizers.	Y	Y	
Local Coping Strategies			To be added based on specific disaster conditions. Negative 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 victims and can be facilitated with information collected through the Community REA Questionnaire.
Construction, including shelter, public buildings and infrastructure.	Y	Y	1. Scarce natural resources are over exploited for construction activities.			
			2. Construction site in area of increased hazard compared to location or conditions before disaster.	Y	Y	

¹³ From "Rapid Environmental Impact Assessment Field Test Report" 8 January - 1 February 2003 Kalimantan, Indonesia. Prepared by: Charles Kelly¹³, with contributions of Mario Pareja

Intervention	Underway Or Planned?		Potential Negative Consequences	Already Addressed?		Selected Avoidance or Mitigation Options
	Group I	Group II		Group I	Group II	
					3. Construction increases risk of flooding, erosion or other hazards.	
Health Care	Y	Y	1. Pollution from disposal of medical and other waste.	Y	Y	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.	Y	Y	
Creation of Small or Medium Enterprises (SME)	Y	Y	1. Unsustainable resource extraction.	Y	Y	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 disposal plans meeting appropriate standards incorporated into enterprise business plan and monitored. 3. Hazards and risks of location of enterprises assessed and appropriate mitigation measures identified before support provided.
			2. Waste produced which cannot be disposed of properly.	Y	Y	
Relief Supplies	Y	Y	1. Packaging creates solid waste disposal problem.	Y	N	1. Use biodegradable, multi-use or recyclable packaging where possible. 2. Collect packaging as part of distribution program. 3. Develop program of education and facilities for safe disposal of personal hygiene materials. 4. Base assistance on needs assessment including victim input. 5. Don't provide inappropriate materials. 6. Select assistance based on local social and economic conditions and sustainability of supply.
			3. Relief assistance inappropriate or not acceptable to victims and discarded.	Y	N	
Training	Y	Y	New skills learned leading to greater extraction of resources or production of waste.	Y	N	Include environmental education and waste management options in training programs.

Session 3.2 Module Two: Community Level Assessment



Exercise: Implementing a community level assessment

Implementing this module corresponds to **STEP 6** of the REA Process.

The purpose of this exercise is to become familiar with the Community Level Assessment process and with completing the forms used to facilitate the process. As noted in the *Guidelines* and the presentation, there are several methods to obtain the information you would need to complete the Community Level Assessment. This exercise is based on the premise that the information has been collected by one of your colleagues and your task now is to record that information on the Community Assessment Summary Form.

The following are the steps to complete this exercise.

1. Participants should divide into four groups. The facilitator will give one person in each group the results of a Community Level Assessment that was completed in one of the communities affected by the Suremia Cyclone.
2. Each person in each group will fill in the copy of the Community Assessment Summary Form, found on the next two pages. You will fill in the blanks for your community, that is, either community No. 1, 2, 3, or 4.
3. Select one person from your group to go to each of the other three groups and record the results on one copy of the Community Assessment Summary Form – there will be one completed form for each group.
4. In each small group, tabulate the results in the right hand column marked “Importance Ranking.”
5. Now, rank each question in the Form by identifying which questions had the highest scores. (You might look at the example in your book of the Form completed in the case of Indonesia, immediately after the Community Assessment Summary Form.) This reordering of the questions becomes the prioritized list and the first part of the report of the Community Level Assessment.
6. Collect all of the community relief/coping actions that are found on the Community Assessment Summary Forms and record them with the list of prioritized questions. This is the second part of the community level assessment.
7. You have now completed the Community Level Assessment report.

Annex E Community Assessment Summary Form¹⁴

#	Item/Question	Community 1	Community 2	Community 3	Community 4	Importance Ranking ¹⁵
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 been going on for a long time?					
6	Are the disaster survivors concentrated?					
7	Have the survivors moved a great distance?					
8	Is level of self-sufficiency low?					
9	Is social solidarity low?					
10	Is cultural homogeneity low?					
11	Are 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?					
19	Is conflict a reported problem?					

¹⁴ Add columns equal to the number of communities or groups who participated in the assessment.

¹⁵ 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.

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**¹⁶

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.

¹⁶ Add additional rows as needed.

Results – Community Level Environmental Issues in Indonesia¹⁷

Community Assessment Yes/No and Coping Strategy Tables.

These tables present a simple tabulation of data collected during the community assessment. Assessment team members answered each question posed in the form with a yes or no and the results were totaled for all communities. The questions reflect potential environmental issues identified in the group assessment.

Also included in this table are coping strategies and their potential environmental impact based on the information provided during the community meetings. These coping strategies are the local counterparts of external relief assistance and thus need to be identified and evaluated for their potential environmental impact.

#	Item/Question	Petuk Katimpun A	Petuk Katimpun B	Taruna Jaya	Pilang	Gohong	Pangkoh III	Pangkoh VI	Sungai Jaya	Lamunti Permai	Petuk Bukit	Petuk Berunai	Bukit Bamba	Bukit Glagah	Importance Ranking ¹⁸
Context Questions: Yes = 1 (“bad”) (Refers to Elements One and Two of REA. These items should be used to develop a narrative describing the environmental conditions in the area of concern [and completing Rating Form 1]. The narrative should identify the reasons for the high rankings using information provided by the communities.															
1	Reported Environmental Concerns?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
2	Reported Environmental Problems?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
3	Unique Areas?	N	N	Y	Y	N	N	N	Y	N	N	N	N	Y	4
4	Large number affected?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
5	Disaster of long duration?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
6	Are the disaster victims concentrated?	N	N	N	N	N	N	N	N	N	N	N	N	N	0
7	Have the victims moved a great distance?	N	N	N	N	N	N	N	N	N	N	N	N	N	0
8	Is level of Self-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13

¹⁷ ¹⁷ From “Rapid Environmental Impact Assessment Field Test Report” 8 January - 1 February 2003 Kalimantan, Indonesia. Prepared by: Charles Kelly¹⁷, with contributions of Mario Pareja

¹⁸ 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.

	sufficiency low?														
9	Is social solidarity low?	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
10	Gender	N	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	6
11	Is culturally homogeneity low?	N	N	N	N	N	N	N	N	Y	N	N	N	N	1
12	Are assets concentrated?	N	N	N	N	N	N	N	N	N	N	N	N	N	0
13	Is livelihood base limited (not diversified)?	N	N	Y	N	N	N	N	N	Y	N	N	N	N	2
14	Are expectations high?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
15	Is resource use unsustainable?	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y	N	Y	9
16	Is capacity to absorb waste limited?	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	N	10
17	Does environment have limited resilience?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
Disasters/Hazards, Yes = 1 (“bad”) (Refers to Element Three of REA.)															
18	Drought?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
19	Wildfire?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
20	Haze?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
21	Flood?	N	Y	Y	N	N	N	N	Y	N	N	Y	N	N	4
22	Conflict?	N	N	N	N	N	N	Y	Y	N	N	N	N	N	2
23	Animal Disease?	Y	Y	N	Y	N	Y	Y	N	N	N	Y	N	N	6
24	Human Disease?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	13
25	Other Disaster – Wind	N	N	N	Y	N	Y	N	Y	N	N	N	N	N	3
Unmet Needs No = 0 (“bad”) (Refers to Element Four of REA.)															
26	Are adequate supplies of potable water available for humans?	Y	N	Y	N	Y	N	N	Y	N	Y	N	N	Y	7
27	Are adequate supplies of potable water available for animals?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	0

28	Is shelter adequate for local expectations?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	0
29	Is food adequate?	Y	Y	N	Y	Y	N	N	Y	Y	Y	N	Y	Y	4
30	Is fuel adequate?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	0
31	Are household resources adequate?	Y	N	N	Y	Y	N	Y	Y	N	Y	N	Y	Y	5
32	Is personal safety adequate?	N	N	N	N	N	N	N	N	N	N	N	N	N	13
33	Are human health conditions adequate?	Y	Y	N	Y	Y	Y	Y	Y	N	Y	N	N	N	5
34	Is waste management appropriate?	N	N	N	N	N	Y	Y	N	N	N	N	N	Y	10
35	Is the control of insects and breeding sites adequate?	N	N	N	N	N	N	N	N	N	N	N	N	N	13
36	Are pesticides used safely?	N	N	N	N	N	N	N	N	N	N	N	N	N	13



Alternate Exercise: Troubleshooting the Community REA¹⁹

Objective: Develop a strategy for implementing the Community REA, by anticipating common obstacles, so that the opinions of the communities are fully incorporated into the REA.

Background: The northeast zone of Suremia is plagued by a history of internal conflict and long-term environmental degradation. The country is currently experiencing a drought disaster. The population most seriously affected by the disaster is composed largely of 100,000 pastoralists who rely almost totally on livestock, mainly cattle, for food and income. The disaster is due to a combination of short- and long-term factors, including:

- Overstocking
- Overgrazing
- Rangeland deterioration
- A reduction in grazing areas due to commercial farming, urban expansion and conflict
- Dependence on a single-commodity resource base
- Inadequate pasture as a result of a lack of rain.

An early warning of the drought disaster was issued following a failure of the seasonal short rains. Five months later, livestock (primarily cattle) deaths in the 25 most affected communities and adjacent regions were widely reported and drew outside attention. Despite the attention, an EIA had not been undertaken and the disaster response was slow, for four reasons:

1. the results of poor rainfall affected livestock rather than crops, where most traditional concerns about food insecurity rest
2. the affected population were widely dispersed
3. government authorities were not fully able to articulate the scope and nature of the unfolding disaster
4. donors were unfamiliar with early warning implications for pastoral societies and thus did not react in a timely manner

Increased levels of malnutrition were becoming documented through surveys, resulting in more concerted donor attention to problems in the most affected area and the larger region. The lack of water for human consumption was also emerging as a serious problem in some areas, while general relief and supplemental food aid was becoming generally available (although not always in quantities to cover all immediate needs).

The country has an emergency unit that has reported on the disaster since its onset and is about to conduct a general needs assessment. There are two international conservation NGOs in the country and numerous local NGOs have linkages with large international conservation groups. Only one of the large donors requires environmental impact screenings of assistance activities. Other donors indicate they did not have these procedures and most relied on NGOs, however, many NGOs also did not have standards and procedures. The office organizing the REA does not have an in-house environmental officer or advisor and environmental issues are considered at the activity implementation level but the process is not comprehensive. As yet, no formal consideration is given to how activities could have positive environmental impacts.

¹⁹ This exercise is based on problems encountered in the REA field tests in Afghanistan, Ethiopia and Indonesia.

Exercise Instructions

Because the EIA had not been undertaken, the REA is deemed appropriate in the current situation. Your organization and/or your community will be involved in the REA. The organization responsible for the REA and the communities do not have a long-standing relationship and the organization is only recently involved in development in the area.

Discuss the following issues in your groups and develop a strategy to deal with them. Refer to the workshop workbook for information to back up your answers. You will have 25 minutes to develop your answers.

1. Planning issues

1.A. Due to the urgency of needs and the difficulties associated with dealing with the communities, such as access and translation, there is talk of skipping the community REA and focusing on the organizational assessment. In principle, what is your group's position on this? How will you present your case?

1.B. Who should be involved in planning and participating in the community REA? What strategy can be used to involve the key stakeholders in the REA and avoid repetition and gaps in information? Who should be on the team?

1.C. Who are the anticipated users of the Community REA? Will the questionnaire results serve the needs of all users? If not, what actions do you recommend?

2. Preparation issues

2. A. Only two people on a team of six have had any training in environmental impact assessment procedures. Few have experience in conducting focus group interviews. The team members conducting the assessment are from different ethnic groups than the target population. Some team members are suspicious of the motives of pastoralists and believe that some are from insurgent groups. What training do you recommend for the team? How long do you estimate this training will take?
- 2.B. Of the 25 most affected villages, some of the villages are located in unique ecosystems with seasonal rivers. Some are composed of ethnic groups that have migrated from the neighboring countries. Some have a more educated population than others. A few are exceptionally impoverished and these are located furthest from the passable road. What will be your sampling strategy? How many villages will you visit?
- 2.C. Review the questionnaire – are there questions that need to be amended for this situation?

3. Implementation issues

- 3.A. In the interest of being “Rapid” the assessment organizers are insisting the interviews take only three hours per village. However, sometimes greetings and formalities can take over an hour. The issues are expected to be of great interest to villagers who have been well aware of the problems for many years. What timing and procedures do you recommend to complete the assessment? What trade-offs can be expected?
- 3.B. In some of the villages, the center of town is visible to all. It is expected that large groups will congregate and wish to participate in the REA. Develop a plan for efficient data collection in this situation.
- 3.C. Some of the villages have received little assistance despite extreme need and being visited by a number of NGOs. It is possible that they may express hostility toward the assessment team. Some male villagers are armed with knives and AK-47s. How can the REA be conducted in safety for all? How can the tensions be eased?

4. Data Gathering and Analysis Issues

- 4.A. The pastoral society is male-governed and the group that shows up for the interviews is expected to be all males. Describe a plan to gather information from everyone, given that the population is semi-nomadic.
- 4.B. Because of the variation in situations you are likely to encounter, you may need to alter data collection methods in each village at the spur of the moment. How will you compile results when different approaches are used? How will you validate that the results are indeed representative?
- 4.C. In the larger villages, the level of formal education and views on environmental issues is more sophisticated than that of the typical pastoralist. The differences between the staff who will be conducting the assessment and the less educated pastoralists are also significant. Review the questionnaire and determine if the disparate levels of education and experience will impose problems.

Session 3.3. Module Three: Consolidation and Analysis



Exercise: Consolidation and Analysis

The purpose of this exercise is to give participants experience in implementing the consolidation and analysis process. This is accomplished through the following actions. **The first part corresponds to STEP 7 of the REA Process: Consolidate the Issues.**

1. Refer to the Case Study Context Statement from Session 2.2. Identify the top three issues that emerged from an analysis of this case study. Transfer those three items under the heading “Organizational Level Issues” on the Issues Consolidation Form that follows these instructions.
2. Refer to Session 2.3. Factors Influencing Environmental Impacts. Turn to the Case Study using Rating Form 1. Select the top three priority issues that were identified in the analysis of this form and transfer those three items under the heading “Organizational Level Issues” on the Issues Consolidation Form.
3. Refer to Session 2.4. Environmental Threats of Disasters. Identify those environmental threats that scored the highest on Rating Form 2 and transfer those items under the heading “Organizational Level Issues” on the Issues Consolidation Form.
4. Refer to Session 2.5. Unmet Basic Needs. Now select the three top issues identified in Rating Form 3 and transfer those items under the heading “Organizational Level Issues” on the Issues Consolidation Form.
5. Refer to Session 2.6 Negative Environmental Consequences of Relief Aid and to the exercise analyzing the potential consequences of the proposed housing construction project. Identify the top three potential negative consequences and transfer those items under the heading “Organizational Level Issues” on the Issues Consolidation Form.
6. Refer to the composite Community Assessment Summary Form you completed in Module Two: Community Level Assessment.

Note that Questions 1-3 corresponds to Section One of the Organizational Level Assessment (OLA), the Context Statement.

Questions 4-16 correspond to Section Two of the OLA, Factors Influencing Environmental Impacts.

Questions 17-22 correspond to Section Three of the OLA, Environmental Threats of Disaster.

Questions 23-32 correspond to Section Four of the OLA, Unmet Basic Needs.

And finally, Community Relief/Coping Actions correspond to Section Five of the OLA, Negative Environmental Consequences of Relief Actions.

Now, transfer the top three priority concerns from each Section of the Community Assessment Summary Form to the Issues Consolidation Form, found directly after these instructions. Enter this information under the column for “Community Level Issues.”

7. Develop a single list of issues by consolidating all duplicate and substantially similar issues listed in the two columns. Duplication can be:
 - Within each assessment, e.g., water being mentioned several time in the community assessment, or
 - Between assessments, e.g., water being mentioned in the organizational and community level assessments.

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

Issues Consolidation Form

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

STEP 8 of the REA Process: Identify Critical Issues and Actions.

1. Transfer the results of the consolidation process to the first column of the **Issues and Actions Form** that follows this page.
2. Identify simple and specific actions to address each issue using a rapid brainstorming approach. Actions fall into four groups:
 1. Redesign or re-orient an existing project or activity,
 2. Design a new project,
 3. Collect more information, or,
 4. Advocacy.

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

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

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

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

STEP 9 of the REA Process: Prioritize Issues and Actions

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

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

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

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

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

STEP 10 of the REA Process: Environmental Consequences of Relief Activities Review

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

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



Alternate Exercise: Consolidation and Analysis²⁰

Background

The REA is taking place in Suremia, which is emerging from 23 years of conflict and is now experiencing a drought. Due to the lingering climate of conflict, funding efforts remain focused on relief and short-term rehabilitation, and longer-term interventions have not yet gotten underway. Many of the agreed priorities include a development perspective but many donors are limited to humanitarian assistance at the moment. Only one of the donors requires an environmental impact screening for projects.

Local and external sources of information on environmental conditions in the country are limited. Most of the information that does exist is in the form of project documents with the exception of numerous maps and satellite imagery. There is limited access to the internet for many staff and communities. Many local environmental experts have left the country and the few remaining with experience in environmental issues now work for NGOs.

The REA is now in the consolidation and analysis phase. Some people who participated in the assessment are positioned to support certain actions that they strongly believe in. Those who have some expertise in environmental matters also have some strong preferences. Meanwhile, others feel obligated to support ideas that are being presented by donors that serve their own preferences.

Due to the emergency, staff members of all organizations are exceptionally busy. There are numerous meetings and staff are often on field trips. Staff reported that the REA process was very useful to help them to consider environmental impact, however, they are concerned about whether the process will have the desired impact on programs, given the time and resource constraints. Follow-up on the REA is likely to involve training staff, developing manuals and establishing procedures for environmental management.

Most of the assessment at organizational level focused on male-oriented issues. While two women participated in the organizational assessment, little direct attention was given to what could be considered female-oriented issues such as cooking, food quality or biologically sound food production. The community assessment produced priorities which differed from the organizations and many cross-cutting issues were highlighted such as effects of conflict and inequity. Some organizations have already established their programs based on their mandates and preferences of their donors.

The 5 communities involved in the Community REAs were extremely participative in the focus group interviews. The issues were of great concern to them as they are plagued with environmental problems on a daily basis and also are troubled regarding the future of their children. The other 20 affected communities have received very little or no information about the REA process.

²⁰ This exercise includes problems identified through the REA field tests in Afghanistan, Ethiopia and Indonesia

Exercise Directions

In your groups, read the questions that you are assigned by the facilitator and be ready to discuss the issues in 20 minutes.

Community issues

1. How will you relay analysis results to the communities who participated and gather their feedback and/or validation?
2. What steps can be taken to include community feedback in the final analysis if it is held in a headquarters away from the affected areas?
3. How do you anticipate that the actors or organizations which did not participate in the community assessment will view the community priorities? What steps might be taken to facilitate their understanding?

Organizational issues

1. How will you know if important environmental issues are missing from the analysis – such as unique ecosystems that were not identified by the communities participating in the assessment?
2. How might the assessment take into consideration the problems of women that did not become a priority?
3. How should the analysis prompt attention and action to related cross-cutting issues, particularly those that may be root causes of environmental degradation?

Process issues

1. If assessment team members are too busy to participate in the consolidation and analysis process, do you have an alternative means of gathering consensus?
2. If a group size of 11-15 is considered optimal, and twice that many attend the C and A session, what process(es) is useful to reach consensus?
3. What mechanisms for follow-up (email, workshops, newsletters, etc.) would be the most useful to staff? To communities?
4. How can the REA results and process be figured into program designs?

Scoring issues

1. How will you be prepared to address questions on the design of the qualitative data collection process?
2. What steps should be taken if the resulting priorities do not agree with environmental studies conducted by others?
3. If the interface of many issues between relief and recovery is very strong, what procedures can be used to screen out issues not directly related to the immediate problems facing the disaster survivors?

Indonesia – REA Field Test, January 2003

Results of Community Assessment - Ranking of Importance

This table is based on the results of the Community Assessment Summary Form. Issues which were reported as more common in communities are ranked higher than issues which were reported as less common.

COMMUNITY DATA SUMMARY

(Frequency of issue identified by communities.

“Ranking” refers to the number of communities in which the issue was mentioned.)

No	Elements	Ranking
4	Large number affected?	13
1	Reported Environmental Concerns?	13
2	Reported Environmental Problems?	13
5	Disaster of long duration?	13
8	Is level of Self-sufficiency low?	13
14	Are expectations high?	13
17	Does env. have limited resilience?	13
19	Wildfire?	13
18	Drought?	13
20	Haze?	13
24	Human Disease?	13
32	Is personal safety adequate?	13
35	Is the control of insects and breeding sites adequate?	13
36	Are pesticides used safely?	13
9	Is social solidarity low?	12
16	Is capacity to absorb waste limited?	10
34	Is waste management appropriate?	10
15	Is resource use unsustainable?	9
26	Potable water available for humans?	7
23	Animal Disease?	6
31	Are household resources adequate?	5
33	Is human health adequate?	5
3	Unique Areas?	4
29	Is food adequate?	4
21	Flood?	4
13	Is livelihood not diversified?	2
22	Conflict?	2
11	Is cultural homogeneity low?	1
12	Are assets concentrated?	0
7	Have the victims moved a great distance?	0
6	Are the disaster victims concentrated?	0
27	potable water available for animals	0
28	Is shelter adequate for local expectations?	0
30	Is fuel adequate?	0

Comparison of Issues Identified by During Group and Community Assessments

This table takes the more salient issues identified in the group and community assessments from the Indonesia example and presents them by category (e.g., Unmet Basic Needs). This table was the first step in compiling a consolidated list of issues reflecting both group and community perceptions.

Issues Consolidation Form

Organizational Level Issues	Community Level Issues
Context Statement	
Environmental degradation due to an inappropriate policy	Environmental concern
Mismanagement of peat land	Environmental Problem
Attitude does not address Env. Change	Large number affected
Disaster Related Factors with Immediate Impact on the Environment	
Low resilience	Long duration
Long duration	Low sufficiency
Concentrated victims	High expectation
	Low resilience
	Low Social solidarity
	Unsustainable resources use
Possible Environmental Impacts of Disaster Agents	
Loss habitat due to fire	Drought
Pest and disease cause by environmental change	Fire
Air pollution	Human diseases
	Haze
	Flood
Unmet Basic Needs	
Lack of foods (Rice)	Personal safety
Health	Low control breeding sites of insect
	Unsafe use of pesticides
	Low water availability
	Low rice availability
	Human health
Potential Negative Environmental Consequences of Assistance	
High expectation	Tuber consumption
Training (Resources Extraction)	Traditional medicine (herbal)
	Extractive rubber tapping
	Early harvest rattan
	Gold mining
	Logging
	Fishing
	Hunting
	Fire break
Other Critical Issues	

Session 3.4 Module Four: Green review of relief procurement



Exercise

We will form four groups, each with a specific identify or point of view.

- Group 1: government officials
- Group 2: NGO staff
- Group 3: International organization staff
- Group 4: Disaster affected population

Each group should consider the four areas of green procurement:

- energy efficient equipment
- waste reduction
- recycling
- reduction of energy requirements

Each group should prepare a short presentation with the following points

- What their role is in promoting the green procurement process (government, NGOs, UN, Communities) and what they would expect other actors to do
- Why they do or do not see the green process as beneficial and what benefits/problems can be expected
- What constraints exist and how can they be overcome
- What steps can be taken immediately to promote the process and what longer-term steps can be taken

Session 3.5. REA implementation issues

Notes: