

Digital Simulation Toolkit

Module 1 - Introduction to Disaster Preparedness Principles



Preparedness is a practice.

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How to use this toolkit

A guided sequence from concepts to application.

01 START WITH CONCEPTS

WS1 and WS2 establish the language of preparedness.

02 MAP LOCAL REALITY

ACT1 and ACT2 turn core concepts into local choices.

03 PRACTISE DECISIONS

PR1, PR2 and the two simulations bring roles and trade-offs into view.

04 MAKE LEARNING VISIBLE

EV1–EV4 capture knowledge, observation, reflection and facilitator feedback.

SUGGESTED LEARNING FLOW



FACILITATOR NOTE

The toolkit is designed for adaptation. Use local hazards, institutional arrangements and accessibility needs when you prepare a session. Real incident procedures and competent authorities always take precedence.

WS1

Preparedness core concepts

Worksheet · match, distinguish and apply.

START HERE

Work without notes first. Pair up to compare your logic, then amend a response after discussion.

A · MAKE THE CONNECTIONS

1 Disaster risk		A Strengths, resources and abilities available to manage risk.
2 Vulnerability		B Connected mitigation, preparedness, response and recovery phases.
3 Capacity		C Potential loss shaped by hazard, exposure, vulnerability and capacity.
4 Resilience		D Conditions that increase susceptibility to harm.
5 Early warning system		E Ability to anticipate, absorb, adapt and recover.
6 Disaster management cycle		F Hazard monitoring linked to communication and timely action.

B · EXPLAIN THE DIFFERENCE

Hazard versus vulnerability

Preparedness versus response

Capacity versus resilience

C · APPLY THE LENS

MINI CASE A dense urban district has older buildings, narrow roads, a youth centre, two clinics, active volunteers and limited awareness of earthquake procedures.

WS2

Disaster management cycle

Worksheet · place actions, then defend your choices.

Task Place each action in the phase where it has its strongest contribution. Some actions connect more than one phase — mark the connection and explain why.

MITIGATION

reduce drivers of risk

PREPAREDNESS

ready people and systems

RISK REDUCTION

RESPONSE

protect life and basic needs

RECOVERY

restore safer conditions

ACTION BANK

update evacuation routes

☐

run an earthquake drill

☐

retrofit a school

☐

open temporary shelter

☐

rapid damage assessment

☐

restore water services

☐

map high-risk areas

☐

repair damaged housing

☐

ACT1

Risk, vulnerability & capacity map

Small-group activity · build one grounded risk statement.

1 · SELECT A SETTING

Old city district · flood-prone settlement · rapidly expanding neighbourhood · a place you know well

HAZARD

What could happen?

EXPOSURE

Who / what is in its path?

VULNERABILITY

What could worsen harm?

CAPACITY

What can reduce harm?

2 · DRAFT THE RISK STATEMENT

If [hazard] affects [exposed place / group], the impact may be severe because [vulnerability]. Existing [capacity] can reduce harm. Our first preparedness priority is [action].

3 · DECIDE WHAT HAPPENS NEXT

LOW-COST ACTION

Can be started now with local resources.

MEDIUM-TERM ACTION

Needs a partner, plan or investment.

WHO MUST BE INVOLVED?

Name the first two people or institutions.

ACT2

Sendai priorities → local action

Small-group activity · connect a local problem to a practical response.

01

UNDERSTAND RISK

maps, data, local knowledge

02

STRENGTHEN GOVERNANCE

roles, protocols, coordination

03

INVEST FOR RESILIENCE

safer systems and assets

04

ENHANCE PREPAREDNESS

warning, drills, recovery planning

CASE STUDIO

Pick a case below. Choose the primary Sendai priority, propose one local action and identify the actor who must own it.

A Residents do not know which streets flood first.

Priority: ____ Action: ____ Owner: ____

B NGOs collect similar data but lack a coordination protocol.

Priority: ____ Action: ____ Owner: ____

C A youth centre has volunteers but no communication plan.

Priority: ____ Action: ____ Owner: ____

D An older school needs structural improvement.

Priority: ____ Action: ____ Owner: ____

E Warning messages exclude people with hearing loss.

Priority: ____ Action: ____ Owner: ____

Challenge Can one action support more than one priority? Give a local example and explain the connection.

PR1

Hazard & capacity cards

Cut, sort and use during activities or simulations.

EARTHQUAKE

strong ground motion / aftershocks

FLASH FLOOD

fast water rise / unsafe roads

URBAN FLOOD

drainage overload / contamination

DROUGHT

water shortage / livelihood stress

DISPLACEMENT

shelter, information, protection

COMPOUND EVENT

interacting hazards and stresses

LOCAL VOLUNTEERS

local knowledge and social networks

YOUTH CENTRE

meeting or information point

CLINIC

basic health capacity and referral

LOCAL RADIO

public information channel

MINIBUS

limited approved transport

PARTNER NGO NETWORK

staff, supplies and local contacts

PR2

Stakeholder & role cards

Use role clarity to make decisions more realistic.

NGO COORDINATOR

sets priorities; connects with official structures

YOUTH VOLUNTEER LEAD

briefs, groups and protects volunteers

LOCAL AUTHORITY LIAISON

shares verified official information

HEALTH LIAISON

links clinics, first aid and referrals

LOGISTICS OFFICER

tracks transport, supplies and requests

INFORMATION OFFICER

checks sources; prepares public updates

INCLUSION FOCAL POINT

checks access, language and protection needs

OBSERVER

records choices, gaps and emerging evidence

CREATE TWO LOCAL ROLE CARDS

ROLE

Main responsibility

ROLE

Main responsibility

SIM1

Urban Earthquake: First 6 Hours

Tabletop simulation | 60-75 minutes

Simulation video

Open the linked file in your browser or media player.

OPEN VIDEO

SCENARIO

A magnitude 6.8 earthquake affects a mid-sized urban area in Palestine. Several older buildings are damaged, roads are partially blocked, mobile networks are unstable and residents seek verified information, shelter and basic support.

FACILITATOR NOTE

Participants: 6-24 | Teams: 3-6 people | Practise risk assessment, coordination, volunteer management, information verification and prioritisation.

SIM1-A

Urban earthquake · facilitator video

Tabletop simulation | Video companion

Simulation video

Open the linked file in your browser or media player.

[OPEN VIDEO](#)

SCENARIO

Use this companion video when you introduce the earthquake simulation. It gives the facilitator a clear visual entry point before the team begins.

FACILITATOR NOTE

Facilitator focus: set safety boundaries; give teams time to identify first priorities; ask them to distinguish verified information from rumours and to record why they make each choice.

SIM1-B

Urban earthquake · debrief video

Tabletop simulation | Video companion

Simulation video

Open the linked file in your browser or media player.

[OPEN VIDEO](#)

SCENARIO

Open the linked video as the bridge from scenario decisions to debrief. Keep the team's decision record visible while they watch.

FACILITATOR NOTE

Debrief prompts: Which decision carried the highest safety consequence? Where did the organisation add value? What should remain with specialist services? How did your team protect volunteers from avoidable risk?

SIM2

Flash Flood: 90-Minute Warning

Tabletop simulation | 45-60 minutes

Simulation video

Open the linked file in your browser or media player.

[OPEN VIDEO](#)

SCENARIO

After intense rainfall, a warning indicates that a low-lying urban district may face rapid water rise within 90 minutes. Roads, a school, a youth centre and several homes lie in the exposed zone.

FACILITATOR NOTE

Core task: turn an early warning into clear local action. Use PR1, PR2, the action board and EV2.

SIM2-A

Flash Flood - Simulation Video

Tabletop simulation | SIM2 video

Simulation video

Open the linked file in your browser or media player.

[OPEN VIDEO](#)

SIM2-B

Flash Flood - Decision Review

Facilitator and participant sheet

SIM2-B VIDEO

OPEN VIDEO

DECISION CHECKS

1.	Acted early on the official warning	☐ YES	☐ PARTLY	☐ NO
2.	Identified exposed people and places	☐ YES	☐ PARTLY	☐ NO
3.	Considered access and transport limits	☐ YES	☐ PARTLY	☐ NO
4.	Verified contradictory messages	☐ YES	☐ PARTLY	☐ NO
5.	Assigned clear roles	☐ YES	☐ PARTLY	☐ NO
6.	Protected volunteers from floodwater	☐ YES	☐ PARTLY	☐ NO
7.	Updated actions after each event	☐ YES	☐ PARTLY	☐ NO

DEBRIEF NOTES

Which action had to happen first?	What information changed your plan most?	Which local capacity was most useful?

EV1

Knowledge check

Pre / post · select one answer for each item.

1

Which statement best describes disaster risk?

- ☐ A Hazard alone
- ☐ B Potential loss shaped by hazard, exposure, vulnerability and capacity
- ☐ C Damage recorded after an event
- ☐ D Number of responders available

2

Which phase includes drills and contingency plans?

- ☐ A Preparedness
- ☐ B Response
- ☐ C Recovery
- ☐ D Reconstruction only

3

A condition that increases susceptibility to harm is:

- ☐ A Capacity
- ☐ B Governance
- ☐ C Vulnerability
- ☐ D Recovery

4

Which action best fits Sendai Priority 1?

- ☐ A Hazard and vulnerability mapping
- ☐ B Food distribution
- ☐ C Debris clearance
- ☐ D Shelter repair

5

An early warning system connects hazard information with:

- ☐ A Timely communication and action
- ☐ B Media attention only
- ☐ C Donations only
- ☐ D Repair only

Marking note Use the same 10 questions before and after Module 1. The purpose is to reveal progress and guide review — it is not a high-stakes test.

EV1

Knowledge check · continued

Pre / post · select one answer for each item.

6

Which example is a local capacity?

- ☐ A Narrow roads
- ☐ B Weak buildings
- ☐ C Trained volunteers and a youth centre
- ☐ D High exposure

7

Safest NGO role after an earthquake without rescue competence?

- ☐ A Enter unstable buildings
- ☐ B Coordinate suitable volunteer and information tasks
- ☐ C Conduct structural inspections
- ☐ D Direct rescue teams

8

Recovery can reduce future risk when it:

- ☐ A Restores prior vulnerabilities exactly
- ☐ B Ignores lessons
- ☐ C Uses safer standards and lessons
- ☐ D Starts after all services return

9

A compound hazard refers to:

- ☐ A One hazard with no exposure
- ☐ B Interacting hazards or stresses
- ☐ C A false warning
- ☐ D Volunteer shortage

10

Participatory risk assessment is valuable because it:

- ☐ A Replaces all technical assessment
- ☐ B Adds local knowledge to preparedness choices
- ☐ C Removes need for coordination
- ☐ D Focuses only on past disasters

SCORE _____ / 10

Facilitator key: 1B · 2A · 3C · 4A · 5A · 6C · 7B · 8C · 9B · 10B

EV2

Simulation observer rubric

Observe evidence during SIM1 or SIM2 — then add one specific example.

CRITERION	1 · EMERGING	2 · DEVELOPING	3 · CONSISTENT	4 · STRONG EVIDENCE
Risk recognition	☐ misses key risk	☐ names some risk	☐ links hazard / exposure / vulnerability	☐ sets priorities from analysis
Role clarity	☐ roles confused	☐ some roles stated	☐ roles mostly clear	☐ limits and handoffs explicit
Coordination	☐ acts in isolation	☐ limited contact	☐ relevant actors contacted	☐ coordination avoids duplication
Information use	☐ uses unverified claims	☐ checks inconsistently	☐ checks key sources	☐ messages are systematic
Volunteer safety	☐ unsafe allocation	☐ some safety limits	☐ suitable task and brief	☐ tracking and supervision clear
Inclusion	☐ no attention	☐ mentions groups	☐ adjusts priorities	☐ access and protection shape choices
Adaptation	☐ plan fixed	☐ some reaction	☐ plan changes	☐ reasons recorded

EVIDENCE NOTE

What did the team do or say that supports your rating?

EV3

Reflection & 30-day action plan

Complete individually, then share one commitment with the group.

One decision our team handled well

One risk we noticed too late

One role needing clearer definition

One information source we should pre-identify

One local actor we should contact

TURN REFLECTION INTO ACTION

ACTION	OWNER	DUE DATE	RESOURCE NEEDED

CONFIDENCE CHECK · CIRCLE ONE NUMBER

I can explain the disaster management cycle.

1	2	3	4	5
---	---	---	---	---

I can complete a basic local risk assessment.

1	2	3	4	5
---	---	---	---	---

I can connect Sendai priorities to local action.

1	2	3	4	5
---	---	---	---	---

I can identify suitable NGO roles and limits.

1	2	3	4	5
---	---	---	---	---

I can turn an early warning into priority actions.

1	2	3	4	5
---	---	---	---	---

EV4

Facilitator review

A short quality check after delivery.

RATE THE DELIVERY

Instructions were clear	1	2	3	4	5
Time allocation was realistic	1	2	3	4	5
Participants understood roles	1	2	3	4	5
Updates created useful decisions	1	2	3	4	5
Materials supported discussion	1	2	3	4	5
Simulation reflected local realities	1	2	3	4	5
Safety limits were clear	1	2	3	4	5
Debrief connected to Module 1	1	2	3	4	5

What created the strongest discussion?
WHAT NEEDS ATTENTION BEFORE THE NEXT DELIVERY?

Which instruction or sequence needs revision?

Which local detail should be added?

What should change in the digital version?

Reference base

Sources used to anchor the toolkit and its digital adaptation.

KEY SOURCES

- UNDRR. Sendai Framework for Disaster Risk Reduction 2015–2030.
- UNDP. Local and 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 become a separate WP3 web component. SIM1 and SIM2 are suited to timed updates, role selection, decision logs and post-simulation reflection forms.

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