Simulating the worst to prepare the best: a study of humanitarian simulations and their benefits

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www.ecbproject.org/simulations
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Executive Summary

The idea for this collaborative paper came from the development of an Emergency Capacity Building (ECB) Project simulation case study. During preliminary research for this first case study it became apparent that simulations are being used widely across the humanitarian sector, in a variety of contexts and involving numerous stakeholders. It became clear that the industry is placing increasing value on simulations as valuable staff capacity, preparedness and relationship building exercises.

While the Inter-Agency Standing Committee (IASC) Sub Working Group on Preparedness is working on a set of agreed definitions and terms, there is currently little agreement on a common language amongst stakeholders to describe the process of simulation design and delivery. Section 2 of this case study attempts to address some of that confusion by defining some of the basic rules and language used. Section 2 also outlines the ‘what and why’ of simulations as well as describing some of the tools available to support their implementation.

There is a broad spectrum of approaches to simulations which can vary depending on context, participants and the objectives of the simulation. Section 3 uses six case studies to reveal that simulations can be tailored to the requirements of the client and delivered online, in the classroom, in the field, as a drill or as a table top exercise. It is also noted that simulations are flexible tools that can involve advanced technology or can involve hand written messages. And finally this section highlights that simulations are adaptable to any context and any group of stakeholders, which makes their application in the humanitarian sector increasingly attractive.

Section 3 also demonstrates that there are many reasons for holding simulations – from testing or practicing pre-negotiated protocols, contingency plans or policies, to enhancing communication amongst stakeholders; from improving coordination within a humanitarian response to building trust and relationships amongst disparate actors - so crucial in a real time humanitarian response.

The four key elements of a successful simulation design are drawn out in Section 4, focussing on the importance of trained and experienced facilitators taking a leading role in the design and delivery of the simulation, the significance of the contextualisation of simulation injects, the primary role that the simulation debrief plays in ensuring a successful exercise and the value of an action plan as a key simulation output. Four more learning points for implementing successful simulations are described in this section, focussing on the importance of choosing the right hazard for the context, ensuring the right stakeholders are involved, and that simulations are adequately planned and resourced.

This paper concludes in Section 5 with four key reflections and conclusions:

1. Simulations are increasingly recognized by NGOs, governments and the broader humanitarian community as highly effective and engaging ways of increasing preparedness and building capacity

2. Significant progress has been made in the humanitarian community in the way that simulations have been resourced, prioritized and used as a preparedness tool

3. The creation of the IASC simulation roster provides an excellent resource for the humanitarian community

4. Simulations provide excellent opportunities for relationship / trust building

See table 1 for a summary of the six simulations that are focussed on in this case study.
# Table 1: Summary of the six simulations

<table>
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</thead>
<tbody>
<tr>
<td><strong>Aim</strong></td>
<td>To improve individual skills</td>
<td>To test internal and external coordination capacity</td>
<td>To practice preparedness and build local capacity</td>
<td>To improve individual skills and organizational preparedness</td>
<td>To improve individual skills and foster a culture of community preparedness</td>
<td>To improve individual skills</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Skill drills and functional</td>
<td>Table top</td>
<td>Functional</td>
<td>Functional</td>
<td>Functional</td>
<td>Functional, skill drills and table top</td>
</tr>
<tr>
<td><strong>Participants</strong></td>
<td>Typically 40 UN / INGO staff</td>
<td>UN, government, INGO, Red Cross, Private sector staff</td>
<td>Typically 100+ government, INGO and UN staff</td>
<td>Typically 30 – 40 INGO, Red Cross, government staff</td>
<td>About 80 INGO staff and community members</td>
<td>Typically 100 graduate and professional students as well as NGO / UN staff</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>Sweden, Germany or Norway</td>
<td>Madagascar</td>
<td>Philippines</td>
<td>Bangladesh, Bolivia, Kenya, Uganda, Indonesia, Niger</td>
<td>Philippines</td>
<td>Massachusetts, USA</td>
</tr>
<tr>
<td><strong>Scenario</strong></td>
<td>Various</td>
<td>Cyclone and floods</td>
<td>Cyclones</td>
<td>Various</td>
<td>Cyclone</td>
<td>Various</td>
</tr>
<tr>
<td><strong>Injects</strong></td>
<td>Multi-media, video, electronic, written, verbal</td>
<td>Multi-media, video, electronic, written, verbal</td>
<td>Multi-media, video, electronic, written, verbal</td>
<td>Multi-media, electronic, written, verbal</td>
<td>Written and verbal</td>
<td>Multi-media, video, electronic, written, verbal</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>7 – 10 days</td>
<td>1.5 days</td>
<td>1.5 days</td>
<td>1.5 days</td>
<td>1.5 days</td>
<td>2.5 days</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td>Staff prepared for numerous outcomes likely to be faced while on deployment</td>
<td>Revision of national contingency plan</td>
<td>Testing of operational procedures, contingency plans and coordination</td>
<td>Better prepared staff and improved contingency plans</td>
<td>Staff leadership development and increased community awareness of disaster risks</td>
<td>Participants prepared for actual response phase</td>
</tr>
</tbody>
</table>
1. Introduction

Simulations are used in many walks of life to test established protocols and individual skills in a safe environment, with the primary objective of improving preparedness for when a real disaster, crisis or unforeseen event strikes. Simulations are used extensively in the humanitarian sector for this very purpose and can be a powerful tool to achieve five key objectives:

- Identify the skills of individual staff members that need to be strengthened before an actual disaster occurs
- Develop and practice departmental level preparedness and contingency plans
- Develop and practice organizational preparedness and relationships
- Build trust in relationships and networks
- Build organizational capacity

The idea for this case study came during the compilation of the ECB Project Simulation Case Study (Playing with reality; the ECB experience using emergency simulations to improve humanitarian response). The background research for this case study revealed that the types of simulations being implemented, and the drivers that dictate their demand, vary significantly depending on the context, the event being simulated and the objective of the simulation. The authors of the first case study saw an opportunity to pull together experience from the following six major actors involved in implementing simulations in the humanitarian sector:

- The United Nations High Commissioner for Refugees (UNHCR) simulation and training
- The national Government of Madagascar, facilitated by the Inter Agency Standing Committee1 (IASC)
- All levels of the Government of the Philippines, facilitated by the World Food Programme (WFP)
- International Non-Governmental Organisation (INGO) member agencies of the Emergency Capacity Building (ECB) Project
- A local community in the Philippines supported by World Vision
- An academic organisation (Harvard Humanitarian Initiative)

See table 1 for a summary of the six simulations.

Three different types of simulation methodology are outlined in the process – the table top simulation, functional simulations and skills drills. Some of the considerations behind the running of each simulation are set out and learning points and conclusions are drawn, with a particular focus on areas common to all simulations in the case studies.

This collaborative case study, developed by actors closely involved in the simulations themselves, has been developed as a broad introduction to the different types of simulations that exist and the supporting resources that are available. It is a resource to help managers and human resource staff within organisations involved in training and preparing staff to respond to disasters, to understand how each simulation can be used to test specific objectives. It also highlights some of the considerations for deploying each simulation.

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1 The Inter-Agency Standing Committee (IASC) is the one forum for coordination, policy development and decision-making that brings together all the major UN and non-UN humanitarian partners. The IASC was established in June 1992; United Nations General Assembly Resolution 48/57 affirmed its role as the primary mechanism for inter-agency coordination of humanitarian assistance. The IASC Working Group (comprising the Emergency Directors of these same organisations) reports to the Principals. Underneath the Working Group are a number of Sub-Working Groups, tasked with developing tools and guidelines to facilitate humanitarian response. One of these, the Sub-Working Group on Preparedness, has taken on the promotion of simulation exercises as one of its key functions.
2. What is a simulation and why use them?

2.1. What is a simulation?

A simulation is a multi-dimensional tool used to replicate an emergency situation in a condensed timeframe and controlled environment. Simulations in the humanitarian sector are used at all levels of response training, ranging from large international organizations, International Non-Governmental Organisations (INGOs) and national governments to municipal and local level communities.

During a simulation, which can last from several hours to several days, participants either play roles of key organizations or agencies that are involved in a response to an emergency, such as an NGO, UN agency, or a government ministry. The participant may also simply play the role he or she would normally assume during an emergency response.

Emergency scenarios are played out during the simulation and evolve in a realistic manner using a series of direct or indirect ‘injects’ that replicate key aspects of an emergency response. Injects can include messages about a crisis that warrant a new response, media reports, operational questions, hostage situations, and other events likely to emerge during a humanitarian crisis. Teams must respond to these ‘injects’ as they would in a real life situation.

Immediately following a simulation, a “decompression” session is held, hosted by the simulation facilitator. This is critical to allow people who have engaged in the simulation to articulate their concerns, their frustrations or any other emotion they feel like expressing. Decompression is necessary for people to come out of their simulation roles and reflect on their behaviour (and that of others) and the events of the simulation.

More in depth, structured and facilitated post simulation “debrief” is then held the following day to allow simulation participants time to reflect upon the experience. The simulation debrief is hosted by an experienced facilitator who uses the opportunity to help participants capture lessons learned and to plan for the next steps after the simulation. The simulation facilitator will also use the debrief as an opportunity to help participants identify and address capacity gaps.

A “direct inject” is a stimulus or catalyst provided by the simulation administrator to provoke a response or reaction from simulation participants. Direct injects can come from e-mails, telephone calls, situation reports, disaster data, role players and actors. An “indirect inject” is a stimulus as a result of participants following their preparedness plans, contingency plans or standard operating procedures.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>Skills drill</td>
<td>A basic exercise which is used to test a particular skill or process i.e. evacuation, radio procedures, Global Positioning System (GPS) usage. Role play can be used.</td>
</tr>
<tr>
<td>Table top</td>
<td>A discussion based exercise in which participants may either view the situation from their own perspective or consider the perspective of others.</td>
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<tr>
<td>Functional</td>
<td>A simulation in which participants fulfill the role they normally would in a response. Functional simulations enable the practice of individuals, teams or processes in a holistic systems approach.</td>
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</table>
The next steps can include drafting or updating a contingency plan or identifying skills sets that belong to individual staff members or institutions that need to be strengthened.

The decompression and debriefing sessions are the most important parts of a simulation and need to be included in any model of a simulation in order to make it an effective learning experience for participants and facilitators. Essentially, there are three types of simulation, which can be used in combination with each other, or as a stand-alone event – skills drills, table tops and functional simulations (see box 1).

The simulation is driven by a ‘lead facilitator’, usually somebody experienced in running simulations. The lead facilitator may be supported by a ‘simulation facilitation team’. This team may include ‘observers’ (whose job it is to observe interactions and decisions in real time, in order to feed back to the simulation facilitation team) and ‘actors’ or ‘role players’, whose role it is to drive the simulation injects and timeline and make the simulation realistic.

The simulation ‘timeline’ is the pre-agreed (usually by the lead facilitator) description of how the simulation will unravel with key milestones, events and deadlines. The simulation timeline will outline the ‘scenario’. The scenario is the hazard or event to which participants will react. There can be more than one major hazard or event in a simulation, and in some cases the simulation lead facilitator can add impromptu injects to deliberately confuse or detract participants from the main event. This could be done to help participants as part of a prioritisation or stress management exercise.

2.2 Why use simulations?

Between 2001 and 2010 the world was struck by an average of 384 natural disasters per annum. With concerns about increasing frequency\(^3\) of disasters and growing impact on human life and economic systems\(^4\), being well prepared for an emergency response in a timely and effective manner is critical for reducing the impact of the disaster, saving lives, and ensuring a smoother recovery. From an operational standpoint, effective preparedness can increase staff ability to respond to a disaster and build stronger communications between emergency response organizations.

Simulations can create a greater degree of confidence in people and systems when used as a preparedness measure before disaster strikes. Furthermore, if established systems during a simulated response are erratic and chaotic or if a specific response strategy fails during a simulation, a revised contingency plan can be adapted to fill the shortcomings exposed. It is for these reasons that disaster simulations are increasingly being deployed across levels of government and non-government actors to ensure an effective response.

Perhaps most importantly simulations permit humanitarian actors, organisations and governments to make errors in a safe, controlled environment rather than when actual lives are at stake.

The Hyogo Framework for Action 2005-2015 provides governments with steps to be taken over a ten-year period to build the resilience of nations and communities to disasters. Priority Action Five of the Hyogo Framework specifically calls for strengthening, “disaster preparedness for effective response at all levels.”\(^5\)

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Simulations are one of the methods used by governments and other relevant stakeholders to work towards achieving the preparedness goal at various levels of government and national societies. In section 3, the case studies provide six examples of how the United Nations, national governments, INGOs, academic institutions and local communities are using simulations to prepare for the challenges of the future.

### 2.3 What resources are available to help with implementing simulations?

There are a number of guides available for staff and managers interested in running simulations. The ECB Project developed the ECB Emergency Simulations Administrators’ Guide which is available on the ECB Project website in English and Spanish.

The IASC Sub Working Group on Preparedness uses the Inter Agency Emergency Simulation (IAES) Guide. The IAES Guide is aimed at UN Country teams, but could be used by governments. In order to provide a tool for governments to use, the IAES Guide has been adapted and modified into the GES (Government Emergency Simulation) Guide which was published in May 2012.

The IASC has also endeavoured to bring together knowledge, practice and tools about simulations in one open website dedicated to humanitarian preparedness, known as the Preparedness Tracker (http://www.preparednesstracker.org).

This site provides a global map with background on past simulations run in each country, a calendar of upcoming events, guidelines on how to run simulations, a roster of trained simulation facilitators as well as scripts and injects from functional simulations based on different scenarios, among other services.

Furthermore, following the simulation detailed as case study 3.3 (p.12) there is now a local government simulation guide being piloted by the Philippine National Disaster Management Agency with the assistance of the World Food Programme (WFP).
3. Case Studies: six simulations, with six different objectives

Below, six different simulations, implemented by national governments, the United Nations, International Non-Governmental Organisations (through the ECB Project), local communities and an academic organisation, each with their own objectives, will be explored.

3.1 Case-Study: UNHCR

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<th>CASE STUDY: UNHCR</th>
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<tr>
<td><strong>Type</strong></td>
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<td><strong>Methods</strong></td>
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<td><strong>Objective</strong></td>
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<tr>
<td><strong>Duration</strong></td>
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<td><strong>Outcome</strong></td>
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<td><strong>Targeted Participants</strong></td>
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At the international level, organizations like the United Nations have developed highly sophisticated joint trainings and simulations, lasting up to ten days, to build the emergency response capacity of its more senior staff.

In particular, the United Nations High Commissioner for Refugees (UNHCR) has developed a complex joint exercise known as WEM, or Workshop on Emergency Management, which it offers to its staff several times annually. UNHCR sends select staff who are either already part of UNHCR’s Emergency Response Team (ERT) roster or those who need to complete this training and simulation in order to be placed on the ERT roster.

These simulations normally last from seven to ten days and are held in either Sweden, Germany, or Norway, although some smaller scale simulations have also been undertaken in regional offices with the aim of decentralizing this simulation. The UNHCR-WEM simulations in Sweden are facilitated by the Swedish Civil Contingencies Agency (MSB) and are held at the MSB training centre.

The simulation itself is designed to mimic as closely as possible an actual emergency deployment that UNHCR ERT members could face. Around forty participants are actively immersed in the simulation around the clock and even reside in tents typically used by field staff during actual emergencies to replicate working side-by-side with colleagues while also living with them in close quarters.

The WEM simulation takes place in three phases and evolves during the week. It begins with the deployment and adjustment to the emergency phase, followed by a performance response during the height of the emergency, and concludes with techniques for hand-over to staff deployed after the initial stages of an emergency response, which are generally longer term staff.
As part of pre-simulation training, participants are trained on tools they are likely to use in the field including GPS technology, 4x4 driving techniques and advanced First Aid. During the simulation these newly learned tools and skills are tested during skill drills within the overall framework of a functional simulation.

Moreover, the simulation itself is dynamic and is held both indoors and outdoors depending on the particular tool or skill being tested. Once participants have successfully completed their weeklong training, they are placed on the ERT deployment roster for up to nine months and can be deployed within seventy-two hours should they be needed.

3.2 Case study: the national Government of Madagascar

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<tr>
<th>CASE STUDY: National Government of Madagascar</th>
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<tbody>
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<td><strong>Type</strong></td>
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<td><strong>Methods</strong></td>
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<td><strong>Objective</strong></td>
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<td><strong>Duration</strong></td>
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<td><strong>Outcome</strong></td>
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<td><strong>Targeted Participants</strong></td>
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When disasters strike, the response by the national government ministries of the country affected is critical. For a multitude of reasons, simulations provide governments with a way to test their contingency plans and ministry coordination, should a disaster strike. They also provide opportunities to improve coordination with partners while strengthening preparedness.

The United Nations Inter-Agency Emergency Simulation (IAES) Guide was designed by the Inter-Agency Standing Committee (IASC) to be an easily replicable model that can be used by national governments to design and carryout a simple, yet effective, table top simulation. The model maximizes the time available allowing governments to adapt the simulation to best meet their needs and their overall objectives.

In the summer of 2011, the Government of Madagascar approached the IASC with the objective of using their simulation tool to test the emergency response preparedness of the Malagasy government, and most importantly its capacity to coordinate internally with local NGOs and the IASC agencies operating in the country.

Within the framework of the Humanitarian Reform process, the Bureau National de Gestion des Risques et des Catastrophes (BNGRC) used the cluster approach which was introduced in 2007 and was involved with preparedness measures, including providing support for pandemic simulations. However, the ousting of the President in 2009 saw the appointment of new administrators unfamiliar with preparedness and response. To address this, partners provided support to the institution to rebuild new capacities, which they accomplished within two years.
The Malagasy government appealed to the IASC to support the simulation costs by providing technical expertise to support the process. While the Malagasy government was the lead on the simulation, several UN personnel experienced in simulations and familiar with the IAES guidebook were brought in to facilitate, monitor, fill in gaps, and help troubleshoot the simulation event.

Key participants from the government included the Head of the BNGRC (National Disaster Management Authority), his Deputy, the Operations Director, Civil Protection and the Managers for two regions of Madagascar. Additionally, representatives from the Ministry of Health, the Ministry of Agriculture, the Ministry of Public Works, the Fire Brigade and the Meteorological Department also took part in the simulation. This table top simulation would complement the full scale exercise carried out every year in different regions of the country.

This 1 ½ day event required logistics and technical preparations for two to three months prior to the commencement of the simulation. Once the advance preparations were made, facilitators met with several key participants, including BNGRC’s officials, the day before the simulation to confirm that the proposed disaster, a cyclone striking the eastern lowlands coupled with floods and a bubonic plague outbreak, would be the most effective way to test the national response capacity. This scenario was based on the existing national contingency plan and would test the rapid response matrix as outlined.

Participants from the government, UN agencies, NGOs and the Malagasy Red Cross, were placed at the BNGRC in two different rooms, and facilitators were located in a third room. Representatives from two other regions of Madagascar were located in their own building in Antananarivo.

During the course of the first day of the simulation, injects to the fictional scenario were sent through a specific email account created for the simulation. To prevent accidental forward of fictitious disaster information to people outside of the simulation, all injects stipulated SIMULATION in their subject line. This is a critical consideration when running simulations. Email accounts set up for express use during the simulation can add layers of realism and make it easier for the facilitators to conduct the debrief session when communications and timelines are documented and recorded, but this has to be done sensitively and participants have to be clear on which email accounts to use during the simulation.

In addition to the risk of fictitious information being released into the wider sphere and causing unnecessary panic, the use of email can also bring technical challenges, especially in contexts with poor infrastructure and connectivity. Facilitators should be prepared for this challenge. For example during this particular simulation, technical difficulties required injects to be delivered by hand to participants from time to time. This situation resulted from the system being saturated by an unfiltered mailing list and low internet connectivity.

The day after the simulation, a half-day debriefing allowed participants to discuss key lessons learned and weaknesses in their response to the cyclone and bubonic plague outbreak. For instance, participants cited that prolonged meetings between the different organizations and ministries resulted in delayed response times; also they found a need to better incorporate the army, police, and other first responders into their planning. These lessons learned, along with other recommendations, were compiled in a report and later incorporated into the revised contingency plan for Madagascar.
CASE STUDY: All levels of Government in the Philippines

<table>
<thead>
<tr>
<th>Type</th>
<th>Functional Simulation</th>
</tr>
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<tbody>
<tr>
<td>Methods</td>
<td>Government focused (Inter Agency &amp; Multiple level). WFP Readiness Initiative facilitated</td>
</tr>
<tr>
<td>Objective</td>
<td>To practice preparedness and build national and local capacity</td>
</tr>
<tr>
<td>Duration</td>
<td>1 ½ days</td>
</tr>
<tr>
<td>Outcome</td>
<td>The simulation practiced communication, coordination, information management, contingency planning and operational procedures at all levels of government and within the humanitarian community.</td>
</tr>
<tr>
<td>Targeted participants</td>
<td>National, regional, provincial and municipal government staff, UN country team and NGOs</td>
</tr>
</tbody>
</table>

This was a simulation in the Philippines in January 2012 that practiced preparedness, response and recovery across four different government levels and within the humanitarian community. For this simulation, national government, along with regional, provincial, and municipal government officials collaborated to understand how all of the different government levels and the humanitarian community would respond to a real emergency, a problem faced frequently by this disaster-prone country.

A specialist team from the World Food Programme’s (WFP’s) Readiness Initiative funded, facilitated and worked closely with the UN Country Team, the Filipino National Disaster Risk Reduction & Management Council (NDRRMC) and the Office of Civil Defence (OCD), to design and plan for this complex, intra-government simulation.

Using an expanded and modified IASC IAES guidebook type approach, this joint team which combined expert simulation facilitators with detailed local knowledge, developed a simulation that in reality lasted only one day, but that simulated the preparedness, response and recovery stages of a disaster. The objectives of the simulation were to practice communications, coordination, information management, contingency planning, and operational procedures at all levels of government and with the humanitarian community during an emergency. The simulation was designed to focus on two cyclones striking the large, highly populated island of Luzon, five days apart; in order to do this the simulation team utilised a ‘time-jump’ half way through the simulation.

Over 100 individuals from the various levels of government, the UN, and NGOs were situated in one large conference room where they participated in this fictional emergency scenario that had more than 300 injects. Given the complexity and scale of this particular simulation, with so many moving parts and actors involved, a large team of ten facilitators and dedicated administrative support was needed to help run this event. With every new inject, all layers of government needed to respond, thus the simulation was constantly evolving, testing more response structures and the linkages between different response stakeholders.

The morning after the daylong simulation, a participant focused debriefing session was facilitated using a number of innovative facilitation techniques (including ‘World Café’ and
Four Corners’ techniques). By the end of the debriefing, all four levels of government and the UN Country Team had drafted at least five key improvement actions for all of the focus areas that were practiced during the simulation. In the week after the simulation, the UN Humanitarian Coordinator, the SRSG for Disaster Risk Reduction and the Under Secretary for Disaster Management were briefed on the simulation, and the Simulation Report/Action Plan was handed over to the UN Country Team and the DRRMC/OCD.6

The simulation was viewed as highly successful, to the extent that the NDRRMC/OCD requested support to use this approach at the local government unit level (regional, provincial and municipal) where the bulk of response work takes place. To this end WFP began facilitating a series of simulation training workshops for local government staff in March 2013 and will mentor a number of government run simulations in the coming months, all with a view to mainstreaming sustainable simulation capability within the NDRRMC/OCD.

3.4 Case Study: International Non-governmental Organizations and the ECB Project

<table>
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<tr>
<th>CASE STUDY: International NGOs and the ECB Project</th>
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<tbody>
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<td><strong>Type</strong></td>
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<tr>
<td><strong>Methods</strong></td>
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<tr>
<td><strong>Objective</strong></td>
</tr>
<tr>
<td><strong>Duration</strong></td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
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<tr>
<td><strong>Targeted Participants</strong></td>
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</table>

By August 2013, the ECB Project will have implemented or supported at least 16 multi-agency simulations in ECB consortium countries, providing national responders with an excellent opportunity to practice in advance of an actual disaster striking.

Each ECB Project simulation has used the ECB Project Simulation Administrators’ Guide. This guide provides a step-by-step process to design and implement a simulation. This includes guidelines on running single agency simulations (simulation #1) and joint agency simulations (simulation #2).

To date all ECB Project simulations have been implemented using simulation #2, as the role of the simulation in the ECB Project is to provide an opportunity to improve inter-organisational preparedness, as well as an opportunity to improve skills of individual staff members. The guide provides all the necessary materials and templates that can be adapted to any particular context.

The guide is similar to the UN-IAES guidebook as described above, and was actually developed by the same consultant. However, there are a few key differences that will be outlined briefly later in this case study.

Most of the simulations run by the ECB Project involve both international and national NGOs, UN agencies and in some cases government officials. The key objective of the ECB simulations is to build capacity of national level responders. Typical attendance figures range from 30 to 40 participants, while simulation facilitation and support teams typically range from 5 – 10 members depending on the complexity of the simulation. Planning for the simulation usually starts 2 – 3 months before the event.

The ECB simulations are multi-agency, and are facilitated by staff experienced in running such events from global, regional and national levels. Where possible, national staff work alongside international facilitators in order to assemble a cadre of national staff experienced in facilitating simulations. A strong relationship with the Inter-Agency Standing Committee Sub Working Group on Preparedness also enabled the ECB Project to utilise a roster of experienced and trained simulation facilitators.

The ECB Project simulation has been used to test both individual skills and also organisational preparedness plans. In Bangladesh in September 2011 the ECB Project simulation tested the Bangladesh Emergency Response Protocols (ERP), a set of protocols that had been developed by the Bangladesh ECB Project consortium to dictate how ECB Project agencies and consortium members would coordinate in an emergency. The simulation was a critical opportunity to test some of the assumptions in the ERP.

During the simulation debrief, key decision makers, including Country Directors, decided that the ERP was too ambitious for the ECB Project consortium and made specific recommendations to reduce the scale and scope of the ERP to a manageable level. Rather than weaken the ERP, the simulation debrief had provided an opportunity for ECB Project agencies to tighten up the ERP and agree upon niche and targeted areas of response together in the future.

The ECB Project simulation held in Indonesia in January 2012 attempted to address two objectives – providing both an opportunity for staff who had recently completed the 9 month Consortium of British Humanitarian Agencies (CBHA) national staff development programme (or the “Context” Programme) to actually apply the new skills and behaviours they had gleaned; and also to test the recently developed Disaster Response Engagement Protocols (DREP), a set of pre-agreed decisions as to how the ECB Project consortium would work together in future emergencies in Indonesia (similar to the ERP in Bangladesh).

Despite the complexity of this simulation it was very successful. The debrief identified key actions in relation to the further development (and socialisation) of the DREP and provided an excellent opportunity for individuals to apply some of their learning from the Context Programme, with participants reporting that it gave them an opportunity to practice stress management tactics whilst under pressure.

More recently, over 90% of simulation participants in a round of simulations at the end of the replication of the CBHA Context Programme (called the Expanding National Humanitarian Ability Project – ENHAnce project) reported that the simulations were either “helpful” or “very helpful” in providing an opportunity to apply new skills, learning and behaviours in a safe space.

The cost of running an ECB simulation has varied greatly depending on the context and timeframe of the simulation and on the availability of national / regional resources, particularly facilitators.
3.5 Case study: World Vision in the Philippines

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Community level simulations target populations exposed to disaster risk. This simulation had a dual purpose: by having community members design, implement and participate in the simulation, it provided people with the opportunity to collectively make sense of disaster risk and practice life-saving measures together. Given that family and community members are often the first responders after a disaster, this is a crucial stakeholder group to work with.

The second purpose was to provide World Vision’s emergency communications staff with the opportunity to test their systems, procedures and tools for working with crisis-affected populations. Through this particular simulation design both groups surmised that grassroots simulations have the potential to build resilience through community learning, risk assessment, action-planning and trust building.

World Vision Philippines hosted the event, seeking to involve 18 members of its international and regional surge capacity team in an authentic experience whilst creating an opportunity for 50 volunteer community members to develop and examine their overall community preparedness measures. The partnership resulted in a functional simulation scenario in which a cyclone followed by a large sea surge was imagined as having just struck the town.

World Vision started the design process with a community information session. Having recently been exposed to a disaster, many community members, particularly mothers, turned out to learn how they could be part of the simulation. The volunteers agreed to be role players and collectively chose the likeliest hazard. They then briefed World Vision on the nature of the challenges the community anticipated they would face in such a scenario.

Before starting the simulation, the local police and other key authorities were informed of the aims and scope of the training. This was a critical step to take in order to avoid the potential for misunderstanding or panic due to the extraordinary but realistic nature of some of the injects used in the scenario.

The simulation was structured though the creation of four different stations spaced approximately ten minutes drive apart where World Vision communications staff were faced with a series of injects administered by community members and World Vision facilitators.

At one station aid workers arrived at the ‘disaster scene’ to begin their work but were confronted with psychosocial pressure when one of the role players washed up on the
shore as a ‘fatality’, with his wife, also a role player, weeping hysterically over him. During the debriefing this station provided an entry point for talking about burnout, post-traumatic stress disorder and managing personal levels of stress.

At a second station, the aid workers faced a vehicle hijacking and needed to negotiate their way out; a third station began with the distribution of food which soon turned into an angry mob scene; the fourth and final station hosted a child friendly space where child adoption and child protection issues were the main focus.

The day after the simulation, the facilitators led a half-day debriefing session. Through tools such as Most Significant Change (MSC) and other facilitation methods, World Vision communications specialists and community members were able to exchange knowledge with one another.

On the one hand, communicators learned about leadership and crises management whilst practicing information collection and management tasks in a rapidly evolving situation; on the other hand, community members gained a new perspective on risk reduction measures that needed to be taken in order to be better prepared. The exercise also helped to build trust and relationships between the two stakeholder groups.

3.6 Case study: Harvard Humanitarian Initiative

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The Harvard Humanitarian Initiative (HHI) simulation is housed within Harvard University. This is a unique modular set up which allows for the simulation to be part of a broader learning process which includes novel learning approaches with a specific behavioural focus that prioritise the relational aspects of coordination, trust building and advanced technology inputs. These are key skills, competencies and knowledge to apply during a humanitarian response.

The simulation is designed with low tech inputs, and offline communications which are reflective of field-based realities. The main goal of the simulation is to provide an opportunity for participants to test and apply decision making skills, stress management skills, adherence to international standards and teamwork skills. Within the design there is a significant component of state-of-the-art humanitarian technology.

The HHI simulation is used in conjunction with university coursework to educate a cadre of humanitarian professionals. As well as building the capacity of humanitarian aid workers the simulations also provide a degree of exposure to the challenges and opportunities presented by the application of new technological approaches in field realities.
For the last ten years, the Harvard Humanitarian Initiative (HHI), along with the Feinstein International Center of Tufts University, has offered two intensive humanitarian response courses for both its graduate students and professional aid workers. One course is a graduate-level course at Harvard, the other is a professional continuing education course open to anyone in the world. Both courses use the same simulation, which is a weekend long event in the woods around Boston, Massachusetts in the United States of America.

Furthermore, since this program is self-funded, it is able to admit trainees from outside the university such as NGO workers, government officials, and military personnel. This joint simulation is designed to prepare future humanitarian workers for the experiences they will likely encounter during an emergency response. The experience levels of the students participating in this simulation generally ranges from junior-level humanitarian workers with limited or no emergency response experience, to mid-level career professionals and medical experts. The typical size of the group of students involved in this training is generally 100 individuals.

The simulation is generally supported by a large team of administrators, facilitators and volunteers. This design of simulation blends academia with practical knowledge to form a forward thinking simulation that offers a hint at what upcoming tools and response methods might be useful to humanitarians in the coming years.

Participants in the simulation are required to take either a background and theories course that is offered in the two weeks leading up to the weekend simulation (professional development students) or a semester long university course (graduate students) that begins in January.

During this time, participants are prepared for the different activities they will encounter. The actual simulation lasts from Friday until Sunday afternoon and includes multiple scenarios testing what participants have learned in the classroom and will likely need to know when in the field in a real-life emergency situation. Students are divided into various teams and assigned roles of logisticians, operations and technical leads for various NGOs, and other actors, likely to be present during an emergency response.

Activities in the simulation include rapid assessment, shelter and site planning, security awareness, programming and budgeting, NGO coordination, media skills, first aid, rights-based and ethical decision-making, teamwork and leadership. The humanitarian technology component of the simulation includes training on GPS units and GIS mapping, digital data collection, innovative crowd-sourcing and SMS technologies, and satellite communications.

By incorporating traditional and emerging humanitarian technologies into its simulations, HHI and its students are able to field test these products for operational shortcomings and suitability of a particular technology in a certain situation. In addition by involving specialist groups that support the emergent technology, and specialists who may be new to the humanitarian sector, these simulations present an opportunity to build relationships, trust and networks with these new stakeholders.

The critical learning aspect from these simulations comes during the debriefing session after the conclusion of the simulation.
4. Comparisons and Learning

This case study has provided a brief look at ways emergency simulations are being used in the humanitarian field to better prepare for emergencies, improve responses and coordination, and build organisational, staff and community capacity.

4.1 The four common elements of a successful simulation

Simulations included in this case study have all followed a prescribed format, regardless of the level of government or organization involved. The four critical structural elements in each of the simulations are:

1. **Trained facilitators** helping to design a context-specific simulation for a wide-range of participants who have a key role to play during an emergency response.
2. **Injects** to help move the fictional scenario along and to test different components of planning, preparation, and coordination.
3. A **debriefing session** held after completing the simulation where the key lessons from the event are captured.
4. The development of an **action plan**, (individual, organisational or institutional) that outlines how the capacity or skills gaps identified during the simulation and debrief, will be addressed. In addition identifies areas within contingency or preparedness plans that need to be improved or updated.

The research for this case study concludes that in a simulation structure, these four elements must be included to ensure an effective simulation. Beyond these core elements, the duration, size, nature of the injects, and overall design of the simulation can vary greatly.

All of these simulations also share a commonality in that they are part of a broader learning process. It is clear that to have full impact a simulation should not be a standalone event. Two of the simulations documented here place the actual simulation as part of a broader learning process - the Harvard Humanitarian Initiative simulation blends theory and practice, placing the simulation at the end of a learning process, while the ECB simulations have tried to link the simulations to staff capacity training courses, as a means for participants to apply some of the skills they would have gained and developed during the training courses.

The government simulations in the Philippines and Madagascar were related to an ongoing disaster response project; the result of a particular threat or part of a broader capacity building activity. Indeed in the former, the national level simulation led to the initiation of a project to use and mainstream simulations at the local level.

“... it always surprises me how participants forget they are in a Simulation and respond in the same way as if they were in a sudden onset emergency. They learn about the challenges their colleagues face both between departments and the communications barriers that exist between NGOs, governments and UN agencies. Participants often see things in a different way and from a different perspective during the debrief sessions, which can be tense at times...”

Richard Jacquot, ECB Project Simulations lead facilitator at Mercy Corps
All of the simulations target individuals with some level of familiarity with the components being tested during the simulation. Participants in these simulations take away valuable knowledge that can be highly beneficial for positions in the future in which they may be called upon to respond during an actual emergency.

As part of regional United Nations Emergency Preparedness efforts, a number of regions have conducted simulation facilitation training for Emergency Focal points both within the government and the broader humanitarian community. The aim is for these individuals to then be able to conduct simulations in their own country at both the national and sub-national level. Indeed, within the World Food Programme, it is intended that the ability to plan and run a simulation will be mainstreamed into the Emergency Preparedness and Response Officers and that this capability will be developed within National Disaster Management Agencies. A similar effort has taken place within the ECB Project simulations, with international facilitators working alongside national counterparts to create and build national level simulation implementation capacity.

Interestingly, while the community level simulation in the Philippines targeted community members who were largely unfamiliar with humanitarian jargon and methods of operation, the skills learned from that simulation also provided the simulation participants with crucial preparedness and risk assessment knowledge. In this sense, the impact of the WEM, HHI, and community simulations each have an interesting commonality in regards to individual learning.

Tailored guidance also exists for facilitators and managers wanting to run simulations. The IAES Guide and ECB Project designed simulation specific tools to provide guidance and templates for the simulation facilitators, which include help on developing the simulation timeline (i.e. the key milestones and events in the simulation) and guidance on how to conduct the debrief session. Simulations 3.1, 3.2 and 3.3 all benefitted from this.

While developed by the same consultant, the key difference between the IAES Guide and the ECB Project simulations is that the IAES simulations are concerned with national and global operational and strategic issues, while ECB Project simulations have been concerned with intra- and inter-agency tactical issues, primarily at the national level.

In addition, participants of an IAES simulation are generally host governments, UN agencies, donors, INGOs, local NGOs (LNGOs) and private sector senior representatives, whereas participants in an ECB Project simulation have generally included agency country managers, as well as operation and programme staff from INGOs and other domestic humanitarian actors. Also, IAES simulations focus on national systems and procedures interfacing with their regional and global components while ECB Project simulations engage agencies’ systems and procedures with a heavy focus on operational and service delivery (even though the ECB Project multi-agency simulation #2 engages the operational sides of national government, UN agencies and other humanitarian actors).
In addition the general designs of the simulations are similar. For instance, both types of simulation need to be specifically adapted to the systems, tools and/or procedures tested. However, while the ECB Project simulations’ duration range from one to two days, the IAES simulations routinely require two days.

Lastly, all of the simulations have required significant administrative, facilitation and support teams to actually deliver the events. For example, the ECB Project simulations typically include teams of up to 10 people (including role players, administrators, facilitators and volunteers) for a simulation with 30 – 40 participants.

4.2 What we have learnt about implementing successful simulations

Understanding the purpose and intended outcomes of conducting a simulation are critical components worth spending time reflecting upon before designing and commencing a simulation. Addressing important areas to focus time on during a simulation, such as a coordination of clusters, clarifying roles and responsibilities of responding personnel and identifying weaknesses in current contingency plans are just some of the potential reasons for developing a simulation that fits the unique context. Once the motivation for holding a simulation is clear, stakeholders should be informed so that they understand the possible benefits of joining the simulation. The following 4 key general points can be determined from the case studies in this paper.

1. Choose the right simulation approach for the context

It is clear that there are different approaches for different contexts and it is important to choose the right one. When hosting joint agency simulations it is critical to discuss the needs of the participants to ensure that all assumptions are clarified and that the simulation is tailored to their needs. When working with community groups, their perspective should primarily be taken into consideration as they remain the first responders in any given crisis. In this context, extra effort has to go into communicating the purpose and objectives of the simulation and to ensure that all involved, and those that aren’t, are aware that a simulation is taking place. The ECB Project simulations, for example, require participants to submit a training needs assessment prior to the simulation which helps the designers tailor the simulation to the needs of the participants.

2. Including the right people in the simulation is a key for success

The other common finding across the range of simulations is that generally simulations are most successful when they are inclusive of all actors who would normally respond to a disaster. Not only does this bring added realism, but as simulations are as much about improving disaster response as they are about building and testing relationships, they can be seen as a critical tool in creating solid networks of people across agencies, departments and organizations. Those who have been involved in disaster response will confirm that it is better to develop relationships between disasters and in a ‘safe space’ such as a simulation, rather than in the heat of a response.

This does of course depend on the objective that the simulation is trying to test. Smaller more discrete groups of people can be involved in simulations that are designed to test specific elements of a response or ways of working between individual agency departments or work units. In this context it is better to have the right people to test specific components or elements of a plan, than a broader representation. Either way it is critical that a robust analysis of potential participants is conducted in relation to the objective of the simulation before invitations are sent.
3. Proper planning in advance of a simulation is critical

Planning for a simulation should take several months if the objectives are to be met and the right people are to be involved. As seen in the simulation examples above, planning is typically started two to three months in advance. This provides enough time to agree on the objectives of the simulation, source facilitators, book venues, select and invite participants and undertake the training needs assessment. This also provides time for the facilitation team to research the country context and adapt the simulation accordingly.

4. Good simulations need time, commitment and resources

Simulations, when carried out properly take time, commitment and resources. Venue costs, equipment, accommodation fees, facilitator expenses and travel costs all add up. However, strong facilitators can take participants through incredibly realistic experiences and if carried out well, the debrief can draw out profound learning that helps both individuals in their personal development, and organizations and national institutions in refining policy and procedure as well as contingency plans. Attention needs to be paid to resourcing the simulation accordingly, including strong support teams of volunteers, role players, simulation facilitators and administrators. Typically there can be a ratio of 5 - 10 participants to 1 support team member. As a preparedness tool, the simulation is a strong example of adult-centered experiential learning and needs to be resourced accordingly.
5. Conclusions

These case studies have outlined six different simulations used in very different ways by six key humanitarian actors. Each simulation has proven to be a valuable preparedness activity. From this brief review of the different simulations, four conclusions can be drawn.

5.1 Simulations are increasingly recognized by NGOs, governments and the broader humanitarian community as a highly effective and engaging way of increasing preparedness and building capacity.

With the six examples in mind, it can be concluded that the humanitarian community sees increasing value in using simulations to prepare staff for crises, to test protocols and procedures and build staff skills, behaviours and competencies for working in disasters.

Donors are also increasingly seeing the benefit of simulations with AUSAID in particular supporting WFP facilitated IAES simulations through their readiness initiative and specifying in their 2011 Humanitarian Action Policy that they wanted to participate in more than 20 simulation exercises by 2016. The ECB Project was also awarded funding from DG-ECHO for simulations to provide the opportunity for staff to apply learning gleaned from the Expanding National Humanitarian Ability (ENHAnce) Project, in a safe environment.

5.2 Significant progress has been made in the way that simulations have been resourced, prioritized and used as a preparedness tool in the humanitarian community.

Humanitarian responders have been using simulations as a preparedness tool for many years but with the creation in 2007 of the ECB Project Emergency Simulation Administrators Guide, the creation of the IAES guidebook in 2008 and the Government Emergency Simulation Guidelines (GES) in 2012, much progress has been made in codifying and standardizing the design of simulations. With both guidance tools also posted online as open source documents, it has in theory become easier for agencies, managers and governments to access the guidance and use / adapt according to their context and objectives.

With increased emphasis on traditional and emergent technologies, simulations such as those carried out by the HHI are being used to prepare future responders to the new field realities that rely as much on traditional communication tools such as radios, as they do on new technology such as satellite and smart phones for collecting data. This type of simulation is also helping to build critical relationships between the humanitarian community and new technology provider groups.

“
The recent simulation not only improved awareness levels of NDMO staff and the Local Government Units about how to be prepared to respond to disasters, but has enabled them to test their knowledge and understanding of their roles and responsibilities when calamities strike.

Under Secretary (General)
Benito T. Ramos Executive Director, NDRRMC & Administrator OCD,
Philippines
building trust and refining approaches that can improve assessment and response.

More can be done however, particularly in terms of mainstreaming and rolling out further simulation opportunities and capabilities. In this respect NGOs and their local partners, National and Provincial Disaster Management Agencies and local government officials all become key stakeholders. To this end, projects such as those undertaken by WFP to provide simulation training to local government officials, the development of the Local Government Simulation Guide piloted by the Philippine National Disaster Management Agency with assistance from WFP, and the work currently ongoing by the ECB Project through the Kenya Initial Rapid Assessment (KIRA) initiative to use simulations to support assessment and response training to all hub levels in Kenya, are all key initiatives going forward.

5.3 The creation of the IASC simulation roster provides an excellent resource for the humanitarian community

The design, planning and implementation of a simulation can be a complex challenge. Facilitators and administrators need to have experience and understanding of how to adapt guidance to a context and need to be comfortable reacting quickly to a dynamic and rapidly changing scenario in order to make the simulation as realistic as possible and to hold the attention of participants. In 2010 the IASC developed a roster of trained simulation experts. This is an open source list and roster members are available for deployment to government, INGO and UN simulations as required. The list is available on the Preparedness Tracker (www.preparednesstracker.org) as referenced above on page 8.

Deployment fees are paid for by the requesting client, including salary cost recovery, per diems and travel costs, but this is a considerable resource for the sector, particularly given that a successful simulation depends largely on the simulation administration team running it.

5.4 Simulations provide excellent opportunities for relationship / trust building

Simulations, beyond being a useful conduit for building capacity and testing coordination and planning, are also a great way to bring relevant actors together in the same place to meet each other and gain a better understanding of individual personalities and how they can better work together in the event of a real emergency.

For example, simulations can help in demystifying the roles and responsibilities of a UN official or a senior government official for a local community member or an NGO worker not used to working with such individuals. Simulations can highlight the roles that participants are best able to play during an actual emergency response and they can also help differ
stakeholders to understand other perspectives or ways of looking at a problem. This can lead to novel solutions and innovative ideas. For example in the simulation developed by the HHI practitioners were brought together with technology groups and improvements, revisions and refinement of new technology came about as a result of field testing and practical application during the simulation. Developing empathy and understanding is one of the first steps towards developing excellent relationships and lasting trust, and these are critical factors in an emergency response. Lastly, simulations speed up actual responses as stakeholders have had time to develop good relationships prior to the crisis.
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**David Hockaday** is the Global Field Project Manager for the ECB Project. David is responsible for coordinating the ECB Project Simulations Project. He is chair of the ECB Project Simulations Reference Group and was lead author for this case study. **Daniel Barnhardt** is a former intern with the Emergency Capacity Building Project. He is currently an OpsCen Officer within WFP’s Emergency Preparedness and Response Branch. Daniel was responsible for the primary research for this case study. **Odile Bulten** has worked over the last 20 years in different capacities for UNICEF and UNOCHA. Since 2012 Odile has rejoined UNICEF in Niger where she is the Emergency Specialist. Odile generously provided the Madagascar case study. **Pamela Sitko** is studying a PhD in disaster resilience at Oxford Brookes University. She is an emergency capacity building consultant and has designed simulations for INGOs, the United Nations, national governments and the international Federation of the Red Cross and Red Crescent Society. Pamela kindly provided the community level simulation case study from the Philippines. **James Staples** is the Project Manager of the WFP’s Readiness Initiative, an AUSAID funded humanitarian disaster simulation project, which is operating in conjunction with the IASC SWG on Preparedness. Prior to taking up this post, James worked as a Humanitarian Advisor for World Vision International and ran a humanitarian training and Analysis consultancy, HumEx. James generously provided the case study from the Philippines involving WFP with the Government as the client.

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About the Emergency Capacity Building Project

In order to address the challenges of humanitarian response, a consortium of seven NGOs formed in 2003. These seven agencies—CARE International, Catholic Relief Services, International Rescue Committee, Mercy Corps, Oxfam GB, Save the Children and World Vision International—formed The Inter-Agency Working Group (IWG) on Emergency Capacity.

Phase II of The Emergency Capacity Building (ECB) Project spans 2008 to 2013 and aims to improve the speed, quality, and effectiveness of the humanitarian community to save lives, improve welfare, and protect the rights of people in emergency situations. With five years of additional funding support from the Bill & Melinda Gates Foundation, and new project grants from the Directorate General for Humanitarian Aid and Civil Protection (DG-
ECHO), United States Agency for International Development / US Office of Foreign Disaster Assistance (USAID / OFDA), the Department for International Development (DFID/UKAID) and numerous private donors, the ECB Project is coming to the end of an ambitious second phase.

The ECB case study series seeks to document and share ECB’s work and learning with the humanitarian community. The series includes case studies of how the ECB Project functions and its programmatic work in technical areas. Follow this link for more information on the ECB case study series. As part of our commitment to sharing learning, material in the ECB Simulations Guide (and all other resources on the ECB website) can be downloaded for free and adapted for single- and multi-agency simulations.

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