

**Submitted to the World Bank Global Facility for Disaster Risk Reduction**

Samar Workshop Report  
Appendix A -- Pre and Post Survey Forms  
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Principal Investigators:

Raul P. Lejano (New York University)  
Jesusa Grace Molina, Gab Pontejos, Kria Jopson (Center for Disaster Preparedness)  
Eulito Casas, Jr., Rosabella Montes (PH Haiyan Advocacy Cooperative)

August 15, 2017

## Samar Workshop Report

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**Activity:** Storm Surge Risk Communication Workshop

**Venue:** Sangguniang Bayan Hall, Balangiga, Eastern Samar

**Date:** July 13, 2017

### Preliminaries

The workshop started at 9:20 in the morning. A representative from the Municipal Treasurer's Office led the opening prayer. The prayer was followed by welcome remarks from Mr. Macario Gabornes, Jr., head of the Municipal Agriculture Office (MAO). To introduce the project team and participants, a getting to know activity was conducted by Center for Disaster Preparedness (CDP). A dance/song presentation was used to facilitate a lively introduction among the participants. The project team members, comprised of staff from CDP and UP Tacloban facultu, were also given the opportunity to introduce themselves individually. The workshop participants came from the local government of Balangiga and villages at-risk to storm surge namely San Miguel, Poblacion 6, and Bacjao.

### Expectation Setting

The participants shared the following expectations:

Workshop content/ process	Facilitators
<ul style="list-style-type: none"><li>• Understand what storm surge is all about</li><li>• To learn how the community can prepare in response to the risk of storm surge</li><li>• Provide handouts and materials that will aid the participants to better understand the topics presented</li></ul>	<ul style="list-style-type: none"><li>• The facilitators should have visual aids (e.g. powerpoint presentation)</li><li>• Be able to explain the topics clearly and concisely</li></ul>

After the expectation setting, CDP presented the objectives and design of the workshop. To gauge the existing knowledge of participants on the workshop topic, an assessment was administered through a questionnaire.

Dr. Lito Casas, a professor from UP Tacloban, provided an introduction about the project and the storm surge risk communication toolkit.

### Workshop Proper

#### Session 1: Enhancement of Municipal Early Warning System (EWS) and Communication Protocol

Facilitator: Nathalie Malabato, CDP

The facilitator presented the existing EWS of the municipality for typhoon and flood. The participants were then asked to review and modify the EWS to incorporate appropriate warning signs and actions for storm surge.

#### Session 2:

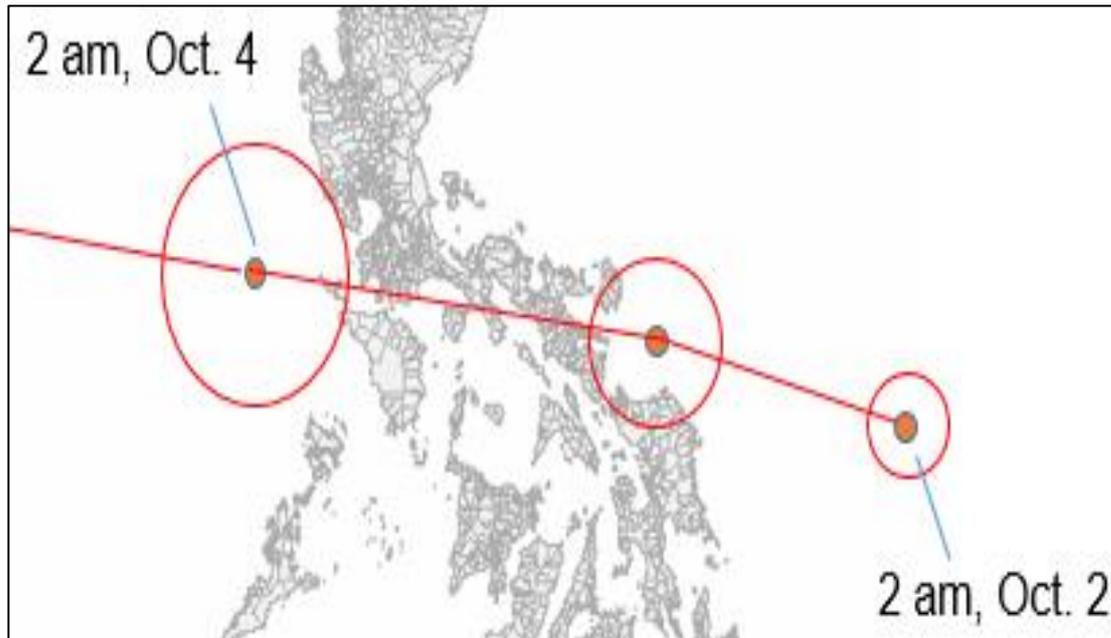
## Lesson 1. The Necessary Ingredients of Hazard Warning Messages

### Exercise 1. Interpreting Weather Bulletins (Part 1: Tracking the Storm)

Facilitator: Kria Jopson, CDP

The facilitator provided an input on the key ingredients of hazard warning messages such as sender, recipient, event/ description, location, guidance and timing.

After the input, an exercise was done on interpreting weather bulletin. Please see below the answers from the participants:



Q 1: When will the typhoon hit your area? (Give day and time)

A: Exact date and time cannot be determined

Q2: Are you in the path of the typhoon? Explain your answer.

A: The municipality will not be hit. The path is moving towards Northern Samar.

Q3: Why do you think the circles get larger and larger as the typhoon gets closer and closer?

A: The circles get larger and larger because the scope of the typhoon becomes bigger. The location of the typhoon also becomes unclear.

## Session 3:

### Lesson 2: Understanding the Event

Resource Person: Mr. Macario "Jun" Gabornes, MAO

Mr. Gabornes made a presentation on storm surge. The following were the highlights of his talk:

- Definition of storm surge. Usually, the missing detail from the PAGASA warning is the information on astronomical tide. The office only provides information on storm surge height. Both information are important for locals to prepare accordingly.
- Philippine storm surge history (Please refer to Mr. Gabornes' powerpoint presentation)
- Storm surge hazard maps for Balangiga from REDAS (PHIVOLCS) were also shared. Maps showing four (4) scenarios and projections of storm surge risk were explained to

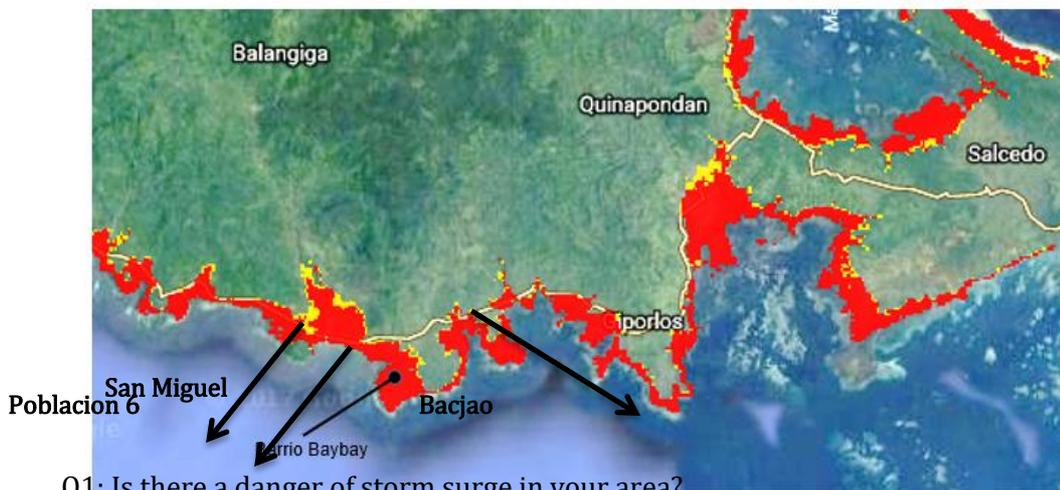
the participants. Storm Surge Advisory 1 (SSA1): 2 meters; SSA 2: 3 meters; SSA 3: 4 meters; and SSA 4: 5 meters.

- Areas shaded in yellow are low risk (.5 m); areas shaded in orange are medium risk (1 m); areas shaded in red are high risk (1.5 meters above)
- High risk areas in Balangiga are Bacjao, Poblacion 6, San Miguel and other coastal/riverine communities .
- Causes and factors influencing the formation of storm surge were also discussed
- First 50-kilometer area around the eye of the typhoon should be closely monitored.
- The effects of storm surge and the actions that community people can do were also explained.

### Exercise 2: Interpreting Weather Bulletins (Part 2: Storm Surge and Flood Warnings)

Facilitator: Ms. Kria Jopson

An exercise followed Mr. Gabornes' presentation. The participants were asked to look at the map and identify the exact location of their respective barangays. They were also requested to answer the following questions:



Q1: Is there a danger of storm surge in your area?

A: Yes, for all barangays

Legend:   
  1 m flood   
  2 m flood

Q2: How severe will the storm surge be in your area?

All the participating barangays are high risk to storm surge

### Session 4:

#### Lesson 3. Interpreting the Message and Passing it On

Facilitator: Nathalie Malabato

The facilitator shared to the participants different tips on how to simplify and re-write technical bulletins.

### Exercise 3. The Necessary Ingredients of a Message

Following the discussion on the tips, an exercise followed.

Workshop Bulletin

A storm surge warning has been raised for parts of Region 8. Surge heights of up to 1.5 meters are predicted.

Q1: Can you find all the necessary elements of a good message in the bulletin?

A1: No

Q2: What elements are missing?

A2: Sender, recipient, timing, guidance, location, and description

Q3: Specific to your municipality, add the missing elements to the message

Answer:

Judith Alde  
MDRRMO

A storm surge warning has been raised for parts of residents along coastal barangays of Balangiga. Surge heights of up to 1.5 meters are predicted on December 31, 2028, 2 AM (Wednesday). All target residents are advised to evacuate to their respective evacuation centers.

Session 5:

Lesson 4. Talking to a Friend: Personalize, Localize, Dramatize

Facilitator: Kria Jopson

The facilitator discussed the importance of personalizing, localizing and dramatizing warning messages. Samples were also shared to the participants.

Exercise 4. Talking to a Friend: Translate, Personalize, Localize, Dramatize

Judith Alde  
MDRRMO

A storm surge warning has been raised for parts of residents along coastal barangays of Balangiga. Surge heights of up to 1.5 meters are predicted on December 31, 2028, 2 AM (Wednesday). All target residents are advised to evacuate to their respective evacuation centers.

The participants were divided per barangay. The LGU of Balangiga also had a separate group. Using the bulletin above as reference, they were asked to do the following steps:

Step 1. Translate – use layman terms

Step 2. Personalize - rewrite words so that it addresses someone directly (i.e. *you* instead of *they*)

Step 3. Localize – identify a specific group of people or location

Step 4. Dramatize – add words or sentences that describe the coming event

Below are the participants' outputs:

**LGU OF BALANGIGA**

<b>Waray</b>	<b>English</b>
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<p><b>Pahibaro</b></p> <p>Ha ngatanan nga residente han Barangay 04, 05, 06 , San Miguel Bacjao ug parte han Poblacion 02 nga aada naukoy ha ligid o higad han baybayon nga salog in guin papahibaro nga may-ada warning o abiso hin <u>storm surge</u> or abnormal nga paghataas han tubig ha dagat o salog nga maabot hin 1.5 m o lampas tawo it kahatas-on hit tiarabot nga Disyembre 31, 2028, Miyerkules na adlaw, alas dos hit kaagahon.</p> <p>Gin aaghat an ngatanan nga mag ebakwit labi na an kababayan-an, mga kalagasan, PWD, kabataan ngan mga burod ngadto han mga evacuation center nga naka-assign han iyo tagsa nga barangay.</p> <p>Guin lalaoman an iyo hul-os nga kooperasyon para malikayan an ano man nga kataragman ug an pagkawara han kinabuhi.</p> <p style="text-align: center;">Nagpapahibaro,  Judith D. Alde MDRRMO</p>	<p><b>Attention</b></p> <p>To all residents of Barangay 04, 05, 06, San Miguel, Bacjao, and those who live in parts of Poblacion 02 near the bay and riverside. This is to inform you that there is a warning or advisory for storm surge or the abnormal rising of the sea and river. Water levels can reach up to 1.5 meters or taller than human height. The event is expected to occur this coming December 31, 2028, Wednesday, at 2 in the morning.</p> <p>Everyone—especially women, older persons, people with disabilities, children, and expectant mothers—is advised to evacuate to the assigned evacuation centers of their respective barangays.</p> <p>We hope for your full cooperation in order to avoid danger and loss of life.</p> <p style="text-align: center;">From,  Judith D. Alde MDRRMO</p>
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**SAN MIGUEL**

<b>Waray</b>	<b>English</b>
<p>Hon. Rodito C. Degorio Punong Barangay Barangay San Miguel, Balangiga, Eastern Samar</p> <p>Gunpapasabot an ngatanan nga residente han barangay San Miguel nga magkaka may-ada “storm surge” o paghataas ug paglapwas han tubig nga natikang ha dagat yana nga December 31, 2028 hit alas dos hiton kaagahon yana nga Miyerkules ini in posible mga kinabuhi tungod kay ini in may-ada kahitason nga 1.5 metro. Guin aaghat an ngatanan nga mulopyo labi nagud an mga naukoy han harani han baybayon ngan mga burod, kalagasan, kabataan ug nga mga lugar or pumakadto han aton evacuation center ha elementary school, day care center.</p>	<p>Hon. Rodito C. Degorio Barangay Captain Brgy. San Miguel, B.E.S.</p> <p>This is to inform all the residents in Barangay San Miguel that there will be a storm surge or rising and overflowing of water from the sea this coming December 31, 2028, at 2 in the morning this Wednesday. Because the storm surge can reach heights of 1.5 meters, it could possibly result in the destruction of houses and can be life-threatening. All residents, especially those residing near the seaside, expectant mothers, older persons, children, and people with disabilities are advised to evacuate to safe and high areas or move to the evacuation center at the elementary school and day care center.</p>

## POBLACION 6

Waray	English
<p>Hon. Nieto A. Cabardo Punong Barangay Barangay 06, Poblacion Balangiga, Eastern Samar</p> <p>Iguinpapahibaro hadton mga residente han Barangay Poblacion 6 labi na adton agda ha mga ligid han baybayon naukoy labi na an mga senior citizen, mga kabataan, persons with disability, pregnant women, lactating nga maghinay-hinay han pag-evacuate ngadto han mga natudlok nga mga evacuation center tungod han pagti arabot han bagyo nga may posibilidad hin pagka-ada paglapwas o dulok han tubig ha dagat nga ginbabana-bana ha kahitas-on nga 1.5 meters yana nga ika-31 han Disyembre tuig 2028 (Miyerkules) alas 2:00 hit kaagahon.</p>	<p>Hon. Nieto A. Cabardo Barangay Captain Barangay 06, Poblacion Balangiga, E. Samar</p> <p>This is to inform the residents of Brgy. Poblacion 6—especially those residing near the seaside, senior citizens, children, persons with disability, and expecting and lactating mothers—to start evacuating to designated evacuation centers due to an oncoming typhoon and possible storm surge or overflow of sea water that is expected to rise up to 1.5 meters high this December 31, 2028 (Wednesday) at two in the morning.</p>

## BACJAO

Waray	English
<p>Hon. Margarito Alvarina Punong Barangay Barangay Bacjao Balangiga, Eastern Samar</p> <p>Iginpapasabot an mga molopyo nga aada naukoy ha higad hit baybayon nga mga hinay-hinay hin pag-evacuate labi na an mga PWD, senior citizen, mga burod, ngan may mga gudti nga kabataan, nga may-ada tiarabot nga bagyo, upud it paglapwas hit tubig-dagat nga may-ada kahitas-on nga 1.5 meters yana nga December 31, 2028 (Miyerkules hit kaagahon) 2:00 am. Kinahanglan kumadto ha evacuation center.</p>	<p>Hon. Margarito Alvarina Barangay Captain Brgy. Bacjao Balangiga, E. Samar</p> <p>This is to inform the residents living near the seaside to start evacuating, especially people with disabilities, senior citizen[s], those who are pregnant, and those with small children. There is an approaching typhoon accompanied by a sudden rise and overflow of sea levels that may reach a height of 1.5 meters, this December 31, 2028 (Wednesday) at 2 AM. You need to go to the evacuation center.</p>

### Session 6:

#### Lesson 5. Addressing Key Issues

Facilitator: Nathalie Malabato

The facilitator discussed the different issues that prevent people from evacuating during emergencies. Messages in response to the presented issues were also shared.

#### Exercise 5. Addressing Key Issues

Following the input on addressing key issues, an exercise on the abovementioned topic was carried out. Maintaining the same groupings, the participants were asked to choose an issue relevant to their area. The list below shows the assigned issue of each group:

- LGU of Balangiga: People dislike evacuation centers
- San Miguel: People think home is safe
- Bacjao: People worry about theft
- Poblacion 6: This storm is just like the previous one

After choosing an issue, the groups were instructed to develop a message in response to the said concern. Below are the participants' outputs:

#### LGU OF BALANGIGA

Waray	English
Tay, nay , kadi upod kamo ha evacuation center kay delikado kamo dinhi kay aabton kamo hit tubig. Guin talinguha han LGU nga magka may-ada kita bag-o ug marig-on nga evacuation center diin matatagan kamo hin sakto nga pagtagad hit iyo mga kinahanglan.	<i>Tay<sup>1</sup>, Nay</i> , you are in danger here because the water can reach you. Come with us to the evacuation center. The LGU (local government unit) made sure to provide us with a new structurally sound evacuation center where your needs can be addressed appropriately.

#### SAN MIGUEL

Waray	English
Bisan pa konkreto ito iyo balay tungod kay harani ha dagat it iyo balay diri kamo nakakasigurado nga mailob makakatalwas kamo ha iyo panimalay tungod kay an kahitas-on han tubig ha dagat in posible pa lumabaw hiton iyo balay.	Even if your house is made of concrete, this does not ensure that you are safe in your household because the height of the sea water/waves may surpass your home.

#### POBLACION 6

Waray	English
Mas makurukusog na it mga bagyo yana kompara han una tungod hit climate change.	The typhoons/cyclones these days are more powerful compared to those in the past because of climate change.

#### BACJAO

Waray	English
Maupay nga aga tatang ayawla kamo hipa usa kun kay ano nga hahane ako yana ha iyo panimalay. Kay may ada bagyo o lapwas. Dilikado dinhi ha iyo balay o lugar kay habubu ine nga lugar. Ayaw kami awil hine nga iyo balay. Kaykon sa pananglitan man maruba. Mahiaagian paniyo ine nga balay pero it kinabuhi hantawo dire na sanglit hinahangyo kolaha iyo in mag bakwit.	Good morning, <i>sir</i> .  I am at here, at your house, because there is an oncoming typhoon and/or storm surge. Your house or the area you are in is dangerous because the land here is low.

<sup>1</sup> Literal translation for *father* and *mother* in Filipino. In this context, it is used to connote respect for older men and women.

Following the exercise, the groups were requested to compare the new and old messages. Furthermore, the facilitator also asked them to identify dissemination mechanisms as presented in the table below:

<b>LGU of Balangiga</b>	<b>Barangay LGU</b>	<b>Community/household</b>
<ul style="list-style-type: none"> <li>• Bandilyo (public announcement)</li> <li>• Leaflets</li> <li>• Text blast</li> </ul>	<ul style="list-style-type: none"> <li>• House-to-house</li> <li>• Poster</li> <li>• Barangay assembly</li> </ul>	<ul style="list-style-type: none"> <li>• Chikahan (informal conversation)</li> </ul>

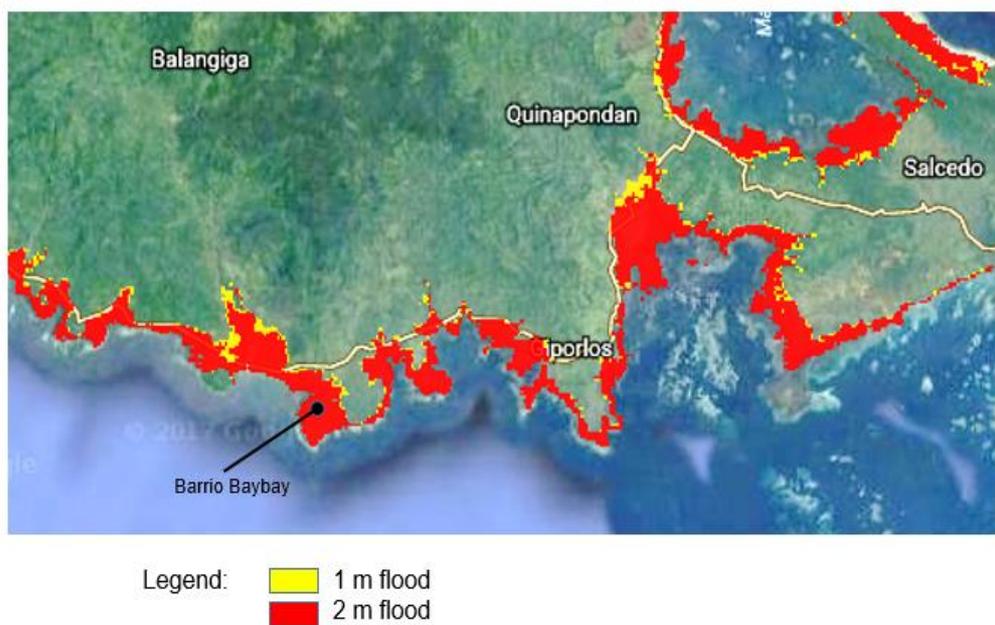
**Session 7:**

**Lesson 6. Using Maps**

**Facilitator: Kria Normaine Jopson**

The facilitator explained the value of maps in relaying warning messages.

**Exercise 6. Compare the New Message to the Old, Sharing It**



Q1: Can you find your place of residence on the map?

Q2: Can you determine what the predicted flood height will be for your area?

A: Questions 1 and 2 were already answered in Exercise 2

Q3: Based on previous experience, by when do you think you should evacuate? (If your barangay has an existing Early Warning System and Contingency Plan, when do you think you should evacuate?)

A: 1 to 2 days before the storm surge hits the area

**Session 8:**

**Exercise 7: Risk Communication Simulation (Tabletop)**

**Facilitator: Nathalie Malabato**

The tabletop exercise was carried out to assess the risk communication mechanism of the municipal LGU and barangays. Please see below the outputs from the said activity:

**LGU OF BALANGIGA**

Time Received	Scenario	Time of Action	Action
3:35 PM	<p>PAGASA Weather Bulletin # 1 Issued at 5:00 PM, 13 July 2017</p> <p>The Low Pressure Area (LPA) over the Pacific Ocean has entered the Philippine Area of Responsibility (PAR).</p> <p>Location of eye/center: At 9:00 AM today, it was estimated based on all available data at 325 kilometers east of Guiuan Eastern Samar (14.0N, 134.5E). The trough of this weather system will bring light to moderate rain and isolated thunderstorms over Eastern Visayas.</p> <p>It is expected to develop into a tropical depression within the next 24-36 hours.</p>	3:36 PM	<ul style="list-style-type: none"> <li>• Send communication to all barangays through text messages and bandilyo (public announcement)</li> <li>• Convene Municipal Disaster Risk Reduction and Management Council (MDRRMC)</li> </ul>
3:40 PM	<p>PAGASA Weather Bulletin # 2 Issued at 5:00 AM, 14 July 2017</p> <p>Tropical storm Sika has intensified and entered the Philippine Area of Responsibility (PAR).</p> <p>At 4:00 AM today, the center of severe tropical storm Sisa was estimated based on all available at 125 kilometers East North East of Guiuan Eastern Samar (14.4N, 133.5E).</p>	3:40 PM	<ul style="list-style-type: none"> <li>• Send advisory to all barangays re: tropical storm</li> <li>• Preposition goods</li> <li>• Activate evacuation management team</li> <li>• Ready transport services for evacuation</li> <li>• Activate first aid personnel</li> <li>• Activate rescue team</li> </ul>

Time Received	Scenario	Time of Action	Action
	<p>Maximum sustain winds of up to 90 kph near the center and gustiness of up to 115 kph.</p> <p>Storm surge possible at coastal areas.</p>		
3:45 PM	<p>PAGASA Weather Bulletin # 3 Issued at 5:00 PM 14 July 2017</p> <p>Tropical storm Sisa has intensified and entered the Philippine Area of Responsibility (PAR).</p> <p>At 4:00 PM today, the center of severe tropical storm Sisa was estimated based on all available data at 50 kilometers East North East of Guiuan Eastern Samar (16.5N, 133.8E).</p> <p>Maximum sustain winds of up to 141 kph near the center and gustiness of up to 170 kph. Storm surge is possible at coastal areas.</p>	3:45 PM	<ul style="list-style-type: none"> <li>• Forced evacuation</li> </ul>
3:48 PM	Barangay San Miguel requested transportation from MDRRMO	3:48 PM	<ul style="list-style-type: none"> <li>• Send ambulance</li> </ul>
3:49 PM	<p>Barangay San Miguel requested for another vehicle for evacuees Assistance was asked from the municipal LGU</p>	3:49 PM	<ul style="list-style-type: none"> <li>• Send truck</li> <li>• Send rescue team</li> </ul>
3:50 PM	<p>PAGASA Weather Bulletin # 4: Final Issued at 5:00 AM, 15 July 2017</p> <p>Tropical storm Sisa is now outside the Philippine Area of Responsibility.</p>	3:50 PM	<ul style="list-style-type: none"> <li>• Send text messages and advisories to the barangays</li> </ul>

Time Received	Scenario	Time of Action	Action
	<p>Location of eye/center: At 4:00 AM today, the center of tropical storm Sisa was estimated based on all available data at 565 kilometers East of Guiuan Eastern Samar.</p> <p>Maximum sustain winds of up to 30 kph near the center and gustiness of up to 40 kph.</p>		
3:53 PM	Barangay San Miguel asked for food assistance from the LGU	3:53 PM	<ul style="list-style-type: none"> <li>• Send food items</li> </ul>
3:54 PM	Barangay San Miguel requested for medical assistance from the LGU	3:54 PM	<ul style="list-style-type: none"> <li>• Send ambulance with medical team</li> </ul>

**SAN MIGUEL**

<b>Time Received</b>	<b>Scenario</b>	<b>Time of Action</b>	<b>Action</b>
3:35 PM	Residents do not believe the weather advisory	3:36 PM	House-to-house visit
3:36 PM	Message from municipal LGU: To all barangays, a low pressure area is forecasted	3:36 PM	Bandilyo (Public announcement)
3:40 PM	Message from municipal LGU: To all barangays, the center of tropical storm is at Guiuan at 4 am today	3:40 PM	Disseminate information through: <ul style="list-style-type: none"> <li>• Siren</li> <li>• Church bell</li> <li>• Raising of red flag</li> </ul>
3:41 PM	Houses made of light materials are starting to be blown away by strong winds		
3:45 PM	One male resident is hesitant to evacuate since no one will watch over the house	3:45 PM	Forced Evacuation
3:46 PM	Message from municipal LGU: Forced evacuation implemented in all barangays	3:47 PM	Ask assistance from municipal LGU Municipal LGU's response: Send ambulance
3:50 PM	Request food assistance from the municipal LGU	3:51 PM	Municipal LGU's response: Send food items
3:54 PM	Request medical assistance from the municipal LGU	3:55 PM	Municipal LGU's response: Send ambulance with medical team

**POBLACION 6**

<b>Time Received</b>	<b>Scenario</b>	<b>Time of Action</b>	<b>Action</b>
3:37 PM	Message from municipal LGU: LPA	3:38 PM	Bandilyo (Public announcement)
3:39 PM	Strong winds in the coast cause the water to rise along the sea wall	3:40 PM	Activate siren
3:41 PM	Message from municipal LGU: Tropical storm at 4 am today	3:42 PM	Assist the residents in their way to the evacuation centers
3:43 PM	Houses made of light materials are starting to be blown away by strong winds	3:44 PM	Advise all residents to evacuate
3:45 PM	A resident failed to hear the announcement and was left alone at home	3:46 PM	A responder will go to the house and ask the resident to evacuate
3:47 PM	One male resident is hesitant to evacuate since no one will watch over the house	3:48 PM	Send rescue team
3:49 PM	Message from municipal LGU: Forced evacuation for all barangays	3:50 PM	Send truck

## BACJAO

Time Received	Scenario	Time of Action	Action
3:36 PM	Message from municipal LGU: LPA 9 am	3:38 PM	Bandilyo (Public announcement)
3:38 PM	Strong winds in the coastal area Big waves are observed	3:39 PM	Activation of siren Monitoring of the situation
3:40 PM	Message from municipal LGU: Tropical storm at 4 am today	3:44 PM	Activate evacuation center management committee
3:45 PM	A resident failed to hear the announcement and was left alone at home	3:46 PM	Barangay Police will respond to the situation
3:46 PM	Message from municipal LGU: Forced evacuation for all barangays	3:49 PM	Residents who are hesitant to evacuate will be asked to sign a waiver
3:52 PM	Message from municipal LGU: Tropical storm 30 kph lower	3:54 PM	Monitoring of evacuation center
3:53 PM	Message from municipal LGU: Food items will be sent	3:55 PM	Food distribution

### Assessment of Tabletop Exercise

#### **Suggestions to enhance the early warning system and communication protocol? DRRM plan?**

- The MLGU should be provided with a text blast software (from DOST) to have a more efficient communication system for warning

#### **Challenges**

- On the part of the municipal LGU, it was very challenging to address the multiple requests from the barangays which were relayed to them consecutively
- Long messages/ scenarios in the tabletop exercise
- Limited time allotted for response

#### **Recommendations**

- Allot more time for the activities/ exercises covered by the workshop
- Conduct the tabletop/ simulation exercises on a regular basis (e.g. quarterly)
- Careful planning is needed in the conduct of the exercise
- Key persons/authorities from the municipal LGU should be present in the entire duration of the workshop. They have a significant role to play in the simulation exercise as a source of command.
- Representatives from the different committees (e.g. DRR, health) at the barangay level should be present as well.

### Assessment of Toolkit/ Workshop

All the participants shared that the set objectives of the workshop were successfully met. They have learned a lot from the different sessions and exercises.

Most applicable lesson/ exercise in the participants' context	Most challenging lesson/ exercise in the participants' context	Barriers in using the storm surge communication toolkit	Recommendations to improve the activity
<ul style="list-style-type: none"> <li>• Necessary Ingredients of Hazard Warning Messages</li> <li>• Understanding what storm surge is</li> <li>• Tabletop exercise- the activity allowed the participants to think of necessary actions in response to the hazard/ scenario</li> <li>• Interpreting weather bulletins</li> <li>• Receiving and communicating warning messages to the local people</li> <li>• Development of localized warning messages</li> </ul>	<ul style="list-style-type: none"> <li>• The tabletop exercise is very challenging but is very helpful as well</li> <li>• Developing and translating of storm surge warning messages</li> <li>• Addressing key issues related to evacuation. Some residents (e.g. older persons) are hesitant to evacuate despite the warning given by authorities.</li> <li>• Exercise on Tracking the storm. It is difficult to understand the warning message if there are missing details/ information</li> </ul>	<ul style="list-style-type: none"> <li>• Reluctance of other community members to participate</li> <li>• People do not have time to study and learn about the toolkit</li> <li>• Many are not knowledgeable in using computers / internet</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous conduct of DRR trainings and simulation exercises</li> <li>• Longer time for the workshop</li> <li>• Ensure that the target participants have no other commitments / schedules for them to keep their focus on the activity</li> <li>• The activity should involve more participants</li> </ul>

## List of Participants

No	Name	Office/ Barangay & Designation	Contact Number	Age	Sex
1	Pedro D. Lumagbas	Barangay San Miguel, Youth Representative	09121937244	28	Male
2	Kenneth B. Gales	Municipal Social Welfare and Development Office, AAT	09985394824	33	Male
3	Eludelyn L. Alde	Barangay Poblacion, Barangay Secretary	09298923659	34	Female
4	Nida A. Docena	Barangay Poblacion 6	09302818742	44	Female
5	Olga B. Fabillar	Barangay Poblacion 6, Barangay Councilor	09484392461	44	Female
6	Teodora A. Ugali	Barangay Poblacion 6	09296978184	47	Female
7	Ma. Dolores B. Batula	Barangay San Miguel	09998625095	43	Female
8	Rodito C. Degorio	Barangay San Miguel, Barangay Captain	09306877328	60	Male
9	Rommel E. Hilaria	Barangay San Miguel, Barangay Councilor		35	Male
10	Nieto A. Cabardo	Barangay Poblacion 6	09557495865	36	Male
11	Delisa Q. Abing	Municipal Planning and Development Office, Staff	09286658414	36	Female
12	Maria Ana B. Gayda	Municipal Agriculture Office, Staff	09989535549	34	Female
13	Maria A. Selso	Barangay Poblacion 6	09178089647	56	Female
14	Macario A. Gabornes, Jr.	Municipal Agriculture Officer	09166180238	38	Male
15	Susan A. Gino	Rural Health Unit	09479916991	50	Female
16	Fiel Inting	Municipal Engineer	09368917302	40	Male
17	Nina B. Servano	Municipal Local Government Operations Officer		29	Female
18	Pablo A. Bajo, Jr.	Barangay Bacjao, Barangay Councilor	09265124133	43	Male
19	Eulito V. Casas, Jr.	University of the Philippines Tacloban, Faculty	09273451020	55	Male
20	Nathalie Malabato	Center for Disaster Preparedness, Program Associate	09229373028	36	Female
21	Jesusa Grace Molina	Center for Disaster Preparedness, Program Head	09175539774	31	Female
22	Jocelyn Samson	Center for Disaster Preparedness, Program Associate	09057027565	40	Female
23	Kria Normaine Jopson	Center for Disaster Preparedness, Program Associate	09167933399	26	Female

## **Appendix A**

### **Pre/Post Survey Forms**

## Questionnaire

Pangalan (Name)

[Optional]:

Opisina (Office):

Kasarian (Gender):

Barangay (Village):

### Part I.

1. Nakakatanggap ka ba ng babala ukol sa bagyo? Oo o Hindi \_\_\_

*[Do you receive typhoon warnings? Yes or No]*

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2. Kung oo ang iyong sagot sa bilang 1, saan karaniwang nagmumula or naririnig ang babala ukol sa bagyo? *[If your answer in question 1 is "Yes", where does the warning(s) usually come from?]*
- 

3. Nakakatanggap ka ba ng babala ukol sa *storm surge* o daluyong?

\_\_\_  
*[Do you receive typhoon warnings? Yes or No]*

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4. Kung oo ang iyong sagot sa bilang 3, saan karaniwang nagmumula ang babala ukol sa *storm surge* o daluyong? \_\_\_

*[If your answer in question 3 is "Yes", where does the warning(s) usually come from?]*

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5. Kapag nakatanggap ka ng babala ukol sa bagyo, sa karaniwan ay nalalaman mo din ba kung magkakaroon ng *storm surge* at/o ang saklaw ng *storm surge*? Oo o Hindi \_\_\_

*[If you receive a warning about typhoon, usually would you know the extent of storm surge? Yes or No]*

---

6. Kapag may babala ukol sa bagyo at daluyong, ang mga pinakabulnerableng sektor tulad ng mga kababaihan, taong may kapansanan, bata at mga kabataan, at nakakatanda ay nakakatanggap ba ng mensahe? Oo o Hindi? \_\_\_

*[If a typhoon/ storm surge warning(s) is disseminated, are the most vulnerable sectors such as women, persons with disabilities, children and youth and older persons able to receive the message? Yes or No]*

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### Part II.

- \_\_\_ 7. Alin sa mga sumusunod ang **HINDI** maitututuring na mahalagang elemento ng isang epektibong babala?

*[Which among the following is NOT an element to be considered in an effective warning message?]*

- a. Pinanggalingan ng mensahe (*Sender*)                      c. Sobrang teknikal na impormasyon (*Highly technical information*)
- b. Lokasyon (*Location / local areas*)                      d. Patutunguhan ng mensahe (*Recipient*)
- \_\_\_ 8. Alin sa mga sumusunod ang **HINDI** maitututuring na mahalagang elemento ng isang epektibong babala?  
[Which among the following is NOT an element to be considered in an effective warning message?]
- a. Mga rekurso (*Resources*)                      c. Kailan mangyayari (*Timing*)
- b. Gabay sa mga dapat gawin (*Guidance*)                      d. Katangian ng inaasahang bantang panganib (*Event/Description*)
- \_\_\_ 9. Ang daluyong (storm surge) ay: \_\_\_
- a. pag-guho ng lupa dahil sa malakas na ulan o di kaya sa lindol.
- b. pagtaas ng lebel ng tubig sa dagat/karagatan bunsod ng malalakas na hanging nakaka-tulak nito papunta sa kalupaan o tabing-dagat.
- c. baha na dala ng pag-apaw ng tubig, galing sa bundok, sa ilog o lawa; ang sanhi nito ay ang malakas at tuloy-tuloy na pag-ulan.
- d. tsunami na galing sa pag-yanig ng karagatan gawa ng malakas na lindol.
- \_\_\_ 10. Sa \_\_\_ pinakamataas ang peligro ng storm surge; pangalawa dito ay \_\_\_\_\_. (*The risk of storm surge is greatest in \_\_\_\_\_ communities. and next to this is \_\_\_\_\_*)
- a. Sa taas ng bundok (*upland areas*)                      c. Taping ilog (*riverine areas*)
- b. Taping dagat (*coastal areas*)                      d. Sa paanan ng bundok (*lowland areas*)
- \_\_\_ 11. Nakatanggap ang barangay ninyo ng bulletin na nagsasabing "2 m. storm surge in E. Samar". Walang ibang impormasyon ang ibinigay. Ano ang gagawin ninyo? [The barangay received bulletin that says "2 m. storm surge in E. Samar". No other information was given. What will you do?]
- Lagyan ng iskor ang bawat sagot sa baba (ilagay ang iskor sa blanko sa kaliwa ng bawat na posibleng sagot) ayon sa sumusunod na rating scale:
- 1 = hindi ko sigurong gagawin    2 = may tsansang gawin ko    3 = 50% ang tsansang gawin ko ito
- 4 = malamang ay gagawin ko it    5 = kailangang-kailangan kung gawin ito.
- \_\_\_ i. magtanong sa barangay kung anong mga lugar ang mas delikado sa storm surge.  
(ask the barangay which areas are more vulnerable to storm surge).
- \_\_\_ ii. tumingin sa mapa ng E. Samar para tiyakin ano ang mga lugar na maaaring tamaan ng 2 m. storm surge (look at a map of E. Samar to see which areas might be vulnerable to storm surge)

\_\_\_iii. abangan ang mas detalyadong bulletin galing sa PAGASA at LGU.

*(await more detailed bulletins and advice from PAGASA and the LGU).*

\_\_\_iv. sabihin sa iba sa barangay ang impormasyon (2 m. storm surge) kahit na kulang.

*(tell others in the community the information (2 m. storm surge) even if it is lacking.).*

\_\_\_ 12.

Alin sa mga sumusunod ang inyong gagawain kung, sa tingin ninyo, ay sobrang teknikal o mahirap intindihin ang bulletin or babala ukol sa bagyo at daluyong ng pinahayag ng PAGASA at LGU? Lagyan ng iskor ang bawat sagot sa baba (ilagay ang iskor sa blanko sa kaliwa ng bawat na posibleng sagot) ayon sa sumusunod na rating scale: 1 = hindi ko sigurong gagawin 2 = may tsansang gawin ko 3 = 50% ang tsansang gawin ko ito 4 = malamang ay gagawin ko it 5 = kailangang-kailangan kung gawin ito.

*[Which among the would you do to interpret technical messages?]*

\_\_\_ i. mag-intay ng mas malinaw na impormasyon/abiso galing sa PAGASA at LGU.

*(Await clearer and better instructions from PAGASA / LGU).*

\_\_\_ii. iyong ikukuwento o isusulat ang impormasyon gamit ang hindi masyadong teknikal na mga salita *(Rewrite the information using everyday, non-technical terms.)*

\_\_\_iii. mag-komento sa ibig sabihin ng babala para sa mga taong pinatutunguhan nito

*(Comment on what the bulletin means directly for the people you are communicating with.)*

\_\_\_iv. kung may mapang kasama sa babala, ipaliwanag ang mapa *(If map is provided,interpret the map & tell others what it is saying about their particular location)*

\_\_\_v. magdagdag ka ng karagdagang impormasyon ukol sa mga posibleng epekto ng mangyayari

*(Add more information about possible effects of the event.)*

13. Gaano kalaki ang responsibilidad ng bawat tao or organisasyon na nakalista sa baba? Bigyan ng

iskor ayon sa sumusunod na batayan:

1 = walang responsibilidad, 2 = maliit ang responsibilidad, 3 = optional, mabuting makisali

4 = malaki ang responsibilidad, 5 = pinakamalaking responsibilidad

\_\_\_ PAGASA

\_\_\_ LGU / Opisina ng Mayor

\_\_\_ Ikaw mismo

\_\_\_ Opisina ng Gobernador

\_\_\_ Iyong mga kapit-bahay

**Part III.**

Sa mga sumusunod na tanong, maglagay ng iskor (1 to 5) para sagutin ang mga ito (isulat lang ang iskor sa blanko sa kanan ng bawat tanong). Ang mga iskor ay batay sa sumusunod na batayan:

1 = walang epekto, 2 = maliit na epekto, 3 = katamtamang epekto,  
4 = malaking epekto, 5 = masisira ang sistema kung wala.

	<u>Score (1 to 5)</u>
14. Makakatulong kung ang babala ay naibibigay sa ispesipikong tao o grupo ng mga tao, o natutukoy ang ispesipikong tao o grupo ng mga taong dapat mabigyan nito. <i>[It will help if a warning message will be directly addressed to someone or a group of people or directly identifies which group or community is being affected.]</i>	_____  _____
15. Makakatulong kung ang babala ay nakakapagbigay din ng impormasyon ukol sa sitwasyon ng mga naitalagang pinaglilikasan. <i>[It will help if a warning message will include resolutions on common evacuation issues and/or status of designated evacuation centers.]</i>	_____  _____
16. Makakatulong kung ang babala ay nakabatay lamang sa mapa at hindi sa nakasulat na mensahe. <i>[It will help if a warning message will only include a map and not on a written message.]</i>	_____  _____
17. Makakatulong kung masubukan ang pagiging epektibo ng mapa at kung nauunawaan ito nang husto. <i>[It will help to test how effective a map is, and whether or not people interpret is correctly.]</i>	_____  _____

**Part IV.**

18. Nakamit ba ang layunin ng mga gawain? Kung oo/hindi, bakit? <i>(Were objectives of the activity met? If yes/no, why?)</i>	_____ _____ _____
19. Alin sa mga paksa/pagsasanay na isinagawa ang sa tingin mo ay pinaka-magagamit sa iyong konteksto? Bakit? <i>(Which among the lessons/ exercises conducted did you find most applicable in your context? Why?)</i>	_____ _____ _____ _____

20. Alin sa mga paksa/pagsasanay na isinagawa ang sa tingin mo ay pinaka-mahirap sa iyong konteksto? Bakit? *(Which among the lessons/ exercises conducted did you find most challenging in your context? Why?)*

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21. Anu-ano ang maaaring mga hamon sa paggamit ng 'toolkit'? *(What are possible hindrances in utilizing the storm surge risk communication toolkit?)*

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22. Anu-ano ang iyong maimumungkahi para mas mapabuti pa ang ganitong klase ng pagsasanay? *(What are your suggestions to improve the conduct of the activity?)*

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**Appendix B**  
**Survey Results**

Partial survey results are tabulated on the next page. The bottom-most row shows the average change (or delta) in responses (for Questions 11 onwards), comparing post- versus pre-surveys. Most of the average deltas are positive, which suggests that the workshop had a positive effect on many of the responses. Statistical analysis being done which will determine whether these deltas are statistically significant. The full analysis and complete data table will be submitted along with the Final Project Report for Phase 2.

The questions are shown below.

11. You received a message simply indicating a 2 m. storm surge in E. Samar. You have a number of different possible actions, listed below. Opposite each action, indicate how likely you are to do it, on a scale of 1 to 5 (from least to most likely).

- 11.i. Ask the barangay which areas are more vulnerable to storm surge.
- 11.ii. Look at a map of E. Samar to see which areas might be vulnerable to storm surge.
- 11.iii. Await more detailed bulletins and advice from PAGASA and the LGU.
- 11.iv. Tell others in the community the information (2 m. storm surge) even if it is lacking..

12. What action would you take if, in your opinion, the technical bulletin from the weather agency was too unclear or too technical to be understood by most? Opposite each possible action listed below, indicate how likely you are to do it, on a scale of 1 to 5 (from least to most likely).

- 12.i. Await clearer and better instructions from PAGASA / LGU.
- 12.ii. Rewrite the information using everyday, non-technical terms.
- 12.iii. Comment on what the bulletin means directly for the people you are communicating with.
- 12.iv. If map is provided,interpret the map & tell others what it is saying about their particular location.
- 12.v. Add more information about possible effects of the event.

13. How great is the responsibility of each party listed below? Rate each on a scale of 1 to 4 (from least to most responsibility).

- 13.i. PAGASA (national weather agency).
- 13.ii. Local government office, Mayor's office
- 13.iii. Yourself.
- 13.iv. Governor's office.
- 13.v. Your neighbors.

For the following questions, rate each rule on a scale of 1 to 5 (from least important to most important).

14. It will help if a warning message will be directly addressed to someone or a group of people or directly identifies which group or community is being affected.

15. It will help if a warning message will include resolutions on common evacuation issues and/or status of designated evacuation centers.

16. It will help if a warning message will only include a map and not on a written message.

17. It will help to test how effective a map is, and whether or not people interpret is correctly.

Participant	Gender	$\Delta Q11$ i	$\Delta Q11$ ii	$\Delta Q11$ iii	$\Delta Q11$ iv	$\Delta Q12$ i	$\Delta Q12$ ii	$\Delta Q12$ iii	$\Delta Q12$ iv	$\Delta Q12$ v	$\Delta Q13$ 1	$\Delta Q13$ 2	$\Delta Q13$ 3	$\Delta Q13$ 4	$\Delta Q13$ 5	$\Delta Q14$	$\Delta Q15$	$\Delta Q16$	$\Delta Q17$
1	M	-1	1	1	3	-1	1	2	1	0	1	0	1	0	0	1	0	0	0
2	M	0	0	0	0	0	0	0	0	0	-1	0	-2	-1	0	-2	-1	-3	-2
3	F	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	M	2	1	0	0	0	-3	-3	0	0	-1	n.a.	n.a.	n.a.	0	0	0	-1	0
5	F	0	2	0	2	1	4	3	2	3	0	0	0	0	0	0	0	4	3
6	F	0	0	0	0	0	1	1	0	1	1	0	1	1	0	0	0	1	0
7	F	0	0	2	0	0	4	n.a.	0	-1	0	0	1	0	1	1	1	-3	0
8	M	0	0	0	1	1	1	0	-1	-1	0	0	1	0	0	0	0	0	1
9	F	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.	n.a.	n.a.	-1	n.a.	n.a.
10	M	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
11	F	3	1	1	-4	0	3	2	1	0	2	1	0	2	0	1	1	1	0
12	F	0	2	0	0	0	-2	0	0	0	0	0	0	0	0	0	0	3	-1
13		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	0	0	-1	1	0	0	0
14	M	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
15		0	1	0	0	0	4	1	0	3	0	0	0	0	-1	0	0	2	0
16		2	3	0	-1	-1	2	1	1	2	-1	1	1	-1	1	1	0	2	0
17	M	0	3	0	-2	0	1	0	0	1	n.a.	n.a.	n.a.	n.a.	0	0	-1	0	-2
	Ave. $\Delta$	0.50	1.08	0.33	-0.08	0.00	1.33	0.64	0.33	0.67	0.08	0.27	0.18	0.09	0.09	0.23	-0.07	0.46	-0.08

The deltas suggest that responses in the post-workshop survey were more positive than in the pre-workshop survey. For the example, comparing responses to the items in Question 11, it would appear that workshop participants were more likely to ask the barangay (local office) for more information, look up low-lying areas on a map, and inform other residents of the warning. On the other hand, they were less likely to await further information from the barangay (local office). What this suggests is that, at least to a small degree, the workshop may have increased participants' willingness to act on partial information on their own --i.e., to empower them with a greater sense of agency.

Similarly, the responses for Question 12 indicate that participants were more likely to rewrite the technical bulletin, interpret its significance for local residents, interpret the accompanying map in non-technical terms, add additional information. On the other hand, they were no more likely to await further instructions from the agencies. As with Question 11, this suggests that, at least to a small extent, a greater empowerment to act on information on their own.

We have yet to determine whether these responses are statistically significant. However, this is preliminary workshop evaluation provides some encouragement that there may be beneficial effects of the workshop in terms of creating a greater sense of agency. Note, however, that some agency personnel may actually consider greater individual empowerment to go against rigid bureau protocol.

Responses to Questions 13, 15, and 17 seemed to be nearly the same before and after the workshop.

Increased post-workshop responses to Questions 14 and 16 suggest that participants feel messages should be addressed directly to specific groups of people or populations and messages should contain all the information on a map.

## **Appendix C**

### **Samar Workshop Photos**

## Attendees



## Workshop Sessions



## Closing

