

# Digital Simulation Toolkit

## Module 1 - Crisis Communication & Disaster Preparedness Principles



### Preparedness is a practice.

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# Toolkit Map & Overview

A print-ready companion to Module 1. Each resource can also appear as a separate item on the WP3 website.

| Code | Resource Format                                             | Suggested Time    |
|------|-------------------------------------------------------------|-------------------|
| WS1  | Preparedness Core Concepts (Individual worksheet)           | 15 min            |
| WS2  | Disaster Management Cycle (Individual / pairs)              | 15 min            |
| ACT1 | Risk, Vulnerability and Capacity Map (Small groups)         | 30 min            |
| ACT2 | Sendai Priorities to Local Action (Small groups)            | 25 min            |
| PR1  | Hazard and Capacity Cards (Cut-out cards)                   | 20 min            |
| PR2  | Stakeholder and Role Cards (Cut-out cards)                  | 20 min            |
| SIM1 | Urban Earthquake: First 6 Hours (Tabletop simulation)       | 60-75 min         |
| SIM2 | Flash Flood: 90-Minute Warning (Tabletop simulation)        | 45-60 min         |
| EV1  | Pre/Post Knowledge Check (Individual)                       | 10 min            |
| EV2  | Simulation Observer Rubric (Observer)                       | During simulation |
| EV3  | Participant Reflection and Action Plan (Individual / group) | 15 min            |
| EV4  | Facilitator Review Form (Facilitator)                       | 10 min            |

## Module 1 Learning Outcomes

- Define disaster risk, vulnerability, capacity and the disaster management cycle.
- Distinguish natural, human-induced and compound hazards relevant to the region.
- Apply the four Sendai Framework priorities to local preparedness choices.
- Complete a basic participatory risk assessment.
- Identify early warning signs and suitable preparedness actions.
- Clarify stakeholder roles and limits.
- Propose context-sensitive preparedness actions for local settings.

## WS1 — Preparedness Core Concepts



- |                              |                                                                               |
|------------------------------|-------------------------------------------------------------------------------|
| 1. Disaster risk             | A. The strengths, resources and abilities available to manage risk.           |
| 2. Vulnerability             | B. A connected set of mitigation, preparedness, response and recovery phases. |
| 3. Capacity                  | C. Potential loss linked to hazard, exposure, vulnerability and capacity.     |
| 4. Resilience                | D. Conditions that increase susceptibility to harm.                           |
| 5. Early warning system      | E. The ability to anticipate, absorb, adapt and recover.                      |
| 6. Disaster management cycle | F. A system that combines hazard monitoring, communication and timely action. |

# WS2 & ACT1 — Disaster Management Cycle & Risk Mapping

| Action                          | Mitigation | Preparedness | Response | Recovery |
|---------------------------------|------------|--------------|----------|----------|
| Update evacuation routes        | [ ]        | [ X ]        | [ ]      | [ ]      |
| Distribute emergency food       | [ ]        | [ ]          | [ X ]    | [ ]      |
| Retrofit a school building      | [ X ]      | [ ]          | [ ]      | [ ]      |
| Restore water services          | [ ]        | [ ]          | [ ]      | [ X ]    |
| Train youth volunteers          | [ ]        | [ X ]        | [ ]      | [ ]      |
| Conduct rapid damage assessment | [ ]        | [ ]          | [ X ]    | [ ]      |

## ACT2 — Sendai Priorities to Local Action



| Case Scenario                                                                                   | Main Sendai Priority          | Proposed Local Action                                                    |
|-------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------|
| A - Municipality has no updated hazard map and residents do not know which streets flood first. | 1) Understand disaster risk   | Conduct local participatory hazard mapping & publish flood warning maps. |
| B - Several NGOs collect data after disasters, but no shared protocol exists.                   | 2) Strengthen risk governance | Establish unified disaster data sharing protocol among NGO network.      |
| C - Youth centre has volunteers but no emergency communication plan or drill schedule.          | 4) Enhance preparedness       | Create youth emergency communications protocol & run biannual drills.    |

## PR1 & PR2 — Hazard, Capacity & Role Cards

**EARTHQUAKE**

Strong ground motion; aftershocks possible; damage to older structures.

**FLASH FLOOD**

Fast water rise after intense rain; roads may become unsafe.

**LOCAL VOLUNTEERS**

People with local knowledge, language skills and social networks.

**NGO COORDINATOR**

Sets priorities, assigns staff, keeps contact with official coordination structures.

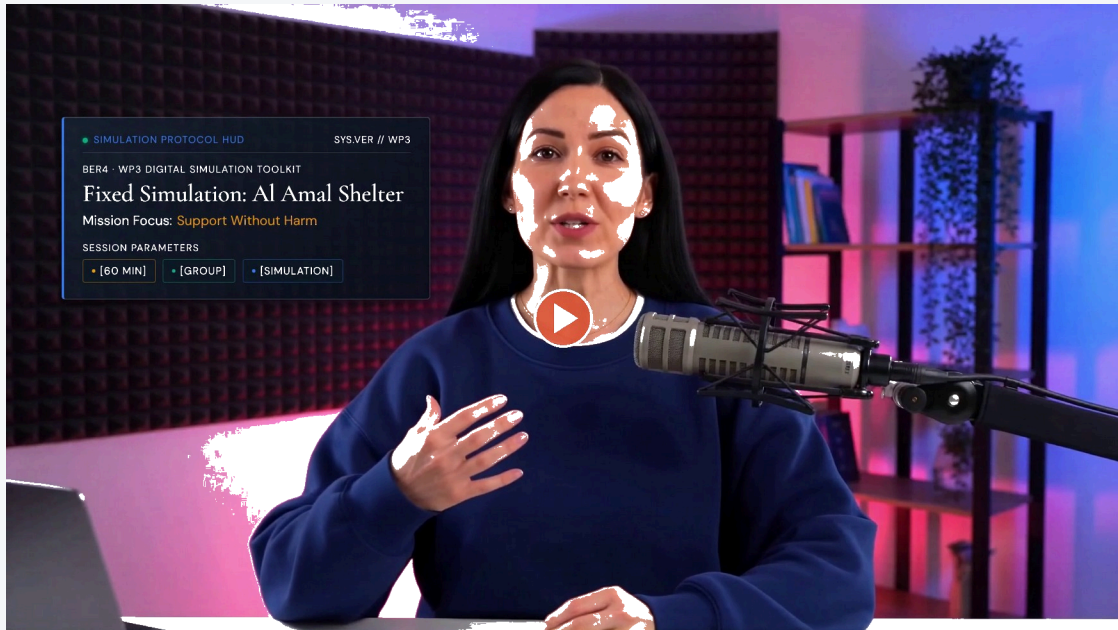
**LOGISTICS OFFICER**

Tracks transport, supplies, stock and distribution requests.

# SIM1 — Urban Earthquake: First 6 Hours

## Simulation video

Open the linked file in your browser or media player.



[\[ OPEN VIDEO — CLICK TO PLAY \]](#)

## SIM2 — Flash Flood 90-Minute Warning Simulation



| Time Left | Inject Description                                                             | Priority Action                                         |
|-----------|--------------------------------------------------------------------------------|---------------------------------------------------------|
| 90 MIN    | Official warning: rapid water rise possible. One main road remains open.       | Issue early warning broadcast & alert evacuation teams. |
| 70 MIN    | Care home reports transport difficulty for 12 residents with reduced mobility. | Dispatch approved transport minibus & logistics team.   |
| 50 MIN    | False social media message claims warning is cancelled.                        | Publish official verification broadcast on radio & SMS. |
| 10 MIN    | Power fails in part of district. Youth centre has battery lights & radio.      | Activate youth centre as primary communication hub.     |

## EV3 & EV4 — Reflection & 30-Day Action Plan



| Action Item                                 | Owner             | Due Date | Evidence of Completion                 |
|---------------------------------------------|-------------------|----------|----------------------------------------|
| Update local hazard & vulnerability map     | Logistics Officer | Day 10   | Updated map in office & digital portal |
| Establish shared NGO communication protocol | NGO Coordinator   | Day 20   | Signed MoU and shared protocol doc     |
| Run youth emergency communications drill    | Youth Lead        | Day 30   | Drill report & participant debrief log |

## Reference Base & Project Information

- UNDRR. Sendai Framework for Disaster Risk Reduction 2015-2030.
- UNDP. Local/participatory disaster risk reduction resources (2014).
- Coppola, D. P. Introduction to International Disaster Management (2021).
- Twigg, J. Disaster Risk Reduction resources.
- ESCWA. Arab Strategy for Disaster Risk Reduction (2020).

*Digital adaptation note: Each card, worksheet, decision point and rubric can be published as a separate web component under WP3. SIM1 and SIM2 are suitable for timed scenario updates, role selection, decision logs and post-simulation reflection forms.*



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