ITUPublications

Emergency telecommunications table-top simulation guide

In partnership with:

EMERGENCY TELECOMMUNICATIONS CLUSTER

ITU

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Acknowledgements

This guide and associated toolkit were prepared by the international expert Anna Young, under the direction of the Environment and Emergency Telecommunications Division (EET) of the International Telecommunication Union (ITU) in close collaboration with the Emergency Telecommunications Cluster (ETC).

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1. Introduction

This guide has been designed to assist ITU Member States and stakeholders working on disaster management and disaster risk reduction at a national level, to plan design and conduct table-top simulations that test and refine emergency telecommunication plans and policies and verify whether networks, redundant communications capacity, personnel, and other telecommunication systems are in place. These activities increase preparedness when disasters strike.

This guide will help the emergency communications sector of Member States to create a contextualized and country specific simulation. It outlines the key steps and phases of planning, designing, conducting and following up of an emergency simulation exercise (see Figure 1).

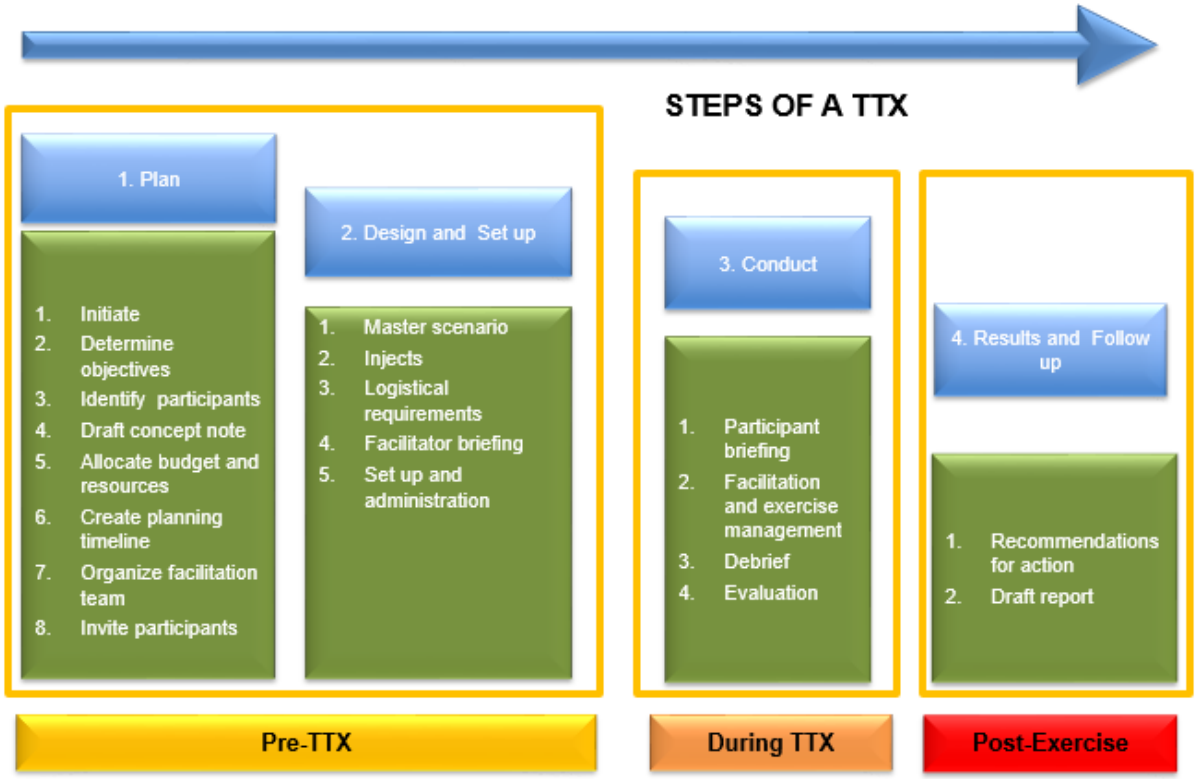
All relevant material to complement this guide, including sample materials from previous ITU-ETC simulations is included in the annexes.

Annex 1 contains the toolkit documents such as templates, checklists and guidance to assist in running a simulation.

Annex 2 contains examples of simulation resources from previous exercises.

Annex 3 contains an additional list of resources for further reading and reference material.

Figure 1: Steps of a table-top simulation (TTX)



Source: ITU

2. What is a simulation exercise?

In the context of this guide, a simulation is an exercise that replicates selected aspects of an emergency operation. It is a fictitious disaster scenario that allows participants involved in emergency responses to rehearse procedures, identify gaps and test plans, in order to enhance skills and knowledge and strengthen preparedness.[1] A simulation serves as a preparedness action, and is best run when mechanisms are in place such as coordination structures, supporting policies, and plans.

This guide focuses on desk-based simulation exercises where small groups are expected to react to a disaster scenario and resolve presented problems. Participants build an understanding of the systems, policies, procedures, resources and structures in place to support emergency responses. Through a debrief process at the end of the simulation, they are also able to identify gaps and issues to be addressed through preparedness measures.

A simulation exercise usually takes 3-5 hours and is relatively easy to organise.

Selecting the type of simulation exercise will depend on the objectives and the resources available for planning and conducting the exercise. While this guide focuses on table-top simulations, examples of the different types of exercises are highlighted in Table 1, in order of complexity.

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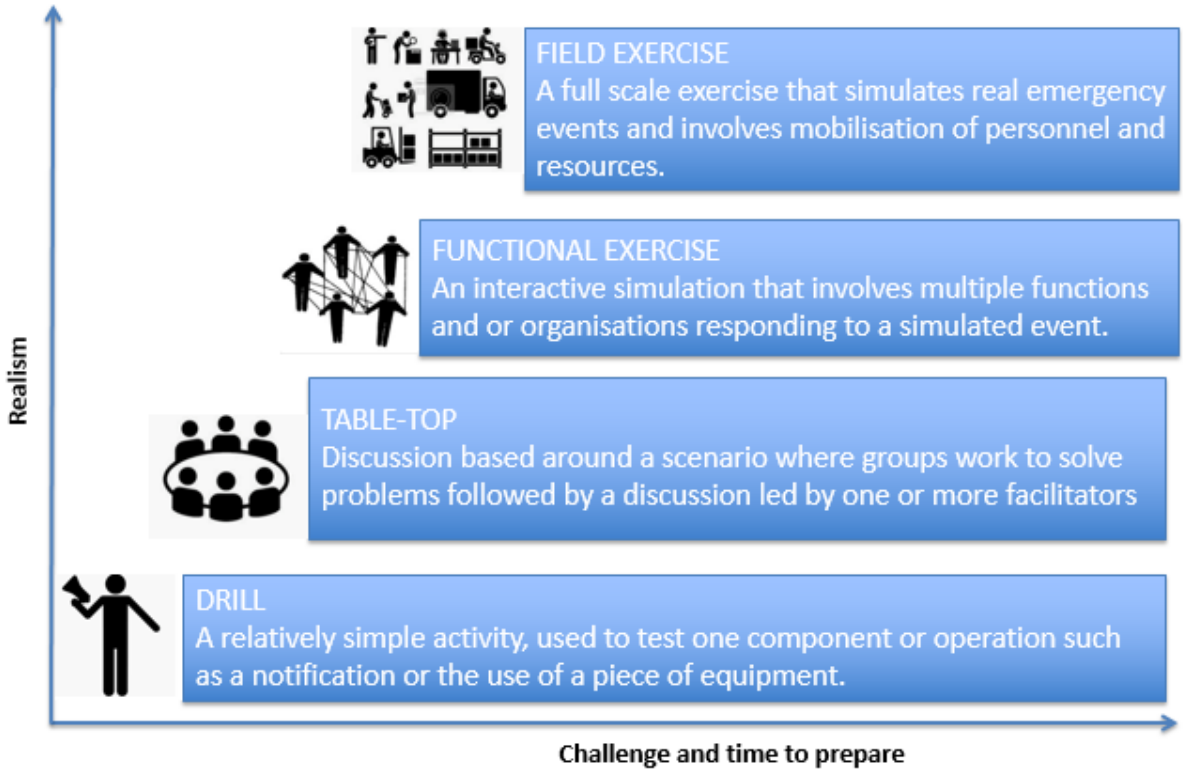
[1] See also the World Food Programme Emergency Preparedness and Response Package (EPRP) Simulation Guide. https://executiveboard.wfp.org/meeting/95

Table 1: Types of simulation

Type	Description	Key characteristics	Planning considerations
Drill	An exercise that aims to practice one component of a response, such as a notification or the use of a piece of equipment.	• Can include repeated practice of the same action. • Can include use of equipment. • Less than 1 day.	• Can take up to a month dependent on the deployment of equipment and complexity.
Table-top exercise (TTX)	Discussion-driven group exercise that allows participants to work together to resolve issues and answer questions.	• Desk/room-based. • Generally informal in nature and relatively easy to implement. • Run over 3-5 hours. • Involves groups working to resolve problems or provide answers to questions.	• Cost effective. • Preparation time of up to 4 weeks. • Generally, no equipment and/or deployment needed. • All activity can take place in one room.
Functional exercise	An interactive simulation that exercises multiple functions of an organisation or government response plans.	• Time-pressured and realistic scenario. • Can be run over half a day up to several days. • People and equipment are not deployed.	• Requires experienced facilitators. • Two months to a year to plan, depending on size and complexity.
Field exercise	A full-scale exercise that simulates real emergency events as closely as possible and tests most functions of an emergency response plan	• Includes the mobilization of personnel and equipment. • The most realistic of simulation types. • Can be run over half a day up to several days.	• Expensive and time consuming to run. • A year or more to prepare.

Figure 2: Represents the level of realism in relation to the level of challenge and time to prepare for the different simulation types



Source: ITU

Simulations are an effective tool to assist organisations and government agencies in preparedness planning and capacity building. In the context of emergency telecommunications, simulations can be designed to:

- Test national and local strategies, protocols and frameworks on the use of information communications technologies (ICTs) for disaster response.
- Increase the understanding of telecommunication regulations and its crucial role in disaster response.
- Identify gaps and challenges that can be addressed through preparedness in the emergency telecommunication sector.
- Increase understanding of response mechanisms.
- Practice national/interagency contingency plans and/or local-specific plans in emergency preparedness and response.
- Test new policy, procedures or equipment before incorporation into national plans.
- Test the roles and responsibilities of key stakeholders in disaster preparedness and response, including communities, provincial and national government, customs organisation, the private sector, national response agencies, local and international NGOs, civil protection, UN agencies.
- Test the national disaster response coordination mechanism, and its coordination with other clusters at the regional level.

- Assist national, provincial, and district response management staff in their roles and responsibilities in the use of ICTs for disaster management, with a specific focus on the response phase.
- Build an understanding of government structures and/or coordination, cooperation and communication between government and the humanitarian community/organizations present in the country.
- Consider emerging risk(s) in the emergency telecommunication sector, and test coordination and information sharing among the ICT private sector.
- Identify whether proper mechanisms, systems and resources, including early warning systems, are available in-country and at regional and global level, to support the use of different ICT platforms and technologies for a large-scale emergency response.
- Contribute to cross-sectoral relationship building, both within the national government and between other key stakeholders.
- Apply lessons learnt and consolidate best practices identified during the simulation exercise and identify next steps to enhance preparedness for future disasters.

3. How to conduct a simulation exercise

This section outlines the key steps in conducting a simulation exercise. Four main phases have been identified:

- ***Phase 1: Plan***
- ***Phase 2: Design and set-up***
- ***Phase 3: Conduct***
- ***Phase 4: Follow-up and results***

Phase 1: Plan

Step 1.1 Initiate

The desire and commitment of a government agency or interested organisation at senior management level to lead in the planning and running of a simulation should be the starting point for undertaking a simulation exercise. This agency should then engage with cross-sectoral partners from the government, private sector, humanitarian organizations, and other stakeholders involved in disaster management, in order to plan and conduct the simulation.

This agency should also assemble a facilitation team to be responsible for the planning, design, conducting, and follow up of the simulation. This team may include representatives from different agencies.

Step 1.2 Determine objectives

When planning an exercise, objectives must be clearly defined, as these are the foundation for the development of the simulation. This should be done in consultation with the key stakeholders.

The key questions that need to be answered and articulated in the objectives are:

- What do we want to achieve through running a simulation?
- What are we trying to test or practice?

- What are the areas that need strengthening?
- Who will conduct the simulation?

Step 1.3 Identify participants

To help determine the number, functions, and roles of participants of the simulation, the following questions may be considered:

- Who needs to be in the simulation to meet the objectives?
- Who handles the functions to be tested?
- Who has a relevant role?
- Is there participant diversity: i.e. in terms of gender, age, ethnicity, and experience?

Participants should be included from all relevant sectors and should be selected based on their ability to contribute to and meet the objectives of the simulation.

Participants will be expected to have relevant roles during the exercise, and it is important to ensure that participants are in a position to make decisions during the simulation and to consider potential preparedness/mitigating actions afterwards.

Table 2: Potential participants

Sector	Agency/Organisation
Government	Ministry of ICTs or agency responsible for telecommunication policies, including spectrum allocation or network outage reporting
	Telecommunication regulatory authority
	National disaster management organization or civil protection authority
	Ministry of transport
	Ministry of foreign affairs
	Customs and immigration organization
	Meteorological organization
	Military
Telecommunication/ICT/ media/electricity providers (private and public)	Mobile network and service providers
	Fixed telephone service providers
	Internet service providers
	Satellite service providers
	Broadcasters (TV and radio)
	National power providers
National and International humanitarian agencies and civil society	National non-government organisations
	International non- government organisations
	UN organisations
	National Red Cross Society, International Committee of the Red Cross and International Federation of Red Cross
	Civil society

Step 1.4 Draft concept note

The concept note serves as an introduction to the exercise for key stakeholders involved in the planning process and helps to ensure that all stakeholders are clear on the expectations for the overall exercise. A concept note should be developed and include the following components:

- background and context;
- simulation objectives;
- scenario and scenario timeline;
- participants.

ANNEX 1.1 CONCEPT NOTE TEMPLATE

Step 1.5 Allocate budget and resources

Consideration needs to be given to the people who are required to run the simulation, as well as associated costs, resources, and location. A budget should be created to support the running of the simulation. The budget may be supported by more than one organisation.

ANNEX 1.2 BUDGET TEMPLATE

Step 1.6 Create planning timeline

A timeline for delivering the exercise should be created that will consider the duration of the planning process, the time the simulation will take, and the period for following up. This should include all other required activities to successfully conduct and complete the simulation, such as identifying and nominating a team leader or responsible person.

ANNEX 1.3 PLANNING CHECKLIST

Step 1.7 Organize facilitation team

A core facilitation team should be established. The key responsibilities of the organizing team include:

- Determine objectives of the exercise.
- Draft and gain approval of the concept note.
- Develop simulation materials including scenario and injects (information used to manage the speed and direction of the exercise see Phase3, Step 2.2).
- Ensure adequate resources are available.
- Oversee planning and management of the logistics, administration, finance, and other related issues.
- Identify and invite participants.
- Train participants in advance, providing plans, policies and other materials that will be relied upon (tested) in the simulation, if needed.
- Ensure collaboration with key stakeholders throughout the process.

A simulation should include some of the following functions:

- Team leader: Responsible for the overall planning and implementation of the simulation.
- Facilitator: Oversees the exercise on the day of the simulation. It may be that the facilitator is also the team leader.
- Technical advisor(s) subject matter experts: These may be needed in order to assist with the master scenario.
- Logistic support: Logistic and administrative requirements.
- Co-facilitators: Assist the facilitator.
- Role players: Where necessary.

The core organizing team is responsible for designing the simulation, under the guidance of the team leader. The team may be composed of three to five persons, but this may vary depending on the scale of the simulation exercise. It is possible to arrange a simulation with only one or two people, remembering that consultation with stakeholders is needed to ensure the content is appropriate and will meet the planned objectives.

Ideally, preparations should begin, at least four weeks prior to the simulation exercise. The preparation time can vary depending on the scale, scope and complexity of the exercise. The level of expertise and prior experience with organizing and running simulations will determine how many work-hours will be needed for organisational purposes.

Step 1.8 Invite participants

Participants should be nominated at least one month in advance of the exercise. If necessary, a contact person for accommodation and special support should be appointed. The communications to participants should include a logistics note, a concept note for the exercise, and any other relevant background information needed, including any current plans or policies if they are to be tested.

Phase 2: Design and set up

Phase 2 is about designing, developing, and creating the supporting documents to inform and guide the exercise. It also includes the preparation of the simulation logistics outlined in the planning checklist.

ANNEX 1.3 PLANNING CHECKLIST

Step 2.1 Master scenario

The master scenario is the narrative of the disaster event(s) and impact, which are simulated during the exercise. For a table-top exercise, the master scenario does not need to be extremely detailed but should provide a description of the events that unfold throughout the duration of the scenario. This should include information on affected critical infrastructure such as telecommunication networks and services, roads, and population.

If relevant to the objectives, the master scenario should also cover information on the response by the government and international community, as well as information on major humanitarian needs. It should describe how the scenario changes over time, including any

changes to the above elements. If simulating different phases of the response (i.e. early warning, preparedness or response) and days (i.e. two days before the disaster, the day of the disaster, and 1 week after the disaster), then the master scenario needs to be broken down into the different phases, with relevant information added to support and explain these 'time jumps'.

FACILITATOR NOTE: The master scenario is for the use of facilitators only and should not be shared with participants. Injects (described below) are used to create and progress the scenario for participants.

Step 2.2 Injects

Injects are anything given by the facilitation team to the participants during the simulation. Injects are used to progress the scenario and generally have two functions:

1. To provide information about and evolve the scenario for participants (i.e. news reports, situation reports, maps or announcements from the government).
2. To prompt a response (i.e. call a meeting, provide information in response to a question).

Injects can be written (email, SMS, reports, documents), presented face-to-face, over the phone, video, and via audio announcements. In addition to simulating requests from national/regional/international levels, as well as field level requests, injects should simulate responses from and to stakeholders not participating in the exercise.

In order to have the desired impact during the simulation, an inject needs to be well thought through and linked to the simulation exercise objectives. There should be an understanding of what the expected outcome of each inject should be, and how participants might react to it.

During emergencies, there are procedures to follow. It can be useful to have relevant organizational or agency procedures, telecommunication regulations or other standards on hand in order to practice the application of these elements. Putting these elements to the test during the simulation will show whether they adequately address particular needs.

An emergency alert to the public can be included as an inject in a simulation. The emergency-alert inject may convey key facts such as the type and location of the emergency, the response time and degree of emergency, as well as expert advices and actions people should take.

Emergency alerts should be in Common Alerting Protocol (CAP) format[2]. Once the alert is ready, make the simulation inject by saving the alert text as a ".xml" file.

To assist in the development of the master scenario and the creation of relevant injects, a guidance document is included in the annexes (see annexe 1.4). Injects can be developed and

[2] A free tool for making a CAP alert can be accessed at https://cap.alert-hub.org. For each country listed, there is a link in the **Editor tool** column. Clicking the link will lead you to the initial setup page "This tool is for composing alerts in CAP format. If you are in the role 'approver-cap' you are authorized to publish CAP alerts. If your role is 'composer-cap' you can create draft CAP alerts but you cannot approve and publish a CAP alert. If you are not in either of the two roles, you cannot use the CAP Editor tool." Clicking the **Guest** button gives access to setting up a test or exercise alert. A brief guide to the CAP Editor tool is available https://www.preparecenter.org/ht/resources/cap-editor-operations-guide.

recorded in an inject matrix (see annexe 1.5) to ensure they support and correspond with the events described in the master scenario. This can ensure that there are adequate numbers of injects to meet the objectives and is a helpful tool to refer to when conducting the simulation.

ANNEX 1.4 MASTER SCENARIO AND INJECT DESIGN GUIDANCE
ANNEX 1.5 INJECT MATRIX

Step 2.3 Logistic requirements

Ensuring logistic and administrative requirements are in place well in advance is critical for the success of a table-top simulation exercise. Within the simulation exercise organizing team, there should be a dedicated focal person for administrative and logistic matters. This team member should factor in the items required by participants and the facilitator. The health and safety of all participants during the exercise is also an essential logistic and administrative requirement of the simulation exercise.

Prior to the simulation any documents for participants should be sent via email, with adequate time for participants to review them. If necessary, a training session reviewing the relevant policies and regulations can be conducted in advance.

Step 2.4 Facilitator briefing

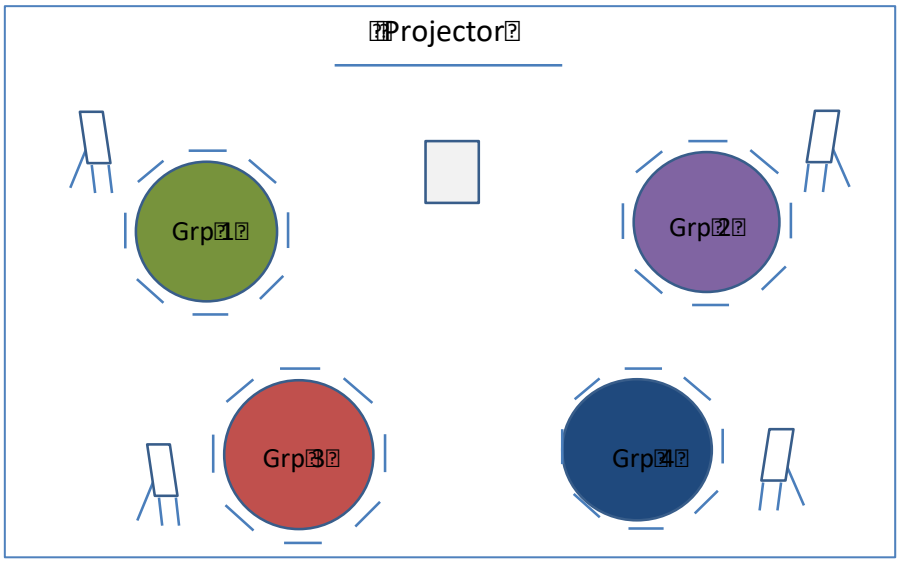
Prior to the start of the simulation, a short briefing with the facilitators should be undertaken. Ideally this should take place the day before the simulation exercise starts. This time should be dedicated to ensuring that facilitators and other team members understand their roles and responsibilities, and how the simulation will unfold. It can be helpful during this briefing to run through the PowerPoint presentation in annex 1.6.

ANNEX 1.6 EXAMPLE POWERPOINT PRESENTATION

Step 2.5 Set up and administration

Setting up the simulation exercise is critical. Key documents should be prepared in advance, along with the room so that teams can work together around a table. There should be no more than eight people per group. Facilities such as Internet, audio and video connections should also be tested in advance, and possibly, a test-run of the actual proceedings should be undertaken to catch any glitches in advance of the simulation exercise.

Figure 3: Example room set up for four working groups



source: ITU

The simulation exercise facilitator or team leader can arrange either a separate room for the facilitation team or a separate table in the room with all other participants.

FACILITATOR NOTE: Remind participants that despite being assigned to a working group there will be opportunities to hear from and feed into the work of other groups

Phase 3: Implementation

Step 3.1 Participant briefing

The simulation exercise facilitator should brief participants when the simulation begins. This should include an explanation of how the exercise will run, what is expected of participants and the objectives. It should also outline the expected timeline including a debrief at the end of the simulation exercise to reveal what has been learnt and to identify future actions. Other logistic information should also be provided at this juncture such as emergency exits and coffee or lunch break times. It should also allow participants to ask questions and seek clarity prior to the start of the simulation exercise.

Step 3.2 Facilitation and exercise management

The facilitator oversees the running of the exercise, this includes supporting co-facilitators, ensuring injects are delivered, managing the speed and progression of the exercise and facilitating the discussions at the end of each inject discussion. To assist the facilitator in the running of the simulation, additional guidance can be found in annex 1.7.

ANNEX 1.7 GUIDANCE FOR TABLE TOP SIMULATION FACILITATORS

Step 3.3 Debrief

Once the simulation is complete, sufficient time should be given to holding a facilitated debrief session. Debriefing is critical to extract the lessons learnt and embed the learning after a simulation. Debriefs should allow the opportunity for individual, team and full group reflection. Participants should provide their feedback before facilitators provide theirs and care must be taken to ensure that this is a positive and supportive process. Participants should be encouraged to freely identify gaps, what went well, and what needs to change to ensure a higher level of readiness.

A key output of the debrief process is the identification of activities to be taken forward based on lessons learnt during the simulation exercises. Recommended activities should be recorded in a draft action plan (see annexes 1.8 and 1.9).

ANNEX 1.8 ACTIVITY SHEET TEMPLATE
ANNEX 1.9 ACTION PLAN TEMPLATE

Sufficient time should be allocated for the debrief. Generally, at least 20 per cent of the overall time spent on the simulation exercise should be dedicated to debriefing. To assist with designing and running debriefs, guidance is included in the annex 1.7.

ANNEX 1.7 GUIDANCE FOR TABLE TOP SIMULATION FACILITATORS

Step 3.4 Evaluation

At the end of the simulation and debrief, participants should be given an evaluation to complete. This can be through a printed form or an electronic questionnaire. Feedback from participants on the simulation should contribute to the improvement of future simulations.

ANNEX 1.10 EVALUATION TEMPLATE

Phase 4: Follow up

Step 4.1 Recommendations for action

During the post-simulation debriefing, participants will help to improve and further elaborate the action plan, which includes assigning a responsible agency/person along with the timeline. Where possible, these improvements and changes to actions should be integrated into the work and planning of current bodies engaged in emergency response and action such as the national ETC Working Group.

Additionally, after the simulation is complete the facilitation team should consider what went well and what went less well during the simulation and what can be done to improve future simulations. These recommendations, as well as feedback from participants should be reflected in the table-top simulation exercise report.

Step 4.2 Draft table-top simulation exercise report

After the completion of the simulation exercise, a short report should be drafted outlining the simulation objectives, process, action list and any other recommendations generated through the simulation and post-simulation debriefing. This report should also include suggestions of how to improve future simulations. Where possible, the report and the results of the action list are tracked and shared.

Table-top exercises and other simulations should be scheduled regularly in order to encourage a culture of learning, sharing of experiences, and improvement.

Acronyms

EPRP	Emergency Preparedness and Response Package
ETC	Emergency Telecommunications Cluster
ICT	information and communication technologies
ITU	International Telecommunication Union
SIMEX	Simulation exercise
TTX	Table-top simulation
WFP	United Nations World Food Programme

Annex 1: Toolkit table-top simulation exercise

Annex 1.1: Concept note

Introduction

The TTX concept note is a document that clearly defines the exercise being undertaken and should be agreed upon by the partners involved in organising the TTX. It should include the purpose, scope and objectives of the exercise and provide an overview of the scenario, participants and facilitators.

Concept note template

Title: Concept note for [**NAME**] table-top exercise

[**COUNTRY**]

Date of exercise: [**DD/MM/YYYY**]

1. Background and context

Provide some brief background information on the planned exercise, including the rationale for undertaking it, the type of exercise as well as when and where it will be conducted.

Example content:

The simulation is to take place on (ENTER DATE) at (ENTER LOCATION) from 8.30am until 1.30pm and will include a 1.5 hour debrief.

The (INSERT AGENCY) recognises that given the rise in the number of people affected by disasters around the world, having timely, predictable and effective information and communication technologies (ICT) and services are critical to saving lives and increasing resilience. To that end, (INSERT AGENCY) has initiated this simulation in collaboration with (INSERT PARTNERS) to allow key ICT stakeholders to identify, discuss and prioritise key preparedness activities to be undertaken prior to the upcoming cyclone season.

The simulation will be run as a table-top exercise and will be based on the scenario of a tropical cyclone. The scenario will cover a period of approximately four days, from prior to the cyclone (preparedness) to two days after the cyclone has made landfall (response).

2. Simulation objectives

Provide the specific exercise objectives. It is important that these objectives are clear and achievable. For a TTX, it is prudent to limit your objectives to no more than three given the limited time available.

Example content:

- *To highlight the importance of having in place ICT strategies and policies that need to be implemented at a national level to reduce the impacts of disasters (e.g. National Emergency Telecommunication Plans and procedures)*
- *To demonstrate the importance of regulators and ICT decision-making authorities for disaster management at a national and local level*
- *To raise awareness of the need for inter-agency coordination throughout the disaster management cycle*
- *To highlight the need for clear coordination structures and engagement between government authorities and other humanitarian actors involved in decision-making processes, including the ICT private sector*
- *To highlight the importance of having a clear process for dissemination of emergency alerts and warnings to the public using different technologies (e.g. Common Alerting Protocol (CAP), SMS, cell broadcast, broadcast television and radio, siren, social media)*
- *To demonstrate that preparedness efforts can improve response effectiveness.*
- *To showcase the value of monitoring and early warning to support informed decision-making.*
- *To highlight the importance of emergency telecommunication systems and services that allow communication between key stakeholders, using different technologies such as satellite, mobile, radio, and other low-tech systems*
- *To demonstrate the criticality of effective end-to-end early warning systems, and the precise flow of risk information from the initial stage of issuance of an alert to first-responder action on the ground*
- *To highlight the roles of the other key stakeholders involved in the disaster and emergency management cycle (e.g. telecommunications line ministries, national disaster management offices, mobile network operators, satellite providers, technology providers, etc.)*

3. Simulation scenario

This section should include the below elements:

- Type of emergency
- Date/time of emergency
- Location of emergency
- Extent of impact

The scenarios should be relevant and credible and based on your country context.

Example content:

The exercise will use a scenario of a tropical cyclone that makes landfall at (INSERT LOCATION). It will cover a simulated period of four days from preparedness (from 2 days before) to the response (2 days after).

The scenario will include elements of widespread disruption and destruction to key telecommunications infrastructure and power (both government and private sector owned) and will affect approximately 60% of the country.

4. Participants

Provide an outline of the types of stakeholders that will be participating in the TTX.

Example content:

This simulation will bring together key decision makers from ICT regulatory bodies, the ICT private sector, policymakers, humanitarian organizations, disaster management offices, and other key stakeholders at national level.

5. Facilitation team

Include a list of the names and roles of those people on the facilitation team.

The table below sets out the possible composition of a TTX facilitation team.

Function	Name	Organization	Main responsibility
Team Leader			Responsible for the overall planning and implementation of the TTX
TTX controller			Oversees the exercise on the day of the simulation (may also be the team leader)
Technical advisor			Provides technical guidance in the design, running and debrief of the TTX
Logistic support			Provides administrative and IT support
Co-facilitators			Assists the TTX controller as needed
Role player			Used to deliver injects, if applicable

6. Budget

Include how the cost for the TTX will be covered.

Example content:

Example of cost discussion

(ENTER AGENCY NAME) will cover all simulation-related expenses (venue, catering, stationery, equipment, etc.), including the related costs of the facilitators and participants (travel, DSA). A detailed budget has been completed using the template in the toolkit and is available on request.

Annex 1.2: Budget template

Introduction

This template can be used to design a budget for a table top exercise. It can also help share costs between hosting organisations.

	Please fill the purple cells where relevant for your exercise

	In red cells, specify the sponsor who will support that specific budget line (ie Ministry of Telecommunications, private sector company)

		COST				
		Quantity	No. days	Unit price	Total	Sponsor
Simulation exercise implementation cost						
1	DSA for national participants (including evaluators) who have to travel				-	
2	Transport cost for national participants (including evaluators)				-	
	Sub-total B.2. (National participants)				**-**	
3	Conference room				-	
	Sub-total B.3. (Venue)				**-**	
4	Lunch				-	
5	Coffee breaks and refreshments				-	
	Sub-total B.4. (Catering)				**-**	
6	Participant stationery (notepads, pens, nametags, etc.)				-	
7	Print-outs (certificates, plans & SOPs to be printed)				-	
8	Room stationery (flipchart, Post-its, markers, etc.)				-	
	Sub-total B.5. (Stationery)				**-**	
9	IT equipment rental (computers, printers, projectors, sound systems, etc.)				-	
	Sub-total B.6. (Equipment)				**-**	
10	Translation services				-	
11	Security services				-	
12	Other services (please specify)				-	
	Sub-total - Services				**-**	
	TOTAL				**-**	

Annex 1.3: Planning checklist

Planning Checklist for TTX Simulation		Before the exercise		
TASK	**DETAILS**	**DATE DUE**	**FOCAL POINT**	**STATUS**
Concept note	Define the purpose and scope of the simulation and draft concept note			ie: in process, completed
Resources	Facilitation team identified and confirmed			
	Budget prepared			
	Funding sources agreed			
Invitations: (Note: should be sent as early as possible to ensure the appropriate people are available to participate)	Participants identified			
	Participants invited			
	Participant list created			
	Admin note and reminder sent			
	Venue selected (security approved, appropriate size)			
	Venue is accessible for all stakeholders			
	Room layout agreed with venue manager			
	Venue setup			
	Supplies and equipment delivered and set up			

TASK	DETAILS	DATE DUE	FOCAL POINT	STATUS
Catering	Catering package (meals and refreshments)			
	Catering confirmed and times provided			
Participant accommodation and transport	Accommodation booked (if needed)			
	DSA (if applicable)			
	4 x flipcharts on stands			
	1 pad of paper per person			
	Rubbish and paper recycling bins			
	Large clock for the room			
	Stationery:			
	• Name badge holders			
	• Pens			
	• Memory sticks (at least 4)			
	• Flipchart paper and markers			
	• Adhesive tape (paper tape)			
	• Scissors			
	• Packet of A4 printing paper			
	• Spare printer ink (black)			
	• Pack of large Post-It notes			
Equipment	Microphone and speakers (sound system)			
	LCD projector, cables and screen			
	Printer (if appropriate)			
	Multiplugs			
	Presentation remote control			
	Facilitator laptops			
	All equipment needed to deliver inject is in place (i.e. audio equipment, etc.)			

TASK	DETAILS	DATE DUE	FOCAL POINT	STATUS
To print and documents required	Name badges			
	Registration sheet			
	Print agenda			
	Print inject matrix (1 set per facilitation team member)			
	Print master scenario (1 per facilitation team member)			
	Faciltation Team Guidance Note			
	Monitoring and evaluation survey			

		After the exercise		
TASK	**DETAILS**	**DATE DUE**	**FOCAL POINT**	**STATUS**
Budget	All expenses recorded			
	Produce a financial report if required			
Report	Update participant contact list			

Note: This checklist should be adapted to your local context.

Annex 1.4: Master scenario and inject guidance

Master scenario and inject design guidance

This guidance has been created to assist in the design of the master scenario and accompanying injects as part of a table-top simulation (TTX). It should be used in conjunction with the ETC-ITU table-top simulation guide.

1. Master Scenario

The master scenario is a description of a series of hypothetical, but realistic events that form the foundation of the simulation. For a TTX, the key elements of the master scenario should include a brief narrative of what has happened and a timeline of events that occur over the time of the simulation.

A scenario can evolve over a number of stages of an emergency response, i.e. mitigation, preparedness, response or recovery or only one stage, i.e. response. More than one stage may be included in a TTX but must be supported by appropriate injects to ensure that participants understand that a 'time-jump' has occurred.

A master scenario should be finalized before creating injects, to ensure consistency. Injects are then used to unfold the scenario to participants.

Example of a time jump:

A simulation may begin with an imminent severe hazard (such as a cyclone or a tsunami) in order for participants to prepare for the event. The scenario can then include a time jump, with the disaster occurring (cyclone makes landfall or tsunami wave arrives) and participants now require to undertake initial response activities.

Important note: The master scenario is only shared by the facilitation team and is never shared with simulation participants**.** The scenario should be as realistic as possible in order to help participants engage in the simulation.

Example of a master scenario for a TTX

Master Scenario for (NAME OF TTX)

Date of exercise: (DD/MM/YYYY)

Preparedness

We are currently in the tropical cyclone season. The Bureau of Meteorology has reported that there is a significant low-pressure system located off the (INSERT LOCATION AND COUNTRY i.e. western coast of country name).

It is anticipated that this will strengthen and develop into a tropical cyclone as it moves over the ocean towards (INSERT COUNTRY). It is currently expected to make landfall at (INSERT LOCATION) in approximately 2 days from now.

There are grave concerns for residents of the country and all preparation efforts must be made in order to prepare for this event.

Response - Time Jump – 2.5 days -

The tropical cyclone made landfall at (INSERT LOCATION) and has created widespread damage to buildings and infrastructure. There has been coastal and inland flooding. Telecommunications infrastructure has been damaged including 65% of private sector infrastructure. There are widespread power cuts with approximately 20% of the area around the capital without power. Mobile networks in (INSERT LOCATION) are currently not functioning and coverage across the country is down to 50%.

2. Injects

A inject is anything shared by the facilitation team with one or more of the participants during the simulation. Injects generally have two functions:

- To provide information about and evolve the scenario for participants (i.e. news reports, situation reports, maps or announcements from the government)
- To prompt a response (i.e. call a meeting, provide information in response to a question)

Usually during a TTX, participants work in groups of up to 8 people. Each group is given the same injects. Injects are pre-planned and scheduled prior to the start of the simulation.

For TTX, injects can be displayed on a PPT, can be in written form (email, SMS, reports, documents), presented face-to face, over the phone or via video or audio announcements. Injects should simulate requests from levels above (national/regional/international) and below (in the field) and responses from and to stakeholders not participating in the exercise.

Each inject requiring an action should include a request or question to be discussed by the groups. Where necessary a template can be provided which should be included in the inject matrix.

Important note: Injects should have a direct link with the objectives of the simulation. They should prompt participants to take action, make decisions or provide information. *Example: If you wish to test participants knowledge of the telecommunication regulation in your country, then the injects should request information or get them to perform actions that will help to build and test their understanding of such regulations.*

In order to assist in the process of creating and managing injects while running a simulation, an inject matrix should be developed. Below is an example of an inject matrix for the scenario above. An example TTX PPT for this scenario can be found in the annex along with an Inject Matrix Template.

Simulation Objective/s: To test the group's understanding of emergency telecommunication regulations and standard operating procedures (SOPs) during preparedness and response stages of an emergency							
Stage	**Actual Time**	**Simulated Time**	**#**	**Inject Summary**	**Inject Type**	**Inject Objective**	**Notes for facilitator**
Preparedness	8.30 am	2 days prior to tropical cyclone (TC) landfall	#1	Report from Bureau of Meteorology of impending TC	PPT	Participants made aware of impending TC and begin preparedness	Information only, to set the scene
	8.32 am	2 days prior to TC landfall	#2	Request from Ministry of Telecommunications to provide a list of the key emergency telecommunication preparedness activities to be undertaken in the next 2 days. This should be recorded on your flipchart by 8.50 am and include the timeline and responsible agency	PPT	Participants will demonstrate understanding of the key preparedness activities, focal points and what to prioritize as a hazard approaches	Once the activity is complete the facilitator can review and facilitate a short discussion on the key points and issues
	9.15 am	1.5 days prior to tropical cyclone landfall	#3	Offer from International NGO, ABC Telecommunications, to donate two-way radio equipment for use in the community. It is also likely that there will be other offers of telecommunication equipment. The group needs to discuss and decide how they will manage this situation.	PPT	Participants demonstrate an understanding of how to manage donations and their importation	Facilitate a short discussion highlighting the issues of being overwhelmed by inappropriate donations and the need to ensure that import regulations are being adhered to

Time Jump – Tropical Cyclone Makes Landfall							
Impact	09.45 am	TC makes landfall	#4	TC has made landfall. CAP Alert released	PPT	Demonstrate time jump and participants' understanding of the value of CAP to issue warnings to the public	Information only, no action required
Response	09.50 am	1 day after TC made landfall	#5	Situation update on key damage to telecommunication infrastructure as initial assessment reports are received	PPT of connectivity map and map of humanitarian needs	Provide printed maps of damage information received one day after the TC made landfall	Information only, no action required
	09.55 am	1.5 days after TC made landfall	#6	The global response community is mobilising and telecoms equipment is due to arrive requiring clearance and licenses. The group is required to discuss the clearance and licensing requirements and possible exemptions due to the emergency situation	PPT	Group will demonstrate their understanding of licensing and customs procedures in an emergency response situation	Facilitate a short discussion. If not a signatory to the necessary conventions, this should also be included in the end-of-simulation debrief
	10.15 am	2 days after TC made landfall	#7	Satellite operators have offered to install VSATs to restore telecommunication links while the national mobile operators restore their capacity. Are there any national regulatory restrictions that will block installation and use of this satellite equipment? If yes, which solutions are available?	Question on PPT	Group will demonstrate their understanding of regulations and provide creative solutions to the current problem	Facilitate short group discussion after groups have discussed the issue

Time Jump – Tropical Cyclone Makes Landfall							
	10.45 am	Two days after TC made landfall	#8	Request that the group fill out the response plan using the template provided	PPT and response plan template, baseline telecoms features map and suite of emergency telecoms solutions	Understand key actions for inclusion in an ETC response plan	Provide groups with the response plan template. Groups should refer to the maps given to them earlier. Debrief with the group.
	11.30 am	Simulation ends					
	11.30 – 13.00	Debrief					

Annex 1.5: Inject matrix template

This template can be used to design an inject matrix for a TTX.

Ensure the master scenario has been finalised and agreed to before creating the injects.

All injects should link with the objective(s) of the table top exercise (TTX). They should be planned, written (where applicable) and scheduled prior to the simulation.

Injects progress the scenario script by giving information, or asking groups to discuss or find a solution to a problem.

It is possible to project injects onto a PPT (see annex 1.6).

Injects can also be delivered in any appropriate format (phone call, email, sms, fax, radio message, news article, radio news report, TV clip, agency briefing, situation update, meeting, character role-play, etc.).

The inject matrix is the key facilitation tool during the exercise. It should be printed in order to assist the facilitation team.

The TTX facilitator manages the exercise by controlling the pace and direction of the inject matrix during the exercise.

All exercise documentation must be clearly labelled “SIMULATION ONLY”.

Stage	Actual Time	Simulated Time	Inject #	Inject Summary	Inject Type	Inject Objective	Notes for facilitator

EXAMPLE INJECT MATRIX - REFER TO THE MASTER SCENARIO AND INJECT DESIGN GUIDANCE AND THE EXAMPLE POWERPOINT PRESENTATION IN ANNEX 1.6

Simulation Objective/s: To test the groups understanding of the emergency telecommunications regulations and standard operating procedures (SOPs) during preparedness and response stages of an emergency

Stage	Actual Time	Simulated Time	#	Inject Summary	Inject Type	Inject Objective	Notes for facilitator
Preparedness	08.30 am	2 days prior to tropical cyclone (TC) landfall	#1	Report from Bureau of Meteorology of impending TC	PPT	Participants made aware of impending TC and begin preparedness	Information only to set the scene
	08.32 am	2 days prior to TC landfall	#2	Request from Ministry of Telecommunications to provide a list of the key emergency telecommunications preparedness activities to be undertaken in the next 2 days. This should be recorded on your flip chart by 8.50am and include the time line and responsible agency	PPT	Participants will demonstrate understanding of the key preparedness activities, focal points and what to prioritize as a hazard approaches	Once the activity is complete, the facilitator can review and facilitate a short discussion on the key points and issues

Stage	Actual Time	Simulated Time	#	Inject Summary	Inject Type	Inject Objective	Notes for facilitator
Preparedness	9.15 am	1.5 days prior to TC landfall	#3	Offer from International NGO ABC Telecommunications to donate two-way radio equipment for use in the community. It is also likely that there will be other offers of telecommunications equipment. The group needs to discuss and decide how they will manage this situation.	PPT	Participants demonstrate an understanding of how to manage donations and their importation	Facilitate a short discussion highlighting the issues of being overwhelmed by inappropriate donations and the need to ensure that import regulations are being adhered to

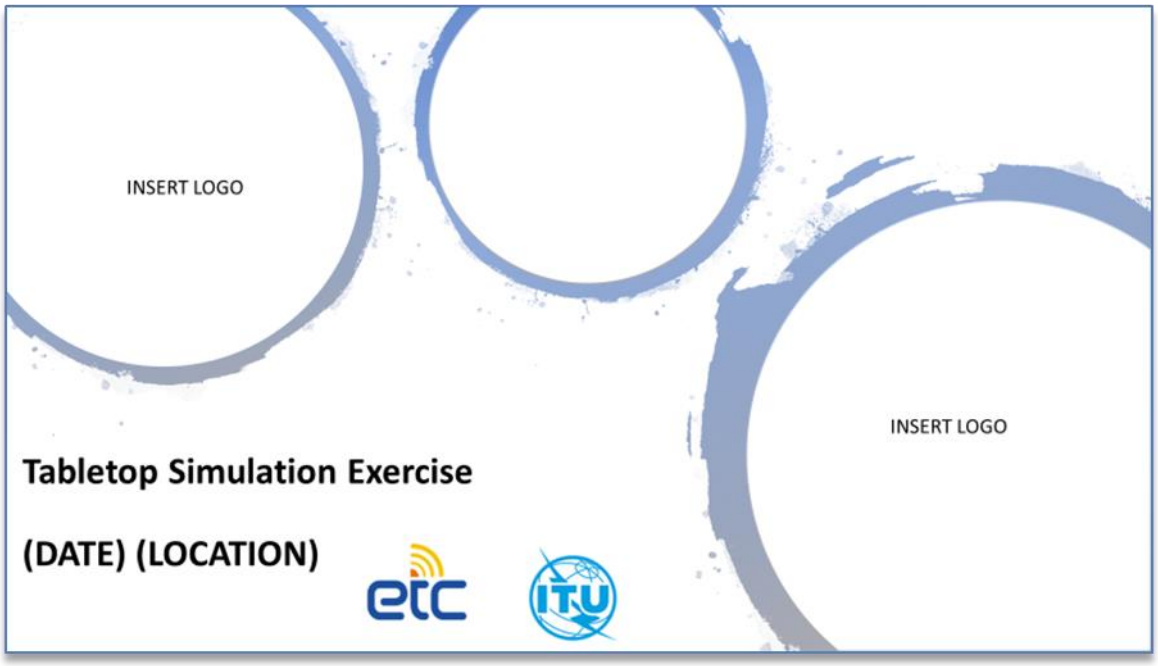
Time Jump – Tropical Cyclone Makes Landfall							
Impact	09.45 am	TC makes landfall	#4	TC has made landfall. CAP Alert released	PPT	Demonstrate time jump and ensure participants understand the value of Common Alerting Protocol (CAP) to issue warnings to the public	Information only, no action required
Response	09.50 am	One day after TC made landfall	#5	Situation update of key damage to telecommunications infrastructure as initial assessment reports are received	PPT of connectivity map and map of humanitarian needs	Provide printed maps of damage information received one day after the TC made landfall	Information only, no action required

Time Jump – Tropical Cyclone Makes Landfall							
Response	09.55 am	1.5 days after TC made landfall	#6	The global response community is mobilising and telecoms equipment is due to arrive requiring clearance and licenses. The group is required to discuss the clearance and licensing requirements and possible exemptions due to the emergency situation	PPT	Group will demonstrate their understanding of the licensing and customs procedures in emergency response	Facilitate a short discussion. If not a signatory to the necessary conventions, this should also be included in the end of the simulation debrief

Time Jump – Tropical Cyclone Makes Landfall							
Response	10.15 am	2 days after TC made landfall	#7	Satellite operators have offered to install VSATs to restore telecommunication links while the national mobile operators restore their capacity. Are there any national regulatory restrictions that will impede the installation and use of this satellite equipment? If so, which solutions are available?	Question on PPT	Group will demonstrate their understanding of regulations and provide creative solutions to the current problem	Facilitate short group discussion after groups have discussed the issue

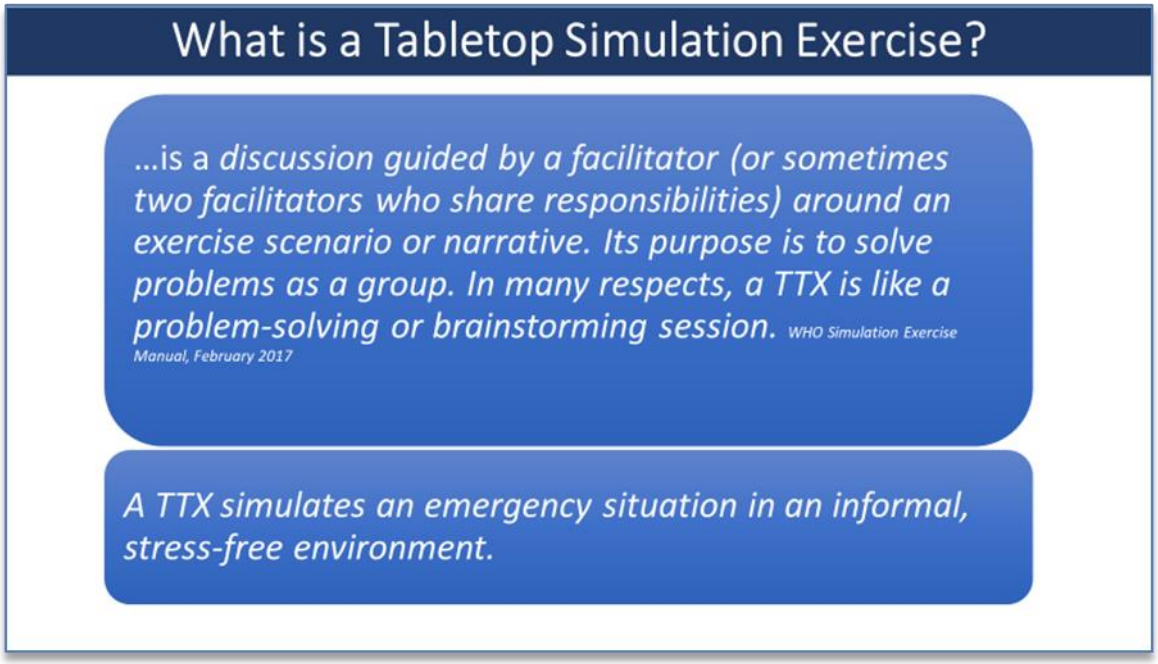
Time Jump – Tropical Cyclone Makes Landfall							
	10.45 am	Two days after TC made landfall	#8	Request that the group fill out the response plan, using the template provided	PPT and response plan template, baseline telecoms features map and suite of emergency telecoms solutions.	Understand key actions for inclusion in an ETC response plan	Provide groups with the response plan template. Groups should refer to the maps given to them earlier. Debrief with the group.
	11.3	Simulation Ends					
	11.30 – 13.00	Debrief					

Annex 1.6: Example PowerPoint presentation



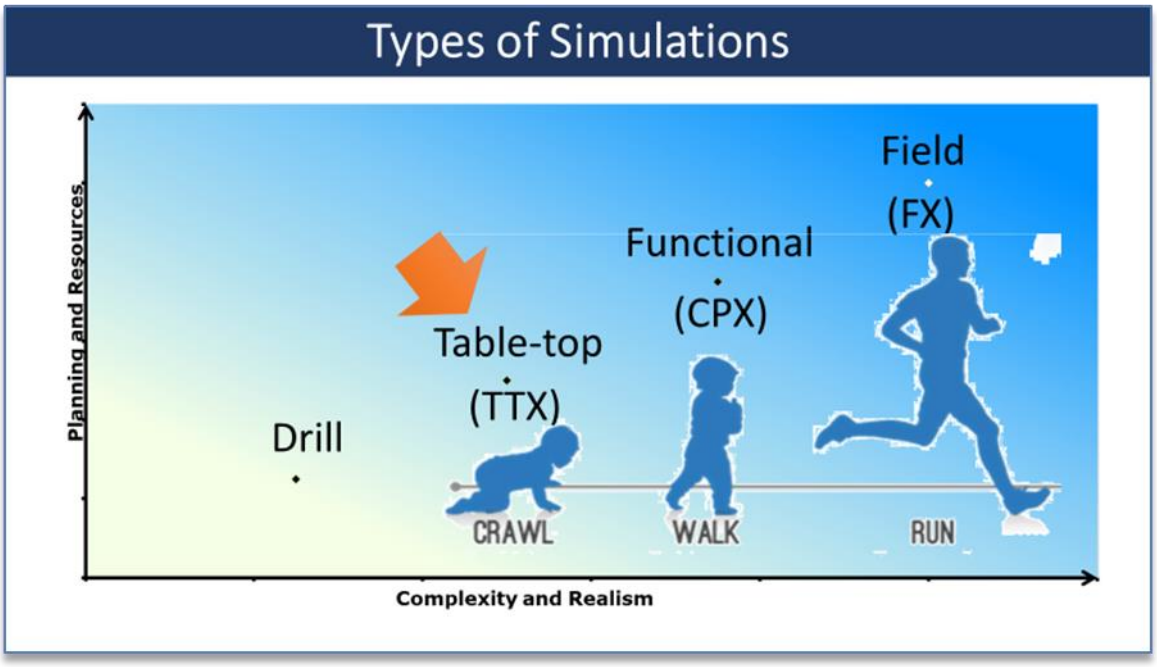
This PPT is an example that can be adapted for use in running a TTX.

It is broadly based on the master scenario and injects included in the ITU/ETX TTX Guide.



Or alternatively: is a discussion-driven group exercise that allows participants to work together to resolve issues and answer questions. A tabletop simulation is an exercise that uses a progressive

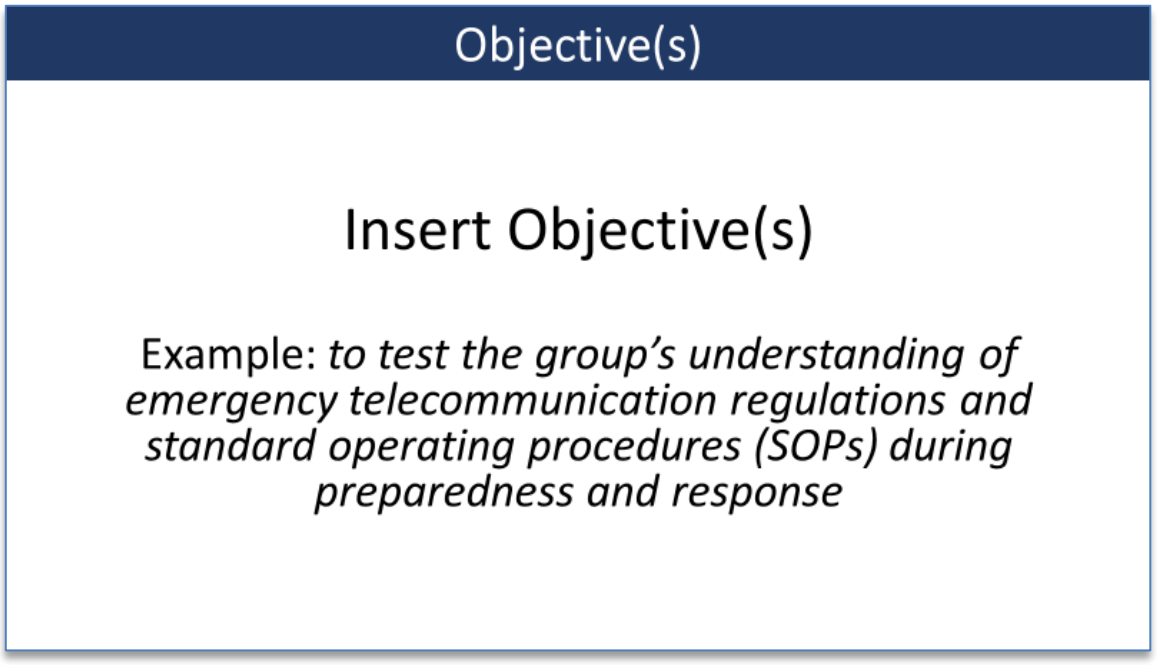
simulated scenario, together with series of scripted injects, to make participants consider the impact of a potential health emergency on existing plans, procedures and capacities.



Tabletop simulations - identify major gaps or conflicts in response planning. Participants discuss which actions they would take when faced with a given emergency, but no real resources are used.

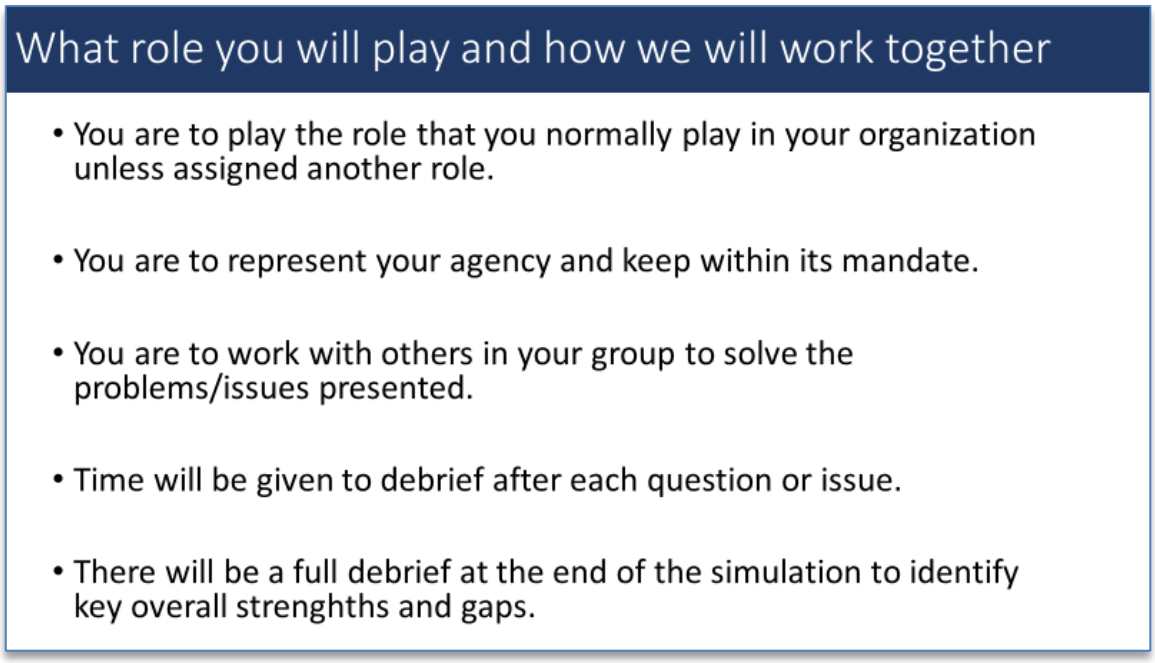
Functional simulations – participants simulate their actions normally within an Emergency Operations Center (EOC) and must make immediate decisions, but real equipment and personnel are not deployed.

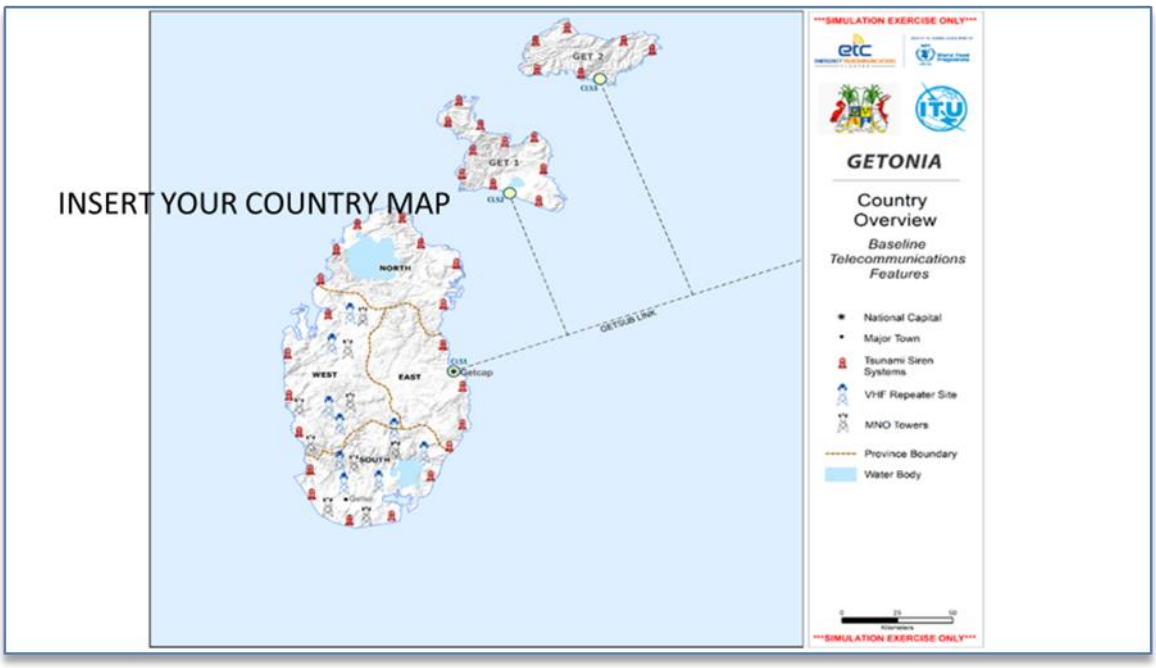
Full-scale simulations – most realistic and complex. Participants perform as many of their actual duties as possible in a simulated emergency in order to best assess the true capabilities of the response system.



Note to presenter

You can make the groups smaller. Groups should generally be limited to no more than 8 people otherwise you risk losing the full participation of those involved.





Background documents you should have received

- Connectivity map
- ICT Country Profile
- SOP for Emergency Telecommunications

(ADAPT THIS TO YOUR CONTEXT – There may be other documents you wish to provide, depending on the objectives of your TTX.)

Message from the:

(INSERT COUNTRY BUREAU OF METEOROLOGY LOGO)

- As you are aware, we are currently in the tropical cyclone season. The Bureau of Meteorology has reported that there is a significant low-pressure system located off the coast of (INSERT LOCATION i.e. western coast of country name).
- It is anticipated that this will strengthen and develop into a tropical cyclone as it moves over the ocean towards (INSERT COUNTRY). It is currently expected to make landfall at (INSERT LOCATION) in approximately 2 days from now.
- There are grave concerns for residents of (INSERT COUNTRY) and in (INSERT ZONES) and all preparation efforts must be made in order to adequately prepare for this event.

Phase 1: Preparedness

There has been a request from the Ministry of Telecommunications (INSERT APPROPRIATE AGENCY FOR YOUR CONTEXT) to prepare a preparedness actions list for emergency telecommunications.

Time: 20 minutes tor group discussions

Output: key actions, responsible agency and timeline on your flipchart.

- Make a list of required *preparedness* actions
- Assign priorities to these actions
- Allocate responsible agency

Keep in mind you only have approximately 2 days to undertake the proposed activities.

Phase 1: Preparedness

The International NGO, 'ABC Telecommunications', wishes to donate two-way radio equipment for use in the community.

It is also likely that there will be other offers of telecommunication equipment.

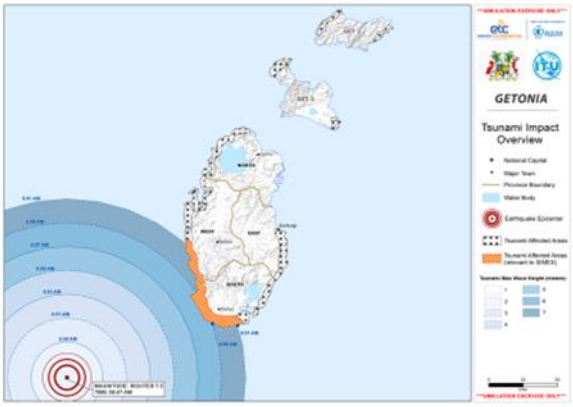
Discuss and decide how these offers will be managed.

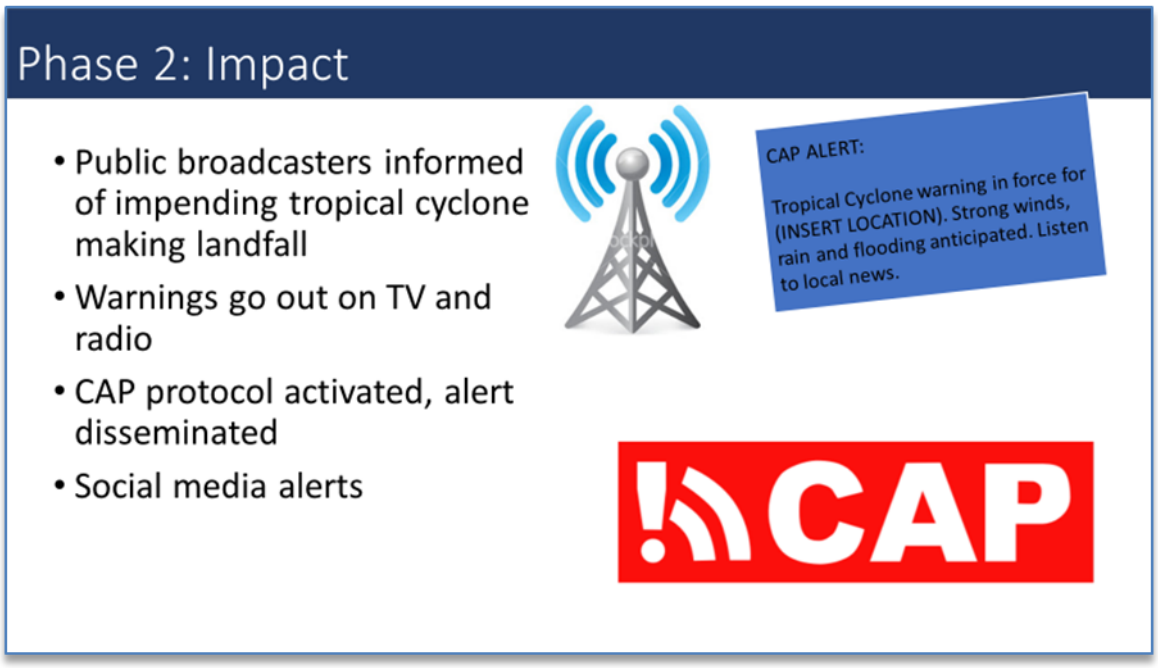
Time: 10 minutes for group discussions

.

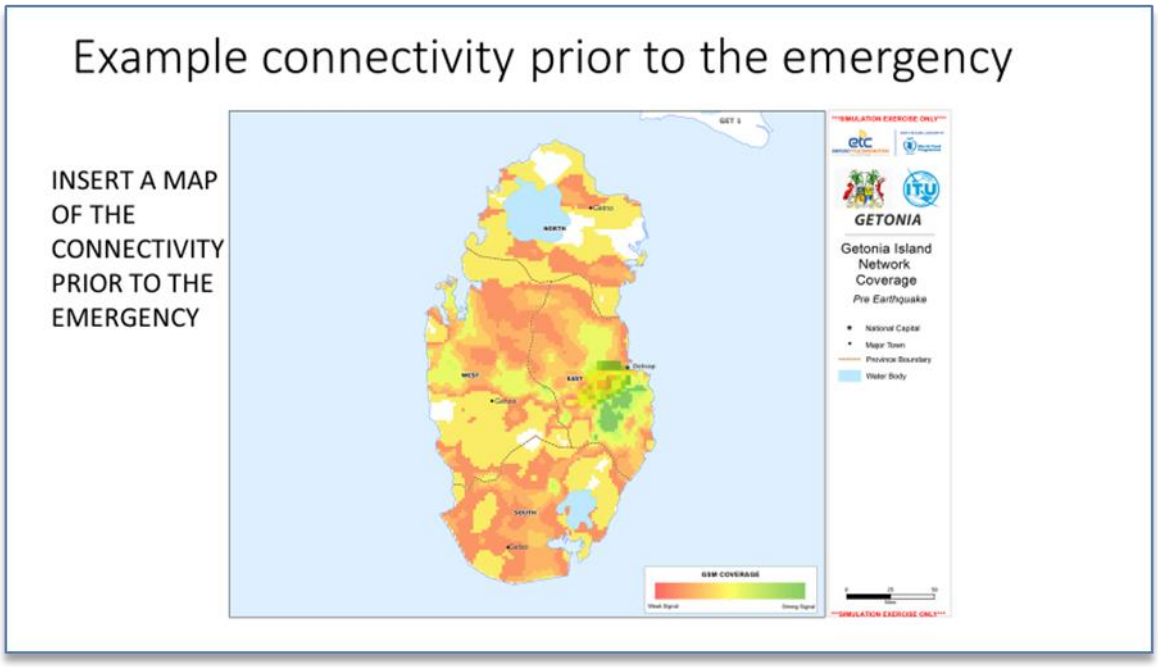
Example impact map

INSERT ONE RELEVANT TO YOUR CONTEXT





This is just for information. No action is required from this slide.



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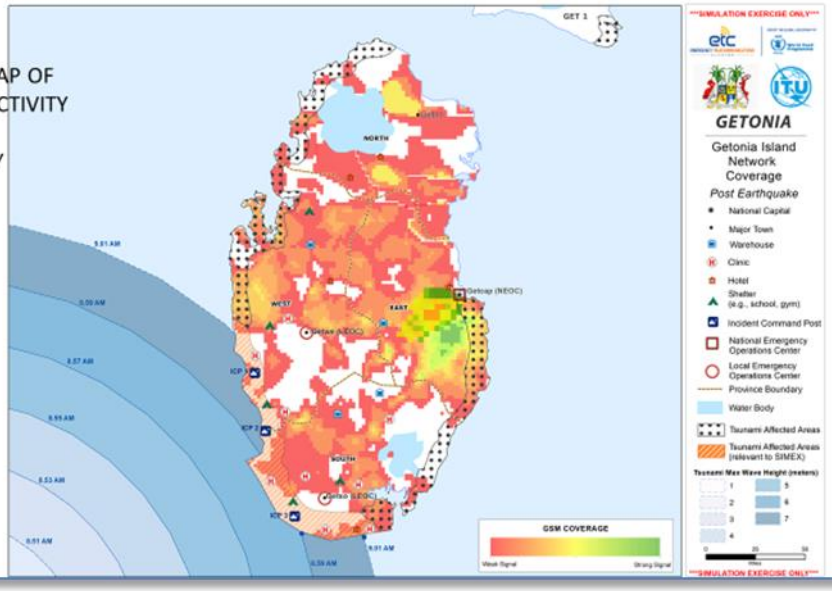
Example connectivity after the emergency

INSERT A MAP OF THE CONNECTIVITY AFTER THE EMERGENCY



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Phase 3: Situation Update

Situation:

- The Tropical Cyclone has made landfall at (INSERT LOCATION).
- A CAP notification has been issued by (INSERT ISSUING AGENCY), triggering automatic alerts issued by (INSERT AGENCY).
- There is widespread damage to buildings and infrastructure, including roads and bridges.
- There is extensive damage to the telecommunication infrastructure (see impact map/telecommunications coverage).
- There are widespread power cuts with approximately 20% of the country without power.
- Mobile networks in (INSERT LOCATION) are currently not functioning and coverage across the country is down to 50%.
- There has been coastal and inland flooding in low-lying areas.
- Activation of the National Emergency Operations Centre (IF APPLICABLE) and sub-national Emergency Operations Centre at (INSERT LOCATION).

Phase 3: Response

The global response community is mobilizing and telecommunication equipment is due to arrive, requiring clearance and licenses.

As a group, discuss what are the clearance and licensing requirements and possible exemptions due to the emergency.

Time: 10 minutes in your group

Output:
Key points on clearance and licensing for telecommunication equipment in an emergency

Phase 3: Response

Satellite operators have offered to install VSATs to restore telecommunication links while the national mobile operators restore their capacity.

Are there any national regulatory restrictions that will prevent the installation and use of this satellite equipment? If so, what solutions are available?

Time: 15 minutes in your group

Output:
Points for discussion with the group on possible restrictions and solutions

Phase 3: Response

Prepare the ICT part of the ***National Tsunami Response Plan*** to address the gaps and challenges.

- What are your Response Priorities?
- Implementation: how/what/where/when/who? -
- Risks

Reference the maps and information given to you thus far on the situation.

Time: 25 minutes in your group

Materials: Template Response Plan

Resources:

- Blank ICT Needs Assessment template
- Disaster connectivity maps (before and after the tsunami)
- Baseline telecoms features map
- Suite of emergency telecommunication solutions available, including brief description

Output: an *ICT Needs Assessment Plan*

End of Simulation

Debrief to follow

Annex 1.7: Guidance for table-top simulation facilitators

1. Introduction

This guidance is intended to assist table-top simulation (TTX) facilitators in the actual running of the TTX simulation and should be used in conjunction with the ETC-ITU table-top simulation guide.

2. Roles within the simulation facilitation team

A TTX simulation facilitation team on the day of the simulation should include some of the following functions:

Role	Key activities	Notes
Team leader	Responsible for the overall planning, design, implementation and follow up of the simulation	These two roles may be filled by the same person
TTX Facilitator	Oversees the exercise on the day of the simulation	
Logistic support	Liaises with the venue, manages equipment, deals with participant issues, etc.	This should be the same person as the person in charge of logistics in the lead up to the simulation
Co-facilitator	Assists the TTX Facilitator as directed	
Role players	Used to deliver or respond to injects	

3. General principles for facilitators to consider when conducting simulations:

- Ensure that you clearly articulate to participants and co-facilitators the objectives of the simulation, in as much detail as possible.
- Create a collaborative atmosphere amongst the facilitation team to ensure that the team is working together to achieve the objectives of the simulation.
- Avoid seeking to scare or intimidate participants as this may inhibit their learning.
- Build into simulations sufficient flexibility so as to allow the facilitation team to react to the participants' level of knowledge and competence.
- As a facilitator, as well as being experienced, you should also demonstrate respectfulness, humility, perceptiveness, creativity and adaptability.
- Thoroughly brief facilitators to ensure they are clear on their role, injects and intended objectives of each session.
- If using technology, consider if it will help participants to better engage and reach the objectives of the simulation, or if it will just create a distraction.
- Create a learning environment where participants who 'mess up' can be given the opportunity to learn from that experience.

4. Timing

It is the job of the lead facilitator to ensure that the group does not run over time. This is particularly challenging when facilitating the short discussions after each of the questions or problems. Where possible, if it looks like a richer, longer conversation is needed on a topic in particular, suggest to the group that this is something that can be revisited at the end of the simulation during the debrief.

5. Responsibilities of the TTX facilitator

On the day of the simulation, the TTX facilitator oversees the running of the simulation. Key activities include:

- Briefing facilitators: This should ideally be done the day before the simulation along with the room set-up. It should include a briefing on what is expected of each member of the team, the key timings for the events and how the facilitation team can assist with the successful running of the simulation.
- Briefing participants: This should be done directly before starting the simulation. This should include an explanation of the simulation process, the objectives of the simulation, what is expected of participants and how the teams will work together. See Annex 1.6: Example of a PowerPoint presentation.
- Managing the timing and delivery of injects: This includes monitoring and adjusting the times of injects and short debriefs, to adapt to the needs of the group. The co-facilitator can assist the TTX facilitator with managing injects.
- Leading discussions with participants during the simulation: The injects for a TTX should involve a series of questions or problems that groups should discuss together. At the end of each of these questions or problems, the TTX facilitator should facilitate a short discussion on what the groups discussed and the possible ways to solve any issues. The TTX facilitator must be acquainted with the content well enough to answer any questions and solve issues relating to the topics discussed in the TTX.
- Leading the end of simulation debrief with participants: At the end of the simulation, a debrief should be performed with the participants. This debrief should be related to the overall objectives of the simulation, not the individual activities undertaken during the simulation. It should also help the group to generate a list of activities to be undertaken over the coming months/years to overcome the issues/gaps that were revealed during the simulation.
- Debriefing facilitators: At the end of the simulation, the TTX facilitator should lead a short debrief with facilitators. The aim of this is to reveal what went well, what went less well, and what should be changed in the next simulation to improve it? This can be facilitated as a group discussion with a rapporteur noting the responses.

6. Example simulation debrief outline

There are many ways to run a debrief but below are several important things to keep in mind when developing and running a debrief:

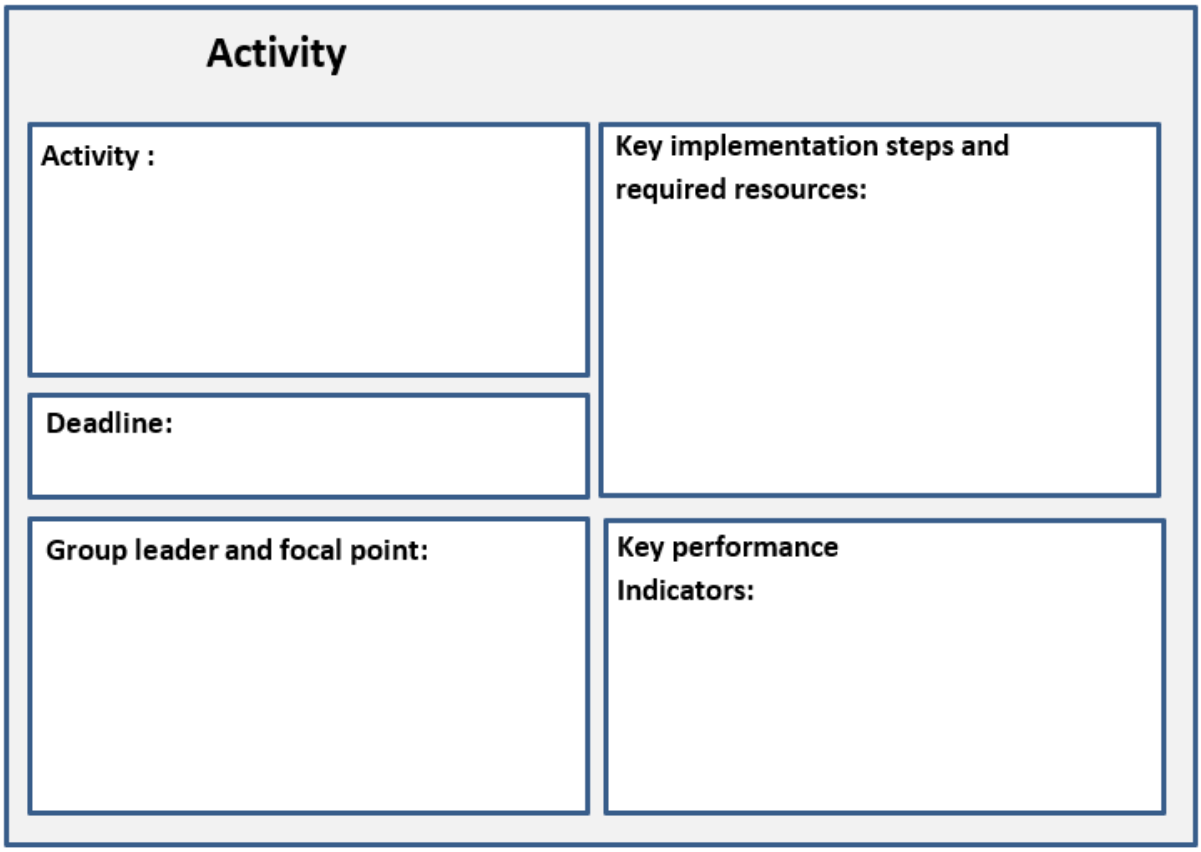
- Participants should have the opportunity to reflect individually, in their teams and with the whole group.
- Participants should lead their debrief process by providing their feedback before facilitators.

- The debrief is not a place for blame or criticism. It is a forum to learn from our experience and identify better ways of working.
- Adequate time should be provided for a well-constructed debrief process.

Example of a debrief at the end of a simulation:

Activity	Process	Equipment	Timing
Popcorn feedback	As the teams gather at the end of the simulation, congratulate them and ask them to form a circle. Go around the circle and ask each person to say one word that describes how he or she is feeling at that moment.	None	5 min
Pair reflection	Get each participant to find a partner, preferably someone that they haven't worked closely with during the simulation. Ask them to share with their partner what they were most surprised by about the simulation. Once reflecting in pairs has finished, ask a few individuals to share what surprised them.	None	10 min
Team debrief	Ask them to work in their simulation groups to identify what they think that the team did well. Get them to share, in plenary, one thing per group, drawing out similarities among the groups. Then ask them what they believe the team could have done better. Get each team to feed one idea into the group. These should be recorded on a flipchart at the front.	Flipchart for each group	30 min
Activity generation in groups	Step 1: Refer to the objective(s) of the simulation and what was being tested as well as what was revealed through the team debrief (above). Ask groups to reflect on what the simulation has revealed in terms of the weaknesses or challenges in the current plan/SOP/system and record these on a flip chart. Step 2: In plenary, agree on two key challenges per group and circle those on each group's flip chart. Hand out the activity sheet templates (see below) and ask each group to identify an activity to overcome each of the challenges or weakness. Once completed, these can be stuck on the wall at the front of the room (or where there is room for the whole group to stand together). Refer to Annex 1.8: Activity Sheet Template	Flipchart for each group	30 min
Consolidation of activities in plenary	Bring the group together at the front of the room. Ask them to reflect on the activities generated. Ask and decide whether there are any additions or changes that need to be made to the activities or duplications that need to be aligned. Refer to Annex 1.9: Action Plan Template		30 min
		Total Time	1 hour 45 min

Annex 1.8: Activity sheet template



Annex 1.9: Action plan template

ACTIVITY	DEADLINE	GROUP LEADER AND FOCAL POINT	KEY IMPLEMENTATION STEPS	REQUIRED RESOURCES	KEY PERFORMANCE INDICATORS

ACTIVITY	DEADLINE	GROUP LEADER AND FOCAL POINT	KEY IMPLEMENTATION STEPS	REQUIRED SUPPORT	KEY PERFORMANCE INDICATORS

Annex 1.10: Evaluation

TTX Evaluation

(LOCATION and DATE)

Please rate the following statements from 1 (disagree) to 5 (strongly agree), with a check mark (✓).

	1 *Disagree*	2		3	4	5 Strongly agree
The TTX						
1. The exercise was well-structured and organized;						
2. The process was clearly explained, and I understood my role.						
3. The exercise was helpful in building an understanding of (INSERT THEME RELEVANT TO THE OBJECTIVE(S))						
4. The exercise improved my understanding of my role and function during an emergency response.						
5. The exercise allowed me to identify some of the strengths and gaps in my understanding of the relevant response systems, procedures and plans.						
6. The problem statements/questions led to valuable discussions.						

	1 *Disagree*	2		3	4	5 Strongly agree
The Debriefing Session						
7. The debriefing session at the end of the simulation was useful for group learning.						
8. It helped identify the key issues and gaps in the system, plans and procedures.						
9. It was useful in leading to future action planning.						

Which part of the event did you find the most useful and why?

Please share any recommendation(s) for future simulations on how they may be improved.

Thank you for participating in this simulation.

Annex 2: Additional sample resources for Getonia (fictitious island)

Annex 2.1: Inject matrix (Getonia example)

Master Scenario Events List												
Exercise Time	**Real Time**	**Geographical Zone**	**No.**	**Event**	**Inject**	**Comms. Mode**	**Resources**	**Organizer in charge**	**Resource Persons**	**From/Lead**	**To**	**Group Involved**
Pre-Ex reading materials to be circulated to all participants via email two days before GET-19 : Coordination structure, ICT country profile of Getonia, map of Getonia and SOP for tsunami early warning.												
START OF EXERCISE												
t- : Prepare phase (10 minutes); 0.5 hr in exercise time												
***** Note to organizers: Test the polling app on Day 1 for 5 minutes.***												
	8.47am (earthquake) 8.49am (CAP)	Earthquake (Richter 7.5) with an epicentre 100 miles off the coast of Southwest Getonia, triggering tsunami waves. The capital city (name: Getcap) is in the Eastern Division with a population of 250,000 people.	1	An earthquake of 7.5 on the Richter scale strikes the fictitious island of Getonia.	1.1 A Common Alerting Protocol (CAP) notification is issued.	Message	(a) Message to be drafted, translated into French, and projected on-screen in the venue.		Mr Eliot Christian and Ms Elysa Jones	CAP Issuing Body (Tsunami Warning Centre)	Government	Tsunami Warning Centre
			2	Public notified regarding impending tsunami, and informed to relocate without delay to the elevated evacuation meeting points (situated in **7 schools**).	2.1 EWS automatically activated in Getonia (siren playing, social media, TV, radio).	Email, radio, TV, social media, SMS and siren	(a) Message projected on-screen in English, and translated into French, siren sound and radio broadcast.		Mr Eliot Christian and Ms Elysa Jones	Department of Seismology	All	Department of Seismology (Government)

Master Scenario Events List												
Exercise Time	**Real Time**	**Geographical Zone**	**No.**	**Event**	**Inject**	**Comms. Mode**	**Resources**	**Organizer in charge**	**Resource Persons**	**From/Lead**	**To**	**Group Involved**
		The tsunami impacted region is between the Southern and the Western Division. There is a main town (Getso) in the Southern Division with a population of 15,000 people. Some schools will become evacuation shelters and coordination hubs. Emergency health centres will be set up in the impacted areas of the Southern and Western Division.	2a (simultaneous events)	Automated warning following tenets outlined in the pre-existing Standard Operation Procedure (SOP). Impact limited to southwest of the island.	2a.1 Play a pre-recorded telephone call between PM, Department of Seismology and National Disaster Management Office .	Call	(a) SOP for tsunami early warning to be developed and printed copies provided to all tables. (b) Tsunami impact map of Getonia to be provided to all tables.		Mr Eliot Christian and Ms Elysa Jones	Department of Seismology	Government (PMO) and NDMO	Government Group/Prime Minister's Office (PMO), Government Group/NDMO
			2b	SOP to provide for early warning notifications to news media and broadcasting agencies.	2b.1 Video announcement of the impending tsunami by local TV news.	Message and phone	(a) Printed contact list to be provided to all tables.		Mr Eliot Christian and Ms Elysa Jones	NDMO	MNOs, radio and TV broadcasters , and news agencies	Media Group
			2c	Evacuation of civilians to higher ground (**7 schools** identified as safe spaces).	2c.1 Maps with pre-designated meeting points to be provided to all tables.	Printed maps	(a) Maps will have an overlay of evacuation points.			Shelter, Operations and various others	Coordination between stakeholders	Various

Master Scenario Events List												
Exercise Time	**Real Time**	**Geographical Zone**	**No.**	**Event**	**Inject**	**Comms. Mode**	**Resources**	**Organizer in charge**	**Resource Persons**	**From/Lead**	**To**	**Group Involved**
		National Emergency Operations Centre in the capital (NDMO). Local Emergency Operations Centre (LEOC) in SW Division. Incident Command Posts (ICPs) at shelter hubs (key schools).	3	(a) Activation of the National Emergency Operations Centre (NEOC) in the capital, and the Local Emergency Operations Centre (LEOC) in the Southwest Division, following Incident Command System protocol. (b) Activate national clusters: Logistics, Emergency Telecommunications Cluster (ETC), Health, WASH (water, sanitation and hygiene), Protection, Shelter, Food and Nutrition, and Operations. (c) Contact local business disaster resilience council, to support coordination of private sector response.	3.1 Email statement from NDMO to declare that NEOC, LEOC, and national clusters are to be on stand-by. Inviting all NEOC members, including cluster coordinators, to an emergency meeting at the NEOC. 3.2 Decision by NEOC for the LEOC to be established in the Southern Division's national government administrative headquarters. 3.3 Decision by NEOC for the ICPs to be established in the local schools designated as shelter hubs situated on elevated ground.	Message, printed organigram	(a) Email message to be drafted and provided to all tables. (b) Coordination structure organigram to be developed and printouts shared.			NDMO	NEOC, LEOC and ICP leads.	NEOC, LEOC and ICPs
OUTCOME: Room organized into cluster groups with an identified lead ready to begin the response and EWS activated.												
POLLING DEBRIEF USING APP (a) Are the objectives of the exercise clear? (b) SOP takeaway in one word.												
t0 : Impact phase (tsunami strikes); 5 mins in exercise time												
	8.59am		4	Notification that the tsunami has struck, specifying the locations on the Southwest coast of fictitious island in the **Southern and Western Divisions**, with provided magnitude of early damage and casualty information. Updates to be provided regularly for damage and casualties, and any other aftershocks.	4.1 Video of tsunami by local and international TV news.	News bulletin, map	(a) News broadcast pre-recorded on video and projected on screen at the venue. (b) Satellite maps to be projected on-screen at the venue (being produced by the GIS team at WFP, and also printouts provided to every table.			NDMO	All	Government Group/NDMO and Media Group

Master Scenario Events List												
Exercise Time	**Real Time**	**Geographical Zone**	**No.**	**Event**	**Inject**	**Comms. Mode**	**Resources**	**Organizer in charge**	**Resource Persons**	**From/Lead**	**To**	**Group Involved**
			5	Amateur radio users are using their devices to communicate, providing first updates on impact.	5.1 Amateur radio operators need to communicate messages of requests for assistance to medical personnel for persons in their community that have been injured as a result of the tsunami. Cell phone networks are down and landlines are not functioning.	Printed call signs	(a) Printouts for call signs for local amateur radio club members to be provided to cluster tables.		Mauritius amateur radio group	Amateur radio operators	Operations and others	ETC Cluster/Amateur radio
			6	Search and rescue teams deployed.	6.1 Email notification from the NEOC to deploy search and rescue teams to the critically affected locations in the **Southern and Western Divisions**.	Message	(a) Email message to be drafted and provided to all tables.			NEOC	Operations Cluster	Operations Cluster; Government/NEOC
t+ : Response phase (0-2 days); 60 mins in exercise time												
All cluster groups are instructed by the exercise director to develop a brief "CONOPS" in point form. A two-page template to be provided to all tables.												
			7	Shelters being set up in local schools are to be provided with the supporting equipment.	7.1 Logistic support requested by the NEOC through a telephone call for health supplies and tent materials to be set up. **15 pop-up health centres across the Southern and Western Divisions**.	Telephone call, map	(a) Pre-recorded telephone call from the NEOC head to the Logistics cluster lead. (b) Pre-positioned equipments maps.			Shelter Cluster, Logistics Cluster, Health Cluster, WASH Cluster	Coordination between stakeholders	Shelter Cluster
			7a	**15 pop-up health centres** are being set up in targeted zones, with emergency medical supplies pre-positioned in identified locations (schools).	7a.1 Medicines stocked in the **5 pre-designated warehouses** have run out. Health Cluster needs to coordinate with the Logistics Cluster for their delivery.	Map	(a) Map with health centre overlay to be printed and provided to the cluster table.			Health Cluster, Shelter Cluster	Coordination between stakeholders	Health Cluster, Logistics Cluster

Master Scenario Events List												
Exercise Time	**Real Time**	**Geographical Zone**	**No.**	**Event**	**Inject**	**Comms. Mode**	**Resources**	**Organizer in charge**	**Resource Persons**	**From/Lead**	**To**	**Group Involved**
			9	Latrines and showers are to be installed in schools which have been converted into **7 shelter hubs**.	8.1 Water supplies have run out in 1 shelter hub located in the Western Division. Coordination with logistic services required to provide water to the shelters.	Map	(a) Map with shelter hub overlay to be provided to the cluster table.			WASH Cluster, Shelter Cluster	Coordination between stakeholders	WASH Cluster
			9a	**5 out of 7 shelter hubs** have filled up.	9a.1 The Shelter Cluster has advised that 5 shelters are full. The LEOC has requested that alternate plans be devised urgently and that new shelter locations be communicated to the public.	Map	(a) Map with shelter hub overlay to be provided to the cluster table.			Shelter Cluster, LEOC	Coordination between stakeholders	Shelter Cluster, Government Group/NEOC, Government Group/LEOC, Media
			10	Ongoing media notifications are being provided to the public (local and international).	10.1 Media broadcast on the TV and radio that apart from some small-scale seismic aftershocks, no tsunami is anticipated.	News bulletin	(a) Pre-recorded media broadcasts.			Media	Public	Media Group and other stakeholders
			10a	A guest from **XYZ Hotel** in the Southern Division has managed to post an appeal for evacuation on social media.	The Operations Cluster, in coordination with the LEOC and other relevant actors is called upon to take immediate action and evacuate the guests who are all trapped on the fifth floor of the hotel that has been inundated.	Social media post	(a) A pre-created social media post.			Civilian	Operations Cluster, LEOC and other actors	LEOC, Operations Cluster
			11	Cluster coordinators are available for supporting the work on the ground.	11.1 All cluster coordinators in the affected areas need to be allocated with an emergency communications device.	Map	(a) Provide images of different types of communications devices for cluster tables to select from.			Cluster Coordinators	ETC Cluster and other actors	Cluster Lead Coordinators
			12	Cluster Assessment Officers are collecting impact information on the ground, and providing SitReps to the Cluster Lead Officer at the NEOC.	Another CAP notification is issued.	CAP notification	(a) CAP notification to be issued.			Tsunami Warning Centre	PMO, NDMO, NEOC, LEOC, ICPs and all media outlets	TWC

Master Scenario Events List												
Exercise Time	**Real Time**	**Geographical Zone**	**No.**	**Event**	**Inject**	**Comms. Mode**	**Resources**	**Organizer in charge**	**Resource Persons**	**From/Lead**	**To**	**Group Involved**
			13	A rapid ICT capacity assessment is undertaken to map the situation and the requirements for assistance.	Support is requested by the NDMO for conducting a baseline assessment. ETC Global is approached for this task.	Map	(a) Coverage map indicating the gaps (no coverage in xx).			ETC Cluster	Various actors	International organizations, ETC Global
			14	The outcomes from the preliminary assessment reveal that international assistance is required to meet the response needs.	Damage assessment revealing the gaps and challenges is made available. Some of these are as follows:	Printed Assessment outcomes	(a) ICT Assessment outcomes and infrastructural requirements.			ETC Cluster	Various actors	ETC Cluster and other relevant clusters
			15	Satellite is available to meet interim emergency communications needs.	15.1 Satellite phones are uncharged and SIM cards are inactive.	Printed contacts of satellite providers	(a) Printouts for contacts of all satellite service providers to cluster tables.	INMARSAT		Satellite operators	Coordination between stakeholders	ETC Cluster/Satellite Operators
			15a	The **2 Local Emergency Operations Centres (Getwe and Getso)** are operating their VHF radios on different frequencies to law enforcement agencies (e.g., police) and emergency healthcare (e.g., ambulances). There are **10 VHF repeater sites**.	15a.1 As a result, emergency alert updates for first responders (such as medical emergency specialists and fire services) are not being transmitted through satellite radios.	Printed radio frequencies	(a) Printed list of radio frequencies to be provided to cluster tables.			EOCs	Coordination between stakeholders	Operations Cluster, Government Cluster/EOC
			15b	Early Warning Systems exist, in the form of **20 siren-based systems**, situated along vulnerable points along the entire coastline of Getonia. Some have malfunctioned.	15b.1 Due to technical faults, **5 out of 10 sirens** on the coastline of the Western (2 malfunctioning) and Southern Divisions (3 malfunctioning) did not activate at all at the time of the transmission of the first alert.	Map	(a) Map with locations of early warning units to be provided to cluster tables.			ETC Cluster, LEOCs	Coordination between stakeholders	Government Cluster/LEOC, Government Cluster/NDMO
			15c	**5 V-SATs** are pre-positioned in the Northern Division Office situated in Getno.	15c.1 These V-SATs are to be moved to affected locations, but require transportation.	Map	(a) Printed pre-positioned equipment maps provided to cluster tables (being produced by the GIS team at WFP).			ETC Cluster, LEOCs	Coordination between stakeholders	Government Cluster/LEOC, Logistics Cluster, Cluster Group/Satellite operators

Master Scenario Events List												
Exercise Time	**Real Time**	**Geographical Zone**	**No.**	**Event**	**Inject**	**Comms. Mode**	**Resources**	**Organizer in charge**	**Resource Persons**	**From/Lead**	**To**	**Group Involved**
			15d	Fixed landline services are present in homes and businesses. Due to the disaster, landlines are not functional.	15d.1 Private radio stations report that calls from the public complaining that they have not received any assistance and are unable to get through to any of the emergency services due to blocked telephone lines. Questions are raised about LEOCs handling of the emergency and there are complaints about a lack of information.	Radio broadcast	(a) Recorded report from private radio stations.			Fixed landline operators	Coordination between stakeholders	ETC Cluster/Fixed landline operators, Government Cluster/LEOC, radio station operators
			15e	MNOs are operational in-country. **4 cell towers have been damaged** and mobiles cannot be used in critical locations. There is no power in critical locations.	15e.1 A nearby high point is still standing and could house an antenna and base station. Need to activate the business continuity plan (BCP).	Map	(a) Disaster connectivity maps to be provided to cluster tables (being produced by the GIS team at WFP).		Digicel and MTN Group	MNOs	Coordination between stakeholders	ETC Cluster/MNOs and Logistics Cluster
			15f	**2 ISPs** are operational in-country. All ISP services are down, and fixed-line Internet is unavailable in homes and businesses.	15f.1 **2 BGANs** available from a local NGO are ready for use but require transport to affected venues and setting up quickly.	Map	(a) Pre-positioned equipment maps to be provided to cluster tables (being produced by the GIS team at WFP).		AfriNIC	ISPs	Coordination between stakeholders	ETC Cluster/ISPs
			15g	**4 drones** are available for the NDMO to conduct quick damage assessments.	15g.1 The trained drone pilot left the NDMO two months ago. Coordination required with the pilot who has been transferred internally to another government department, and the national Civil Aviation Authority for flight clearance.	Map	(a) Pre-positioned equipment map to be provided to cluster tables (being produced by the GIS team at WFP).			NDMO	Coordination between stakeholders	NDMO

Master Scenario Events List												
Exercise Time	**Real Time**	**Geographical Zone**	**No.**	**Event**	**Inject**	**Comms. Mode**	**Resources**	**Organizer in charge**	**Resource Persons**	**From/Lead**	**To**	**Group Involved**
			15h	Community broadcast radio is available for use, but the power is down.	15h.1 One of the affected communities in the Western Division has a radio-in-a-box kit to make local broadcasts, which requires a power source. Explore alternate renewable power sources.	Printed images of power sources	(a) Provide a printout containing images of different types of power sources for cluster tables to select from.			Community radio operator(s)	Coordination between stakeholders	ETC Cluster/Community radio operator(s)
			16	Ongoing media notifications to the public (local and international).	16.1 Media broadcast on the TV and radio that besides some small-scale seismic aftershocks, no tsunami is anticipated.	News bulletin	(a) Pre-recorded media broadcasts.			Media	Public	Media Group
			17	Partners of the global ETC are ready to provide services and on-the-ground assistance, with means and modes under discussion.	17.1 NDMO has requested the support of the Global ETC to bring in extra communications capacity for connectivity at the 7 shelter hubs. Coordination with customs and regulators for equipment clearance and licenses.	Printed Convention, Getonia country profile	(a) Provision of printed copies of the Tampere Convention to all cluster tables.			Global ETC partners		ETC Global Cluster
			18	Press briefing is undertaken by the NEOC.	18.1 Media briefing.	Press Conference	(a) Press briefing talking points.			Media	Public	
			18a	Some inaccurate reporting has resulted in a wrong evacuation currently underway in a coastal village in the Northern Division.	18.1 The NEOC Getcap need to work with the Divisional head office for the Northern Division in Getno to set the record straight to the media.	News bulletin	(a) Recorded media reporting broadcast on public radio regarding the need to evacuate to a location in the Northern Division.			Media	Public	Media Cluster, Government Cluster/NEOC and Government Cluster/LEOC
			19	Power needs need to be met in impacted coastal locations in the Northern and Western Divisions for emergency operations to continue.	19.1 There has been a massive power outage in the critically affected locations, resulting in the need for power generators. The local shelters have generators available, and fuel also needs to be sourced.	Maps	(a) Power hubs to be labelled on the maps which are provided at every cluster table.			Alternate power suppliers	Public	ETC Cluster/Power providers

Master Scenario Events List												
Exercise Time	**Real Time**	**Geographical Zone**	**No.**	**Event**	**Inject**	**Comms. Mode**	**Resources**	**Organizer in charge**	**Resource Persons**	**From/Lead**	**To**	**Group Involved**
			20	Logistics needs are high for the provision of food, medication and other critical emergency supplies. There are **5 warehouses** containing such items, including emergency telecommunications supplies.	20.1 Latest information suggests that due to coastal inundations in the southwest, main drains are flooded and roads have been closed. Deviation along main roads has caused a heavy traffic jam.	News bulletin	(a) Pre-recorded news bulletin, similar to the situation in 20a.1.			Logistics	Coordination between stakeholders	Logistics Cluster
			20a	Food supplies have run out in **2 out of the 5 warehouses**.	20a.1 Appeal for the Food and Nutrition Cluster to provide immediate assistance to the locations, through coordination with relevant entities.	Message from LEOC to NEOC.	(a) Pre-recorded news bulletin.			Food and Nutrition Cluster	Coordination between stakeholders	Food and Nutrition Cluster
			21	Ensuring the protection of children and families forced from their homes, through registration and providing a secure living space and conditions.	21.1 Several schools are reported to be inundated and children trapped on the third floor need evacuation assistance. The school is located in the Southern Division. Request for assistance from NEOC to the Protection Cluster for evacuation of the affected schools is required immediately, relayed through a community radio which is still running in the vicinity of one of these schools.	Community radio appeal	(a) Pre-recorded community radio appeal.			NEOC	Protection Cluster	Protection Cluster, Operations Cluster, NEOC, LEOC
OUTCOME: Humanitarian communications are running; functional coordination structure between NEOC, LEOC, ICPs; connectivity maps (GIS tools); and active inter-cluster coordination takes place.												
POLLING DEBRIEF USING APP (a) Summarize the exercise in one-word. (b) Lesson learned in one word.												

END OF EXERCISE

Polling app to generate "word cloud"

Group	Cluster	Facilitator(s)
1	ETC	
2	Health	
3	Logistics	
4	Shelter	
5	WASH	
6	Food and Nutrition	
7	Operations	
8	Protection	
9	Coordination	
	9.1 NEOC	
	9.2 LEOC	
	9.2 EOC	

Logistic requirements
Floor plan
Printouts
Signage

Others Media

NOTES

Inject: LEOC is at the Southern Division HQ

Schools: Incident Command Posts (also shelter hubs)

Inject to ETC: Initial ICTA (initial baseline study); should identify the ICT needs on the ground

Inject to ICT Assessment: Coverage map indicating the gaps (no coverage in xx)

Cluster Assessment Officer is collecting impact information on the ground and providing SitReps to the Cluster Lead Officer at the NEOC

Evacuation meeting points are situated in schools which have been designated as shelter hubs in elevated locations and use media outlets such as public broadcast radio to notify their location to the public

Logistics to establish ways of providing health supplies and tent materials to set up pop-up clinics

Inject: Once a preliminary damage assessment is done, there is a call for international assistance from national authorities. This should be earlier rather than later in the response timeframe. < ITU to provide satellite phones, etc.

Inject: Pre-positioned stock for all equipment (health, food, tents, medication, ICT)

Local disaster business resilience council: Local businesses offer their support and participate in the response effort.

Ongoing notifications to the public (local and international).

Inject: Another CAP from USGS, no further waves, minor waves coming. Updates to come at the end of Day 2 of the exercise

NDMO providing regular updates

Inject: Press briefings < NEOC press briefing on the situation

*Each cluster group to have a laptop and a few tools they need to complete the work -- two-page report form, maybe Incident Action Template, as a template for each group

*SOP on emergency telecoms?

*Plan your response, a CONOPS

Annex 2.2: ICT country profile (Getonia example)

I. Telecoms Overview

Local UN/NGO ICT Working Group in place: Yes.

Telephone:

- International: Country code - 6711, satellite earth station - 1 Intelsat (Pacific Ocean).
- Mobile cellular subscriptions: 34,000 (2018).
- Mobile-cellular telephone density: 5 telephones per 100 persons (2018).

Telecommunications Regulator: Getonia Telecommunications Regulatory Authority.

Telecommunications Ministry: Getonia Ministry of Telecommunications.

Mobile operators: There are two main mobile operators in Getonia, Company X1 and Company Z2, with maximum market share accorded to Company X1 at 75%.

Fixed-line operator: Company X1 is the only fixed-line operator on the island.

Broadcast media: Getonia Broadcasting and Television Corporation (GBTC) is the sole TV broadcaster with 1 station; multi-channel pay TV is available; GBTC the public service broadcaster operates 2 national radio stations, 2 provincial stations and 2 local commercial radio stations. Amateur radio operators are very active in Getonia.

Internet:

- Internet country domain name: .go
- Internet hosts: 5,014 (2018).
- Internet users: 80,000 (2018).
- 3G and 4G connectivity exists using fibre.

Internet Service Providers: Company X1 and Company Z2 are the only ISPs, with good Internet coverage in and around the divisions' main cities.

Submarine Cable Connectivity: Getsub Link provides international submarine cable connectivity, with landing points on the main island of Getonia in the capital, Getcap, and on Get 1 and Get 2, respectively. The cable is part of a larger system linking to Sydney, with other landing points in Samoa, Tonga and the Solomon Islands.

Tampere Convention: Getonia is a signatory to the Tampere Convention (signed in 1994).

Drone regulations: Drones may be operated in Getonia provided prior authorization is given and approval is provided by the Getonia Civil Aviation Authority located in Getcap.

Early Warning Systems: Siren-based tsunami Early Warning Systems are present in the coastal regions of the main island of Getonia, as well as in the two smaller islands of Get 1 and Get 2. The sirens are under the direct operation of the Getonia Disaster Management Office (GDMO).

Electricity Provider: Getonia Energy Ltd. is a state-owned statutory body. It is responsible for energy generation, transmission and retail diistribution of electricity in the main divisions of Getonia.

II. Transport Networks

Airports

- Paved runways: 2 (Getcap and Getso) at 1,000 to 1,500 m.
- International airport: Getcap only.

Roadways:

- Paved: 30 km and unpaved: 970 km.

Ports and terminals:

- International: Port of Getcap.

Annex 2.3: ICT standard operating procedures (Getonia example)

1.0 STANDARD OPERATING PROCEDURES (SOP) FOR EMERGENCY TELECOMMUNICATIONS

1.1 Objectives

- Coordination of national actions to ensure the provision of telecommunication support to the national, division and district administration levels.
- Coordination of the requirement of temporary telecommunication services in the affected areas.
- Coordination for restoration of telecommunication services.

1.2 Key entities

For effective provisioning of emergency telecommunication services and restoration of normal telecommunication services, the Getonia Ministry of Telecommunications (GMoT) and Getonia Telecommunications Regulatory Authority (GTRA) will need support from the following Ministries/Departments/Organisations:

1. Telecommunication service providers
2. Telecommunication regulatory authority
3. Ministry of Telecommunications
4. Meteorological Department (Met Office)
5. Department of Seismology
6. Getonia Disaster Management Organisation (GDMO)
7. Civil Aviation Authority
8. Directorate of Police
9. Ministry of Railways
10. Ministry of Defence
11. Ministry of Power
12. Ministry of Road Transport and Highways
13. Ministry of Petroleum and Natural Gas
14. Power Grid Corporation of Getonia Ltd.
15. Ministry of Information and Broadcasting
16. Division and district administration/agencies

2.0 PUBLIC ALERT PROCESS: Tsunami

Tsunami

If a tsunami warning is confirmed by the Department of Seismology Officer on Duty, the process will be to immediately contact the 'contact point' of each radio broadcast station with a request to immediately broadcast the pre-recorded Tsunami alert message.

2.1 Siren system

There are tsunami sirens situated along the coastline of Getonia. Once the tsunami alert is formally issued, this triggers the siren system automatically resulting in the sirens sounding to alert the public of the impending tsunami. A testing plan should be in place. Every quarter, a tsunami drill is conducted in Getonia to ensure the systems are running and fully functional. The sirens should be serviced and maintained once every six months by contracted technicians, with oversight from the Department of Seismology Head Engineer.

2.2 Common Alerting Protocol (CAP) and Cell broadcast

Following a formal disaster warning, the CAP and cell broadcast messaging system may be used for disseminating alerts and updates to the public. The Information Management Officer is to prepare the message (90 characters maximum) based on information provided by the Department of Seismology Officer on Duty, and/or the Pacific Tsunami Warning Centre (PTWC). Messages can be sent to cell subscribers within a defined geo-fenced area and to all public through the CAP format message. All messages must be approved by the Incident Controller, or in their absence, the NEOC Operations Manager. The cell broadcast message should be shared with Mobile Network Operators (MNOs) for dissemination to mobile phones active in the defined geo-fenced area.

2.3 Broadcast radio (AM/FM)

The GDMO has a Memorandum of Understanding with radio broadcasters in Getonia to break into usual programming to broadcast pre-recorded emergency warnings to notify radio listeners that an emergency (including a tsunami) is occurring in their area. Additionally, radio broadcasters will announce any updates on current hazards from information provided by the GDMO or Department of Seismology.

Emergency Radio Broadcast Station

As a backup facility, an emergency radio broadcast station is deployed in the GDMO Communications Room. The emergency radio broadcast station can be used to broadcast Radio Getonia from the GDMO during times of disaster.

A quarterly test of the emergency radio broadcast system should be conducted by GDMO to confirm that the system is functional. The system is composed of indoor (e.g. audio components, computers) and outdoor (e.g. transmitters) equipment. The technical components of the emergency radio broadcast station are managed by the Getonia Broadcasting and Television Corporation (GBTC).

2.4 GDMO website

The GDMO website is a key tool for communicating with the public and stakeholders. The content of the website must be updated regularly to ensure that members of the public and the GDMO's partners are provided with officially authorized information. The GDMO website address is: **www.gdmo.gov**.

2.5 Social media channels (Facebook, Twitter)

The GDMO's social media presence is another channel that allows the GDMO to stay in touch with the people inside and outside of Getonia. Social media is an important information source for the public.

The GDMO Facebook page and Twitter feed is managed by the GDMO's Information Management (IM) Officer. The IM Officer is responsible for ensuring that material has been cleared before it is posted on the GDMO's social media channels. The profile picture on all social media channels should be the Getonia DMO logo. The profile name should be: Getonia Disaster Management Office (GDMO). Facebook and Twitter both allow multiple admins on one account (i.e. multiple user logins for one account). The IM Officer is responsible for removing access when a person leaves or no longer requires access as part of their job.

The following GDMO staff have admin access to the GDMO's social media:

- IM Officer
- Secretary
- Operations Manager

Facebook

The GDMO's Facebook page is primarily a one-way broadcast from the GDMO to the public, although comments can be posted by the public on the GDMO's Facebook page. The page is managed by the GDMO IM Officer.

Twitter

The GDMO's Twitter handle is: @GDMOinfo and is managed by the IM Officer.

3.0 RADIO COMMUNICATIONS (VHF, HF)

3.1 HF and VHF radio

Two-way radio allows the operator to have a conversation with one or several two-way radios operating on the same radio frequency (channel). Unlike other communication systems (such as mobile telephony), messages over the HF and VHF radio system are not private and can be heard by other people listening to the same radio channel. Messages by HF and VHF radio should be brief and to the point so that the channel does not get cluttered.

The GDMO has:

- 1 x HF fixed base station (GDMO HQ Communications Room, Getcap)
- 1 x VHF fixed base station (GDMO HQ Communications Room, Getcap)
- 1 x VHF vehicle radio (GDMO HQ, Getcap)
- 8 x handheld VHF radios (GDMO HQ Communications Room – portable devices)

Different HF channels/frequencies are used for contacting specific stakeholders and specific areas of Getonia. The current channel frequencies programmed into the HF radio base station in the NEOC Communications Room are:

Organisation	HF Frequency (kHz)	Channel Number: Name	Channel Description
Getonia DMO (NEOC, LEOCs)	3260.0	Channel 0001: GDMO 1	Depending on the time of day, users need to switch between HF frequencies. Generally higher frequency bands work best during the day, and lower frequency bands work best at night.
	5680.0	Channel 0002: GDMO 1	
Getonia Red Cross	7640.0	Channel 0003: Red Cross	
Inter-Island	6990.0	Channel 0004: Inter Island 1	
	4552.0	Channel 0005: Inter Island 2	
Health	6935.0	Channel 0007: Health 2	
Getonia Meteorological Office	5758.0	Channel 0008: Meteo 1	
	7747.0	Channel 0009: Meteo 2	
Ambulance	5136.0	Channel 0010: Ambulance	
Police	7767.0	Channel 0024: Police	

The VHF repeater antenna is installed on the communications tower in the GDMO compound in Getcap. The repeater is installed in the data centre in the GDMO compound. The GDMO VHF channel frequencies programmed into the VHF radios in the NEOC Communications Room and vehicles are:

VHF Channel	Tx (MHz)	Rx (MHz)	Channel Description
GDMO 1	163.50	168.10	The channels are programmed in a scan list configuration.
GDMO 2	163.50	168.10	
SIMPLEX	168.10	168.10	
Operations Cluster	176.525	177.275	Police, Fire, Ambulance, SAR

Test schedule

Every week, the Communications Officer should initiate radio checks with all stations in its network (VHF and HF). This testing helps to ensure that the system is functioning as expected.

The radio check test schedule should be prepared by the Communications Officer and all other parties (e.g. Met Offices, Police, Division Offices) to be contacted in the weekly radio check should be aware to expect the radio call. Non-response to radio checks should be logged by the Communications Officer and communicated in a weekly report issued by the Communications Officer to management.

As part of the weekly radio testing, basic checks of the GDMO radios should be conducted by the Communications Officer to ensure devices are fully charged, antennas are well maintained and the equipment is ready for immediate use.

4.0 SATELLITE COMMUNICATIONS

4.1 Satellite phones and BGANs

The NEOC Communications Room at GDMO HQ in Getcap is equipped with satellite phones and BGAN terminals for satellite data connectivity. The ‘GDMO Emergency Phonebook’

contains a list of key contacts with their satellite phones and the satellite phone numbers. This list should be updated regularly in consultation with partner agencies.

Satellite phones and BGAN terminals provided by the GDMO are located at each LEOC in the Division Offices. The LEOCs may also maintain their own emergency telecommunication devices beyond what the GDMO has provided.

4.2 VSAT

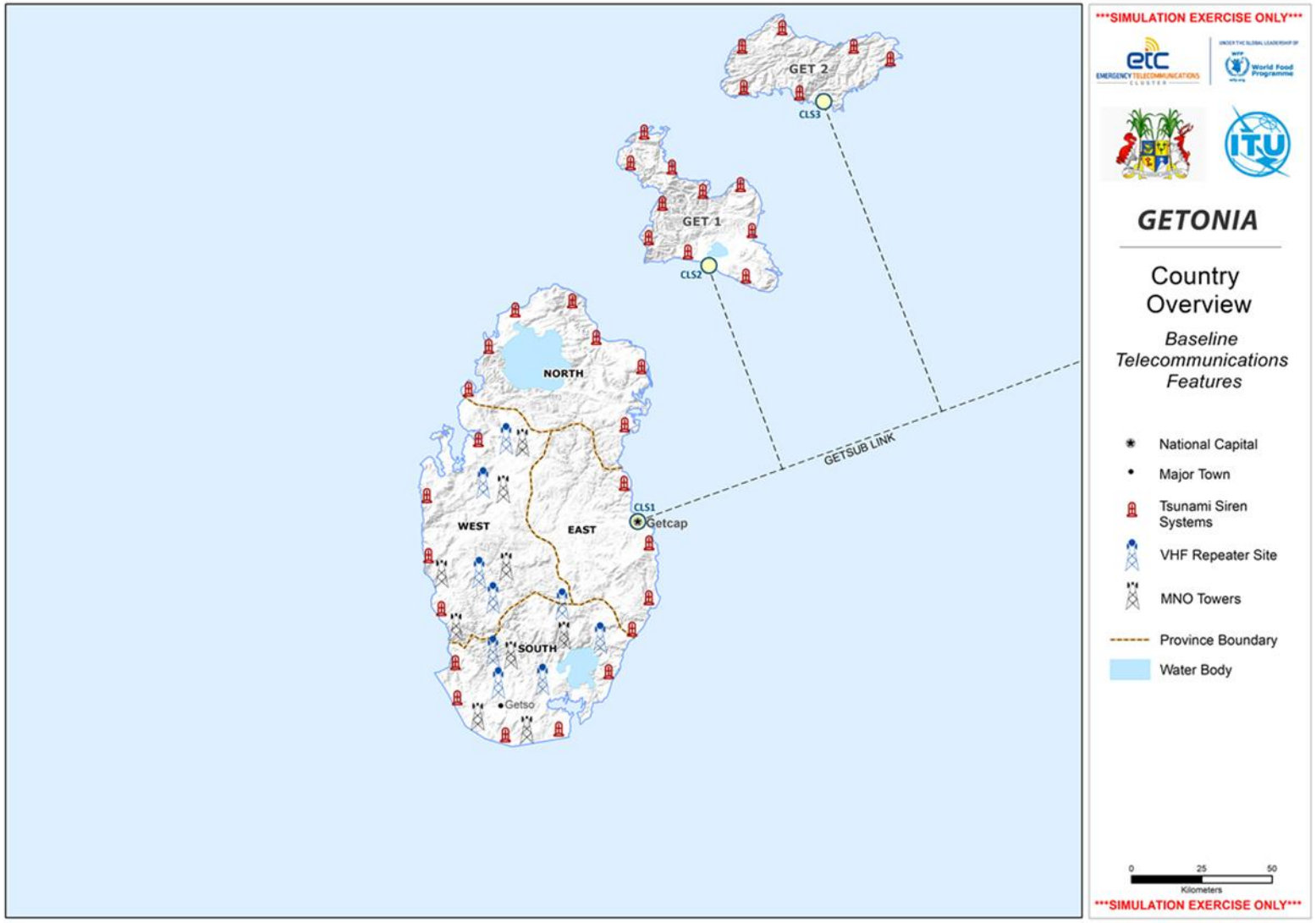
GDMO HQ in Getcap has one fixed VSAT terminal permanently deployed for backup data connectivity in the event that the local ISP service becomes unavailable. GDMO also has a portable VSAT terminal that can be deployed in emergencies.

5.0 UNMANNED AERIAL VEHICLES (DRONES)

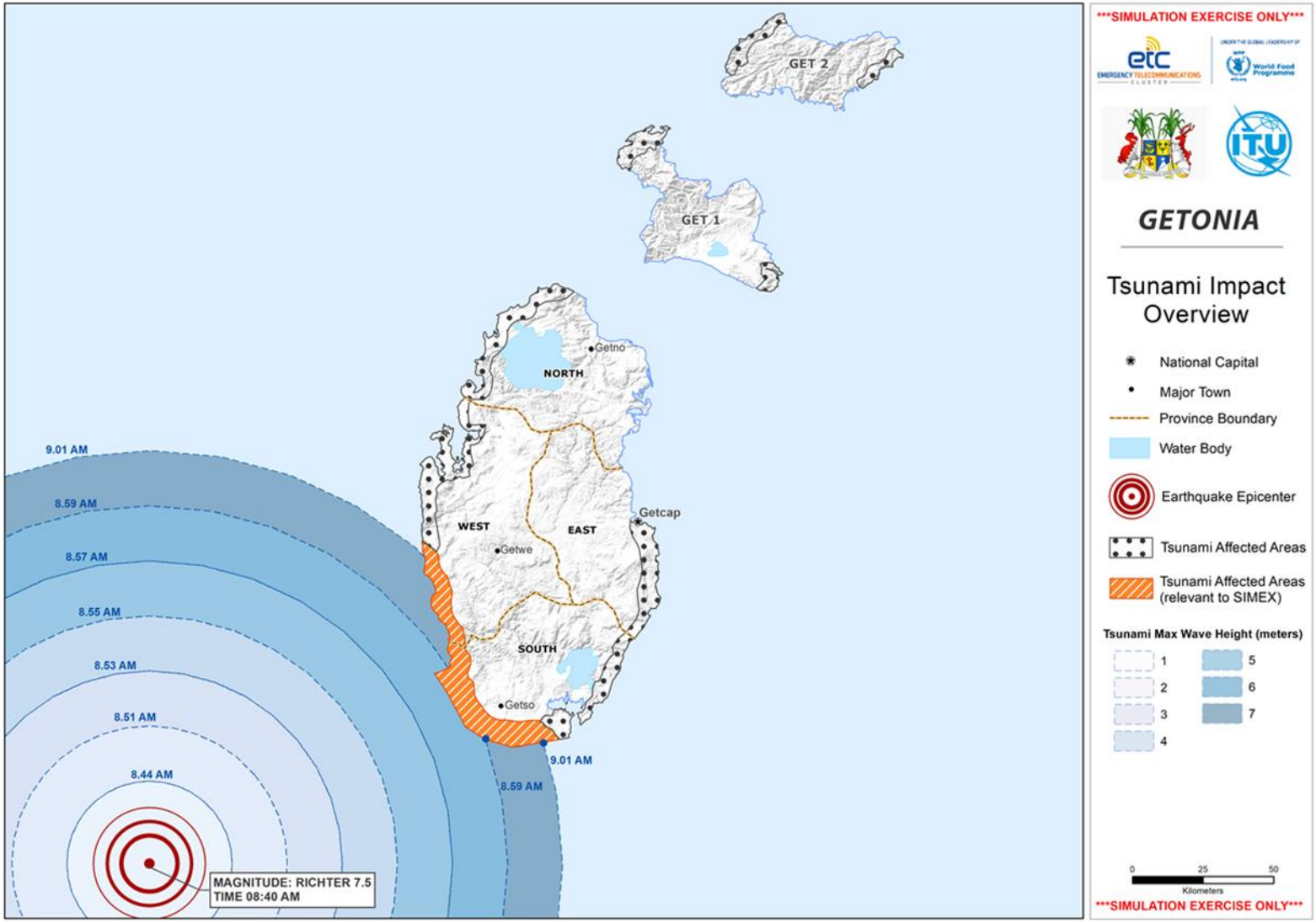
5.1 Rotary drones

Staff at the GDMO and Civil Aviation Authority have been trained to fly drones. Four drones have been pre-positioned at GMDO Headquarters in Getcap to be deployed in emergencies for damage assessments.

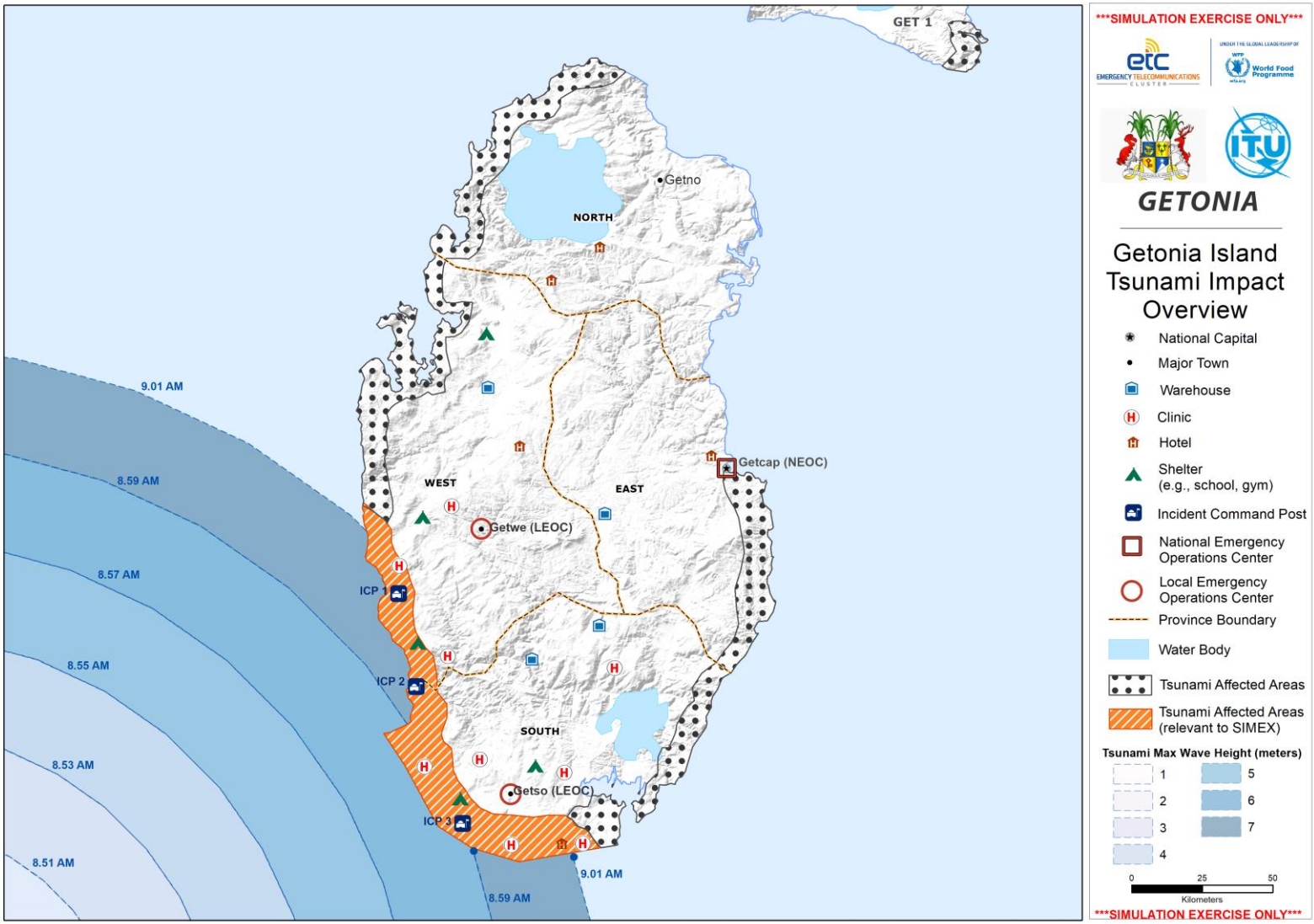
Annex 2.4: Country overview map (Getonia example)



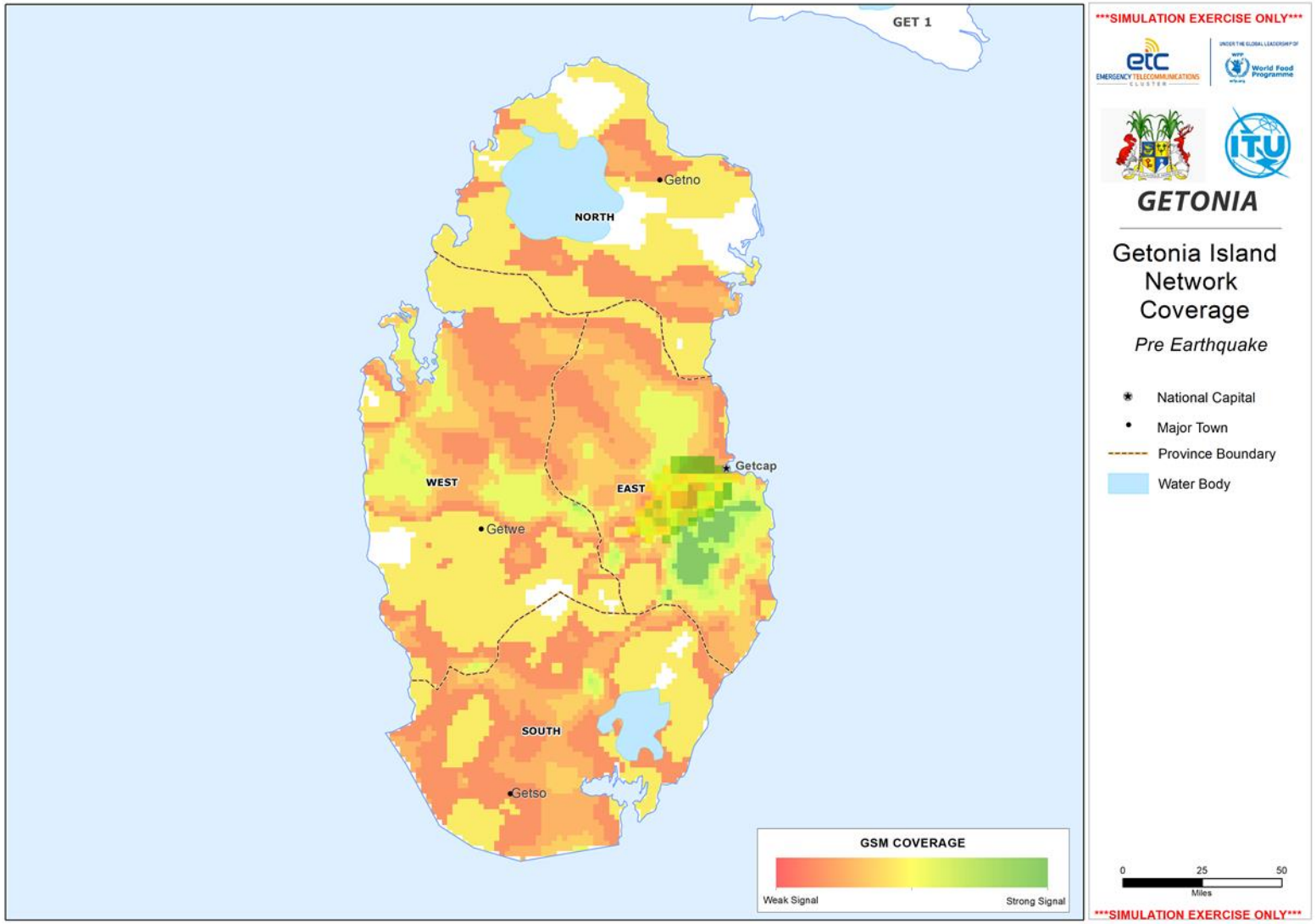
Annex 2.5: Impact overview map (Getonia example)



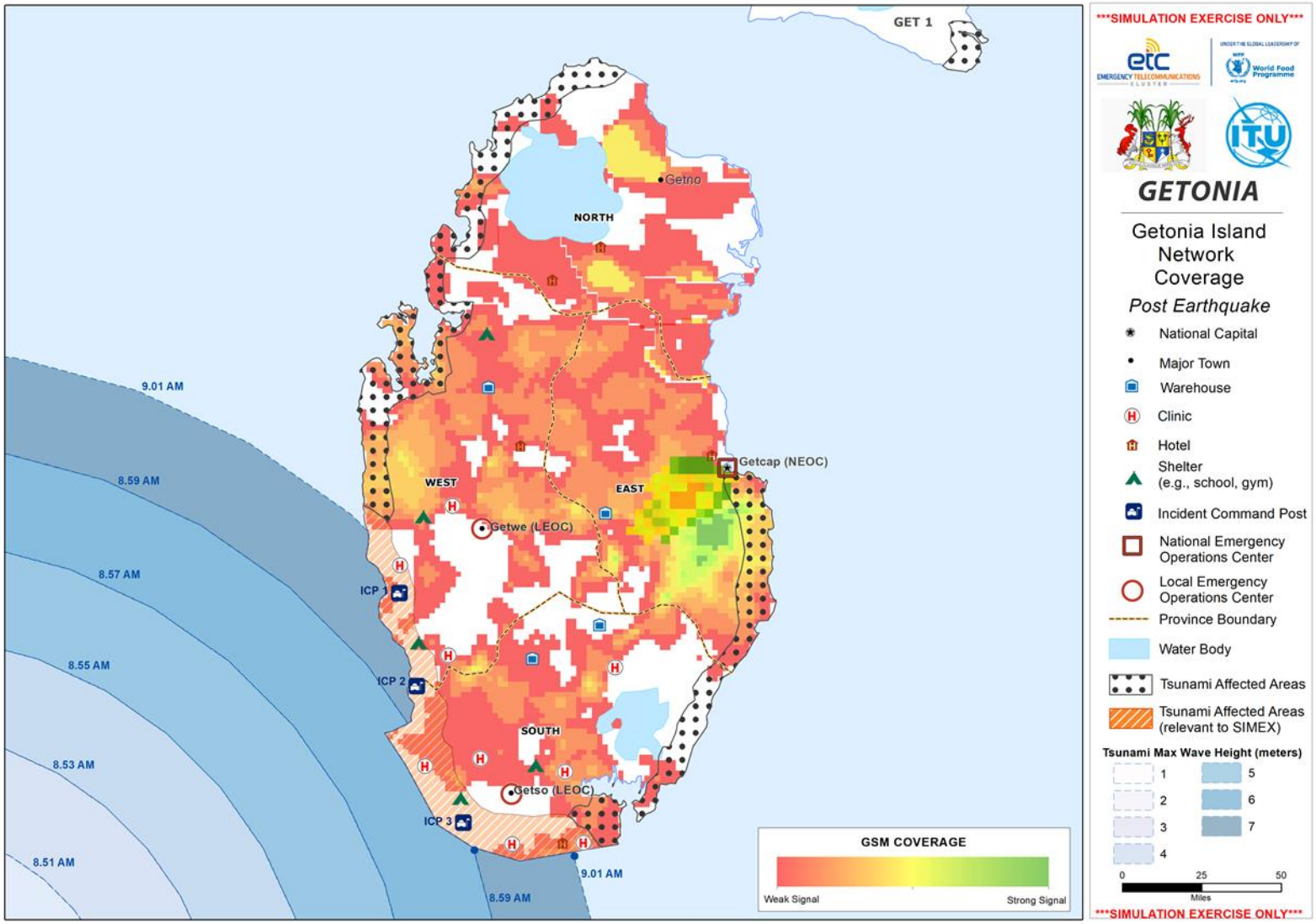
Annex 2.6: Zoom impact overview map (Getonia example)



Annex 2.7: Pre-coverage map (Getonia example)



Annex 2.8: Post coverage map (Getonia example)



Annex 2.9: Response plan template (Getonia example)

National Tsunami

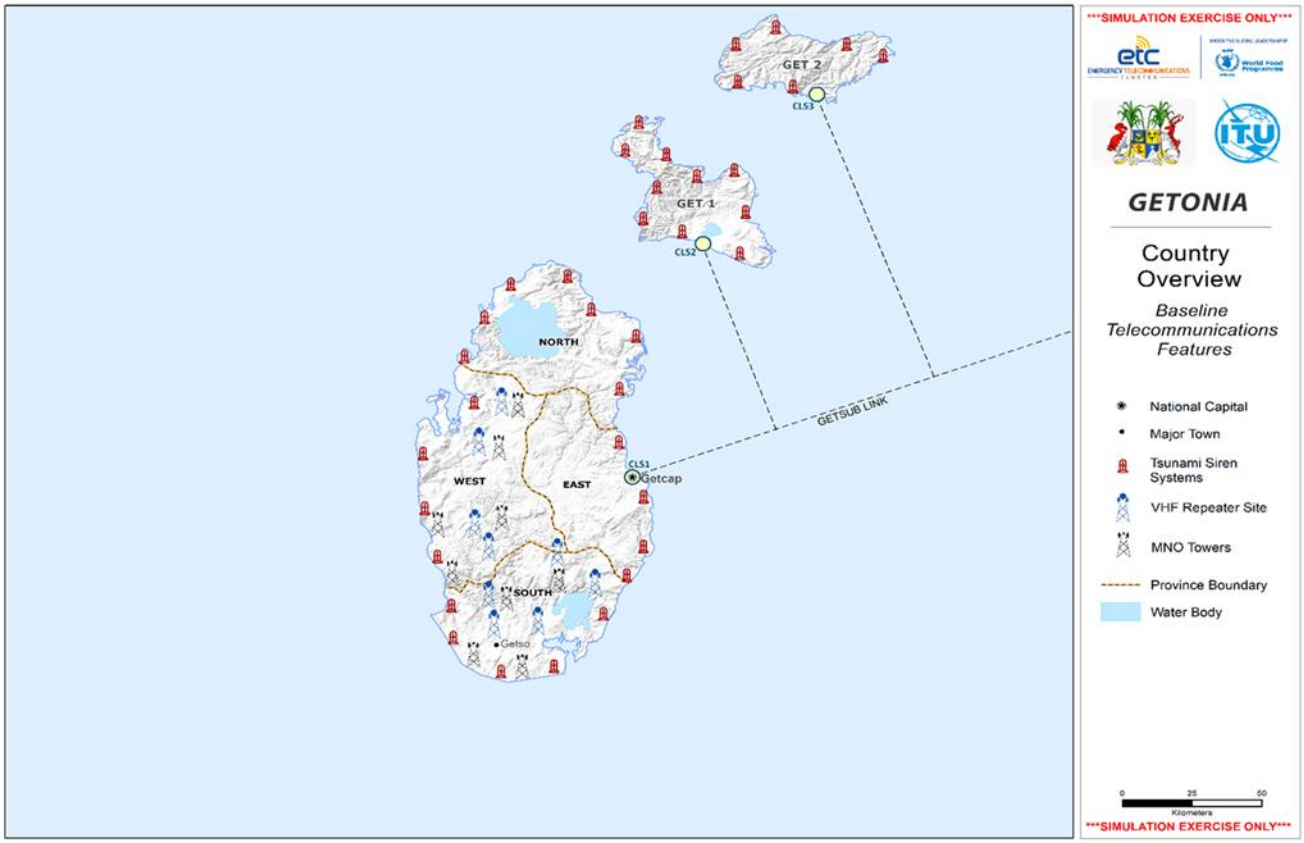
ICT Emergency Telecommunications Response Plan

(first 5 days)

Group no.: _____

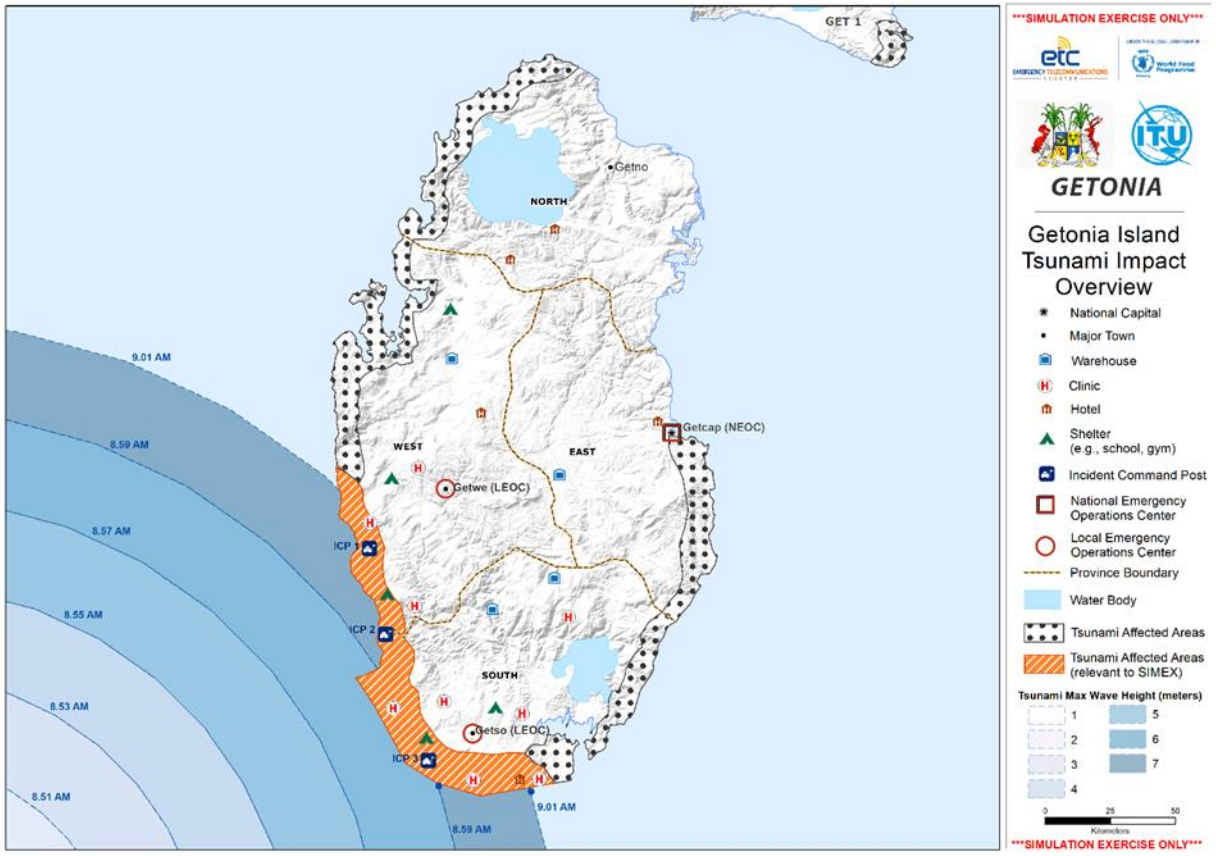
Pre-Disaster telecoms infrastructure map

The below map shows the baseline telecommunication features of Getonia (pre-tsunami situation).



Tsunami-impacted area map

The below map shows the tsunami-impacted areas. Focus your ICT response plan on the impacted areas highlighted in orange.



Response priorities

What are our objectives for the first 5 days?

For example:

- **Ensure reliable communications between the NEOC, LEOCs, and ICPs as soon as possible.**
- **Provide local voice communications at the XYZ airport and a data connection to the NEOC within 12 hours.**
- **Restore mobile networks in XYZ location(s) within X days.**

1. _____

2. _____

3. _____

4. _____

5. _____

Implementation

How will we achieve the response priorities? Who? What? Where? When? How?

Risks and Challenges

List the 2-3 most significant risks identified, and the proposed mitigation measures.

Risks/Challenges	Proposed Mitigation Measures

Equipment

Describe the equipment required for achieving the ICT response initiatives, and indicate from where it will be sourced.

<Not required for this SIMEX.>

Staffing

Describe staffing plans for supporting the ICT response initiatives.

<Not required for this SIMEX.>

Funding/Budgeting

Outline the high-level funding plan and funding sources for running the ICT response and supporting the activities outlined above.

<Not required for this SIMEX.>

Further reading

1. **A practical guide for developing and conducting simulation exercises to test and validate pandemic influenza preparedness plans** (WHO, 2018)

https://extranet.who.int/sph/docs/file/2165

2. **WHO Simulation Exercise Manual** (WHO, 2017)

https://www.who.int/ihr/publications/WHO-WHE-CPI-2017.10/en/

3. **WHO Simulation Exercise Toolbox** (WHO, 2017)

https://www.who.int/ihr/publications/exercise-toolbox/en/

4. **Words into Action guidelines – Design and conduct of simulation exercises – SIMEX** (United Nations Office for Disaster Risk Reduction (UNISDR), May 2017)

https://www.preventionweb.net/publications/view/53348

5. **Emergency Response Preparedness (ERP): Draft for field testing** (Inter-agency Standing Committee, 2015)

https://www.preventionweb.net/publications/view/61766

6. **Desktop simulation | A user's guidebook on building successful simulations** (Logistics Cluster, 2015)

https://logcluster.org/sites/default/files/training_files/1b._simex_-_desktop_simulation_guidebook.docx.pdf

7. **Handbook on simulation exercises in EU public health settings | How to develop simulation exercises for supporting preparedness and response to communicable diseases** (European Centre for Disease Prevention and control (ECDC), 2014)

https://www.ecdc.europa.eu/sites/default/files/documents/simulation-exercise-manual.pdf

8. **Disaster simulation exercises: A how to guide for the Pacific** (New Zealand Government; Oxfam (New Zealand); Caritas (New Zealand); Christian World Service; United Nations Children's Fund (New Zealand); Rotary Oceania; Tearfund New Zealand, 2014)

https://www.preventionweb.net/publications/view/61839

9. **Government's emergency simulations: facilitator's guide"** (Inter-Agency Standing Committee (IASC), March 2012)

https://www.preventionweb.net/publications/view/33487

10. **Handbook: Evaluation of exercises** (MSB Swedish Civil Contingencies Agency, 2011)

https://www.preventionweb.net/publications/view/61869

11. **Guidelines for developing emergency simulations and drills** (Pan American Health Organization (PAHO), 2011)

https://www.preventionweb.net/publications/view/61834

12. **Emergency exercise development (**WHO Western Pacific Office, 2009)

https://www.preventionweb.net/publications/view/61836

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