

**Module 2b:  
Disaster management  
and climate**

**Exercise A**

May 2019



Exercises

**Title Scenarios exercise**

**Introduction and background for facilitators:**

Disaster managers react to early warnings and disaster assessment information. This exercise explores the actions that a National Society (DM department) could take based on information available at different time scales – from years to hours – building on the regular “peace-time” activities of the National Society.

The climate and disaster scenarios offered are generic – for floods, cyclones (hurricanes/typhoons) and drought – but the facilitator could make it country-specific by adjusting the scenario information to local contexts

**Aim/learning objective:**

At the completion of this exercise participants will realize how the existing project activities of the National Society to address disaster risks could be re-organised and adjusted to make better use of the early warning information also at longer time scales (climate projections).

**Materials and preparation:**

- Print the scenarios at the bottom of this document – print them on A3 paper; several pieces for each group
- Pens for each group

**Duration:**

Approx. 45 minutes

**Participant numbers and/or arrangements:**

Three groups, one for each ‘scenario’ (or 6 – 2 for each scenario, if you have many participants)

**The exercise step by step:**

1. Organise participants in groups – either at random, or let people choose which scenario (flood, cyclone, drought) they prefer to work with.
2. Hand out several copies of the printed scenarios and pens to each group.
3. Explain how the cells in the scenario sheets can be filled with – first the row of empty cells – examples of activities the National Society/DM would normally do to prepare for and react to the warnings and disaster information listed in the top row under “Information available →”
4. Next, coach participants to come up with ideas on changes and improvements for – and note in the second row of empty cells.
5. Note that the last column is for the specific disaster response and recovery activities once a disaster has happened.
6. Circulate between groups and support the discussion with supplementary questions and ideas.

**Debriefing/ discussion:**

Let each group provide examples of their ideas for the second row (changes and improvements) in plenary – and invite for comments and discussion.

**Tips:**

7. If needed, the example from World Disaster Report (below) can be shown to get the process started.

Flash flood	Example of early warning	Example of early action
Years	Increasing risk of extreme rainfall events due to climate change Deforestation on hillsides increasing risk of flash floods Increasing population in slums in areas at high flood risk	Continually update risk maps and identify changing vulnerable groups, community-level activities to reduce risk through concrete actions like reforestation, reinforcement of houses, etc.
Months (seasonal)	Forecast of strongly above-average rainfall for the coming season	Revisit contingency plans, replenish stocks, inform communities about enhanced risk and what to do if the risk materializes, e.g., clear drains
Weeks	High ground saturation leading to high probability of flash floods during next high rainfall event	Alert volunteers and communities, meet with other response agencies to enable better coordination, closely monitor rainfall forecasts
Days	Forecast of heavy rainfall that may result in flash flood	Prepare evacuation, mobilize volunteers, get warnings and instructions out to communities at risk
Hours	Very heavy rainfall almost surely leading to flood	Evacuate

(Table source: 2009 World Disasters Report)

**Print the following sheets in A3 format for group work**

**FLOOD example scenario – Intergovernmental Panel on Climate Change (IPCC) & observations in the region/country:**

Generally, the frequency of more intense rainfall events in many parts of the region has increased, causing severe floods and landslides. This also means an increase in health problems related to floods (diarrhoeal disease, possibly malaria, dengue).

Theme of scenario	Years trend	Months	Weeks	Days	Hours	Response & recovery
<b>Flood</b>  <b>Information available →</b>	Increasing intense rainfall events. More flooding events.	Seasonal forecast for above average rainfall (due to La Nina in Pacific).	Ongoing heavy rainfall.	Ground is saturated. High water levels upstream. Forecast of continued rainfall. High risk of floods.	Flood water moving to affected areas.	Flood has receded
What are we (DM & health programmes) already doing that address these impacts?						
As flood patterns are changing, what will the National Society need to do more/less of, differently or better? Be specific.						



**CYCLONES (typhoons / hurricanes) example scenario – Intergovernmental Panel on Climate Change (IPCC) & observations in the region/country:**

Damage caused by intense typhoons has risen significantly. There has been an increase of 20% in the frequency of cyclones entering the country’s waters during the period 1990-2003. An increase in the number of cyclones with typhoon intensity (greater than 150kph) in El Niño periods.

Theme of scenario	Years trend	Months	Weeks	Days	Hours	Response & recovery
<b>Cyclones</b> <b>Information available →</b>	More intense typhoons, typhoons occurring in new areas	Wet/typhoon season approaching	Meteorological office warns waters are warm and there is near potential for a typhoon	Category 5 super typhoon developing	Typhoon to hit coast in 3 hours	Typhoon has passed, waters are receding
What are we (national/local DM & health programmes) already doing that address these impacts?						
As flood patterns change what will the NS need to do more/less of, differently or better? Be specific.						

**DROUGHT** example scenario – Intergovernmental Panel on Climate Change (IPCC) & observations in the region/country:

Increasing frequency and intensity of droughts in many parts of the region are attributed largely to a rise in temperature. This occurs particularly during the summer and normally drier months. Decline (13-24%) in annual flows of the main regional (international) rivers by the end of the 21st century will increase water stress. Water shortages in some countries in the region are already exacerbated by climate change. Increase in diarrhoeal disease and eye disease (trachoma) as a consequence of poor hygiene. Malnutrition as a consequence of drought will likely increase.

Theme of scenario	Years trend	Months	Weeks	Days	Hours	Response & recovery
<b>Drought</b>  <b>Information available →</b>	Increased intensity and frequency of droughts.	Dry season approaching; seasonal forecast for above below average rainfall (due to el Nino in the Pacific).	Low rainfall has been recorded in the past 2 months; water shortages are reported.	Reports of communities experiencing lack of water for drinking and sanitation.	Lasting rains have occurred in the past weeks.	Drought conditions are beginning to fade out.
What are we (DM & health programmes) already doing that address these impacts?						
As drought patterns are changing in the future, what will the National Society need to do more/less of, differently or better? Be specific.						