

Module 4 – Sphere and disaster preparedness

Trainers' Notes

Module 4 is designed to enable participants to:

- use key terms including disaster, hazard, risk, capacity and vulnerability
- gain a practical understanding of disaster preparedness, disaster prevention and disaster mitigation
- apply the Sphere handbook in disaster preparedness planning
- explore the impact of the Humanitarian Charter on disaster preparedness planning

You can use Module 4 in four ways:

Half day Stand alone training seminar	Half day as introduction to Module 3
Half day as follow up to Module 3	One day as a full day programme using the optional toolkit activities

Please:

- review these materials carefully
- adapt them to meet the needs of your audience

See Part 1: Trainers' Guide for guidance on maximising the impact of your training.

Review the 20 page background note:

- read it to become familiar with the core content and issues relating to this module
- consider if you want to send or email it to participants for them to read as preparation for your workshop
- consider if you want to give it to participants after the workshop as a reference guide
- see 'Module 4 Background note' in the Module 4 section on the CD

Use this training material for:

- all the trainers' notes relating to Module 4
- a toolkit of optional exercises and handouts which you may want to build into your training programme

Review the slides for this module:

- use **'Module 4 slides'** on the CD
- see print-outs in Part 1: Trainer's Guide, Section E

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	Use	Page
Session 1: Basic concepts 90 minutes	Enable participants to: <ul style="list-style-type: none"> • identify key elements of the most commonly used definitions for disaster, hazard, risk, capacity and vulnerability • explain the difference between disaster preparedness, disaster prevention and disaster mitigation 	333
Session 2 Disaster preparedness case study 90 minutes	Enable participants to: <ul style="list-style-type: none"> • describe how to apply the Sphere handbook as a planning benchmark in disaster preparedness planning • explain how the Humanitarian Charter and its emphasis on participation has direct relevance to community-based disaster preparedness planning • use this case study immediately following Module 3 on "Sphere and the Project Cycle" as it builds on the Domistan case study 	343

Total time for sessions 1 and 2 = about 3 hours

Optional toolkit

In addition to the two 90 minute sessions, there are 8 optional exercises.

These enable you to use the modules flexibly to meet the specific needs of your audience.

Review these exercises to see how you can build them into your training programme to enhance impact and retention.

Further optional exercises are available in other modules and on-line at: www.sphereproject.org

Optional toolkit exercises	Use	Page
1: Optional disaster preparedness case study Case study 90 minutes	<ul style="list-style-type: none"> • help people to become familiar with the structure and content of the handbook • demonstrate how to use the Sphere handbook in relating to common issues • enable people to apply the handbook to realistic situations • use this case study if you are not running Module 4 immediately after Module 3 • use this for a case study that does not require prior knowledge of the Domistan Case Study • as a stand alone as part of a short half-day workshop 	349
2: In depth discussion of the basic concepts Small team terminology exercise 60 minutes	<ul style="list-style-type: none"> • explore in detail the basic concepts including hazard, risk, vulnerability and capacity • use with groups who have no prior experience of disaster management and who need a more in-depth introduction to the basic concepts • use as an alternative to the part of Session 1 focusing on these key terms 	359
3: Disaster management terms Card based brainstorming 45 minutes	<ul style="list-style-type: none"> • enable people to become more familiar with disaster management terms • distinguish between disaster management concepts and the activities that contribute to them • use with groups who have some experience of disasters, but who would gain from the wider perspective of seeing how their work contributed to disaster management as a whole 	362
4: Disaster preparedness tools Presentation and exercise 45 minutes	<ul style="list-style-type: none"> • promote awareness of key disaster preparedness tools • enable participants to become familiar with the risk analysis matrix and Capacity and Vulnerability Analysis (CVA) • use with practitioners who will be working with communities or developing disaster preparedness plans 	365

Optional toolkit exercises	Use	Page
5: The typology of disasters Presentation and exercise 90 minutes	enable participants to focus on the characteristics and impact of different common types of disasters <ul style="list-style-type: none"> • explore factors to consider in disaster preparedness • practise identifying the key points in a disaster 	368
6: How Sphere informs disaster preparedness Exercise 45 minutes	explore the use of the Sphere handbook <ul style="list-style-type: none"> • apply the handbook to a range of disasters • demonstrate how the handbook is directly relevant to preparedness 	377
7: Disaster management models Debate and exercise 45 minutes	explore slow onset, rapid onset, and expand stretch disaster management frameworks <ul style="list-style-type: none"> • demonstrate the value of using the Sphere handbook in disaster management • use with less experienced groups who need a deeper understanding of disaster management • use with more advanced groups who want to debate if the Sphere handbook is appropriate beyond the disaster response project cycle 	381
8: Local disaster preparedness exercise Exercise 90 minutes	apply the handbook and tools in the participants' own situation <ul style="list-style-type: none"> • practice using the risk analysis tool in a real context. • with operational staff who want a practical training that applies to their context 	383

Module 4

Session 1: Basic concepts

Overview

Learning objectives

At the end of this session participants will be able to:

- Identify the key elements of the most commonly used definitions for the terms: disaster, hazard, risk, capacity and vulnerability
- Explain the difference between disaster preparedness, disaster prevention and disaster mitigation

Main messages

- Organisations and individuals define the term “disaster” in different ways
- How people and communities are affected by disasters is closely related to their capacities and vulnerabilities
- **Human vulnerability** is related to the degree to which people are susceptible to loss, damage, suffering and death. Vulnerability includes various factors including, amongst others, physical, economic, social, political and religious factors
- A **capacity** refers to the internal and external resources people, households and communities have to cope with in situations that threaten their life and well being
- A **hazard** is a phenomenon that has the potential to adversely affect human life and activity, for example, earthquake, volcanic eruption, economic collapse, political crisis, epidemic, landslide, deforestation
- **Risk** is the expected severity of a disaster. The level of risk will depend on the potential impact of the hazard, the vulnerability level of people, and their capacity to cope with the situation
- Different organisations and individuals define the term **disaster preparedness** in different ways. Definitions of disaster preparedness vary as they are often closely associated to organisational mandates. So your perspective on how to prepare for a disaster may depend on what your organisation does
- **Disaster preparedness** refers to a variety of activities and in many cases includes the following: prevention, mitigation and emergency response preparedness
- **Prevention** refers to the elimination of a risk. This can be done by addressing root causes of vulnerability, identifying hazards and building on the capacities of people
- For this module **mitigation** will be analysed as a short term process or set of activities focused on reducing, rather than eliminating, the likelihood of the potential impact of a hazard
- The distinction between mitigation and prevention is often blurred and the understanding of those terms will depend on individual's views and organisational mandates as well as context

Timing ⌚ **90 minutes.**

Method Presentation/lecture / Team work – Context case study / Group discussion

Resources needed Laptop / data projector / screen / flipchart and pens / The Sphere handbook

Visual aid PowerPoint slides

Preparation

- read the background note for Module 4
- prepare for visual aids as described in 'Part 1: Trainers' Guide'
- arrange the seating plan so that the room is organised into five team tables. Each person should be able to participate in discussions both in the main group and in small teams

Note

- if you are training in a multi agency setting, ensure participants concentrate on sharing ideas, and approaches towards disaster preparedness, and do not focus on trying to convince one another about the benefits of one definition over another.

Session 1: Basic concepts

Time	Activity
5	1: Introduction
15	2: Brainstorm on disaster
60	3: Team and group discussion on key terms
10	4: Conclusion
90	TOTAL TIME

You can find copies of all the slides for this Module in the PowerPoint section at the back of Part 1: Trainers' Guide, Section E.

Activity 1: Introduction

5 mins

☐ Show slide: 'Title slide: Module 4'

Keep this slide on screen while people arrive and settle in for the session.

☐ Show slide: 'Aim for Module 4'

Explain the aim for Module 4:

- analyse the basic conceptual framework related to disaster preparedness
- explore how this conceptual framework relates to the Sphere handbook

☐ Show slide: 'Session 1 Basic concepts'

Explain that:

- now we are going to look at basic concepts and terminology behind disaster preparedness

☐ Show slide: 'Learning objectives'

Explain the objectives for the session:

- to identify the key elements of the most commonly used definitions for the terms: disaster, hazard, risk, capacity and vulnerability
- to explain the difference between disaster preparedness, disaster prevention and disaster mitigation

☐ Show slide: 'Assumptions'

Explain that:

- now we are going to look at some of the assumptions behind Module 4
- we need to reach agreement on commonly used terms
- this will help you to complete a case study exercise later

This slide builds using the following points:

- populations affected by disasters have a right to disaster assistance or humanitarian assistance
- they have a right to determine the type of assistance they need
- disaster preparedness provides opportunities for rights-based participation
- preparedness is an important step toward good quality and accountability

 Allow up to 5 minutes for this introduction.

Activity 2 - Brainstorm

15 mins

☐ Show slide: 'What is a disaster?'

Leave the instructions for this activity on screen.

Brainstorm with participants:

- 'what comes to your mind when you hear the word "disaster"?'

Write key words from the discussions on a flipchart.

Participants will probably say words or sentences that include:

- hazards, risks, vulnerabilities, capacities, affected systems, and preparedness activities

 Allow up to 5 minutes for this brainstorm.

Now ask:

'Is an earthquake in the middle of an uninhabited desert a disaster?'

Brainstorm with participants:

- 'What's the definition of a disaster?'

Identify the common elements between the words or phrases that come up by circling them in different colours on the flipchart.

 Allow up to 5 minutes for this brainstorm

☐ Show slide: 'The common elements'

Explain that the following elements tend to be found in definitions of disasters:

- disasters affect people
- they are usually triggered by a hazard
- they are directly related to vulnerability
- disasters exceed the capacity of a household, community or group of people to cope
- social processes play an important role in dealing with disasters
- so in fact, disasters have more to do with society than with natural phenomena

Bring this part of the activity to a close by explaining that:

- we are far from reaching a uniform and agreed upon definition of the term 'disaster'
- different organisations have different definitions

Activity 3 – Team and group discussion on key terms

60 mins

Preparation

As this activity involves combining small team and whole group discussion, please ensure that the seating plan enables this to happen without the disruption and delay of the participants moving around.

☐ Show slide: 'Discuss and agree'

Ask them to:

- work in small teams
- agree with their team definitions for the terms on the slide: hazard, risk, vulnerability and capacity

The time you need to allow for this part of the activity will depend on the level of experience of participants, and the diversity of organisations present.

 Ideally, allow up to 15 minutes.

Ask:

- 'What is a hazard?'

Ask for one team to read out their definition.

Ask the rest of the group for other elements to add.

☐ Show slide: 'What is a hazard?'

This slide builds using the following points:

- a hazard is a physical or human-made event that can potentially **trigger a disaster**
- examples include earthquakes, mud-slides, floods, volcanic eruptions, tsunamis, drought, economic collapse, and war
- these physical events in themselves need not necessarily result in disaster

Compare the group answers to the slide.

Explain that:

- the slide only gives one perspective

Ask them:

- 'Does the mandate of an organisation mandate affect the definition?'
- 'What are examples of hazards in this country?'

You may want to record their answers on a flipchart.

 Allow up to 3 minutes to discuss hazard.

Ask:

- 'What is a risk?'

Ask for one team to read out their definition.


Ask the rest of the group for other elements to add.

☐ As a summary, show slide: 'What is risk?'.

Explain that risk is:

- the probability/likelihood of a disaster happening
- risk analysis involves determining the probability of the disaster happening

Compare the group answers to the slide.

 Allow up to 2 minutes to discuss risk.

Ask:

- 'What is capacity?'

Ask for one team to read out their definition.

Ask the rest of the group for other elements to add.

☐ As a summary, show slide: 'What is capacity?'

This slide builds using the following points. Explain that :

- capacity is the resources of individuals, households and communities to cope with a threat or resist the impact of a hazard
- the key thing to ask is 'what capacities can be used or developed to increase people's capacity to cope?'

Compare the group answers to the slide.

 Allow up to 2 minutes to discuss capacity.

Ask:

- 'What is human vulnerability?'

Ask for one team to read out their definition.

Ask the rest of the group for other elements to add.

☐ As a summary, show slide: 'What is human vulnerability?'

This slide builds using the following points. Explain that :

- human vulnerability is the degree to which people are susceptible to loss, damage, suffering and death in the event of a disaster
- this is a function or result of physical, economic, social, political, technical, ideological, cultural, educational, ecological and institutional conditions
- vulnerability relates to an individual's or a community's capacity to cope with specific threats at a certain point in time

Compare the group answers to the slide.

Ask the group:

- what makes people vulnerable?

If you want to give examples, the following may help:

- poverty
- illness, such as AIDS

Explain that:

- it is vital to consider capacities whenever analysing vulnerabilities

Ask the group for examples of capacities.

If you want to give examples, the following may help:


- trained emergency teams
- well educated population who know what to do in a disaster

 Allow up to 10 minutes to discuss vulnerability.

☐ Show slide: 'The Ingredients?'

Explain that:

- now we are going to look at the factors that influence risk
- risk can be thought of as hazard and vulnerability multiplied, less capacity
- so, the greater the hazard and vulnerability, the greater the risk
- the greater the capacity to cope, the less the overall risk
- now we are going to look at that in more detail

 Allow up to 2 minutes.


☐ Show slide: 'Hazard x vulnerability – capacity = risk'

This slide builds using the following points. Explain that:

- hazard represents the potential threat to humans and their welfare
- vulnerability is the population's exposure and susceptibility to loss of life or dignity
- capacity is the available and potential resources which the population can call on to cope with the disaster, and the Sphere handbook can help us to identify capacity and lead towards a participative, rights-based approach
- risk is the probability of a disaster happening
- therefore, the disaster itself is the realisation of a risk, that is, when the risk actually becomes reality

Explain that:


- thinking about a disaster in advance can help us to expose vulnerabilities and enhance capacities to cope

 Allow up to 2 minutes.

☐ Show slide: 'What is the difference?'

Ask the small teams to discuss and agree the difference between the three terms on the slide.

- disaster preparedness
- disaster mitigation
- disaster prevention

 Allow up to 10 minutes for this discussion.

☐ Show slide: 'What is disaster preparedness?'

This slide builds using the following points. Explain that:

- disaster preparedness involves measures that ensure the readiness and ability of a society to do the following things
- forecast disasters and their impact, and take precautionary measures in advance of an imminent threat
- respond to and cope with the effects of a disaster by organising and delivering timely and effective assistance
- participation is essential at all stages if disaster preparedness is going to be successful

Ask the group:

1. 'what activities are important in disaster preparedness?.'



Allow up to 5 minutes.



Show slide as a summary: 'Examples of preparedness activities'.

Explain that:

- the aim of disaster preparedness activities is to prepare the response to the disaster more effectively by adopting useful practices

here are some examples

- developing and testing early warning systems is key
- clear evacuation plans need to be in place
- policies and procedures are needed in case of disaster
- also, detailed operational plans, for example materials and supplies may need to be put into position
- resources need to be identified and secured for the disaster
- and staff need to be trained, for example in how to use the Minimum Standards and indicators

You may also want to mention the following examples:

- contingency planning, for example based on the Sphere handbook's principles and standards
- agreeing stand-by arrangements with other humanitarian actors



Allow up to 2 minutes.



Show slide: 'Prevention, mitigation and preparedness'.

Explain that:

- disaster prevention focuses on activities designed to provide permanent protection from disasters
- disaster mitigation involves measures taken in advance of a disaster with the aim of reducing its impact on society and the environment
- disaster preparedness relates to the ability to predict, respond to and cope with the effect of a disaster



Allow up to 2 minutes.

☐ Show slide: 'Disaster, prevention and mitigation.'

Explain that:

- prevention aims to eliminate risk
- mitigation aims to reduce risk
- effective disaster prevention and mitigation 'builds on people's strengths and tackles the causes of vulnerability'
- community empowerment and the right to participate are central to good preparedness and mitigation

Ask the group:

- 'what activities are important in mitigating disasters?.'

Explain that:

- mitigation involves a two-pronged approach
- not only do you aim to reduce hazards, but you also aim to protect and equip communities
- solutions can be based in technology, or in people
- technological solutions include seismic and volcanic sensor systems for early warning and prediction



Allow up to 4 minutes.

☐ Show slide as a summary: 'Mitigation: How risks can be reduced'

This is a build slide in two parts. First, explain that:

Here are some examples of ways to reduce the impact of hazards

- constructing flood protection measures
- improving drainage
- reinforcing hill-sides
- eliminating the principal site of an infection

Next, explain that:

here are some examples to reduce the vulnerability of a community

- constructing earthquake resistant buildings
- carrying out micro-seismic studies to predict areas vulnerable to earthquakes
- moving populations away from river banks, helping to protect them from floods
- improving health and nutrition
- vaccinating populations

You may also want to mention the following examples:

- geological and topographical mapping and analysis to detect potential hazards (e.g. of mud-slides)
- building capacity in communities
- concrete measures to reduce vulnerability, such as relocation from highly vulnerable areas to safe and dignified housing, under fully agreed conditions.

Activity 5 – Conclusion

10 mins

End the session by asking participants to write a note for themselves with key learning points from the session.

Check if clarification is needed about any of the terms discussed.

Review the learning objectives.

If time, ask the participants to talk about examples of actions they have taken themselves in:

- disaster prevention
- disaster mitigation
- disaster preparedness.

Module 4

Session 2: Disaster preparedness case study

Overview

Learning objectives

At the end of this session the participants will be able to:

- Describe how to apply the Sphere handbook as a planning benchmark in disaster preparedness planning
- Explain how the Humanitarian Charter and its emphasis on participation has direct relevance to community-based disaster preparedness planning

Main messages

- The Minimum Standards and key indicators can be used as goals in a disaster preparedness plan

Timing ⌚ **90 minutes.**

Method Case study / Team work / Group discussion

Resources needed Make one copy of the handout 'Disaster preparedness case study exercise sheet' for each participant.

Preparation

- If you are running this module within a Sphere workshop, use this material immediately following Module 3 on "Sphere and the Project Cycle".
- If you are running this module as part of a shorter workshop, then use optional exercise 1 for a case study that does not require prior knowledge of the Domistan Case Study.

Session 2: Disaster preparedness case study

Time	Activity
5	1: Introduction
40	2: Small team work
30	3: Group presentations
15	4: Conclusion
90	TOTAL TIME

You can find copies of all the slides for this Module in the PowerPoint section at the back of Part 1: Trainers' Guide, Section E.

Activity 1: Introduction 5 mins

☐ Show slide: 'Session 2: Disaster preparedness case study'.

Keep this slide on screen while people arrive and settle in for the session.

☐ Show slide: 'Learning objectives'

This slide builds using the following points. Explain the objectives for the session:

- to describe how to apply the Sphere handbook as a planning benchmark in disaster preparedness planning
- to explain how the Humanitarian Charter and its emphasis on participation has direct relevance to community-based disaster preparedness planning

Ask them to work in small teams, ideally dividing the group into five equal teams.

Explain that:

- we are about to work through a case study to see how the Sphere handbook can help in disaster preparedness planning

Give each participant a copy of the handout: 'Disaster preparedness case study exercise sheet'.

Explain the background to the case study:

- in the study your team has been working in the country of Domistan for many hours now
- you are well aware of the many risks, vulnerabilities, capacities and hazards that you are encountering and are likely to encounter
- you have reviewed some theoretical frameworks and concepts

Now ask them to review the instructions on the handout.

Explain that:

- in the study we're going three years back into the past before today's events in Domistan
- you are now a humanitarian organisation in Domistan **prior** to all the events you have just experienced

Talk through the guidelines on the handout:

- develop a disaster preparedness initiative for your organisation
- the time frame should be ten years, but you need to concentrate on the first three years which is what you will get funding for
- it is up to your team to identify the main set of activities you want to propose
- remember to include the following elements for your initiative:
 - goal, description of activities, expected outcome, performance indicators, resources needed, and how this initiative relates to Sphere
- after 40 minutes you will have to present your initiative to a group of potential donors who may decide to fund your initiative
- you will need to nominate a spokesperson
- you will have up to 5 minutes to present your case to potential donors

Explain that:

- this is not an activity about presentation skills
- the important thing is not how you present, but rather the quality of your thinking

It is important to ensure that participants focus on the content of their work rather than worrying about their presentation or language skills.

Activity 2: Team work

40 mins

☐ You may want to show slide: 'Case study: Domistan' as a summary of the instructions.

Support the teams as they prepare their presentations, and answer any questions. If any teams finish early, you can assign additional optional questions.

 Allow up to 40 minutes for the teams to prepare their presentations.

Activity 3 – Team presentations

30 mins

Explain that:

- now we are going to simulate a donor's meeting
- each of you are going to be donors.

Hand out to each person a fake note to represent the donor's money.

Explain that at the end of the activity, they can decide which one of the projects they would fund.

Position a panel table in front of the room.

Ask each team to:

- nominate a spokesperson to explain to donors the about their team's disaster preparedness initiative.
- take it in turns to present their case for funding for their disaster preparedness project.

Encourage the rest of the group to ask questions.

 Allow up to 5 minutes for each presentation.

When the last team has presented, ask everyone to declare who they would give funding to.

Explain that:


- they cannot vote for their own project.

Activity 4 – Conclusions

15 mins

Lead a discussion by asking:


- 'How could these projects have influenced the outcome of the Domistan disaster?'
- 'If the projects had been given funding, would the disaster have happened?'

 Allow up to 5 minutes.

☐ Show slide: 'The Humanitarian Charter'

This slide builds using the following points. Explain that:

- the Humanitarian Charter guides our activity, and implies that people have a right to disaster preparedness work
- the Humanitarian Imperative is central to this
- it simply means "that all possible steps should be taken to prevent or alleviate human suffering...."
- the Humanitarian Charter also outlines an individual's right to life and the right to "have steps taken to preserve life where it is threatened, and a corresponding duty on others to take such steps."

 Allow up to 2 minutes.

☐ Show slide: 'Conclusions.'

This slide builds using the following points. Explain that:

- now we're going to draw some conclusions about the links between disaster preparedness and Sphere
- first, people have a right to life with dignity
- people have a right to minimum standards
- people have a right to be supported in their own mitigation and preparedness activities
- Sphere has direct relevance and underpins the approach to disaster mitigation and preparedness
- quality preparedness will be an important contributing factor for quality response.

 Allow up to 2 minutes.

☐ Show slide: 'Basic Disaster Preparedness'

This is a build slide.

Explain that:

- this is a simple diagram to help show the key components to determine what actions to take in disaster preparedness
- it also shows where the Sphere handbook is relevant.
- it starts with a risk analysis.

Next, explain that:

- the next step is to carry out a capacities analysis
- this is an analysis of the capacities of the local population, all levels of local government, civil society and, if necessary, your own organisation.

Next explain that:

- coordination and partnership are also essential to set up during the preparedness planning stage.

Next, explain that:

- people need to work towards clear goals and benchmarks
- this is where the Humanitarian Charter, Minimum Standards, key indicators and guidance notes have a role in helping people to see what they want to achieve, and how to measure their progress.

Next explain that:

- from this process the organisation draws up its strategy
- the disaster preparedness plan (DPP) only gets the agency to a state of readiness.

Finally, explain that:

- the actual response will involve tactical decisions, which can only be made once a disaster occurs.

☐ Show slide: 'Applying Sphere to Disaster Preparedness'

This is a build slide using the following points. Explain that:

- if a good response requires certain standards, then preparedness measures need to consider these standards in anticipation of their use
- by identifying goals for disaster preparedness work, Sphere is directly useful and relevant to two things:
 - the process of preparedness (Participation and co-ordination)
 - the product of preparedness (Concrete preparedness measures)

Module 4 Session 2

Disaster preparedness: Case study exercise sheet

Handout (1 page)

Context

- Jump into a “time machine” and go back in time 3 years prior to the events in Domistan. You are now, as a humanitarian organisation (F.O.O.D, Domistani Sisters, Donor X, etc), in Domistan, prior to all the events you have just experienced.

Task

- In your teams, develop a disaster preparedness initiative for your organisation. The time frame should be 10 years but concentrate on the initial three years as this is the period for which you will get funding.
- It is up to you to identify the main set of activities.

Include the following elements for your initiative:

- goal
- description of activities
- expected outcome
- performance indicators
- resources needed
- how this initiative relates to Sphere

After 40 minutes you will present your initiative in a presentation of no more than five minutes to a group of donors who may decide to fund your initiative.

Optional exercise 1: Optional disaster preparedness case study

Description

- this is a fictional case study arising from an amalgamation of a number of natural disasters in South America
- participants work in teams to review a disaster response operation, which suffers typical problems, and find examples of where the operation was “below Sphere Minimum Standards”. They make recommendations for the future

You can use this case study to:

- help people to become familiar with the structure and content of the handbook
- demonstrate how to use the Sphere handbook in relating to common issues
- enable people to apply the handbook to realistic situation

You can use this case study:

- as an alternative to the Domistan case study in Module 2, Session 2 if the group has not worked through Module 3: Sessions 2, 3, and 4 (assessments, analysis and planning)
- as a stand alone as part of a short half-day workshop

Timing ⌚ 90 minutes

Although note that the task is difficult to understand at first, in particular if participants have not seen the Sphere handbook beforehand. Give extra time for participants to find their way through the handbook structure.

Preparation

- photocopy the case study exercise handout for each participant
- photocopy the facilitators' sheet

Exercise

Ask them to work in small teams.

Explain that:

- we are about to work through a case study to see how the Sphere handbook can help in disaster preparedness planning

Give each participant a copy of the handout: 'Optional case study handout'.

Ask them to:

- read the case study

Review the instructions with the group, as outlined in the handout:


- As an individual, write down three things that went well in the response to the case and three things that didn't
- with your team, brainstorm what went well, and what didn't.

develop the following:

- five specific examples where the disaster response activities were below standards – give references from the handbook.
- list three major planning and coordination issues and explain how they could have been avoided.
- make five recommendations for a future Emergency Preparedness Plan based on lessons learned from this disaster. For this question you could consult your background note, particularly the section on disaster preparedness planning

Explain that:

- they will need to present their findings to the rest of the group, in a presentation lasting no longer than three minutes


 Allow up to 15 minutes for the participants to read the case study and instructions.

☐ You may want to show the slide: 'Optional case study' as a summary of the instructions.


Circulate between the teams.

Use the facilitator's handout: 'Optional exercise 1: facilitator notes' to:

- identify optional discussion questions to ask the group
- see examples of references to the handbook, demonstrating how it applies in this study

 Allow up to 45 minutes for the participants to work through the case study and prepare their presentations.

In the time remaining, ask the teams to make their brief presentations.

 Allow up to 30 minutes for all the teams to present, depending on the number of teams.

Option

Note that the team presentations might be fairly similar, and to avoid unproductive repetition, you can take several approaches:

- ask only a couple of teams to make a presentation, and encourage others to add things from their work that were missed
- ask each team to present one part of the exercise, and ask the other teams to fill in issues that were missed
- assign a different optional question to each team
- start with the first team presenting their entire work, and ask subsequent teams to only add things that were not mentioned

alternative approach for time saving:

- divide the group into four or six teams and ask them to present to each other.
- use facilitators for each team and pose optional discussion questions in each small team. Report the results of these discussions in the main group

Optional exercise 1

Optional case study

Handout (4 pages)

This case study is:

- based loosely on real events, but is not a reliable account of any specific disaster
- a tool for training rather than a critique of any particular disaster response

Instructions

A Please read the case study

B As an individual, write down three things that went well in this response and three things that didn't

C With your team, brainstorm the things that went well, and what didn't.
Move on to develop the following:

1 Five specific examples where the disaster response activities were below standards – give references from the handbook.

2 List three major planning and coordination issues and explain how they could have been avoided.

3 Make five recommendations for a future Emergency Preparedness Plan based on lessons learned from this disaster. For this question you could consult your Module 4 background note, particularly the section on disaster preparedness planning.

D Optional discussion questions

- 1 How is Sphere useful in disaster response planning?
- 2 How can you use Sphere to develop an emergency plan?
- 3 What are the limitations of Sphere in emergency planning?
- 4 How would a government agency use Sphere in disaster response planning?
- 5 Discuss how people, for example local communities, can participate in disaster response planning.
- 6 How would Sphere be used as a training component in disaster response planning?

Scenario

- A major cyclone strikes a coastal city of 300,000 inhabitants. For eight hours major sustained winds of 300 km/hr hit this city mixed with heavy rains. Rivers and tributaries clog causing massive flooding. In some cases the water rises 3 metres in less than one hour. About 1,000 people are killed, three times that are injured and tens of thousands are left homeless. The worst hit are the poorer neighbourhoods where buildings are constructed using adobe and some modern housing estates built near a beach resort.
- The intense flooding causes dams to burst. Drainage ditches that handle “normal” rains cannot cope with this intense storm system. Housing built on hillsides is washed away by water or blown away by wind. There were no early warning systems or evacuation plans for this community, especially for senior citizens. Many may have died because they did not know the storm was coming or simply went in the wrong direction once it hit.
- The basic infrastructure of the city breaks down. Sanitation becomes an immediate problem. Those that can, climb onto roofs or trees. Many head for high points in and around the city but are soon isolated on these newly formed islands. Those who do make it to high ground are forced to set up crude shelters, toilets and washing facilities on limited space. There is no clean drinking water and people are beginning to drink the polluted water that surrounds them. Snake and other animal bites rise as these animals seek the same high ground being occupied by humans.
- The elderly and infants are severely affected. Some drowned and others die of exposure to the elements. The survivors lack the physical capacities to protect themselves, to establish makeshift shelters or mobilise themselves sufficiently for food and water.

The initial response

- The nation responds generously. Supermarkets support customers by purchasing family grocery packages to be shipped to the disaster region. Soon thousands of tons of food from baby formula milk to chocolates and even caviar pile up at the local airport and warehouses. However, the storm has neutralised the ground transportation systems as bridges collapse and roads disappear under water. The government has little or no airlift or boat capacity for this type of disaster.
- The military, Government Ministries and the National Red Cross Society are deployed to manage the crisis. However, their standards and operating procedures vary widely. Arguments soon develop as to which agency should take the lead, who will coordinate transportation/rescue efforts and who should be responsible for communications. The media criticises both the government and Red Cross for not responding rapidly and meeting human needs. Dozens of foreign rescue teams, military and civil, arrive, although most do not speak the local language. These relief volunteers become bottlenecked at the capital or the main airport. The Municipal authorities are being inundated with requests from the media, Central Government, the Red Cross, local and international agencies with lists of their needs. There is no coherent or authoritative list of what resources are available and what is needed. Aid workers who do find their way to the flooded area often show up with inappropriate equipment. For example, they bring vehicles without fording equipment, incompatible radio systems, rubber boats with no motors.
- Relief workers, military, municipal workers and volunteers are victims of the disaster themselves; many suffering from post traumatic stress. They lack experience and specific guidance from the government. Serious friction occurs between the Red Cross and Central Government over funding, standards, responsibility and accountability. The quantity and quality of services, from the size and spacing of temporary shelters, to the number of latrines and water points, to what kind and how much food is needed and how it should be prepared and distributed, lead to serious disagreement.
- Camps are established at the periphery of the flood on high ground for those who are lucky to make it to these locations. Some camps are 'five star' while others have truly miserable conditions. There is a feeling that certain ethnic groups are getting second-rate care. There is no coordination on how to rescue people trapped on the "islands" inside the flood area. Feelings of competition among aid providers, especially international providers, and feelings of resentment among the affected population grow rapidly.
- The initial outpouring of solidarity and community spirit begins to wane, especially as the discrepancies in the provision of food and temporary shelter become evident. Some families have received airy family tents which are modern, spacious, water proof, fully ventilated, high enough to walk upright in and with built in ground sheets. Others have received only the UN standard 5m x 5m plastic sheeting, while some have been coping with torn sheets of packing plastic nailed to bamboo sticks. Community leaders are incensed by the perceived injustice of the shelter distribution. Meanwhile children are becoming ill with gastro-intestinal diseases, mosquitos abound and dense areas of sheltered accommodation are beginning to resemble muddy swamps.
- Few have experience of how to manage the thousands of tons of food and domestic items

that have been sent to the region. Inappropriate clothing and other unsolicited items, clog the system. Even much needed items such as water purification tablets sit in warehouses. The overflowing warehouse of the Red Cross is ransacked by an unruly crowd who can see mattresses, water containers and food parcels which have not been distributed.

- In the surrounding countryside the people seem to be little better off. Flooding and wind damage was less but basic transportation infrastructure was still destroyed. Trees and bushes have been cut down to make shelters. Their primary concern is for basic foodstuffs and hygiene items as the roads have been cut off for a week now. Urban areas have been taking priority because of the numbers involved, putting the populations in rural areas at risk of malnutrition and disease.
- Water in many areas is contaminated, though it was initially clean and potable. Excrement lies everywhere. Odours of death and filth merge. As floodwater recedes, reconstruction is happening haphazardly. Some people clear their properties and start collecting bricks, roofing materials or timber, according to their means. Others just sink deeper into depression and inaction, lacking materials, land and guidance.

Optional exercise 1: facilitator notes

Optional discussion questions

- How is Sphere useful in disaster response planning?
- How can you use Sphere to develop an emergency plan?
- What are the limitations of Sphere in emergency planning?
- How would a government agency use Sphere in disaster response planning?
- Discuss how can people participate in disaster response planning.
- How would Sphere be used as a training component in disaster response planning?

The page numbers in the following text refer to specific parts of the Sphere handbook where the trainer and the participants will be able to tease out information relevant to this case study. The pages referred to are just some examples of where particular information can be found in the handbook, and will serve as a guide in exploring the use of the Sphere handbook in disaster preparedness. By no means do they represent an exhaustive list of pages in the handbook where relevant information can be found. The page references given refer to the 2000 and **2004** editions of the handbook, with the 2000 page reference given first and the **2004 references in bold type**.

A major cyclone strikes a coastal city of 300,000 inhabitants. For eight hours major sustained winds of 300 km/hr hit this city mixed with heavy rains. Rivers and tributaries clog causing massive flooding. In some cases the water rises 3 metres in less than one hour. About 1,000 people are killed, three times that are injured and tens of thousands are left homeless. The worst hit are the poorer neighbourhoods where buildings are constructed using adobe and some modern housing estates built near a beach resort.

The intense flooding causes dams to burst. Drainage ditches that handle “normal” rains cannot cope with this intense storm system. Housing built on hillsides is washed away by water or blown away by wind. There were no early warning systems or evacuation plans for this community, especially senior citizens. Many may have died because they did not know the storm was coming or simply went in the wrong direction once it hit.

The basic infrastructure of the city breaks down. Sanitation becomes an immediate problem. Those that can, climb onto roofs or trees. Many head for high points in and around the city but are soon isolated on these newly formed islands. Those who do make it to high ground are forced to set up crude shelters, toilets and washing facilities on limited space. There is no clean drinking water and people are beginning to drink the polluted water that surrounds them.

Pages 21/**29**, 179/**29**, 198/**21**.

The elderly and infants are severely affected. Some drowned and others die of exposure to the elements. The survivors lack the physical capacities to protect themselves, to establish makeshift shelters or mobilise themselves sufficiently for food and water.

The nation responds generously. Supermarkets support customers by purchasing family grocery packages to be shipped to the disaster region (pages 98-101/**158-161**). Soon thousands of tons of food from baby formula milk (pages 96/**141**) to chocolates and even caviar pile up at the local airport and warehouses. However, the storm has neutralised the ground transportation systems as bridges collapse

and roads disappear under water. The government has little or no airlift capacity for this type of disaster.

Pages 30-39/63-75

Pages 90-103/137-144

The military, Government Ministries and the National Red Cross Society are deployed to manage the crisis. However, their standards and operating procedures vary widely. Arguments soon develop as to which agency should take the lead, who will coordinate transportation/rescue efforts and who should be responsible for communications. The media criticises both the government and Red Cross for not responding rapidly and meeting human needs. Dozens of foreign rescue teams, military and civil, arrive, although most do not speak the local language. These relief volunteers become bottlenecked at the capital or the main airport. The Municipal authorities are being inundated with requests from the media, Central Government, the Red Cross, local and international agencies with lists of their needs. There is no coherent or authoritative list of what resources are available and what is needed. Aid workers who do find their way to the flooded area often show up with inappropriate equipment. For example, they bring vehicles without fording equipment, incompatible radio systems, rubber boats with no motors.

Pages 20,74,135,179 and 223/24-40 (Analysis)

Pages 312/315 (Code of Conduct- in particular the section entitled ' The Working Environment' and annexes I-III)

Relief workers, military, municipal workers and volunteers are victims of the disaster themselves; many suffering from post traumatic stress. They lack experience and specific guidance from the government. Serious friction occurs between the Red Cross and Central Government over funding, standards, responsibility and accountability. The quantity and quality of services, from the size and spacing of temporary shelters, to the number of latrines and water points, to what kind and how much food is needed and how it should be prepared and distributed, lead to serious disagreement.

Pages 56,110,163, 209 and 254/40-43 (human resource and capacity training)

Camps are established at the periphery of the flood on high ground for those who are lucky to make it to these locations. Some camps are literally 'five star' while others have truly miserable conditions (pages 189-192/211-229). There is a feeling that certain ethnic groups are getting second-rate care (page 210/29). There is no coordination on how to rescue people trapped on the "islands" inside the flood area. Feelings of competition among aid providers, especially international providers, and feelings of resentment among the affected population grow rapidly (pages 189-192 and 198-208/211-224).

The initial outpouring of solidarity and community spirit begins to wane, especially as the discrepancies in the provision of food and temporary shelter become evident. Some families have received airy family tents which are modern, spacious, water proof, fully ventilated, high enough to walk upright in and with built in ground sheets. Others have received only the UN standard 5m x 5m plastic sheeting, while some have been making do with torn sheets of packing plastic nailed to bamboo sticks. Community leaders are incensed by the perceived injustice of the shelter distribution. Meanwhile children are becoming ill with gastro-intestinal diseases, mosquitoes abound and dense areas of sheltered accommodation are beginning to resemble muddy swamps.

Pages 189-192 and 198-205/211-224

Few have experience of how to manage the thousands of tons of food and domestic items that have been sent to the region. Inappropriate clothing and other unsolicited items clog the system. Even much needed items such as water purification tablets sit in warehouses. The overflowing warehouse of the Red Cross is ransacked by an unruly crowd who can see mattresses, water containers and food parcels which have not been distributed.

Pages 150-151/**35** (targeting)

Pages 152-154/**165** (resource management)

In the surrounding countryside the people seem to be little better off. Flooding and wind damage was less but basic transportation infrastructure was still destroyed. Trees and bushes have been cut down trees to make shelters. Pages 207-208/**227-229**. However their needs are different. Their primary concern is for basic foodstuffs and hygiene items as the roads have been cut off for a week now. Urban areas have been taking priority because of the numbers involved, putting the populations in rural areas at risk of malnutrition and disease.

Water in many areas is contaminated, though it was initially clean and potable. Excrement lies everywhere. Pages 18/**56**. Odours of death and filth merge. As floodwater recedes reconstruction is happening haphazardly. Some people clear their properties and start collecting bricks, roofing materials or timber, according to their means. Others just sink deeper into depression and inaction, lacking materials, land and guidance.

Optional exercise 2: In-depth discussion on the basic concepts

60 mins

Description

- An exercise in small teams exploring the basic concepts in more depth than in Session 1.

You can use this activity:

- to explore in detail the basic concepts including hazard, risk, vulnerability and capacity
- with groups who have no prior experience with disaster management and who need a more in-depth introduction to the basic concepts.

You can use this activity:

- as an alternative to the part of Session 1 focusing on these key terms.

Preparation

- use the PowerPoint slides or prepare flipcharts
- you may want to ensure that participants have copies of the Module 4 background note

You will find this:

- in this book, at the end of this module
- on the accompanying CD the Training Material section, Module 4

<h2>Exercise</h2>

Divide the group into four teams.

Give each team one of the following concepts:


- hazard
- risk
- capacity
- vulnerabilities

Ask each team to:

- prepare a short presentation of up to 5 minutes on the concept they have been given


Explain that:

- in their presentation they need to explain in their own words what this concept is about
- they have 15 minutes to prepare their presentation

 Allow up to 15 minutes.

Call the group back together.

Ask the team which focused on 'hazard' to give their presentation.

 Allow up to 5 minutes.


☐ Show slide: 'What is a hazard?'

This slide builds using the following points:


- a hazard is a physical or human-made event that can potentially trigger a disaster
- examples include earthquakes, mud-slides, floods, volcanic eruptions, tsunamis, drought, economic collapse, and war
- these physical events in themselves, need not necessarily result in disaster

Compare the team's answers to the slide.

Ask the group for examples of hazards from their own experience.

 Allow up to 5 minutes.

Ask the team which focused on 'risk' to give their presentation.

 Allow up to 5 minutes.


☐ Show slide: 'What is risk?'

Explain that:


- risk is the probability/likelihood of a disaster happening
- risk analysis involves determining the probability of the disaster happening

Compare the team's answers to the slide.

Ask the group for examples of risks from their own experience.

 Allow up to 5 minutes.

Ask the team which focused on 'capacity' to give their presentation.

 Allow up to 5 minutes.


☐ Show slide: 'What is capacity?'

This slide builds using the following points. Explain that :


- capacity is the resources of individuals, households and communities to cope with a threat or resist the impact of a hazard
- the key thing to ask is what capacities can be used or developed to increase people's capacity to cope?

Compare the team's answers to the slide.

Ask the group for examples of capacities from their own experience.

 Allow up to 5 minutes.

Ask the team which focused on 'vulnerability' to give their presentation.

 Allow up to 5 minutes.


☐ Show slide: 'What is human vulnerability?'

This slide builds using the following points. Explain that:

- human vulnerability is the degree to which people are susceptible to loss, damage, suffering and death in the event of a disaster
- this is a function or result of physical, economic, social, political, technical, ideological, cultural, educational, ecological and institutional conditions
- vulnerability relates to an individual's or a community's capacity to cope with specific threats at a certain point in time.

Compare the team's answers to the slide.

Ask the group for examples of human vulnerability from their own experience.

 Allow up to 5 minutes.

If you have time left, draw on the group's experience for further examples of hazards, risks, capacities and vulnerabilities.

Optional exercise 3: Disaster management terms

45 mins

Description

- A card-based brainstorming exercise on disaster management terms.

You can use this exercise to:

- enable people to become more familiar with disaster management terms
- distinguish between disaster management concepts and the activities that contribute to them.

You can use this activity:

- with groups who have some experience in disasters, but who would gain from the wider perspective of seeing how their work contributed to disaster management as a whole.

Preparation

- gather a number of blank cards and post-it notes.
- prepare a blank space on a wall or large board that you will stick the cards on to.
- attach a card or flipchart to the centre of the wall with the words 'Disaster management' written in large, clear letters at the centre.
- get something to enable you to stick the cards to the walls or board, for example BluTack.

<h2>Exercise</h2>

Step 1: Individual brainstorm

15 minutes

Ask them to work alone.

Give each participant three pieces of white card or paper.


Ask them to:

- write a key concept they think is central to disaster management on the cards
- put only one concept on each card.

If you want to give an example of a concept, suggest disaster response, which breaks down into a number of activities, such as organising the transport of supplies.

If you want to distinguish between a concept and an activity:

- a concept is an idea or group of ideas, for example 'preparedness'
- each concept breaks down into a number of key activities, such as creating early warning systems.

 Allow up to 10 minutes.


Ask them to:

- put their cards on the wall or board around the word 'disaster management'.

Ensure that activities and concepts are not mixed.

Example

Concept	Activity
• Preparedness	• Drawing up a local plan
• Prevention	• Moving people from high risk areas
• Relief	• Shipping in food aid

 Allow up to 5 minutes.

Part 2 – Team discussion

15 minutes

Divide the group into four teams of equal size.

Explain that:

- they are going to discuss some key concepts in disaster management

Ask each team to:

- focus on preparedness
- choose another concept from those arranged on the wall or board


Try to ensure that across the group as a whole all the most important concepts are covered, for example:

- prevention
- preparedness

Ask the teams to:

- identify and discuss the activities associated with the two concepts they are focusing on
- write these activities on post-its or small pieces of paper and stick them on the wall near to the concept they relate to

You may have to put up a flipchart to capture all the post-its on 'preparedness'.

 Allow up to 15 minutes.

Part 3 – Group discussion

15 minutes

Call the group back together.

Review all the post-its on display, and read them out loud so all the teams know what has been written.

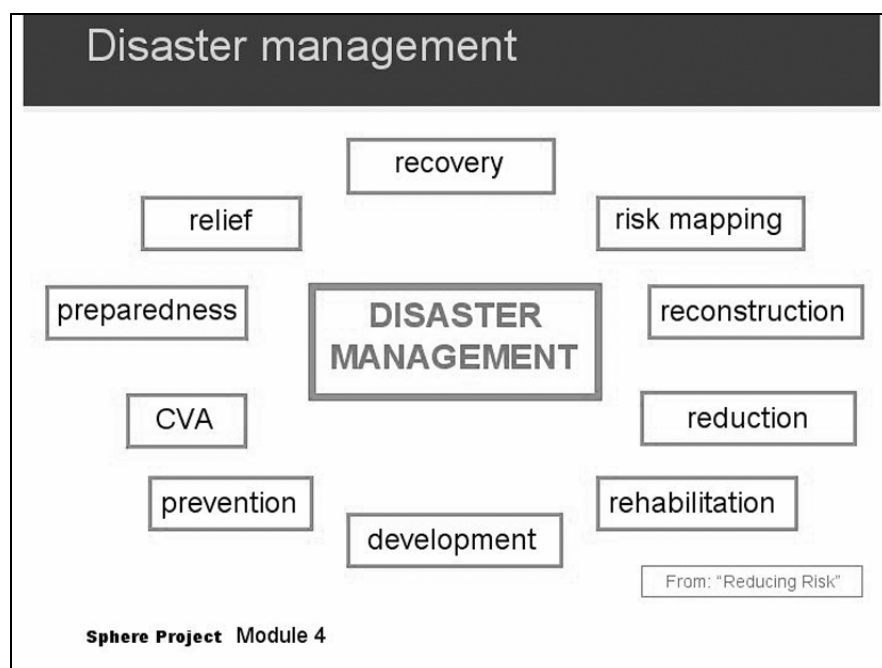
Ask the group the following questions as you organise the chart.

- Should the words/concepts be in any specific order?
- Which words belong together and how should they be arranged to show this relationship?
- Which words refer to concepts and which refer to activities?

Example

The following slide shows how the concepts might look.

To this your group will add activities.



Ensure that activities are clearly associated with one of the words.

Remove the duplicate words and organise the diagram in a way that makes it easy to read and understand.

Ask participants to:

- give examples from their own experience for some of the activities they identified as being part of disaster preparedness.

Optional exercise 4: Disaster preparedness tools

45 minutes

Description

- Presentation and an exercise focusing on using the risk analysis matrix and CVA.

You can use this exercise to:

- promote awareness of key disaster preparedness tools
- enable participants to become familiar with the risk analysis matrix and Capacity and Vulnerability Analysis (CVA)

You can use this exercise:

- with practitioners who will be working with communities or developing disaster preparedness plans.

Preparation

Review and prepare the PowerPoint slides.

Exercise

- ☐ Show slide: 'Emergency preparedness'


This is slide builds using the following points. Explain that:

- emergency preparedness is the readiness of a society to confront a potential disaster
- it covers all actions taken in order for people and organisations to be ready to react, and respond to a disaster situation.

Ask:

- 'What is the difference between emergency preparedness and disaster preparedness?'

Collect some ideas from the group.


 Allow up to 5 minutes.

Explain that:

- while there is a great diversity of opinion, for the purposes of this module emergency preparedness means getting ready for the tactical decisions and activities and disaster preparedness is a much wider concept

Ask:

- 'Who can be affected by a hazard?'
- 'Who should be involved in analysing risks?'

 Allow up to 5 minutes.

☐ Show slide: 'Risk analysis – who should be involved?'

Explain that:

- potentially affected communities should be involved in both the identification and the measuring of potential hazards and vulnerabilities
- they should also be involved in organising appropriate action to demand solutions

☐ Show slide: 'A simple risk analysis tool'


Explain that:

- this simple tool is one way to analyse risk
- there are other tools for risk analysis

Ask if anybody has examples of other risk analysis tools they might use.

Talk through how to use this simple risk analysis tool. Explain that:

- to use this risk analysis tool, write your hazards into the first column
- in the second column (A) assess the severity of the impact if this disaster happened
- use a scale from 1 to 10 in all these assessments, with 1 being the lowest, and 10 the highest
- in the third column (B) use your scale to assess how vulnerable the community is
- in the fourth column (C) assess how probable it is that the disaster will happen
- in the fifth column (D) assess how frequently this disaster has happened in the past
- in the final column, add the numbers for each disaster together in order to identify which is the hazard with the greatest total risk

 Allow up to 10 minutes.

☐ Show slide: 'Capacity and Vulnerability Analysis (CVA)'


Explain that:

- Capacity and Vulnerability Analysis or CVA recognises key underlying factors about the groups affected by a disaster
- it offers a balanced analysis by looking at both the capacities and vulnerabilities
- capacities are the underlying strengths in the community, which they call on to deal with a hazard
- it takes into account what the community can do and provide for itself
- vulnerabilities are the underlying problems within the community which make it harder for them to cope with a hazard
- by analysing both vulnerabilities and capacities, CVA may give a more complete picture of a community and its ability to cope with a hazard
- mitigation and preparedness both aim to minimise vulnerabilities and maximise capacities
- Sphere is based on the principle of recognising and building capacity

☐ Show slide: 'Capacity and Vulnerability Analysis'

Explain that:

- this was created to analyse communities in conflict, but it can also be used in peaceful situations
- the matrix explores the vulnerabilities and capacities of a community in three categories
- first, physical and material factors
- a physical or material vulnerability could be the difficulty elderly people or children may have in getting food aid
- a physical or material capacity could be the contribution local farming makes in terms of incomes and food for the community
- next, social and organisational factors
- here a vulnerability could be the changing social profile of the community as HIV/AIDS shifts the age profile with a higher proportion of elderly people and children
- a capacity could be the strong family traditions in the community, caring for old and young
- finally, motivational and attitudinal factors
- here a vulnerability could be the psychological impact of ongoing mass bereavement
- a capacity could be the community's commitment to education as an example of belief in the future

 Allow up to 10 minutes.

Ask them to work in small teams, ideally joining with people who work in the same context.


Give a flipchart and pens to each team.

Ask them to:


- draw a simple Capacity and Vulnerability Analysis for a project that they work on a flipchart
- nominate one member of their team to be able to talk about their analysis

Ask them to:

- display their flipcharts

 Allow up to 10 minutes.

In the time remaining, ask the spokespeople from each team in turn to explain their analysis while the rest of the participants circulate around the room reviewing the flipcharts.

 Allow up to 5 minutes.

Optional exercise 5: Typology of disasters

90 minutes

Description

- Presentation exploring the impact of common disasters and exercise to identify key characteristics of a specific type of disaster.
- It uses material from the IFRC World Disasters report and the United Nations Disaster Management Training Programme.

You can use this exercise to:

- enable participants to focus on the characteristics and impact of different common types of disaster
- explore factors to consider in disaster preparedness
- practise identifying the key points in a disaster

Preparation

- make photocopies of the set of six handouts for each participant
- if you have not already given participants the Module 4 background note, make a copy for each participant
- if possible, copies of the Latest World Disasters Report (IFRC) would be a useful reference text for this exercise

<h2>Exercise</h2>

Explain that:

- disasters can be divided into two main types: rapid onset or slow onset.

Ask for examples of:

- rapid onset disasters (earthquakes, hurricanes)
- slow onset disasters (droughts)

Refer to the background note page “disaster statistics 1991-2000”.

Ask them to read the page.

Explain that:

these are the biggest natural disaster killers according to the IFRC World Disasters Report:

- drought, wind storms, floods, transport accidents, and earthquakes

Explain that:

- conflict killed 10 times more people than the biggest natural disaster killer

Ask:

- are you surprised by this statistic?

Explain that:

- the number of hydro-meteorological disasters increased dramatically at the end of the 1990's.

Ask:

- 'Will this trend continue?'
- 'Why?' (climate change)



Allow up to 15 minutes for this introduction.

Ask them to work in four teams of equal size.**Give each team one type of disaster from the following:**

- conflict
- drought
- wind storm
- flood

Ask the teams to discuss and prepare a short presentation of up to 5 minutes to the rest of the group on the following:

- an overview of the hazard, and its typical effects
- the priorities in a typical response operation if such a disaster occurred
- how the Sphere handbook is relevant

You may want to summarise these guidelines on a flipchart.

Allow up to 20 minutes for the teams to prepare their presentations.

After 20 minutes, ask each team to make a short presentation to the rest of the group.



Allow up to 5 minutes per team: a total of 20 minutes.

Lead a group discussion on the typical elements of each disaster. Try the following questions:

- what steps would an organisation take to prepare in case of these hazards?
- what steps can a community take to prepare in case of these hazards?
- what sectors will be a priority if these hazards turn into a disaster?
- what would a typical mortality curve look like for that disaster?
- what would the rehabilitation and reconstruction activities consist of for those disasters?
- are there steps to take that are in common for each of the hazards?



Allow up to 15 minutes.

Give out the set of six 'types of disaster' handouts.**Ask them to:**

- review the handouts.



Allow up to 10 minutes.


Explain that:

- these typologies make clear the characteristics of disasters and what needs to be done about them
- given that most deaths are through conflict, we are going to draw up a typology for conflict

You will need to take this brainstorm step by step, using example categories from the typology:

- causal phenomena
- general characteristics and effects
- predictability
- factors contributing to vulnerability
- typical adverse effects
- possible risk reduction measures
- typical post-disaster needs
- impact assessment tools

In the time remaining, review their suggestions.

 Allow up to 20 minutes for the brainstorm and review.

Optional exercise 5: Typology of disasters

Handout (1 page)

1 - Type of disaster: Floods

(From the UNDMTP disaster management training programme)

Causal phenomena	Naturally occurring flash, river and coastal flooding from intense rainfall or inundation associated with seasonal weather patterns. Human manipulation of watersheds, drainage basins and floodplains.
General characteristics and effects	<i>Flash floods</i> – Accelerated runoff, dam failure, breakup of ice jam. <i>River floods</i> – Slow buildup, usually seasonal in river systems. <i>Coastal floods</i> – Associated with tropical cyclones, tsunami waves, storm surges. Factors affecting degree of danger: depth of water, duration, velocity, rate of rise, frequency of occurrence, seasonality.
Predictability	Flood forecasting depends on seasonal patterns, capacity of drainage basin, flood plain mapping, surveys by air and land. Warning possible well in advance for seasonal floods, but only minutes before in case of storm surge, flash flood, or tsunami.
Factors contributing to vulnerability	Location of settlements on floodplains. Lack of awareness of flooding hazard. Reduction of absorptive capacity of land (erosion, concrete). Non-resistant buildings and foundations. High risk infrastructural elements. Unprotected food stocks and standing crops, livestock. Fishing boats and maritime industries.
Typical adverse affects	<i>Physical damage</i> – Structures damaged by washing away, becoming inundated, collapsing, impact of floating debris. Landslides from saturated soils. Damage greater in valleys than open areas. <i>Casualties and public health</i> – Deaths from drowning but few serious injuries. Possible outbreaks of malaria, diarrhoea and viral infections. <i>Water supplies</i> – Contamination of wells and groundwater possible. Clean water may be unavailable. <i>Crops and food supplies</i> – Harvests and food stocks may be lost to inundation. Animals, farm tools and seeds might be lost.
Possible risk reduction measures	Floodplain mapping. Land use control. Flood control (channels, dikes, dams, flood-proofing, erosion control).
Specific preparedness measures	Flood detection and warning systems. Community participation and education. Development of master plan for floodplain management.
Typical post-disaster needs	Search and rescue; medical assistance; disaster assessment; short term food and water supplies; water purification; epidemiological surveillance; temporary shelter.
Impact assessment tools	Damage survey forms; aerial surveys.

Optional exercise 5: Typology of disasters

Handout (1 page)

2 - Type of disaster: Drought

(From the UNDMTP disaster management training programme)

Causal phenomena	<p><i>Immediate cause</i> - Rainfall deficit.</p> <p><i>Possible underlying causes</i>-El Niño (incursion of warm surface waters into the normally colder waters of South American Pacific); human induced changes in ground surface and soil; higher sea surface temperatures; increase of atmospheric carbon dioxide and greenhouse gases.</p>
General characteristics and effects	<p>The reduction of water or moisture availability is temporary and significant in relation to the norm.</p> <p>Meteorological drought is the reduction in rainfall and hydrological drought is the reduction in water resources.</p> <p>Agricultural drought is the impact of drought on human activity influenced by various factors:</p> <ul style="list-style-type: none"> • the presence of irrigation systems • moisture retention capacity of the soil • the timing of the rainfall • adaptive behaviour of the farmers.
Predictability	<p>Periods of unusual dryness are expected in all weather systems. Rainfall and hydrology data must be carefully analysed with influencing factors in predicting drought. However, advance warning is usually possible.</p>
Factors contributing to vulnerability	<p>Location in an arid area where dry conditions are increased by drought.</p> <p>Farming on marginal lands, subsistence farming.</p> <p>Lack of agricultural inputs to improve yields.</p> <p>Lack of seed reserves.</p> <p>Areas dependent on other weather systems for water resources.</p> <p>Areas of low soil moisture retention.</p> <p>Lack of recognition and allocation of resources to drought hazard.</p>
Typical adverse affects	<p>Reduced income for farmers; reduction of spending from agricultural sector; increase in price of staple foods; increased inflation rates; deterioration of nutritional status; famine; illness; death; reduction of drinking water sources; migration; breakup of communities; loss of livestock.</p>
Possible risk reduction measures	<p>Drought and famine early warning systems.</p>
Specific preparedness measures	<p>Development of inter-institutional response plan.</p>
Typical post-disaster needs	<p>Measures to maintain food security: price stabilisation; food subsidies; employment creation programmes; general food distribution; supplementary feeding programmes; special programmes for livestock and pastoralists, complementary water and health programmes; rehabilitation</p>
Impact assessment tools	<p>Nutritional surveys, socioeconomic surveys, monitoring of rainfall and hydrological data, satellite imagery.</p>

Optional exercise 5: Typology of disasters

Handout (1 page)

3 - Type of disaster: Tropical cyclones

(From the UNDMTP disaster management training programme)

Causal phenomena	Mixture of heat and moisture forms a low pressure centre over oceans in tropical latitudes where water temperatures are over 26 degrees C. Wind currents spin and organise around deepening low pressure accelerating toward the centre and moving along track pushed by trade winds. Depression becomes a tropical cyclone when winds reach gale force or 117 km per hour.
General characteristics and effects	When the cyclone strikes land, high winds, exceptional rainfall and storm surges cause damage with secondary flooding and landslides.
Predictability	Tropical cyclones can be tracked from their development, but accurate landfall forecasts are usually possible only a few hours before as unpredictable changes in course can occur.
Factors contributing to vulnerability	Settlements located in low lying coastal areas (direct impact). Settlements in adjacent areas (heavy rains, floods). Poor communications or warning systems. Lightweight structures, older construction, poor quality masonry. Infrastructural elements, fishing boats and maritime industries.
Typical adverse affects	<i>Physical damage</i> – Structures lost and damaged by wing force, flooding, storm surge and landslides. <i>Casualties and public health</i> – May be caused by flying debris, or flooding. Contamination of water supplies may lead to viral outbreaks and malaria. <i>Water supplies</i> – Ground water may be contaminated by flood waters. <i>Crops and food supplies</i> – High winds and rains can ruin standing crops, tree plantations and food stocks. <i>Communications and logistics</i> – Severe disruption is possible as wind brings down telephone lines, antennas and satellite dishes. Transport may be disrupted.
Possible risk reduction measures	Risk assessment and hazard mapping. Land use control and flood plain management. Reduction of structural vulnerability. Improvement of vegetation cover.
Specific preparedness measures	Public warning systems. Evacuation plans. Training and community participation.
Typical post-disaster needs	Evacuation and emergency shelter; search and rescue; medical assistance; water purification; reestablish logistical and communication networks; disaster assessment; provision of seeds for planting.
Impact assessment tools	Damage assessment forms, aerial surveys.

Optional exercise 5: Typology of disasters

Handout (1 page)

4 - Type of disaster: Epidemics

(From the UNDMTP disaster management training programme)

Causal phenomena	<p>Definition: Exposure to a toxin resulting in pronounced rise in number of cases of parasitic or infectious origin.</p> <p>Unsanitary conditions, crowding, poverty.</p> <p>Ecological changes that favour breeding of the vector carrying the disease.</p> <p>Non-immune persons migrate to endemic disease area.</p> <p>Decline in nutritional status.</p> <p>Contamination of water or food supply.</p>
General characteristics and effects	<p>Risk of introduction or spread of the disease.</p> <p>Possible large number of cases.</p> <p>Severe disease leading to disability or death.</p> <p>Risk of social or economic disruption.</p> <p>Lack of adequate professional personnel, needed supplies.</p> <p>Danger of international transmission.</p>
Predictability	<p>Epidemics may increase due to rise in travel or migration and long-term dormant symptoms of sexually transmitted diseases.</p> <p>Reports of epidemics may increase due to better medical coverage. Prediction is assisted by epidemiological studies but may be constrained in newly formed settlements or emergency camps.</p>
Factors contributing to vulnerability	<p>Poverty.</p> <p>Lack of immunity (or vaccination) to diseases.</p> <p>Poor nutrition, poor sanitation, poor water quality, crowding.</p> <p>Poorly organised health care delivery.</p> <p>Drug resistant diseases.</p>
Typical adverse affects	<p>Illness and death.</p> <p>Social and political disruption, economic loss.</p> <p>Increased trauma in emergency settlements.</p>
Possible risk reduction measures	<p>Structuring and emergency health service.</p> <p>Preparing a contingency plan with inventory of required resources.</p> <p>Establishing an early warning system through routine surveillance.</p> <p>Training of national staff in emergency operations.</p>
Specific preparedness measures	<p><i>Intervention measures</i> – Verify and confirm diagnosis, identify cases, find source of epidemic, treat cases and control spread, write report.</p> <p><i>Community health education</i></p>
Typical post-disaster needs	<p>Emergency medical assistance; international aid, if outbreak uncontained.</p>
Impact assessment tools	<p>Epidemiological surveys; evaluation of health care systems and emergency response.</p>

Optional exercise 5: Typology of disasters

Handout (1 page)

5 - Type of disaster: Earthquakes

(From the UNDMTP disaster management training programme)

Causal phenomena	Slippage of crustal rock along a fault or area of strain and rebound to new alignment.
General characteristics and effects	Shaking of earth caused by waves on and below the earth's surface causing: <ul style="list-style-type: none"> • Surface faulting • Aftershocks • Tsunamis. • Tremors, vibrations • Liquefaction • Landslides
Predictability	Probability of occurrence can be determined but not exact timing. Forecasting is based on monitoring of seismic activity, historical incidence, and observations.
Factors contributing to vulnerability	Location of settlements in seismic areas. Structures which are not resistant to ground motion. Dense collections of buildings with high occupancy. Lack of access to information about earthquake risks.
Typical adverse affects	<i>Physical damage</i> – Damage or loss of structures or infrastructure. Fires, dam failures, landslides, flooding may occur. <i>Casualties</i> – Often high, particularly near epicentre or in highly populated areas or where buildings not resistant. <i>Public health</i> – Fracture injuries most widespread problem. Secondary threats due to flooding, contaminated water supply, or breakdown in sanitary conditions. <i>Water supply</i> – Severe problems likely due to damage of water systems, pollution of open wells and changes in water table.
Possible risk reduction measures	Hazard mapping. Public awareness programmes and training. Assessing and reducing structural vulnerability. Land use control or zoning, building codes. Insurance.
Specific preparedness measures	Earthquake warning and preparedness programmes.
Typical post-disaster needs	Search and rescue. Emergency medical assistance. Damage needs and assessment survey. Relief assistance. Repair and reconstruction. Economic recovery.
Impact assessment tools	Earthquake scales (Modified Mercalli, MSK), earthquake damage and usability forms.

Optional exercise 5: Typology of disasters

Handout (1 page)

6 - Type of disaster: Volcanoes

(From the UNDMTP disaster management training programme)

Causal phenomena	Magma pushed upward through volcanic vent by pressure and effervescence of dissolved gases.
General characteristics and effects	Types of volcanoes are cindercones, shield volcanoes, composite volcanoes and lava domes. Magma flowing out onto surface is lava and all solid particles ejected are tephra. Damage results from type of material ejected such as ash, pyroclastic flows (blasts of gas containing ash and fragments), mud, debris, and lava flows.
Predictability	Study of the geological history of volcanoes mainly located in a clearly defined volcanic belt, along with seismic activity and other observations, may indicate an impending volcano. No reliable indicator has been discovered and precursory signs do not always occur.
Factors contributing to vulnerability	Settlements on the flanks of volcanoes. Settlements in the historical paths of mud or lava flows. Structures with roof designs not resistant to ash accumulation. Presence of combustible materials. Lack of evacuation plan or warning systems.
Typical adverse affects	<i>Casualties and health</i> – Death from pyroclastic flows, mud flows and possibly lava flows and toxic gases. Injuries from falling rock, burns; respiratory difficulties from gas and ash. <i>Settlements, infrastructure and agriculture</i> – Complete destruction of everything in the path of pyroclastic, mud or lava flows; collapse of structures under weight of wet ash, flooding, blockage of roads or communication systems. <i>Crops and food supplies</i> – Destruction of crops in path of flows, ash may break tree branches, livestock may inhale toxic gas or ash; grazing lands may be contaminated.
Possible risk reduction measures	Land use planning for settlements around volcanoes. Protective structural measures.
Specific preparedness measures	National volcanic emergency plans. Volcano monitoring and warning system. Training for government officials and community participation in search and rescue, fire fighting.
Typical post-disaster needs	Warning and evacuation; medical assistance, search and rescue; provide food, water and shelter; relocate victims; provide financial assistance.
Impact assessment tools	Aerial and ground surveys to assess damage; evaluation of evacuation plan and emergency response.

Optional Exercise 6: How Sphere informs disaster preparedness

45 mins

Description

- exercise where participants draw links between the Sphere handbook and preparedness for specific types of disasters

You can use this activity to:

- explore the use of the Sphere handbook
- apply the handbook to a range of disasters
- demonstrate how the handbook is directly relevant to preparedness

Preparation

- Prepare photocopies of the handout: 'Disaster preparedness: Team activity'.

<h3>Exercise</h3>

Ask them to work in small teams of three or four people.

Give them the handout: 'Disaster preparedness: Team activity'.

Ask them to:

- follow the guidelines on the handout
- choose one topic to focus on: A, B, C, D or E.

Ask them to:

- choose one of the following hazards
- earthquakes
- tsunamis
- volcanoes
- landslides
- tropical cyclones
- floods
- droughts
- epidemics.

Ask them to:

- choose a stage of the disaster management cycle.

Ask them to:

- examine how the Sphere handbook might be implemented, according to the stage of the development management cycle they are focusing on and the type of disaster

write their ideas on to a flipchart for display.

⌚ Allow up to 45 minutes.

By the end of the session, ask each team to display their flipcharts.

Encourage the group to review each other's flipcharts.

Optional Exercise 6: Disaster preparedness team activity

Handout (2 pages)

Task

Choose one of the topics below.

- choose one of the following hazards: Earthquakes, Tsunamis, Volcanoes, Landslides, Tropical Cyclones, Floods, Droughts or Epidemics
- choose a stage of the disaster management cycle
- prepare a short flipchart for display on how the Sphere handbook might be implemented, according to the stage of the process and the type of disaster you are focusing on

Topic A: Evaluation

- evaluation is important because it measures effectiveness, identifies lessons for future preparedness, mitigation and assistance, and promotes accountability

Topic B: Providing training

- providing training and support as a part of emergency preparedness is important to ensure that skilled personnel are available to deliver quality services. Given that emergency preparedness cannot be assured in many countries, humanitarian agencies should ensure that qualified and competent staff are identified and properly prepared before eventual assignment to an emergency situation

Topic C: Monitoring of early warning information

- Monitoring of early warning information and a continual state of preparedness are critical. Early warning information should be used to guide programming and to advocate for action and resources on behalf of the affected population. Information about increased levels of food insecurity should be communicated as a matter of course to the relevant bodies. Agencies working in disaster-prone areas should identify and make use of appropriate early warning systems. These may include locally based agricultural and meteorological monitoring systems and extension networks, national monitoring systems or regional or international early warning systems such as VAM, GIEWS and FEWS. They may monitor specific phenomena such as hurricane development or more general issues such as food security or crop production.

Topic D: Use of early warning information and emergency preparedness

- Use of early warning information and emergency preparedness: these should be supported wherever possible as they can contribute to the assessment. Preparedness includes personnel training and stockpiling of supplies, such as shelter materials, in strategic positions. If there is an early warning that a population movement is likely to take place, relevant information needs to be collected immediately and analysed: an inventory of the response capacity of local authorities, the UN system and agencies on the ground should be made; there should be awareness of available experienced personnel, of development plans and of supplies and equipment that can be diverted until replacements are available.

Topic E: Coordination and Sphere

- Coordination and interagency disaster planning exercises and how Sphere relate to them.

Optional exercise 7: Disaster management models

45 mins

Description

- Debate on three disaster management framework models:
- slow onset
- rapid onset
- expand stretch.
- Exercise to explore how to apply the Sphere handbook in disaster management.

You can use this exercise:

- to explore slow onset, rapid onset, and expand stretch disaster management frameworks
- to demonstrate the value of using the Sphere handbook in disaster management.

You can use this exercise:

- with less experienced groups who need a deeper understanding of disaster management
- with more advanced groups who want to debate if the Sphere handbook is appropriate beyond the disaster response project cycle.

Preparation

- Ensure that everyone has a copy of the Module 4 background note.

You will find this:

- in this book, at the end of this module
- on the accompanying CD in the Training Material section, Module 4

<h2>Exercise</h2>

Check that everyone has a copy of the Module 4 Background note.

Divide the group into small, random teams of even size, for example by:

- giving the participants the numbers 1, 2 or 3 and asking all the number ones to form a team.

Given that the focus of this activity is on three models, this would be the ideal number of teams. However, you may want to have more than one team focusing on the same model.

Ask participants to:

- refer to the Module 4 background note

- analyse in their teams one of the three conceptual models presented:
 - slow onset disaster management
 - rapid onset disaster management
 - expand stretch disaster management

Ask each team to work on a different model, unless you want to give the same model to two teams.

The aim of this discussion is for participants to exchange knowledge and clarify understanding of how disasters happen, and how the different activities relate to each other, rather than identify the “correct” model.

Ask each team to:

- prepare a short presentation on their model

Explain that:

- their presentation should be no longer than three minutes
- they have up to 30 minutes to prepare their presentation

Ask them to focus on the following topics:

- the consequences of representing disasters in the way presented by their model
- the implications of presenting one model in preference to the others
- how the Sphere handbook can be applied at each stage of their model

⌚ Allow up to 30 minutes.

In the time remaining:

- call the group back together
- ask each team to give their presentation to the main group

⌚ Allow up to 15 minutes, depending on the number of teams.

If you have more than one team working on the same model:

- consider asking only one of the teams to make a presentation, and encourage others to add things from their work that were missed.

Optional exercise 8: Local disaster preparedness exercise

90 mins

Description

- This is an exercise that applies the methods and concepts of this module along with the Sphere handbook in a local disaster context.

You can use this activity to:

- apply the handbook and tools in the participants' own situation
- practice using the risk analysis tool in a real context.

You can use this exercise:

- with operational staff who want a practical training that applies to their context.

Preparation

- this activity can be conducted with communities, rather than in the classroom. If conducted in a classroom, the target area must be pre-defined, and ensure that some participants are present who understand that area

Identify target communities, situations and organisations that are relevant to the participants.

<h2>Exercise</h2>

Step 1: Identify and agree hazards (15 minutes)

Introduce this exercise by defining:

- the target community
- organisations to be considered.

Divide the group into four equal teams.

Give each team flipcharts and pens to use throughout this exercise.

Ask each team to:

- debate and agree a list of the top five hazards facing the community.

⌚ Allow up to 10 minutes.

Call the whole group back together, and agree an overall list of five top hazards.

Write these on a flipchart and keep them on display throughout this exercise.

⌚ Allow up to 5 minutes.

Step 2: Analyse risk

☐ Show slide: 'A simple risk analysis tool'

Explain that:

- to use this risk analysis tool, write your five hazards into the first column
- in the second column (A) assess the severity of the impact if this disaster happened
- use a scale from 1 to 10 in all these assessments, with 1 being the lowest, and 10 the highest
- in the third column (B) use your scale to assess how vulnerable the community is
- in the fourth column (C) assess how probable it is that the disaster will happen
- in the fifth column (D) assess how frequently this disaster has happened in the past
- in the final column, add the numbers for each disaster together in order to identify which is the hazard with the greatest total risk.

Keep this slide on display during the part of the exercise.

Ask each team to:

- use the risk analysis tool to identify the hazard giving the greatest risk.

⌚ Allow up to 25 minutes.

Call the group back together, and as a whole group agree the hazard giving the most risk.

Write this on a flipchart and keep it on display throughout this exercise.

⌚ Allow up to 5 minutes.

Step 3: Identify recommendations

20 minutes

Ask each team to:

- focus on the hazard with the agreed highest risk
- map out a likely scenario, showing the likely impact if the risk were realised and the disaster happened

From that likely scenario, ask the team to:

- make a maximum of ten specific recommendations for disaster preparedness work
- refer to the Sphere handbook wherever possible

Explain that:


- they will need to present their recommendations to the rest of the group
- their presentation should last no more than three minutes
- they have 20 minutes to identify their recommendations

⌚ Allow up to 20 minutes.

Step 4: Present recommendations

25 minutes

Ask the each team in turn to present their recommendations.

 Allow up to 3 minutes per team.

In the time remaining, lead a group discussion using the following questions:

- 'Is the Sphere handbook useful in disaster preparedness? How?'
- 'What other tools or support do you need?'
- 'What are your next steps?'

Module 4

Background Note

Please read this before coming to Module 4 as it:

- gives you useful background on disaster preparedness
- will help you to get more from the training

Module 4 covers:

- disaster preparedness
- disaster management as a framework for managing disaster preparedness and the disaster response project cycle
- technical and managerial issues relating to disaster management.

What is a disaster?

There are many different definitions of disaster used by practitioners worldwide.

Examples

UNDMTP (United Nations Disaster Management Training Programme)

“A disaster is a serious disruption of the functioning of a society, causing widespread human, material, or environmental losses which exceed the ability of affected society to cope using only its own resources. Disasters are often classified according to their speed of onset (sudden or slow), or according to their cause (natural or man-made).”

International Federation of Red Cross and Red Crescent Societies

“Disasters are the combination of a number of factors: vulnerability, capacities, hazards, risks. Most commonly agreed definitions of disasters contemplate the element of capacity to cope with the situation. For example: life threatening situations which put people at risk of death or severe deterioration in their health status or living conditions, and which have the potential to out-strip the normal coping capacity of the individual, family, community and state support systems.”

International Agreed Glossary of Basic Terms Related to Disaster Management (1992), IDNDR

“Event, which overwhelms local capacity, necessitating a request to national or international level for external assistance (*definition considered in EM-DAT*); An unforeseen and often sudden event that causes great damage, destruction and human suffering. Though often caused by nature, disasters can have human origins. Wars and civil disturbances that destroy homelands and displace people are included among the causes of disasters. Other causes can be: building collapse, blizzard, drought, epidemic, earthquake, explosion, fire, flood, hazardous material or transportation incident (such as a chemical spill), hurricane, nuclear incident, tornado, or volcano.”

SNPMAD Nicaragua (National System for Prevention, Mitigation and Management of Disasters)

“A disaster exists when a family, a community or a society can not resist and/or cope with the damages, loss or alterations to their living conditions. Caused by a hazardous event of natural or anthropomorphic origin.”

OFDA (Office of Foreign Disaster Assistance, US Government)

“Alteration in people, material resources or environment, caused by natural phenomena or by human activity, that exceeds the local response capacity of the affected community.”

What makes a disaster?

Disasters are the combination of a number of factors: vulnerability, capacities, hazards, risks. Most commonly agreed definitions of disasters include:

- at least one of these factors
- capacity to cope with the situation
- vulnerability.

UNDP highlights that the poor and vulnerable are hit hardest by disasters, experiencing most of the resulting loss.

Complex emergencies

When a number of hazards, natural and/or technological, are combined with social, economic and political factors, complex situations may emerge. Usually complex emergencies present humanitarian workers with the challenges of

- forced migration
- violent conflict
- high levels of vulnerability
- low levels of local coping capacities.

The situation may also be made worse by humanitarians finding it difficult to reach affected populations.

Basic concepts

What is a hazard?

A hazard:

is an event, or phenomenon, with the potential to adversely affect human life, property and activity to the extent that it can cause a disaster.

- can be predominantly natural or human induced
- may cause physical damage, economic losses, or threaten human life and well-being, directly or indirectly.

Human-made hazards are conditions that derive from technological processes, human interaction with the environment, or relationships within and between communities. Examples include:

- hazardous material spill
- radioactive accident
- war
- contamination of the environment.

Natural hazards, are those that are predominantly caused by biological, geological, seismic, hydrologic, or meteorological conditions or processes. Examples include:

- earthquakes
- mud-slides
- floods
- volcanic eruptions
- drought.

The hazard is not the disaster, for example we can have a drought without it being a disaster.

Furthermore, it is becoming more and more difficult to label a hazard as purely “natural”. For example, deforestation and the “greenhouse effect” may be accelerating changes in weather patterns that will eventually manifest as hazards of “natural” origin.

What is human vulnerability?

Human vulnerability is the extent to which an individual, community, sub-group, structure, service or geographical area is likely to be damaged or disrupted by the impact of a particular disaster hazard. There are a number of factors that determine vulnerability, including:

- physical
- economic
- social
- political
- technical
- ideological
- cultural
- ecological
- institutional
- organisational.

It is repeatedly shown that while natural events may be disastrous for all races and all social and economic classes, *people living in poverty suffer most*. They are generally:

- the most vulnerable
- the least well equipped
- the least protected
- the most exposed to potential hazards.

Often, they live in highly vulnerable conditions and places for example, on the banks of rivers, on land-fills or on precarious mountain sides. Their physical well-being may already be compromised before any event occurs. Their resources, including health, may be so limited that an event, which would have little or no impact on more wealthy populations, can be catastrophic for people living in poverty. Most disasters are unsolved development problems.

What is risk?

Risk is generally defined as the expected impact caused by a particular phenomenon. It combines:

- the likelihood or probability of a disaster happening
- the negative effects that result if the disaster happens.

The potential impact of an event (or hazard) on human beings is a function of how exposed, or *vulnerable*, people are to the effects of that hazard, and their capacity to deal with the situation.

Therefore it is not enough to focus on hazard or vulnerability alone when defining disasters. Instead, to determine risk, you need to take into account the *combination* of:

- the hazard of the event occurring
- the *vulnerability* of those potentially affected by it.

Risk elimination, or at least reduction, is a main concern of disaster preparedness. While the hazard may not be possible to predict and prevent, *human vulnerability can be predicted and sometimes*

prepared for. Humanitarian assistance usually presents an important opportunity for risk reduction initiatives.

How factors determine risk

Risk is hazard multiplied by vulnerability less the capacity of the population to cope.

$$\mathbf{H \times V - C = R}$$

Hazard x Vulnerability - Capacity = Risk

Therefore, risk increases according to:

- the potential impact of the hazard
- how vulnerable the affected populations are.

Risk decreases if the affected populations have greater capacity to cope. However, disaster is a relative term, and what for some may seem a “small” and controllable situation, may not be perceived in the same way for others. It all depends on how able the local population is to deal with the situation. The criteria is not magnitude of death and destruction, but the capacity to cope with a situation.

What is disaster preparedness?

This module takes the view that disaster preparedness is the result of a wide range of activities and resources that practitioners and communities carry out in the hope of:

- preventing and mitigating disasters
- better responding to disasters if they occur.

Definition proposed by the UNDMTP “Disaster Preparedness Module”:

“Disaster preparedness minimises the adverse effects of a hazard through effective precautionary actions, rehabilitation and recovery to ensure the timely, appropriate and effective organisation and delivery of relief and assistance following a disaster.”

Definition from “Reducing Risk” (Holloway and Von Kotze)

“Measures to ensure the readiness and ability of a society to forecast and take precautionary measures in advance of an imminent threat, and to respond to and cope with the effects of a disaster by organising and facilitating timely and effective rescue, relief and appropriate post-disaster assistance.”

Definition from UNICEF

“Disaster preparedness is a planning process, not merely the development of a fixed plan. To be prepared is to be in a constant state of readiness”. The Sphere handbook emphasises and enables participation, which is a valuable addition to this definition.

Example disaster preparedness activities

- Forecasting and taking precautionary measures before an imminent threat when advance warnings are possible.
- Developing and regularly testing warning systems, linked to forecasting systems.
- Making plans for evacuation or other measures to be taken during a disaster alert period to minimise potential loss of life and physical damage.
- Educating and training officials and the population at risk.
- Training intervention teams.
- Establishing policies, standards, organisational arrangements and operational plans to be applied following a disaster.

This module will analyse prevention, mitigation and emergency/response preparedness separately, with the understanding that these activities are normally interlinked. Hopefully they are generally conducted in an integrated way, taking into account elements from each one of them.

What are prevention and mitigation?

Prevention requires the elimination of risk, while mitigation is the reduction of risk. Appropriate disaster prevention and mitigation “builds on people’s strengths and tackles the causes of vulnerability”. Although technology-based solutions are crucial in eliminating or reducing risk, for example, micro-zoning in seismic areas, early warning sensor systems for volcanoes, human-based solutions are just

as important. Human Capacity-Vulnerabilities Analysis or CVA is a central concept in planning disaster prevention and mitigation activities.

The distinction between mitigation and prevention might be blurred according to one's perception of both terms. For this module, mitigation is seen as a more short term process or set of activities focused on reducing, rather than eliminating, the likelihood of the potential impact of a hazard. Emergency or response preparedness is closely linked to mitigation, in that it puts in place effective capacities to deal with an actual disaster rapidly, efficiently and effectively.

Prevention requires longer term action and investment (financial, material and societal). Prevention aims to eliminate both the hazard (for example, actions to prevent flooding through the construction of dykes) and the vulnerability (for example, actions to help ensure that people are not vulnerable to floods, such as relocating them to safe and dignified housing away from the flood hazard areas). Prevention requires appropriate and equitable human-development, achieved through fundamental physical, attitudinal, cultural and socio-political change in society.

Appropriate prevention and mitigation activities are preceded by:

- hazards identification and mapping
- risk analysis
- Capacities Vulnerabilities Assessments.

If the principles embedded in the Humanitarian Charter are to be observed, these activities need to be conducted in ways that actively involve the people who are at risk and may be affected by disasters.

Mitigation: How can risks be reduced?

Mitigation involves a two-pronged approach:

- hazard reduction
- vulnerability reduction.

Practical measures, such as constructing flood protection, improving drainage, reinforcing hillsides and eliminating the foci for disease helps to reduce the hazard. Activities such as relocation from river banks, improved health and nutrition, vaccination programmes may help reduce vulnerability. Any activity that alerts people to their own risks is in itself a capacity building initiative that reduces vulnerability.

Example of disaster mitigation activities

- The aim is to reduce the likelihood or impact of future disasters by adopting practices, such as the following:
- Participatory risk and hazard analysis.
- Technology-based solutions such as seismic and volcanic sensor systems for early warning and prediction.
- Geological and topographical mapping and analysis to detect potential hazards for example, of mud-slides.
- Capacity-building in communities, for example public education on nutrition.
- Concrete measures to reduce vulnerability such as relocation from highly vulnerable areas to safe and dignified housing, under fully agreed conditions.

- Construction of hazard resistant housing, for example hurricane-reinforced houses, or earthquake-reinforced buildings.

Emergency or response preparedness

Emergency preparedness is a readiness to deal with the consequences of a risk becoming an actual disaster. Some organisations refer to emergency or response preparedness as “disaster preparedness”.

This training module makes the following distinction:

Emergency preparedness	Disaster preparedness
All actions taken in order for people and organisations to be ready to react and respond to a disaster situation.	Encompasses actions not only related to readiness to react, but also a readiness to: <ul style="list-style-type: none"> • prevent • reduce • mitigate effects.

Some of the activities usually associated with disaster response/ emergency preparedness include the following:

- Hazard, vulnerability and risk assessments.
- Establishing hazard early warning systems.
- Disaster response planning.
- Information management systems.
- Pre-positioning of relief items, for example making sure that equipment and food stocks are in place.
- Worst case scenarios mapping.
- Establishing coordination mechanisms.
- Developing organisational structures that clearly identify roles and responsibilities of humanitarian actors.
- Emergency planning based on the Sphere handbook’s principles and standards.
- Stand-by arrangements/agreements between the actors.

What is risk analysis?

Risk analysis is the process of identifying and measuring the nature and scale of potential losses and damages. Good analysis should especially involve the poorest people in the community, marginalised groups and people most at risk. This analysis may result in communities organising to act or demand action to reduce those vulnerabilities, and if possible, reduce the hazard. Participatory hazard identification and analysis techniques can be used as a basis for mitigation and preparedness, for example:

- community-based memory recovery
- recounting, recording and analysis of past disasters
- A simple risk analysis tool
- This is a simple risk analysis tool adapted from the US Federal Emergency Management Agency (FEMA) and (CARE). Its purpose is to:
- help organisations assess risk of various disasters.
- define the competencies and mandate of any particular organisation.

The purpose of this tool is to help prioritise what disaster preparedness activities can be undertaken.

Disaster	A Hazard	B Vulnerability	C Probability	D History	Total risk A + B + C + D
Earthquake					
Drought					
Civil emergency					
Flood					
Cyclone					
Windstorm					
Snowstorm					
Mudslide					
Tornado					
Tsunami					
Biological					
Chemical spill					
Transport					

1. Write in the first column all possible disasters to strike the area under consideration.
2. In the remainder of the columns, numbers are assigned on a scale from 1 to 10. 1 is considered low and 10 is high.
3. In column A (Hazard), assign a number from 1 to 10 depending on the maximum severity of this disaster were it to occur. For example, if an earthquake would be devastating, assign number 10.
4. In column B (Vulnerability) assign a number which corresponds to the degree to which people are susceptible to loss, damage, suffering and death in the event of this particular disaster.
5. In column C (Probability) assign a number according to the likelihood that this disaster will occur.
6. In column D (History) assign a number according to the frequency of this disaster in the past. The total risk is determined by (A+B+C+D).

Capacity and Vulnerabilities Analysis (CVA)

This is another matrix-based analysis tool that enables the participation of potentially affected people and can be applied at different levels including the community, group, subgroup or even individual. Applying CVA reminds us to consider capacities as well as vulnerabilities. This emphasises that practitioners need to deal with the community's underlying vulnerabilities. By reducing these vulnerabilities, the community is strengthened and can build real capacity. (See page 112/29 of the Sphere handbook for an example of information on local capacities).

	Vulnerabilities	Capacities
Physical / material	Difficult for elderly people and children to get food aid.	Food and income contributed by local farming.
Social / organisational	HIV/AIDS changes demographics. Higher proportion now elderly people and children.	Strong family traditions and networks, caring for elderly people and young.
Motivational / attitudinal	Psychological impact of mass bereavement.	Commitment to education as an example of belief in the future.

How can Sphere support disaster preparedness?

Using the Humanitarian Charter

The Humanitarian Charter presents a number of arguments that support disaster preparedness.

- The Humanitarian Imperative: "By this we mean that all possible steps should be taken to prevent or alleviate human suffering..." Furthermore: "We understand an individual's right to life to entail the right to have steps taken to preserve life where it is threatened, and a corresponding duty on others to take such steps."

The principles embodied in the Humanitarian Charter provide the legal and philosophical justification for including people vulnerable to disasters in risk analysis exercises. People not only have the right to life with dignity, they have the right to:

- know what are risks they are exposed to
- be part of the solution to reducing that risk.

The Minimum Standards on participation provide some guidance on how to ensure this participation when programming and delivering humanitarian assistance.

Using the Minimum Standards

The Sphere handbook is about principles and standards for 'disaster response'. Preparedness can include participation, cooperation, consultation, and training. The process of supporting communities in their own mitigation, prevention and response preparedness can be just as 'rights' driven as disaster response. Because people have a right to 'safety' and 'dignity' it follows they have a right to Minimum Standards.

The Minimum Standards provide us with some concrete benchmarks to use as goals of our preparedness initiatives. The standards and principles contained in the Sphere handbook, therefore,

have direct relevance to mitigation, prevention and preparedness. The Humanitarian Charter, and the Human Resource Capacity Training component of each chapter underpin an approach to disaster mitigation and preparedness.

‘Good’ response preparedness also enhances disaster response. If a ‘good’ response requires that certain standards be attained, for example shelter and site planning, then logically, response preparedness measures need to consider these standards in anticipation of that response. The standards and indicators provide a logical framework, sector by sector, to underpin preparedness actions.

The common language used in the handbook enables all involved to communicate and coordinate more effectively.

Using the Sphere handbook

The basics of disaster preparedness involve three main groups of issues:

- risk analysis
- capacities, including the capacities of agencies and the local community
- coordination and partnership.

These issues are combined with goals and benchmarks to determine the organisational strategy, to guide the first response, if disaster occurs. The Sphere handbook offers clear measures to help inform goals and benchmarks identified by practitioners.



What types of disaster are there?

World Disasters Report 2001 – International Federation of Red Cross and Red Crescent Societies
Number of reported hydro-meteorological disasters 1991-2000

1991	1992	1993	1994	1995	1996
190	192	227	188	198	176
1997	1998	1999	2000		
206	250	274	392		

The deadliest disasters 1991 – 2000

Hazard	Total numbers killed	Total numbers affected
Drought	280,007	381,602,000
Wind Storms	205,635	252,401,000
Floods	97,747	1,442,521,000
Earthquakes	59,249	
Transport Accidents	64,225	

In the period 1991 – 2000 there were 452 reported conflicts. 2,285,129 people were killed due to conflict (of that total 1,771,912 killed were in Africa). Conflict kills ten times the number killed by drought, or wind storms. 310,665,000 people were affected by conflict. Of this number

- 26,840,000 people were in highly developed countries
- 113,966,000 people were in medium developed countries
- 169,859,000 people were in countries of low development

An average of 211 million people are affected by disasters each year. 90% live in Asia while just 2% live in nations of high human development. It is estimated that in the 1990s 2,421,727,000 people had their development denied by disasters and conflicts.

Disaster management

The following material is based on

- “Overview of Disaster Management”
- “Introduction to Hazards”, **3rd Edition** from the United Nation’s Disaster Management Training Programme (UNDMTP).

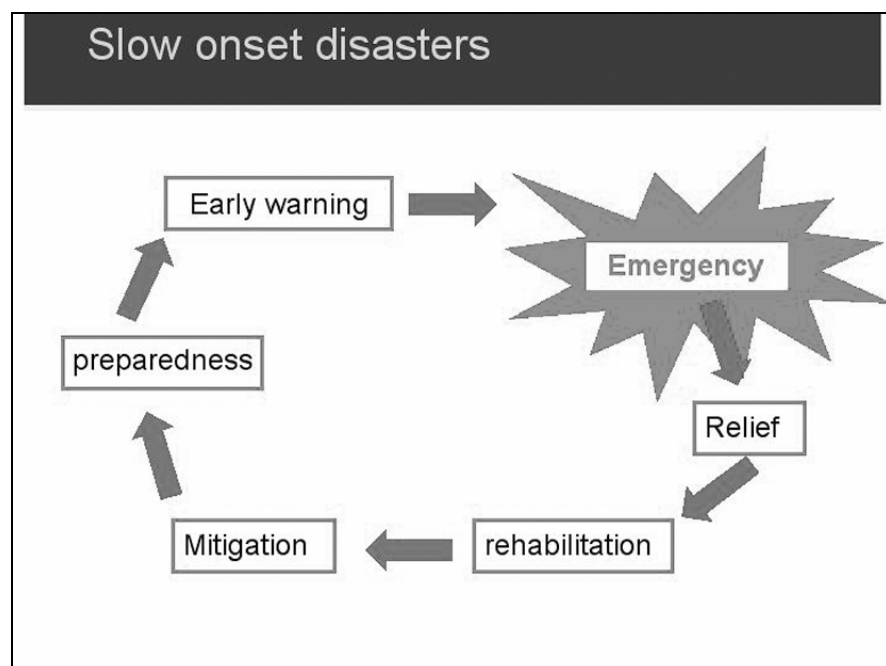
Phases

Responding to disasters can be viewed as a series of phases. Identifying and understanding these phases helps you to:

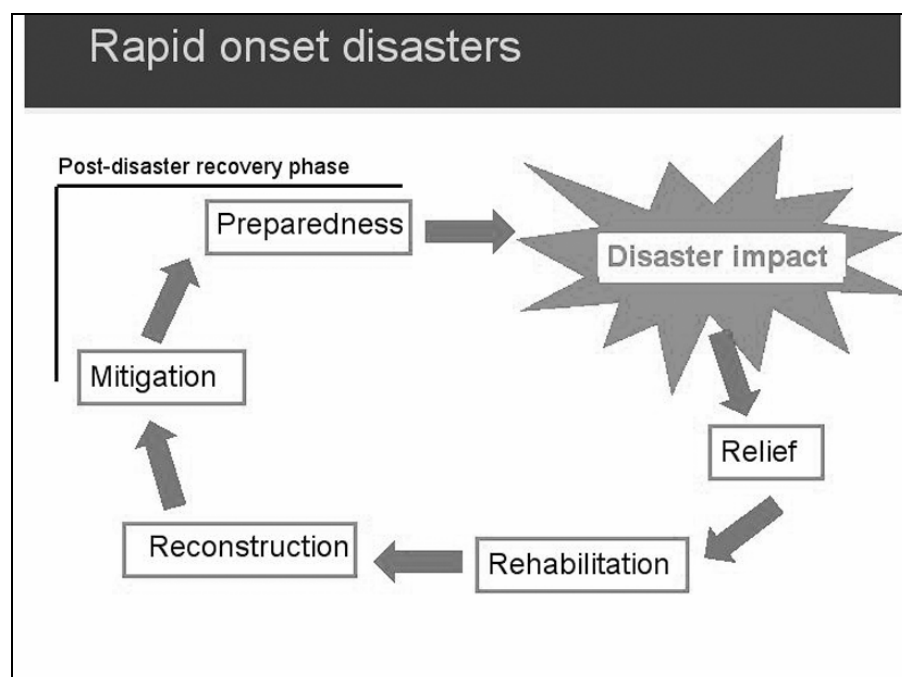
- describe disaster related needs
- identify disaster management activities
- identify how the Sphere handbook can be relevant.

Here are three examples of modelling the phases of a disaster.

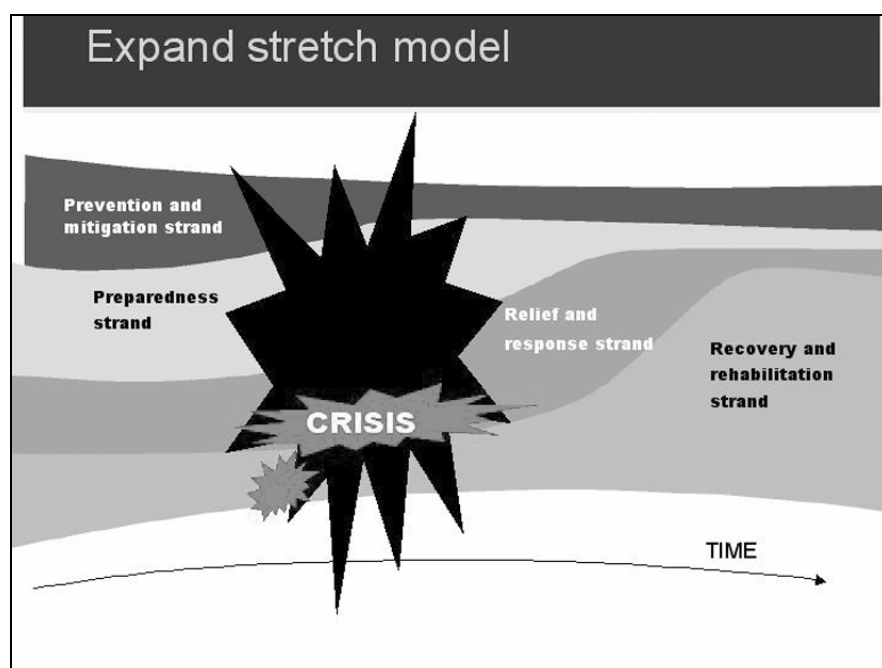
Slow onset disasters



Rapid onset disasters



Expand stretch model



Identifying disasters

Disasters and emergencies are all too often regarded as abnormal, dramatic events, divorced from "normal life." In reality, however, the opposite is true. Disasters and emergencies are fundamental reflections of normal life.

They are the result of the ways:

- societies structure themselves, economically and socially
- societies and states interact
- relationships between the decision makers are sustained.

Hence a flood or an earthquake is not a disaster in and of itself: it all depends on the collective capacity to deal with the situation and vulnerabilities involved.

Understanding hazards

The list of hazard types is very long. Many occur infrequently or impact a very small population. Other hazards, such as severe snowstorms, often occur in areas that are prepared to deal with them and seldom become disasters. However, from the perspective of a disaster victim it is not particularly useful to distinguish between minor and major disasters. There are several hazard types for which there is widespread concern.

Sudden onset hazards

(geological and climatic hazards) earthquakes, tsunamis, floods, tropical storms, volcanic eruptions, landslides.

Slow onset hazards(environmental hazards)

drought, famine, environmental degradation, desertification, deforestation, pest infestation.

Industrial/technological

system failures/accidents, spillages, explosions, fires.

Wars and civil strife

armed aggression, insurgency, terrorism, and other actions leading to displaced persons and refugees.

Epidemics

water and/or food-borne diseases, person-to-person diseases (contact and respiratory spread), vector-borne diseases and complications from wounds.

Some hazards cause additional challenges for humanitarians, for example when civil conflict makes access impossible. Nevertheless, the basic characteristics of certain types of disasters and emergencies and appropriate response measures can be structured as follows:

- Causal phenomena.
- Typical effects.
- General characteristics.
- Possible risk reduction measures.
- Predictability.
- Specific preparedness measures.
- Factors contributing to vulnerability.
- Typical post-disaster needs.

When using a tool, guideline, or rule of thumb, remember to take into account the following:

Each disaster is unique. However there are some tools and guidelines which can help.

- Where different types of disaster occur in combination, the combined effects must be considered, for example the combination of tropical storms and the floods they result in.
- Where one disaster leads to another the compound effects must be anticipated, for example where a famine leads to civil strife.
- The severity of the actual impact on the society depends on human and organisation factors as well as natural and topographical ones.

Developing scenarios

One of the first tasks in a contingency plan is to develop scenarios and triggering events.

Scenario planning:

- should be based on experience and early warning indicators
- is intuitive yet of vital importance in the planning process
- creates the basis for further planning.

In scenario planning:

- consider all possibilities, particularly worst and best case scenarios
- consider the probability of each scenario happening
- select three or four of the most probable scenarios as the focus and basis of further planning.

The essential elements for scenario development are:

Step 1: Describe the current situation and develop baseline information.

- Likely number of people affected; their location, status, and conditions.
- The level of insecurity and other general conditions.
- A description of current agency operations.
- An overview of agency capacities in the region.
- Other agency resources.

Step 2: Define probable changes (scenarios).

- State which variables could affect the country and/or region for example, security/conflict, economic conditions, political issues, election outcomes, crop production.
- Provide some general scale to rank the current situation of the variables, for example security conditions are: good-fair-poor.

Step 3: Select scenarios for further development and analyse against variables.

- Eliminate those with extremely low probability.
- Eliminate those which would not impact agency operations.

Step 4: Clearly state assumptions for scenarios.

Step 5: Identify possible triggering events for each scenario that would set your preparation or operational plans in motion.

Writing a contingency plan

- Identify scenarios and triggering events (as described above).
- Determine policy issues, if any.
- Set priorities (goals, objectives, activities).
- Identify resource needs and capacities.
- Assign likely roles and responsibilities.
- Conduct security updates.
- Prepare the plan.
- Follow up.

Suggested contingency planning format

Section 1

General situation and scenarios

- I. Current country operations
- II. Causes of conflict
- III. Scenarios
 - A. Affected population profile(s)
 - B. Intervening factors
 - C. Anticipated movement
 - D. Location of settlements
 - E. Settlement arrangements
 - F. Assumptions
 - G. Emergency response triggering factors (when does the operational plan kick in?)

Section 2

Policies and overall operational objectives

- I. Overall strategic objectives of the programme
- II. Comments on policy stance of current/probable partners (Other NGOs, UN, government, etc.)

Section 3

Objectives and activities by sector

- I. Management and overall coordination
- II. Protection, reception, registration
- III. Food
- IV. Logistics
- V. Infrastructure and site planning
- VI. Shelter
- VII. Domestic needs/household support (NFIs)
- VIII. Water
- IX. Environmental sanitation
- X. Health and nutrition
- XI. Community services
- XII. Education
- XIII. Economic activities
- XIV. Other

Each section should include a consideration of:

Needs
Sector objectives
Resources
Activities
Existing and proposed readiness measures
Implementation responsibilities
Timing

Using the Sphere handbook in providing reference data .

Another useful approach to planning is to prepare some raw data for each possible intervention that can be utilised for proposal development. This activity is particularly useful in ensuring that all staff are aware of the standards to be used for sector interventions. The Sphere handbook is very useful for this process since it contains comprehensive information on Minimum Standards and key indicators in core emergency sectors.

Example: Water

- 15-20 litres per person per day
- Adequate quality
- Think of local population
- Avoid trucking if possible
- Adequate on site storage

Section 4

Procedures for feedback, maintenance and future action

Describe how the plan will be updated and revised, who will be responsible for ensuring this will be done and how will the information be disseminated.

Annexes

- I. Maps
- II. Gap identification chart
- III. Sample forms (registration, waybills, etc.)
- IV. Commodity matrix and specifications
- V. Potential suppliers (local and international)
- VI. Budget estimates

Process outputs

The plan
Likely projects and estimated budgets
Standby arrangements such as stockpiles and staff
Identification of training/capacity building needs and schedules for such activities
Preparedness checklists

These need to be regularly reviewed, validated and amended as the process continues.