



## **Simulation Activities**

for

## **Disaster Risk Management**

for use in Schools and Camps

## **Background for teachers: Disaster Simulation**

### **Teachers' notes**

This simulation brings to life the scenes of real disaster response operations, which students may have only previously seen on television.

Students role play the response after a disaster strikes the mythical town of Seatown. The type of disaster and number of casualties, is not previously revealed to the students who will be asked to respond appropriately.

### **Level**

Suitable for Grade 9-11; particularly suitable for grades 10 and 11 in Civics and Governance.

### **Competency**

Students will identify how and why groups are organised within communities and societies. Students will identify and use safe practices and basic risk management strategies.

### **Competency Level**

Students will be able to:

- identify agencies and their roles in a disaster
- explain the different roles people fulfil within groups in a disaster
- demonstrate the importance of preparation, co-operation and organisation in responding to a disaster.

### **Quality Input**

- Written scenario (see Template: Seatown simulation - scenario)
- Photocopied plans of school or site (see Template: Seatown map example)
- Role cards (see Templates: Role cards for individuals; Role cards for classes)
- Health cards (see Template: Health card examples)
- Message forms if not using real radios (see Template: Message forms)
- Name labels
- Adult helpers

### **Optional extras**

- Sufficient water, cups, crackers or other food to ration out to all participants.
- Orange vests. Ask your Civil Defence Centre or Emergency Management Office
- Two-way radios. Ask your Civil Defence Centre or Emergency Management Office.
- Video camera and/or digital camera (this may be available for borrowing if a student-teacher from the NCOE is organising this activity in an Internship School).
- Make-up (so that injuries look real). Costumes like Civic Defence etc.

### **When to schedule this activity**

It is recommended that this simulation comes at the end of a unit where disasters have been studied so that students can test their knowledge and preparedness for an emergency.

## **Whole school approach**

This disaster simulation could also be run as a school exercise with assistance from outside agencies.

### ***Simulation and practice activities***

Seatown is a mythical town where there is a disaster. Junior students could be involved in this simulation:

- being casualties or children who need to be looked after
- breaking into groups to observe different areas of the simulation
- talking to participants after the simulation about their role.

### **Timeline of simulation**

Ideally, organisation done beforehand will ensure that this activity is effective. Ideally it can be conducted during a Camp.

#### **One term before:**

- Pick site;
- Invite agencies

#### **One month before:**

- Write scenario (*see enclosed template as a guideline*);
- Invite parents;
- Assign supervisors;
- Obtain or draw map (*see enclosed template*)

#### **One week before**

- Make cards and forms (see templates)
- Assign and discuss roles (45/60 minutes)
- Assign and brief casualties (45/60 minutes)
- Assign and brief media (45/60 minutes)
- Make name tags and room signs. Depending on where the Camp is held, signs may need to be attached to posts or doors.

#### **On the day**

- Brief all participants (30 minutes)
- Get into starting positions (20 minutes)
- Simulation (60 minutes)
- Debrief all participants (30 minutes)
- Evaluate the simulation

See details for each of these preparation points

### **One term before**

#### ***Picking the site***

This simulation should be held in a location which includes a number of buildings, rooms and open spaces to portray the town of Seatown. The area needs to be as large as possible. Ideal locations would include a school, park or camp.

#### ***Inviting agencies***

Invite appropriate agencies in your area to help on the day. These could include your Civil Defence Centre or Emergency Management Office, the police, fire brigade or ambulance. They could be invited to:

- conduct lessons earlier in the unit to show how they go about their duties in a disaster
- assist and supervise the students who are role-playing their organisation in the simulation
- demonstrate their activities to the whole school after the simulation.

## **One month before**

### ***Write the scenario***

Choose a disaster appropriate to the area in which the school is located. Write a scenario introduction that sets the scene. It should describe Seatown, its facilities, and the disaster that takes place. This introduction will be used at the briefing to set the scene for the participants. The scenario introduction should stop at the point that the rescue begins.

### ***Involve parents***

Consideration could be given to including parents in the simulation. Involving parents will help to encourage them to assess their own preparedness for disasters. They could be invited to:

- act as casualties
- supervise and assist the various groups during the simulation.

### ***Assign supervisors***

It is recommended that each venue or group has an adult supervisor, such as a teacher or parent. If you have visitors from outside agencies, they could supervise the students playing their role. Supervisors assist as 'umpires' to ensure the simulation stays on course, but should resist taking over leadership!

### ***Make the maps***

Maps of the disaster area need to be produced for all participants. See the Seatown simulation map example.

1. Get or draw a map or plan of the site where the simulation will take place.
2. Define the boundaries of the simulation, and any areas that are out-of-bounds, on the map.[this may be necessary if the simulation Camp is held at the school or another building or institution].
3. Nominate rooms for all the agencies in your simulation, e.g., • Civil Defence Centre, hospital, police, ambulance and fire stations, Seatown Star newspaper and television studio,• Seatown City Council offices,• Government offices,• any other facility involved in your simulation such as a registration centre for recording the details of victims and survivors.
4. Designate other rooms or spaces as places which would be affected in the disaster, e.g.,
  - schools
  - shopping centres
  - factories
  - day-care centres
  - housing areas.

5. Photocopy the map. You will need one A4 map for every participant and one A3 map for each agency in the simulation.

6. If the students have been introduced to mapping skills before this unit, you might consider overlaying a grid on the plan so that they can use map references.

## **One week before**

### ***Make the cards and forms***

1. Each individual or agency being role-played needs a role card. These outline the participants' roles and provide clear instructions (see role cards for individuals, and role cards for classes as examples)

2. Make a health card to be worn by each casualty which outlines their injuries. Leave space for the rescuers to write the treatment they are giving that person. Some ideas are shown on the template health card examples.

3. If you are not using radios, you will need message forms on which participants can write messages to be carried to their recipients by runners. (e.g., template: message forms)

4. If you have a Registration Centre, where the details of victims and survivors of a disaster are recorded, you will need sufficient copies of a registration form. You can make one of these or actually find out whether there is an official form which you can get from the Civil Defence or Disaster Management office.

### ***Assign and discuss roles***

Each class (or part of a class) is assigned the role of a specific agency. Students in these agencies develop the individual roles they will play (see role cards for individuals, simulation - role cards for classes).

The whole class, groups or individuals are given 40 minutes to discuss and plan their roles. If you have real agencies helping on the day, assign them to work with the appropriate individuals or classes. Agencies could include:

- Civil Defence Centre/Sector Post
- Registration Centre
- First-aid/hospital
- Police
- Fire
- Ambulance
- Catering
- Casualties
- Media
- Local authority\* [Suits older classes, as tasks are more theoretical than practical]
- Government\* [Suits older classes, as tasks are more theoretical than practical]
- Other agencies appropriate to local area

### ***Assigning and briefing casualties***

The students selected to play casualties should be able to work independently with little supervision. They could include hurt victims, panicked or shocked survivors, lost children, people looking for loved ones, helpful volunteers and so on.

Brief the group portraying public and casualties separately. Some ideas of the roles they could take include:

- pupils at a school
- shoppers at a supermarket
- factory workers
- parents and young children at home.

Each casualty should have a health card (see template health card example) on which the symptoms of his/her injuries are written. This card will be attached to their clothes on the day. If you have the resources, you might want to use make-up for injuries.

Work out with the casualties exactly where they will be positioned on the day, and how they will know the simulation is over if they are not located by rescuers.

Prepare the casualties for their role. This could be an opportunity for role play. They should find out what treatment to expect, and what to do if they don't get that treatment. For instance, someone who is unconscious, but not placed in the coma position could choke; a person who is bleeding heavily might fall into unconsciousness if it is not stopped.<sup>1</sup>

### ***Assigning and briefing the media***

Students portraying the media should plan how they will go about their task during the simulation.

They might decide to:

- go out into the field to interview victims and rescuers
- visit the Civil Defence Centre, local authority, emergency services or government
- record studio 'breaking news' and interviews
- make official announcements
- present public safety information about the disaster.

After the simulation, they will collate their written interviews and stories, and any photographs, into a mock newspaper or television report. This can be shared with the school and parent community.

### ***Making name tags and room signs***

Participants make name tags describing their individual roles (for example, controller, map plotter, doctor, casualty) to be worn during the simulation.



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<sup>1</sup> Supply First Aid Manuals before this exercise, or it may have been the focus of an earlier Camp.

Identification signs are made for classrooms and other rooms that have been designated as agencies or areas for the simulation (e.g., the Civil Defence Centre, shopping centre, and so on). These need to be put up in time on the day of the simulation exercise.

## On the day or at the Camp

### ***Briefing all participants***

Just before the simulation begins, all participating students and supervisors gather together for a briefing from the staff member in charge of the simulation. Depending on the size of your simulation, this might happen in a school or town hall or a classroom. It could also be outside in a park or in the Camp location.

- Read your prepared scenario introduction to the group.
- Make sure the students know the physical boundaries of the simulation, and all areas that are out-of-bounds. For instance, you might state that all administration areas in the school are not involved in this simulation.
- State the audible method for indicating when the simulation starts and finishes (such as the school bell) and explain where students go and what to do when the simulation finishes.
- Point out that the ground scale in this simulation is 'elastic', and that although two areas in the school might be very close in real-life, for the purposes of the simulation they should imagine the distances to be much greater. Even though they can see a casualty in the playground next to them, the casualty might actually be a few kilometres away.
- If you do not have radios, all messages between various teams must be written and carried by messengers. They will need message forms (see Template: message forms) and pens.
- Inform participants that first-aid is carried out by writing the procedure on the patient's 'health card', e.g., wrapping in blanket, bandaging arm, placing in coma position or carrying on stretcher. *Emphasise that they do not have to do any real first-aid to the person, nor really carry them in a stretcher.*
- All rescue teams must only do what they are instructed to by the controller or their own management. They must report on the results of their search of an area, and await further instructions as to where to search next. Some teams (apart from their messengers) will not leave their venue at all, e.g., Civil Defence Centre staff, hospital staff, management and communications centre staff from the various services.

### ***Getting into starting positions***

Everyone is sent to their 'agency' locations to wait for the start signal. Meanwhile, the casualties are sent to their locations, where they wait until the simulation starts. This is not a game of hide-and-seek so they do not have to hide from view.

While waiting for the start signal, the students playing the controller and deputy controllers can give their first written instructions to the rescue teams. But these teams must not leave the Civil Defence Centre to start their searches until they hear the start signal. If participants have mapping skills, the controller and deputy controllers can use map references to tell rescue teams where to search. Otherwise they give map locations by name (for example, search the Seatown shopping centre).

The map plotters record the areas that have been searched on the A3 maps [make some very large maps of the rescue area, or even get students to make these on the day of the Camp or in the week before].

### ***Starting the simulation***

Sound the start signal.

Rescue teams head out to their designated areas. If they locate a casualty in their area, they write their first-aid treatment on the casualty's health card. They then send a messenger with a message form to the Civil Defence Centre and await new instructions. Other agencies play their respective parts of the operation. For example, students portraying the media go out and interview people.

All messages between teams and the Civil Defence Centre, or to any other location, must be written on a message form and carried by messengers. Students playing security staff will not allow anyone to enter the Civil Defence Centre other than messengers or authorised visitors.

Casualties are brought back to the hospital, where the staff take over their treatment by writing on the health cards. If the casualties cannot walk, the rescue teams write that they are being carried by stretcher, but the casualty walks back with them – *do not allow untrained students to lift casualties in real stretchers.*



*Note: the total disaster/rescue simulation will take up to 3 hours. If everything is prepared well beforehand, this could be done during the morning session before lunch (or alternatively, in the afternoon)*

### **After the session, debrief all participants**

Once the simulation has run its course, sound the signal to finish. Allow 15 minutes for students to gather together. All participants and casualties come together for a debriefing. Depending on the numbers involved, this debriefing can be done as:

- the whole group in the hall or similar venue
- separate groups
- separate agencies
- [or separate classes if this is done with several grades at the same time].

Some participants could report back to the group(s) on what went well and what didn't work so well. Some of the patients and civilians could also report back on how they were rescued and treated. Ask the participants what factors help or hinder in responding to a disaster. *After the debriefing, all materials should be collected and tidied away.*

### **Evaluating the simulation**

The simulation can be evaluated in several ways:

- ✚ Teachers observe the students carrying out their roles during the exercise.
- ✚ Students work in pairs to describe their part in the exercise, and tell each other what they have learned.
- ✚ Students discuss in small groups what they and their families could do before, during and after this type of disaster.
- ✚ Students portraying media interview other students about their role in the disaster response operation.
- ✚ Students contribute articles to make a mock newspaper page or video news broadcast about the disaster.
- ✚ Students write letters of thanks to organisations involved, outlining what they have learned about that group's role in a disaster.
- ✚ If it was not possible to involve organisations in the exercise, students could still write to them and describe how they role-played that group.



## Templates for use in the Disaster Simulation

### For use with students

These templates can be modified as you like. They can also be photocopied and used in the Camp Disaster Simulation as they are.

The Disaster situation can be modified and used with other grades or in other Camps at other times. They are just a guide for your creativity. Perhaps students themselves will suggest other disaster situations in which they would like to participate.



## Camp Activity: Seatown simulation – scenario

Seatown is a mythical small town situated somewhere in Sri Lanka. The 20,000 inhabitants live, work, go to school and enjoy life, just like you.

Seatown has a central shopping area. The town centre is also where the main facilities are situated, such as the hospital, fire and police stations, the Civil Defence Centre and so on.

The town centre is surrounded by several smaller towns. Some are residential with houses, shops and schools, and some have food factories and warehouses.

This morning, the locals are all going about their business as usual. Children have gone off to school, parents are at work or at home, the shopping centre is crowded, and the factories busy. It has been raining heavily for 4 days. At 11.07am, there is a dangerous rise of water which comes over the banks of the river into the streets of the town.

Water moves quickly into low areas but soon all areas are affected by rising water. This happens very quickly in some areas because the wall of a dam in the nearby hills are cracked badly. This was happening slowly yesterday but by now people are very worried as houses are affected and even the school grounds now have more serious flooding.

In the town centre some shops are flooded and in the market, stalls are overturned. Some small houses have moved from their foundations.

The Civil Defence Centre, which has been specially designed to survive most earthquakes, swings into operation. Today, our school (*or other site*) is Seatown and each of you has a role to play in the simulation. We are pretending that the school (*or simulation site*) is a whole town, so that means you will have to imagine the distances are much greater. Even though you might be able to see a casualty in the adventure playground next to you, the casualty could actually be in the shopping centre a few kilometres away!

If someone requires first-aid<sup>2</sup>, write what you would do on their health card. This isn't an opportunity to practise real first-aid but to test your knowledge about what to do. All teams must only do what the controller or their management orders them to do. You must report any casualties you find in your search area to the Civil Defence Centre then wait for directions as to what to do with them, and where to search next.

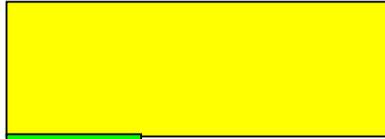
The simulation will start and finish when you hear the signal. When the finish signal sounds, you must all immediately assemble at the briefing venue.

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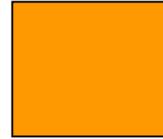
<sup>2</sup> See the First Aid Manual

Seatown simulation - map example

1.



2.



3.



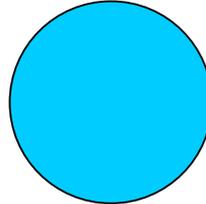
4.



5.



6.



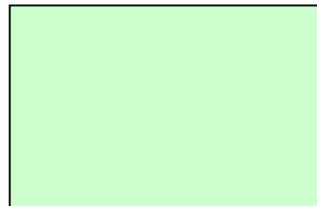
7.



8.

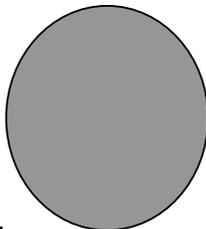


9.



11.

10.



KEY

- 1. Seatown Shopping Centre
- 2. Seatown Hospital
- 3. Out of bounds
- 4. Catering
- 5. Out of bounds
- 6. Civil Defence Centre
- 7. Childcare centre
- 8. Seatown Police & Fire Station
- 9. Newspaper & Television offices
- 10. Factory
- 11. Local Government Office

## Seatown simulation – role cards for individuals

<p><b>Civil Defence Centre Controller</b></p> <p>You are in charge of the entire rescue operation. You will give directions to your rescue teams. You must not leave the Civil Defence Centre.</p>	<p><b>Civil Defence Centre Deputy Controller</b></p> <p>You help the controller to run the whole rescue operation. You must not leave the Civil Defence Centre.</p>
<p><b>Civil Defence Centre Radio Operator</b></p> <p>You stay in contact with the rescue teams and other services, by radio (if available) or written messages. You must not leave the Civil Defence Centre.</p>	<p><b>Civil Defence Centre Map Plotter</b></p> <p>You plot with coloured highlighters, the areas on the map that have and have not yet been searched, and what has been found, so that the controller can see what's happening. You must not leave the Civil Defence Centre.</p>
<p><b>Messenger</b></p> <p>You run written messages for the group to which you are assigned, if no radio is available. You always wait for a written reply before returning to your group.</p>	<p><b>Registration Centre Clerk</b></p> <p>You are responsible for recording the details of every person located in the search. Use the top part of the Red Cross registration form. You must not leave the Registration Centre.</p>
<p><b>Civil Defence Centre Rescue Team Leader</b></p> <p>You are in charge of a rescue team. You may only search areas that the Civil Defence Centre has told you to search. You must send a message to the Centre/Sector Post by runner with the result of the area search, and asking for new instructions.</p>	<p><b>Civil Defence Centre Rescue Team Member</b></p> <p>You are part of a small rescue team. Your leader will tell you what area to search. You may not search any other areas until ordered to do so. You can perform first-aid on victims by writing what you are doing on their health cards.</p>
<p><b>First-aid/Hospital staff</b></p> <p>You are in charge of victims after they have been rescued. You need to treat their injuries by writing what you are doing on their health cards. You may not leave the First-Aid Post/Hospital.</p>	<p><b>First-aid/Hospital Victim Support</b></p> <p>You are responsible for helping and counselling victims of the disaster. You will be based in the First-Aid Post/Hospital.</p>
<p><b>Catering Officer</b></p> <p>You are responsible for making sure everyone (victims and rescuers) gets food and drink. Work out how much everyone can have, and then organise the supplies to be distributed.</p>	<p><b>Media</b></p> <p>You will write or film a story about the disaster. You should write notes and interview victims, rescuers and other organisations. Take photos or video footage. After the simulation, you will edit and publish your article or television story.</p>

## Seatown simulation - role cards for classes

<p><b>Civil Defence Emergency Management Centre</b> The nerve centre of the whole operation. All directions will be sent from here, and all information will be returned to the centre so that the controller knows exactly what is going on.</p> <ul style="list-style-type: none"> <li>• controller, • several rescue teams</li> <li>• deputy controllers, • security officers</li> <li>• radio operators, • messengers</li> <li>• map plotters</li> </ul>	<p><b>Registration Centre</b> This is where the details of all people affected by the disaster are obtained. There needs to be a system to ensure Red Cross registration forms are completed for every victim and survivor.</p> <ul style="list-style-type: none"> <li>• manager, • clerks</li> <li>• receptionists, • messengers</li> </ul>
<p><b>First-Aid/Hospital</b> All casualties are treated and cared for here. Treatment is done by writing on the patient's health card. Staff must not leave the First-Aid Post/Hospital.</p> <ul style="list-style-type: none"> <li>• manager, • doctors</li> <li>• receptionists, • victim support</li> <li>• orderlies, • messengers</li> <li>• nurses</li> </ul>	<p><b>Police</b> The police will send an officer (with runner) to the Civil Defence Centre. The officer will work with the controller and instruct police through their own communications system to help with rescues, searches and traffic. Victims might come to the police station.</p> <ul style="list-style-type: none"> <li>• commander, • watch house (front desk)</li> <li>• communications centre,</li> <li>• police officers,</li> <li>• map plotters, • messengers</li> </ul>
<p><b>Fire</b> The fire service will send an officer (with runner) to the Civil Defence Centre. That officer will work with the controller, and instruct fire staff through their own communications system to help with fires, rescues and searches.</p> <ul style="list-style-type: none"> <li>• commander, • fire crews</li> <li>• communications centre, • messengers</li> <li>• map plotters</li> </ul>	<p><b>Ambulance</b> The ambulance team will send an officer (with runner) to the Civil Defence Centre. That officer will work with the controller, and instruct ambulance staff through their own communications system to help with first-aid and rescues.</p> <ul style="list-style-type: none"> <li>• commander, • ambulance crews</li> <li>• communications centre, • messengers</li> <li>• map plotters</li> </ul>
<p><b>Catering</b> The caterers are responsible for making sure that everyone (victims and rescuers) gets food and drink. They work out how much everyone can have, and then organise the supplies for distribution.</p> <ul style="list-style-type: none"> <li>• manager,</li> <li>• distributors,</li> <li>• cooks,</li> <li>• messengers</li> </ul>	<p><b>Media</b> The media are responsible for writing a newspaper article or filming a TV news report about the disaster. They should write notes and interview victims, rescuers and other organisations, and take photos or video footage. After the simulation, they will be given time to edit and publish an article or television story.</p> <ul style="list-style-type: none"> <li>• manager, • studio camera, • print journalists,</li> <li>• TV journalists, • TV presenters (school video camera), • photographers (school camera)</li> </ul>
<p><b>Local authority</b> The local authority is responsible for mass transport arrangements, construction equipment, and public health issues and so on. It will have a representative at the Civil Defence Centre.</p> <ul style="list-style-type: none"> <li>• mayor, • transport staff, • councillors,</li> <li>• building inspectors, • town clerk/city manager,</li> <li>• public health officers, • public works staff,</li> <li>• messengers</li> </ul>	<p><b>Government</b> The government can declare an emergency, release military or police to assist, assign resources such as helicopters, and speak to the media. They will want reports from the ground, and might want to make official visits.</p> <ul style="list-style-type: none"> <li>• Prime Minister, • ministry staff, • Minister of Civil Defence, • public relations staff, • Minister of Police,</li> <li>• military staff, • Minister of Defence, • messengers</li> </ul>

**Seatown simulation - health card examples<sup>3</sup>**

<p>I am unconscious. I have no other injuries.</p> <p><b>Treatment:</b></p>	<p>I have a broken arm.</p> <p><b>Treatment:</b></p>
<p>I have a broken leg. I cannot walk.</p> <p><b>Treatment:</b></p>	<p>I am hysterical. I have no other injuries.</p> <p><b>Treatment:</b></p>
<p>I have no injuries, but I am sick with worry because my children were at Seatown Kindergarten when the disaster struck.</p> <p><b>Treatment:</b></p>	<p>I have blood coming from a wound on my head. I am conscious and can walk.</p> <p><b>Treatment:</b></p>
<p>I am shocked, and look very pale and confused.</p> <p><b>Treatment:</b></p>	<p>I have lost my parents. I am very upset, but not hurt.</p> <p><b>Treatment:</b></p>

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<sup>3</sup> Link this with First Aid Manual

**Seatown simulation - message forms**

Message to: From: Message text:  (Reply on back if necessary)	Message to: From: Message text:  (Reply on back if necessary)
Message to: From: Message text:  (Reply on back if necessary)	Message to: From: Message text:  (Reply on back if necessary)
Message to: From: Message text:  (Reply on back if necessary)	Message to: From: Message text:  (Reply on back if necessary)
Message to: From: Message text:  (Reply on back if necessary)	Message to: From: Message text:  (Reply on back if necessary)