How can we learn from past emergencies when planning risk reduction projects?

This exercise is more useful when participants bring maps and information on past floods with which they are familiar or which they have experienced.

**Purpose**

This activity aims to develop participants' ability to interpret data gathered from past flood events to forecast the likely effects of a planned risk reduction project.

**Procedure**

Participants are asked to project the likely impact of a future flood in a flood-prone area, based on past records, observations and experience. They then identify measures which would reduce flood impact, and consider the short and long-term effects of these projects on different at-risk groups.

**Time**

- 2 hours

**Materials**

- OHP slides (see resources)
- tracing paper, greaseproof paper or overhead transparencies
- multi-coloured pens
Process

Introduction

1. Outline the purpose and procedure of the activity.

2. Emphasise that mitigation or risk reduction planning is best when we reflect on what has occurred in past emergencies. Illustrate your point by asking:

   *What would you expect to happen during this rainy season in a river valley where, over the past three years running, we have seen the same river flood? Shouldn’t we expect a flood again this year?*

3. Explain the following:

   This type of existing information on the impact of past floods, including their severity and extent, provides a key baseline when we plan risk reduction projects. In addition, anecdotal and other information from the community on how it coped in the past is also important for determining which interventions are likely to be the most acceptable and effective.

   We should remember that most disasters have immediate as well as longer-term effects. These include deaths, injuries, physical damage, economic and social disruption, as well as detrimental environmental effects.

4. Point out that we can use data from past floods (or other emergencies) to anticipate their future impact(s). This is most effective when we ask focused questions that provide a profile of the hazard pattern, elements at-risk and their structural/ socioeconomic vulnerability.

   — Outline a questioning sequence as an example of useful questions.
   — Explain that the purpose of this input is to help us to better understand interplay between the hazard, element at-risk and the river dwellers’ vulnerability.
   — Use illustrations to demonstrate how the information generated can be used to forecast the impact of future floods.

You can either use the illustrations provided (see resources): copy them on OHP slides and overlay them as you go along. Alternatively, you may want to draw your own maps, either on OHP slides or on paper.
Examples of useful questions

In the past three years a river has flooded at the beginning of the rainy season. As a result, many people lost their lives; hundreds of informal structures were washed away and crops were destroyed.

Show map 1: the image of a river bed
Question: Which people were the worst affected by past floods in this area?
Answer: The people living right in the dry river bed.

Show map 2: houses in the river bed
Explain that this image shows past vulnerability.
Question: Why are these families most affected by the floods?
Answer: Because this is the lowest natural point in the riverbed, and whenever there are heavy rains, the water rushes by, sweeping their houses away.

Show map 3: the same houses
Explain that this image shows hazard behaviour + elements at-risk + vulnerability.
Question: Which families are most at-risk if a severe flood strikes again? How many families and people would be affected?
Answer: The 100 families (450 people) living right in the dry river bed.

Show map 3: the same houses
Explain this shows anticipated future vulnerability, and estimate of population at-risk.
Question: Does this mean that the people on the river banks are not affected?
Answer: No, because about every ten years, there's a really bad flood when the river overflows its banks, but the people in the river bed are affected about every two years.

Show map 4: Water level every ten years
Explain this shows long-term hazard behaviour + elements at risk + vulnerability.

Question: What makes some families live in the dry river bed and other live on the river banks?
Answer: The people in the river bed itself were the most recent families to arrive in this area, they could not find work, and there was no more land left on the river banks. You can tell they are poorer because most of their houses have no roofs and they are made of bits of wood and cardboard. Explain that this illustrates socioeconomic vulnerability.
Participant Action

1. Assign participants to small working groups.
2. Ask participants to think about the impact of a past flood emergency on a community they know, and briefly exchange information and experiences on what happened.
3. Distribute tracing paper, greaseproof paper or overhead transparencies and different coloured pens to each group. Give each participant a copy of the instructions (see resources)
4. Read through the instructions and check for understanding.
5. Monitor the process of group work and assist where necessary.

Review and Discussion

1. Facilitate group report-backs. Ask reporters not to duplicate information that has already been given, but to add to previous data.
2. Check whether reportbacks include information on the following:
   - flood pattern (in terms of frequency and speed of onset, as well as duration, geographic area affected)
   - quantification of damage, losses, injuries, deaths, impact on livestock and crops.
3. Discuss the maps: do they show the flood pattern and populations most vulnerable to and affected by floods in the past?
4. Ask participants to consider different risk-reduction projects.
   Record suggestions on flipchart.
5. Examine how the different suggestions will reduce risk:
   - Do they change the flood pattern, or do they alter physical or socioeconomic vulnerability?
   - Estimate the costs in carrying out the projects, and the benefits (lives/property losses minimised).
   - Is risk equally reduced for all community members vulnerable to flooding? Consider gender differences.
6. Initiate a discussion around issues raised:
   - Why is it so difficult to measure the full impact of floods in a quantifiable way?
   - What are the dangers associated with not considering recurrent flood threats when we plan development projects in flood-prone areas?
   - What are the dangers associated with not considering long-term flood mitigation needs when we carry out emergency relief in flood-affected areas?
7. Ask a participant to summarise the main points of the session.
Instructions for Forecasting Activity

Please draw a series of maps:

(i) draw a map of the area discussed; include the river, location of dwellings, fields, community buildings, roads and bridges.

(ii) draw another map in a different colour, showing the area flooded in a normal rainy season.

(iii) draw a third map in another colour showing the area flooded in a "serious" flood - ie once over five-ten years.

(iv) overlay the maps on the top of each other.

Using your maps, respond to the following questions:

(1) List some of the immediate as well as longer-term effects of those floods. Who/what were most affected? How many and where?

(2) By looking at the maps and reviewing the existing information, can you forecast the impact of a future flood disaster with regard to

   - the flood’s likely behaviour (eg when and where will it strike)
   - the likely elements at risk? (eg people, buildings, livestock, crops etc)?
   - the vulnerability of these elements at-risk? (eg structures collapsing; crops destroyed)

(3) Draw a new map representing the flood pattern and elements at risk and as you would forecast for the next year (...years, if flooding occurs irregularly, ie only after really heavy rains).

You have 60 minutes to conclude this task.
MAP 1: Image of a riverbed

Key

/ river bank
\ stream crossing
< direction of stream flow
KEY

- house made of wood, cardboard
- house with corrugated roof
- house with bricks
- church
- community hall
MAP 3: Annual flood
MAP 4: Flood every 10 years
What is the role of different players in drought interventions?

Purpose
Participants will improve their knowledge of the practical work of different technical experts in drought assessment and mitigation, showing that this is a multi-sectoral effort.

Note
It is crucial that participants have received basic technical information about drought before they can conduct this activity (i.e. the difference between meteorological, hydrological and agricultural droughts).

Please see resources in Section 1, Activity 10.

Procedure
This activity has two steps. In the first participants are asked to think about the technical roles that meteorologists, hydrologists and agricultural advisors play in reducing the impact of drought. In the second, they are asked to give practical examples of drought mitigation measures which illustrate these different types of expertise and skill.

Time
◆ 2 hours

Materials
◆ briefing sheets for different working groups (see resources)
Process

Introduction

1. Outline the purpose and procedure of this activity.

2. Give the following instruction:

   — You will work in three groups of
     (1) meteorologists, (2) hydrologists and
     (3) agricultural advisors;

   — You will be given two sets of
     questions to answer:

   — Each group will be asked to report
     back in plenary after the 30-40
     minutes on the first set of questions;

   — You will then answer the second
     set of questions:

   — Record your report-backs on
     newsprint and prepare for a 'gallery
     walk'.

3. Check for understanding of terminology by asking participants to define
   'meteorologist', 'hydrologist' and 'agricultural advisor'.

Participant Action

1. Ask participants to get into three groups and hand out briefing sheets.

2. Monitor progress and assist where necessary.

Review and Discussion

1. In plenary, ask groups to report back their responses to the first set of questions.
   Encourage questions of clarification, and discussion.
Issues you might want to touch on include the following:

— Different players have different roles with regard to drought prediction, warning, prevention, mitigation and response. For example, meteorologists play key roles in weather forecasting, prediction and warning, but are not operational players in actual mitigation. Hydrologists and agriculturalists on the other hand also have forecasting and prediction roles, but they do have operational capacities.

— Sometimes information on rainfall, water supply and food security is not widely disseminated beyond technical specialists. To make a real impact this data must be available to practitioners as well as scientists.

— Vulnerability to drought is not the same from one community to another. Therefore scientists also need field information from practitioners, like NGO workers, on which communities are most vulnerable. This allows them to determine where the drought’s impact is greatest.

— These principles also apply to other hazards besides drought.

Participant Action

1. Request participants to return to their groups and address the second set of questions. Ask them to write their responses on flipchart. Allow approximately 20 minutes for group work.

Review and Discussion

1. Ask groups to display their report-backs and invite participants to go on a ‘gallery walk’.

2. In plenary, ask for questions of clarification.

3. Highlight gaps and strengths in the report-backs.

Point out those specialised meteorological, hydrological and agricultural measures known to make a difference. This illustrates the need for NGOs to draw on these specialised skills, and not to work in isolation.
Individual briefing sheets for role players

Hydrologists

First Set of Questions
You are all hydrologists working in Southern Africa.
Please consider a drought you are most familiar with, and respond to the following questions:

(1) What role did you play with respect to
   (i) mitigating / preventing the drought’s worst consequences?
   (ii) predicting and warning about the drought?
   (iii) responding and recovery?

(2) Who used your findings? Who else would you like to use your findings?

(3) How could NGOs help you to improve the accuracy of your data?

Second Set of Questions
(1) From your experience:
   (i) Give examples of water storage / supply systems (e.g. dams, wells etc.) that
       withstood the drought’s impact, and those that didn’t. In what way were
       they different?
   (ii) What traditional / other methods increase or decrease the moisture
       retention of sandy soils?

(2) Consider hazard reduction measures: in an area that is repeatedly drought-stricken, what could you as hydrologists do to reduce the severity of future droughts?
<table>
<thead>
<tr>
<th>First Set of Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>You are all meteorologists working in Southern Africa.</td>
</tr>
<tr>
<td>Please consider a drought you are most familiar with, and respond to the following questions:</td>
</tr>
<tr>
<td>(1) What role did you play with respect to</td>
</tr>
<tr>
<td>(i) mitigating / preventing the drought’s worst consequence?</td>
</tr>
<tr>
<td>(ii) predicting and warning about the drought?</td>
</tr>
<tr>
<td>(2) Who used your findings? Who else would you like to use your findings?</td>
</tr>
<tr>
<td>(3) How could NGOs help you to improve the accuracy of your data?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Set of Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) (i) Give examples of other meteorological droughts from your own experience.</td>
</tr>
<tr>
<td>(ii) Outline a number of possible causes of rainfall deficit that may have lead to the drought.</td>
</tr>
<tr>
<td>(2) Consider risk reduction measures: in an area that is repeatedly drought-stricken, what could you as meteorologists do to reduce the impact of meteorological droughts on water systems and local agriculture?</td>
</tr>
</tbody>
</table>
Agricultural Advisors

First Set of Questions
You are all agricultural advisors working in Southern Africa.

Please consider a drought you are most familiar with and respond to the following questions:

(1) What role did you play with respect to
   (i) mitigating/preventing the drought’s worst consequence?
   (ii) predicting and warning about the drought?
   (iii) responding and recovery?

(2) Who used your findings? Who else would you like to use your findings?

(3) How could NGOs help you to improve the accuracy of your data?

Second Set of Questions

(1) (i) From your own experience, give examples of the drought’s agricultural impact.
   (ii) Outline the factors that increased the vulnerability of certain population groups.

(2) Consider measures to reduce the agricultural vulnerability of those groups: in an area that is repeatedly drought-stricken, what could you as agricultural advisors do to improve food and livelihood security?
How do we prepare public awareness campaigns?

Purpose
Participants improve their understanding of how to design an effective public awareness campaign as a tool for information-giving aimed at risk reduction.

Informing members of communities about prevalent risks is a crucial part of any risk reduction programme.

Procedure
In this activity participants will design plans for a public awareness campaign, and examine them critically for their effectiveness.

Time
◆ 2 hours

Materials
◆ tape recorder (optional)
Process

Introduction

1. Introduce the activity by outlining the purpose and procedure.

2. Ask participants whether any of them have ever been involved in a public awareness campaign. Ask those with experience to briefly talk about what happened.

3. Point out that a public awareness campaign is similar to any other form of communication: to be true communication the message sent requires a response from a receiver. If the message sent out finds no echo, it has been sent in vain. For example: if a public awareness campaign aims at a decrease in the risk of infection of cholera, the response should be a change in the behaviour of the public, which in turn results in a decrease of infection.

4. Point out that the purpose of a planned campaign should be specific and clear, and the response should at best be observable / measurable in some way.

5. Give a brief input on the five basic planning questions:
   - Who? (is the target audience)
   - What? (is the aim of the campaign? What do you want to achieve?)
   - How? (will you go about raising the awareness? What tools will you use?)
   - When? (will you launch the campaign? Is there a special occasion to raise the profile of the campaign?)
   - Where? (will you effect the campaign? Where will you perform the plays / hang up the posters / distribute pamphlets, etc.)

Participant Action

1. Introduce the task by explaining that this activity challenges participants’ creativity and imagination - two of the most important elements for problem-solving.

2. Give the following instruction:
3. Divide participants into three groups and advise them to begin their design by answering the five basic planning questions.

4. Monitor the process and assist where necessary.

5. Ask groups to present their campaigns.

Presentations and Discussion

1. Unpack each presentation by asking questions such as:
   - What was good about it? What did you like?
   - What were its limitations?
   - What did you learn about the risk of HIV? (Why / how did you learn it?)
   - Was it clear what change in behaviour or response would reduce the risk of HIV infection? Why / why not?

2. Discuss some of the difficulties that are likely to arise in the presentations, such as:
   - lack of clear focus
   - attempt to transmit too much information
   - ambiguity of message
   - unattractive medium / design
   - tension between your agenda and recipients' need
3. Establish criteria for designing public awareness campaigns aimed at reducing risk. List criteria on flipchart.

4. Sum up by asking participants to state what advice they would give to someone embarking on a public awareness campaign that will be part of a risk reduction programme.
What is the role of development workers in risk reduction?

Purpose

This discussion-based activity asks participants to make decisions about aspects of development work.

This activity requires differentiated and critical thinking and challenges participants to expand their understanding of development issues.

Procedure

Participants are confronted with statements about development issues and their role as development workers. Discussing each statement in a small group, participants have to reach consensus about whether they agree or disagree with the statements.

Time

- 1 hour

Materials

- one set of cut-up statements about development for each group (see resources)
- 3 ‘postboxes’ (such as pockets made by open envelopes) with the labels ‘agree’, ‘disagree’, and ‘undecided’ for each group
Process

Introduction
1. Outline the purpose and procedure of the activity.
2. Ask participants to get into small groups of no more than 5 members and ask them to sit in a semi-circle in front of a wall.
3. For each group, stick the 3 labelled envelopes onto the wall; point out that these are ‘postboxes’.

Participant Action
1. Give each group a set of statement cards stacked in a random pile. Ask them to put the cards in the centre of the semi-circle where everyone can reach them.
2. Give the following instruction:

   - participants will take turns in picking up a card and reading it out aloud to the group;
   - the group will discuss whether they agree or disagree with the statement;
   - when the group has reached a consensus decision the statement is ‘posted’ into the appropriate ‘agree’ or ‘disagree’ envelope;
   - if the group cannot reach consensus the statement is placed into the ‘undecided’ envelope;
   - when all statements have been ‘posted’ the group can return to the ‘undecided’ box and re-open discussion around the statement.

3. Set a time limit (approx. 30 minutes) and point out that thorough discussion is more important than quick decision-making.
4. Monitor progress and assist by clarifying, if necessary.
Review and Discussion

1. When groups have completed their discussion or when the time allocated has elapsed initiate a plenary discussion. Include questions such as the following:
   a. Which statements were / are in the ‘undecided’ box and what made a decision difficult? What information was needed to reach consensus?
   b. Which statements raised critical issues around development and / or with regards to the role of development workers?
   c. Which statements offered a new / different perspective to participants?

2. Ask participants to apply some of the issues raised to their work in risk reduction: how will they use in the field what they have learnt in this discussion?

3. Sum up key issues from this activity.
DISCUSSION STATEMENTS

Development workers aim to make people self-reliant.

A development worker should concentrate primarily on projects that lead to food security.

Women are more open to change than men.

Agrarian reform is a necessary pre-condition for the elimination of hunger.

Development workers should engage people to ‘think the unthinkable’ and imagine what is possible.

Development workers must talk with people, not to them.

Poor people have a poor grasp of the causes of their economic and social problems.

Development workers gain the confidence of communities by demonstrating their skills and knowledge.

The role of the development worker is to search with the community for the causes of problems.

Most rural communities are open to collective ownership and management of economic activities.

Self-reliance must lead to complete self-sufficiency.

Development workers can work from the assumption that producers and traders have common interests.

True development is based on a series of analysis - action - reflection carried out by the poor.

Development workers should facilitate discussions until community members reach consensus decisions.

There cannot be development without technology.

Food aid often results in changed food habits and this causes new dependencies.

Low self-esteem is a characteristic of poor people.

Crops that give ‘high yields’ are more useful than crops that give ‘stable yields’.

Southern Africa Disaster Management Training Programme