Good Neighbors, Good Response: Roxas, Capiz Post-Haiyan

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ABSTRACT

The Philippines' risk communication system relies on information dissemination, which disregards local capacity for managing risk. This research aimed to examine risk communication in Roxas City, an important economic center working on capacitation after damage by Supertyphoon Haiyan. Guided by Encoding–Decoding theory, the researcher interviewed government officers and facilitated discussions at coastal and inland communities. The researcher found that local government viewed communities as audiences who intuitively knew what to do with scientific information. The coastal community had indigenous knowledge but acted based on fear of sanctions. The inland community discussed information from media, which led to community decision-making. These findings imply that local governments should consider the role of social networks unique to different communities when planning risk communication and hazard response.

KEYWORDS: risk communication, Haiyan, social networks, community decision-making

Introduction

Supertyphoon Haiyan damaged the Philippines in 2013. Since then, the country has spent millions of dollars to repair damaged infrastructure, housing, and agriculture. Warnings had been repeated on radio and television days before the storm, but research shows that these warnings, though grave in their

approach, were not specific to the needs of the diverse local communities in the path of the storm (Gomez & Cabilao-Valencia, 2015; Leelawat et al., 2014; Lejano et al., 2016; Montemayor & Custodio, 2014). The country's main agency for handling disaster risk, the National Disaster Risk Reduction and Management Council (NDRRMC), therefore instituted new measures to improve typhoon risk communication. These included evacuation drills, typhoon warnings written in each province's specific language, and science-based disaster education.

These measures are consistent with the work of the NDRRMC, which passes warnings from the national weather bureau to local governments at the regional, then provincial, then city/municipal level. This chain of transmission is used by different governments across the world where the speed of getting information to at-risk areas is of high priority (Das, 2019; Lindell et al., 2007; Paul et al., 2010). The measures, moreover, are consistent with how risk management programs operate: there is a stress on disaster education, extensive drilling, and science-based disaster policies (Cutter et al., 2015; Dator-Bercilla et al., 2017; Gomez & Cabilao-Valencia, 2015; Montemayor & Custodio, 2014; Norton et al., 2011; The World Bank, 2016).

However, this model has its pitfalls. First: It assumes that simply passing information from one group to the next will result in people immediately obeying orders and doing so in the long term— and this is sometimes done without first acknowledging audience capacity, carrying out research on community characteristics, or gathering feedback from an audience on how it understands warning information (Abbot & Wilson, 2015). The one-way communication approach consequently assumes that all communities consume information in the same way, require only information to make decisions (Lindell & Perry, 2004; Trench, 2008), and will act on the information uniformly regardless of the community's culture (Das, 2019). Second, reliance on scientific information alone to create risk messages assumes that it is the government's duty to give capacity to communities rather than develop the agency that already might exist in communities (Abbot & Wilson, 2015; Spiegel, 2017). Third, by focusing on the message rather than the

community that receives it, risk communicators might disregard the roles of supporting infrastructure, trust networks and social capital, and indigenous cultures in risk decision-making (Bankoff, 2007; Gomez & Cabilao-Valencia, 2015; Montemayor & Custodio, 2014; Priest, 1995).

Research does show that risk decision-making is based on a variety of social factors. People might wait for peers to act (Baker, 1991; Lindell, 2018), elders to advise evacuation (Das, 2019; Sharma et al., 2009), or more information to confirm that the storm is truly dangerous (Lindell, 2018; Lindell et al., 2019). When people do not have access to broadcast media, they might rely on their environment or peers for clues on what to do when faced with flood hazards (Baker, 1991; Lindell, 2018; Lindell et al., 2019). There, too, are problems with relying on information without studying local perceptions: some people might claim false experience, in that they believe they already experienced the strongest storm possible, and therefore cannot imagine how much more violent a storm can be (Baker, 1991; Lindell, 2018); or they might fall prey to normalcy bias, where they might have been on the less violent side of a storm, and will therefore think that future warnings will result in the exact same conditions (Drabek, 1986, as cited in Mayhorn & McLaughlin, 2012).

These wide varieties of risk experiences have prompted researchers to call for more nuance in risk communication, via more research into the sociocultural factors that influence how the public understands and acts on risk (Lejano et al., 2016; Lindell, 2018; Priest, 1995; Wibeck, 2014), how different audiences construct risk (Cruz, 2013; Priest, 1995; Stephens et al., 2009), how local understanding shapes risk processing (Cruz, 2013; Lejano et al., 2016), the role of indigenous knowledge in risk response (Gomez & Cabilao-Valencia, 2015), and local understandings of risk (Lindell et al., 2007). Such studies are needed in the Philippines, a multilingual, archipelagic country that has long been hit by a variety of disasters, and where such disasters seem to have become a way of life to be adapted to, rather than an abnormality for which people must prepare (Montemayor & Custodio, 2014; Porio, 2011).

While extensive training of local governments has been suitable for some areas in the country (Gaillard et al., 2008; Gotangco & Ponce de Leon, 2018; Scolobig et al., 2012), attention should also be paid to the role of the character of the community itself. A disaster can create a shared experience, which strengthens community bonds that enable rapid disaster response and better community coping later (Gaillard et al., 2008; Norris et al., 2008; Robles & Ichinose, 2016; Scolobig et al., 2012). For example, strong community ties in flood-prone Alpine regions (Scolobig et al., 2012) and Philippine communities (Gaillard et al., 2008; Robles & Ichinose, 2016) encourage people to prepare for a storm, and help them recover faster after a flood. Monsoon hazard-prone communities in India that have weaker social networks also have lower evacuation rates (Das, 2019; Sharma et al., 2009).

This researcher has also carried out previous work on Haiyan-affected communities: Guiuan and Palo on the Philippine Eastern Seaboard (Ponce de Leon, 2020a; Ponce de Leon, 2020b), Coron on the Western Seaboard (Ponce de Leon, 2021a), and Camotes in the central region (Ponce de Leon, 2021b). Risk decision-making was varied in these locales. Eastern seaboard towns waited for environmental cues to match a warning or relied on government orders to leave. Coron communities worked proactively after the community experience of Haiyan. Camotes communities seemed forcibly bonded by their purok system of governance, but not all communities obeyed evacuation orders immediately or even knew what they meant.

The researcher's previous work has shown that different areas in the Philippines have their own responses to risk and understandings of warning messages. To reduce the work of risk communication to mere translation and transmission of hazard information, therefore, risks the possibility that another disaster will occur when a major storm arrives. The researcher's previous work, moreover, has focused on areas that are used to storms, but are still struggling with the task of rebuilding and rehabilitation (Eastern Seaboard and Camotes), or areas that have not yet experienced major storms and are still coming to know the nature of the risk (Coron). While much can be learned from these areas, there can also be lessons to learn from areas that have experienced major storms throughout

history, but have found ways to deal with the aftermath of Haiyan by allowing communities to work with their own communication capacity.

Roxas City, Capiz, is one such municipality that has been hit repeatedly by storms (Agnes, November 1984; Fengshen, June 2008; Haiyan, 2013; Phanfone, December 2019). Located in the central islands of the country, Capiz is surrounded by an inland sea rich in a variety of marine life. Dubbed "the Seafood Capital of the Philippines," Roxas is a major seafood exporter to Taiwan and the U.S. (Capiz, 2021), making it an important center of livelihood and commerce. The city covers 47 barangays, or communities, housing over 167,000 people as of 2017 (Capiz, 2021).

When Haiyan came, the storm's powerful winds destroyed major infrastructure, and caused millions in damage to livestock and housing (Department of Interior and Local Government, 2015). The city has received different aid packages, such as programs in psycho-social counseling, feeding, children's rights, and housing (Embassy of Canada in the Philippines, 2021), but it has also been able to build its own multistory evacuation center, draw up disaster management plans, and allow communities to build their own communication systems. The Roxas City local government has also worked on ensuring that houses in the area are stronger, to prevent the widespread damage brought by Haiyan (Department of Interior and Local Government, 2015).

Roxas City is an interesting location to study: it is an important contributor to the country's economy, is frequently hit by typhoons, but is beginning to change its approach to risk communication by carrying out more community-specific work. This is in contrast to other provinces, which still rely on national government bulletins and orders before responding to natural hazards. A study of Roxas City's risk communication, therefore, can provide information and insights that other provinces can use to develop their own community-specific risk communication practices. This research can also be important in understanding how government approaches to risk communication are understood and consumed at local levels. This research, therefore, works within a framework of risk communication that does away with the simple transmission of warnings from national government to citizens. Instead,

communication is conceived as a process that can be influenced by local perceptions and understandings of risk.

This research, therefore, aims to study Roxas, City Capiz, and how it used its experiences with Haiyan to carry out risk communication. In particular, this research looks at the role of social ties in risk communication, whether the goals of information from different parties align with those of the community, and how community members understand storms as hazards.

Theoretical Framework

To examine the case of Roxas City post-Haiyan, this research required a theoretical framework that conceived communication not as mere transmission to a receptive audience, but a path of information where both audiences and authors draw upon different sources for their own unique understanding of a risk message. Stuart Hall's Encoding–Decoding Theory (Hall, 1977, as cited in During, 1993), with its roots in cultural studies, is appropriate for this need: those who send the message (encoders) have their own understanding of a message, and draw this understanding from frameworks of knowledge and their own social capital; those who receive the message (decoders) have their own understanding of the message sent by the encoders, and have their own unique frameworks of knowledge and social capital from which to draw their own understanding.

Frames of knowledge are prior information that the encoder and decoders have regarding a hazard. Social capital refers to any of the social groups that the community trusts enough to draw information in order to make decisions (Abad, 2005). This might include people within their community, outside of it but within the same vicinity, or social institutions (Porio et al., 2015). Prior research has shown that people might wait for their peers or elders to act when hazard information is given (Baker, 1991; Das, 2019; Lindell, 2018; Sharma et al., 2009). The disaster itself also bonds a community, and these bonds can be studied as a form of social capital that enables community coping and rebuilding (Gaillard et al., 2008; Norris et al., 2008; Robles & Ichinose, 2016; Scolobig et al., 2012).

Because these frameworks of knowledge and social capital differ between encoder and decoder, their understanding of the same message will likewise differ regardless of how well intentioned the encoder is in crafting the message (Aligwe et al., 2018).

Encoding–Decoding theory does not prescribe or predict an outcome, and does not concern itself with whether or not people understand a message. It focuses on the cultures that surround the encoders and decoders that allow them to perceive messages in specific ways. The theory can explore the dissemination models used in the Philippines while still allowing researchers to critique the assumptions made about the linear path of information. This theoretical framework, therefore, can allow researchers to examine how community knowledge and social ties all play a role in how a message is understood.

In this research, the theory is used to examine the path of information from the local government of Roxas, Capiz (encoders) to two different locations, hidden under generic place pseudonyms: Coastal, a seaside community; and Inland, a city community. Previous research on various communities in other locations shows that people might rely on their environment for cues to evacuate, especially if they lose access to broadcast media (Baker, 1991; Lindell, 2018; Lindell et al., 2019). This implies that different surrounding environments might also lead to differing understandings of risk, and therefore different understandings of the same warning message.

In each community location, the researcher further investigated the path of information by gathering data from locally elected leaders, who oversee passing information to their constituents; as well as community volunteers, who represent the citizens and recipients of this warning information. When all this data is re-assembled into the path of Encoding–Decoding, the researcher can see how information passes from the local government to two different communities, and how each community can have its own understanding of a warning message based on its prior knowledge and social ties.

Methods

The researcher used a qualitative approach guided by Encoding–Decoding Theory to interview Roxas City's City Hall staff (encoders) and then carry out focus group discussions (FGD) with community leaders and volunteers at two communities: Coastal and Inland.

The researcher emailed the chair of the Disaster Risk Reduction (DRR) office in Roxas City Hall through mutual contacts, asked for recommendations on which officers to interview regarding Haiyan response and rehabilitation. The office recommended the city planner, who had been present during Haiyan and was in charge of rebuilding; as well as a DRR officer who worked on risk communication projects. The researcher then asked the office to coordinate with the community leaders so that the leaders could select the best day, time, and location for community FGDs. This referral sampling method allowed the researcher to talk with key informants in Roxas City who would be most knowledgeable and experienced about Haiyan and its aftermath.

The researcher first interviewed the DRR officer, then the city planner, upon arrival in Roxas City. The interview questions corresponded with aspects of Hall's framework: their sources of information, how they sent information, how they designed the information and why, the lessons learned from Haiyan, and how they changed their communication methods after Haiyan. All these interviews were audio recorded with the participants' consent.

After these interviews, the DRR officer accompanied the researcher to each community, and then introduced the researcher to the community leaders and volunteers, together, in a large room in the community hall. To introduce the participants to the research, the researcher's co-principal investigator gathered demographic data via a survey that the group filled out during the large discussion (the data for this part of the research is for a separate paper using quantitative approaches). As this was carried out, the researcher, a native speaker of the local language (Hiligaynon), asked participants about the latest storm they had experienced, what their community was doing for disaster rehabilitation, and, in general, what their community was like when there were no storms. This helped to lighten the mood of the session, which

helped participants warm to each other, exchange jokes, and establish rapport early with the researcher.

The researcher then carried out two (2) focus group discussions (FGDs) at each community: one for local leaders, and another for community volunteers. FGDs help researchers clarify shared knowledge and experiences in a community, unearth narratives about an event and the participants' perceptions, and examine differences in how participants articulate their experiences, all of which might be difficult to obtain through individual interviews (van Euwijk & Angehrn, 2017). FGDs are best for communities to tell their stories, but they might silence dissenting voices; discussions, therefore, must be designed to encourage all participants to be candid and welcome other opinions (van Euwijk & Angehrn, 2017). The use of FGDs was most suitable to solicit the community's narrative of its experience with Haiyan, using questions that walked the community representatives through the experience.

While the entire community had experienced Haiyan's wrath, the researcher needed a small discussion group. In general, the greater the knowledge and experience of the participants, the smaller the group (van Euwijk & Angehrn, 2017). The group sizes were uneven in the Roxas communities because some leaders were busy with local activities, or, conversely, citizens would be eager to participate and swelled group numbers. The researcher prioritized maintaining rapport with each community, so each community was allowed to dictate the numbers of each FGD. No one was forced to participate in the FGDs, and no one was turned away.

Discussion questions involved the participants' sources of information, what they had heard about the typhoon, how they reacted to evacuation orders, how their community changed after Haiyan, how they would have modified Haiyan warnings to suit their needs, and the lessons learned following the typhoon. All FGDs were audio recorded with the consent of the participants.

The interview and FGD questions were not asked in strict order. The researcher listened to participants, took note of which questions had already been answered, if an answer was vague and required explanation, and if the participants needed to be asked more questions to fully articulate their response. The researcher did not feed answers or information, but strove to make participants

answer as candidly as possible. Altogether, there were two inter-views at City Hall, and four FGDs, two at each location represent-ing leaders and volunteers (Coastal and Inland).

The researcher transcribed all interviews and FGDs, and then analyzed them separately using typological analysis proto-cols (Hatch, 2001). The researcher used specific codes from Hall's framework to examine the data: participants' sources of warnings, what participants heard, what they did with the information, why they acted the way they did, all communication behaviors after Haiyan, who the participants trust for information, characteris-tics of an effective warning, how people view warning messages, and lessons learned after Haiyan. The researcher added the code of institutional cultures for the local government interviews to analyze how the local government perceived the nature of their constituents.

The researcher coded the data, then read the data accord-ing to each code. The researcher looked for patterns (repeated data), relationships (connections among data points), and themes (abstractions from the data) under each code, and then across all codes. The researcher then assembled the patterns, relationships, and themes into a master outline, which guided the discussion of the results. The researcher coded the data one last time using this master outline, and used this coded data to provide evidence that would guide the discussion. Separate master outlines were cre-ated for the local government, Coastal, and Inland. These separate master outlines are presented as the Results and Discussion in this paper.

The Results subheading contains direct quotes from the data, which were translated from the native Hiligaynon by the researcher. All participants are provided pseudonyms to conceal their iden-tities: CP (City Planner), DRR (Disaster Risk Reduction Officer), Councilor (Village Council Member), and Citizen (Citizen Volun-teers). If the discussants built on each other's statements, overlapped on each other's words with the same sentiments, or said things at the same time, their statements are shown as Chorus. Some quotes have been shortened using ellipses (. . .) to denote removal of non-essential words or phrases, or four-dot ellipses (. . . .) to denote removal of nonessential sentences.

Results

The researcher first visited Roxas City Hall. Various disaster education materials were written in the native language, printed on tarpaulins, and posted on different floors of the building. There seemed to be an expectation that passersby would read these at their leisure, but the strategy points to a reliance on information dissemination: there was no one to discuss the information on the tarpaulin with whoever chanced to read it, so that there was no integration into a community or recognition of local contexts.

The DRR officer knew the intricacies of laws and executive orders, and despite not having been with the office during Haiyan was very much familiar with what had occurred in city hall. Those who had been involved in Haiyan DRR could no longer be tracked down, but this officer had overseen improving DRR procedures and was therefore a valuable source of insight into the changing nature of institutional cultures.

Before Haiyan, the officer said, DRR employees were borrowed from other city hall offices. After Haiyan, DRR became a priority, such that staff members were hired for specific tasks. The DRR office recognized that it could not function properly if it continued to operate in a top-heavy, national-government-dependent fashion, and if it relied on disseminated information. The officer, for his part, wanted to engage communities better, but his techniques for doing so were still rooted in one-way information dissemination models: he would check online applications to monitor the weather, then send out warnings through social media so that people "on the ground" could spread the word about coming storms. He called the information he sent "basic": a storm's path, where it would hit and when, and how strong it would be. He admitted that there was no feedback mechanism that allowed him to check if people received and acted upon the information he provided, only that he knew he had a counterpart in each community to whom he could send information. He did, however, recognize the need to improve his work: he would undergo constant training in DRR, took climate change planning seriously, and disclosed that city hall was slowly considering the role of local communities in rehabilitation and relief.

When asked about the Haiyan warnings given by the local government, the officer implicitly mentioned how such warnings did not emphasize preparation:

> **DRR:** We were just told to stay at home. That's become the standard during typhoons. Stay safe, stay at home. But the context of preparing, stockpiling, those weren't really emphasized.

He admitted that the local government and most of Roxas's citizens underestimated Haiyan's strength. The government, therefore, gave a generic warning that asked people to stay indoors, as it was a template that had long been in place—a template which, in Haiyan's case, was obsolete, if not dangerous. The people simply obeyed and waited for aid after Haiyan damaged Roxas City, which encouraged a mentality that worked against what city hall later aimed to change.

> **DRR:** . . . you shouldn´t be helpless, hopeless . . .that´s what the international help created, that people will wait and think there will be "good people" that will help us when a disaster strikes.

City hall wanted to encourage proactive thinking and doing in the population. This, the officer said, would come after they "educate the community on the early warnings" which would then make people know what to do with hazard information.

> **DRR:** For example, signal 1, that´s not really strong, so stay at home, keep yourself updated . . . signal 2, 3 prepare to evacuate, turn off all your utilities so that your house is safe . . . what we also want to ensure is public safety, because for example if they do evacuate, then their house is safe and secure.

The city planner reflected some of the DRR officer's ideas on risk communication, but also provided additional insights on the state of the local government before Haiyan struck.

> **CP:** It was just called a super-typhoon, but there was no information on how super . . . we were just picturing the past ten years. Because in the last ten years . . . every ten years we really get hit by a storm. In the last storm we had a lot of fatalities, but before that we didn´t have a disaster office.

In the absence of information on the vague "super" qualifier, city hall reverted to prior experiences. They called for an evacuation of citizens living on the coast, but most people did not obey, and claimed that it was simply a typhoon that was like any other they had experienced in the past.

When Haiyan hit, it destroyed livestock, agriculture, and houses; but it was not this aspect that the interviewee focused on. Rather, the city planner spent more time discussing how the local government learned that it had to be more alert and prepared, stricter in its building safety rules, and more comprehensive in its approach to risk management. The city even used its budget to build evacuation facilities with their own kitchens and restrooms so that citizens would be prepared for the next big storm. Many of the city's disaster management personnel, moreover, were still undergoing training because, in the words of the city planner, another Haiyan would probably come in 6 years.

While the push to educate more citizens is commendable, it appears that these encoders assume that people will intuitively use scientific information to imagine future scenarios and take action, and that the government is tasked to give this information and provide infrastructure to protect people from a hazard. This is consistent with the dissemination model, reflected in previous research on Haiyan community leaders (Gomez & Cabilao-Valencia, 2015; Montemayor & Custodio, 2014). In this model, the encoders assume that the audience is obedient and requires only scientific information to take action (Cutter et al., 2015; Norton et al., 2011; The World Bank, 2016) even as both interviewees kept using the word "empowered." As encoders, City Hall sees their job as that of givers and instructors, and training is meant to instill obedience.

Coastal: A System of Sanctions

Coastal is located on an islet, and can be accessed only by heavy vehicles on a single-lane, partly-cemented road next to the ocean. While the community hall is clean and well furnished, the community itself is dusty, with some houses made of light materials, and with a once bustling women's center now an empty, mud-stained tent. Bordering the community is the captain's lands, where

fighting cocks are raised by the hundreds. There is much talk about the captain, most of it grateful: the captain operates on scare tactics, threatening to boot out those who do not obey orders.

The community has a series of loudspeakers to broadcast warnings, but this is supplemented by interpersonal communication: elected community councilors go door to door to repeat announcements regarding relief and evacuation. The councilors knew who everyone was, where everyone lived, and what everyone was doing. There was a system in place that local officials enabled, perhaps out of fear, or at least under strict orders from their captain. However, they still waited for orders; the system of warnings seemed to exist outside their everyday lives.

The community leaders FGD comprised five councilors (three males, two females) who had also been leaders during Haiyan. They were all aged 45–60 years old, and all of them were fisherfolk. They said they were called to city hall days before the storm, but they had also heard about Haiyan every hour on television. The warnings, they remembered, were visual, but the instructions on what to do at the household level were unclear.

> **Councilor1:** Be alert, ma'am, they said, because a strong storm is coming . . . and there might be strong winds, stronger than those of [Agnes].

> **Councilor2**: At the start ma'am, didn't they say, that when it hit Tacloban, it had a lot of impact, so they declared forced evacuation. All the Bureau of Fire people came here and forced people to evacuate.

They remembered hearing about a tidal wave coming (although some people vaguely remembered hearing the term "storm surge"); being near the sea, they started their roving system to spread the word. They knew what the surge would do: water levels would rise and flood their community. They did not pass on the message of a strong storm or a tidal wave, but instructed people to evacuate and carry their own food, medicine, water, and flashlights. Not everyone followed, so they started scolding people who would not leave. In the end, trucks came, people were moved out (except for a few who wanted to watch over their crops or livestock), and the community moved to the city.

The community officials were proud of their alert system. When asked what warning messages needed to contain, they simply claimed that other communities should adopt their system and obey government orders immediately, which they believed was a lesson they had learned from Haiyan. They added that people should get their things ready, because Haiyan already instilled fear. The choice of words was interesting, as they spoke in a similar manner about their community captain. Fear, it appeared, was what they believed would push people to action.

The officials, though proud of being able to warn their constituents early, also did not seek out hazard information themselves, despite the local government's hope that its citizens would take initiative. The officials kept their televisions on and waited for instructions from city hall. Only then would the officers relay the orders to the community.

The FGD with the community volunteers was large and enthusiastic: it comprised nine people, only two of whom were male, and all of whom were aged 40–60. As with their leaders, they came from fishing families. Their FGD on the whole showed that the warning system, though apparently fear-driven, was slowly gaining rationality. That is, the system was not simply one of evacuation at the slightest notice, but preparing for evacuation and knowing when to evacuate. People knew not only how to get ready, but what to get ready for.

The discussants remembered that they had heard the Haiyan warnings from community officials after they had heard the same information on radio and television. They constantly heard "supertyphoon" on radio broadcasts, and one participant imitated what the radio announcer had said exactly:

> **Citizen1**: All you who are sleepy in Roxas City, wake up because we have a super typhoon coming. Get your things ready: your clothes, medications, and get ready to evacuate.

The citizens remembered councilors making the rounds and telling people to evacuate. This was their system, they said, even before Haiyan. The participants themselves had been volunteers, and were assigned to specific households, where they were tasked to check on people.

> **Citizen1**: They do rounds, ma'am, not just once, but for as long as they see that the weather is bad.
>
> **Citizen2**: . . . we also help them.
>
> **Citizen4**: We go to the houses, we have assigned households, and we go straight to them.
>
> **Chorus**: Even before [Haiyan], that's what we were already doing.
>
> **Citizen2**: We go to all the households and we ask, "So, are you ready?"

This system of assignments was tested by Haiyan, and the system did its job, the volunteers claimed. Everyone obeyed, and no one was defiant, except for a few who had to watch over their crops.

This system of orders had long been in place, but people were still observant of their environment. They would get ready, they said, if they saw the sea swelling up to a certain height or shape; but they found it difficult to leave because their livelihoods depended so much on fishing. After Haiyan, however, this defiance became rarer, and people were jolted into faster preparation, though not necessarily blind evacuation. People simply prepared their things faster and were more alert, and the volunteers continued to monitor households.

> **Citizen1**: You'd be afraid, if there's news, you'd start preparing.
>
> **Researcher**: Do you evacuate immediately?
>
> **Citizen1**: We start preparing, and it's faster. If the weather is bad, you'd evacuate, but we'd already be prepared . . . Everything we used to do, [Haiyan] just made it faster. . . .
>
> **Chorus**: We're scared.
>
> **Citizen4**: Especially if someone's blowing a whistle and you see the neighborhood watch roving and making their rounds.

Far from being a mere Pavlovian exercise, it appears that the sound of alerts in the community, as well as news and prompts from the environment, all come together to create a vigilant

population. They claimed that most people already automatically knew what to do, to the point that the citizens were as proud of their system as the officials were. They recommended that warnings be like theirs: a "bagting" or a loud alert, which people knew about, and which would spur evacuation because it was almost "automatic." The warnings, they said, were enough; people should know that once the alert sounds, they have to evacuate, especially if they live in vulnerable places.

The system, though automatic, seems to be an alert that jolts people out of the ordinary, rather than a way of life that seems ingrained. Nevertheless, it is a system supported by the trust of the citizens in their captain, whom they felt was close to the city and therefore close to information. The community also trusted each other.

> **Researcher**: Who do you trust for information about floods?
>
> **Citizen5**: Here, if we see the water swelling, everyone just waits and is alert.
>
> **Citizen6**: We all are watchful . . .
>
> **Researcher**: What about evacuation, who do you trust?
>
> **Citizen5**: Here in the community, nobody gets left behind, we really have services here.
>
> **Citizen6**: People are taken to Roxas because the city will give us a place to go or stay.

It appears that Coastal has a smoothly running system that is local, interpersonal, strengthened by close social ties and alerts that have already been in place for years, and sped up by the experience of Haiyan. These strong social ties helped the community recover faster, consistent with previous research (Gaillard et al., 2008; Robles & Ichinose, 2016). The community's proximity to and reliance on the sea for livelihood also made people more vigilant and observant of their environment, even if they already had access to broadcast media (unlike participants in Lindell, 2018; Lindell et al., 2019).

In the case of Coastal, the information travels from a city hall that expects people to obey, to a community that waits for orders and signals, but also looks to its environment for cues. Evacuation decisions in this location, therefore, require a combination of fear-based jolts, close social ties, and knowledge of the ocean's behavior during a storm. Attention has to be paid, however, to the community's indigenous storm knowledge, as this might be a valuable source of warning information in the absence of alerts from city government.

Inland: A System of Neighbors

The Inland community is at the end of a cement road, surrounded by thick foliage teeming with mosquitoes, cut through by tricycles and cars. There is no zoning: there were schools right next to offices, large houses next to small ones. There also seems to be no sense of personal space: everyone talks to each other at close quarters.

Unlike Coastal, Inland has a less developed warning system, but it has closer friendship networks. The councilors' FGD comprised six people equally divided by sex, all of whom were 50–70 years old. Some of them worked odd jobs, while others sold dried fish.

The citizens, the councilors said, had once been complacent, but Haiyan had shown how people could be relied upon to deliver during times of need, and therefore had to be invested in. Before Haiyan, people could not grasp what the numbers of the warnings meant, but the storm had changed that. One official, who was especially participative, talked about the first warnings:

> **Councilor1**: 600 kph was very big, and I was already very alarmed. Then the captain told us at the community hall that a huge typhoon would be coming so we need to prepare. On November 5 the captain planned, and convened us.

Their captain then was scheduled for a liver operation that day, but nevertheless took the initiative of bringing in the officials, warning them, and getting plans in motion to evacuate people. The same participant claimed that doing so was difficult because

of people's complacency, which she defined as confidence brought about by previous typhoons.

> **Councilor1**: See, ma'am, here in Capiz, even before [Haiyan] came, we are a very complacent community. We survived [Agnes] in 1985, and Frank in 2002. The people here are too confident in themselves, so they didn't evacuate. So they said, we'll be fine, we'll survive this. We didn't anticipate the 200+ strong winds and the magnitude on the ground, Visayas was almost wiped out, we didn't grasp that.

The officials, nevertheless, kept to their system. The captain went from house to house and assigned the councilors to specific houses to warn people to leave. A few hours before Haiyan hit, the power was cut, leaving people with the last piece of news: Tacloban had been destroyed. Nevertheless, some people did not obey the summons to leave, among them those who thought that their houses were strong enough. Haiyan might not have wiped out Roxas, but it did leave lessons. To the councilor, it meant intensifying education and training, and to invest in preparing people.

> **Councilor1**: [Haiyan] was a lesson learned, and I think on my part as a community service provider, we need to intensify education, awareness, preparedness . . . we have to invest more in preparedness. It turns out that beforehand we need preventive measures, and we have to bank on preventive measures and invest in local resources.

The call to prepare as well as to invest in local resources is especially laudable, as this would allow for the local system to be more sustainable. There was some pushback for this councilor at first, since people wanted to "move on" rather than remember Haiyan as a lesson; in the same discussion, however, a fellow councilor reassured her.

> **Councilor1**: They said we shouldn't commemorate [Haiyan] . . . but we were involved intensely in that storm, so they should remember it . . . there were bad things that happened during [Haiyan], but we also have to remember the learnings and realizations. So how can we expect to recondition people's minds?
>
> **Councilor2**: It's not true for all places, I think the Haiyan financial assistance controversy hasn't been resolved to this day, so the memories will keep on coming back.

As with many other locations, people were more alert after Haiyan. Once evacuation warnings came for the next storm, the citizens of Inland themselves flocked to the evacuation center and brought their own food, and even called their officials to join them. Interestingly, the officials were wary of this brand of alertness, because it appeared that people were simply scared, but were not entirely cognizant of what their actions meant. There were calls in the group for context analysis, more data that was specific to location, passing on information that should have been at the community level long before Haiyan had struck, and an end to government bureaucracy. Most of them acknowledged that risk management was a long process.

There were still some counter-arguments, however, to the idea of solving problems at the community level. One councilor talked about how a lot of their problems are out of their control, such as land going to housing rather than agriculture (which would help solve food security) or forestry (which could control flooding). Nevertheless, the other members of the group answered that they would try, even if the process was long, to implement laws and work on solutions. They acknowledged that theirs was a system in development, which was echoed in the focus group with the citizens.

The citizens were joyful: they assembled a 10-person, all female group of 40–50-year-old housewives and fish sellers, who talked excitedly about their strong community bonds, but admitted that they still responded to threats rather than took action before these threats occurred. During Haiyan, everyone waited for information from broadcast media and their officials, who were going "section by section" to warn people. They heard information from a wide variety of sources: news, videos, and even a local soap opera, whose lead star participated in public service announcements:

> **Citizen1**: They show flashbacks of typhoons, they warn those at home, those families who haven't yet prepared before a storm.

> **Chorus**: They show all these storms . . . these flashbacks on TV.

> **Citizen2**: And they show Cardo, and his safety tips! (laughter)

They heard warnings on the radio all day, warning them of a dangerous storm. They remembered the councilors roving the community and telling people to leave. They also remembered how some people refused to leave because they had strong houses, or were afraid of being stolen from. This conversation quickly turned to joking, as the group laughed at those who stayed at home, and who, at the height of the storm, had to literally run after their flying roofs.

This community had its share of people who refused to evacuate because of the current weather, which was warm and dry. The citizens nevertheless stowed away their electronic appliances, secured their houses using rope, and cut down trees that could be felled by the storm, all because "nothing would be lost if we obeyed." Even as this might appear like blind obedience, it nevertheless shows that the current system of warning works to override the default setting of complacency. In the case of Inland, this system is supported by strong social networks between neighbors. Everyone talked about the news and relayed the information to those with no access to radio or television. This, it appeared, was a habit they had long nurtured:

> **Citizen2**: Of course our neighbors talk to each other.
>
> **Citizen3**: That there's a typhoon coming, it's really strong.
>
> **Citizen2**: And they already have a warning, they warn each other to prepare because this is going to be big.
>
> **Citizen4**: Supertyphoon!
>
> **Citizen5**: We need to evacuate if our houses are made of light materials.
>
> **Citizen6**: . . . there are some people that don't have radio or TV.
>
> **Chorus** (overlaps, as people say they spread out information, they tell each other what they heard)
>
> **Citizen6**: Yes . . . it's been this way for a long time . . . others with radio will relay to their neighbor.

The citizens talked to each other regularly after Haiyan "just so everyone knows what's going on." Haiyan, therefore, was not only a lesson in evacuating when told; it was a way to strengthen already existing strong social ties. Haiyan had taught them skills like carpentry, to prepare and be alert, and not to wait. But Haiyan, too, had taught them unity:

> **Citizen7**: It's just us [in charge of our lives], so if we end up fighting, well . . .

This strong social bond was reiterated as the citizens talked about trusting their community leaders because roving was regular, and because roving happened whether or not an announcement was made on the radio. People, too, would keep talking about what they heard. "You'd have to be deaf to not know that something is happening," Citizen1 joked.

Some participants also added how refusal to evacuate is, in not so many words, shortsighted. When people do not evacuate, they look at only what is in front of them (their livelihood) rather than how they can affect other people. This was a side discussion, but it is worth noting because of its reflexive nature.

Inland was a surprising case largely due to its reflexivity: people commemorated Haiyan to look back on the lessons they still had to learn, they wanted people to know what their actions meant and not simply obey, they recognized the role of research and the need for context-specific information, and they accepted the long-term task of risk management. This reflexivity is new and did not emerge in any of the researcher's previous study sites.

Inland's social capital is extremely interlinked, and these bonds were around even before Haiyan; these bonds allowed Inland to carry out disaster response efficiently and cope better with the impacts of Haiyan, the way that previous research predicted (Gaillard et al., 2008; Norris et al., 2008; Scolobig et al., 2012).

In the case of Inland, the information travels from a City Hall that expects people to obey, to a community that consults with each other when warnings come and uses its previous experience to craft decisions. Evacuation decisions in this location, therefore, are made on a combination of social ties and lessons learned, again making this inland group distinct in its construction of risk. In the

case of this community, media messages are prompts for conversation, which then lead to group action. While some researchers might characterize this as milling (Lindell, 2018), the community might simply have its own ways of constructing an evacuation decision. Attention, therefore, has to be paid to these endemic networks and how they can make risk communication more efficient.

Discussion

In Roxas City, the local government wants its constituents to think independently, but focuses on disseminating scientific information, which it expects communities to understand and use uniformly. The communities' response varies: Coastal obeys on pain of sanctions by local leaders, but has its own indigenous knowledge that helps it understand changes in the environment that could prompt evacuation; Inland, on the other hand, discusses the news it watches to make decisions as a community, but also reflects on its previous experiences as a way to sustain rebuilding.

Each community also has unique social capital that the local government needs to recognize: Coastal's social capital tightly binds a community that is afraid of its leader; Inland's social capital is about neighbors sharing news and decision-making. These community-specific characteristics show that simply disseminating scientific information, as prescribed by previous literature (Cutter et al., 2015; Dator-Bercilla et al., 2017; Gomez & Cabilao-Valencia, 2015; Montemayor & Custodio, 2014; Norton et al., 2011; The World Bank, 2016) is insufficient. Instead, local governments need to work with local communities to create risk communication that works best in specific contexts.

True to previous research, different communities consume information in different ways, do not require information alone to make decisions, and have local cultures, indigenous knowledge, and trust networks that have to be taken into account (Baker, 1991; Bankoff, 2007; Das, 2019; Lindell & Perry, 2004; Lindell, 2018; Lindell et al., 2019; Priest, 1995; Trench, 2008). The communities in this study were located in the same city, but their risk decision-making was different: Coastal had both indigenous knowledge and fear of sanctions; Inland relied on discussions among neighbors and its memories of Haiyan. In both cases,

however, were strong community bonds that helped people cope with disasters that followed Haiyan, which is something consistent with previous research (Das, 2019; Gaillard et al., 2008; Norris et al., 2008; Robles & Ichinose, 2016; Scolobig et al., 2012; Sharma et al., 2009). There are some new aspects that beg further research: the tight sanctions that a community interprets as trust, and the reflexivity that helps a community remember storms as lessons that they must continue learning.

Conclusions

Risk communication practitioners often advise translating warnings, increasing disaster education, making warnings context-specific, and improving information dissemination (Baker, 1991; Cutter et al., 2015; Dator-Bercilla et al., 2017; Gomez & Cabilao-Valencia, 2015; Lindell, 2018; Montemayor & Custodio, 2014; Norton et al., 2011; The World Bank, 2016). However, more recent research has shown that every community has its own communication needs and social characteristics, and that to reduce communication to mere transfer of knowledge shortchanges the complexity of the risk communication process. This implies that communities should be studied for their unique constructions of risk and consumption of warning information (Lejano et al., 2016).

In this research, the author examined Roxas City, Capiz, as a Haiyan-affected community from which future researchers might gather insights on risk communication and community social ties. In particular, the researcher aimed to study the city's experiences with Haiyan and the lessons it learned in risk communication to examine the role of social ties in risk communication, whether the goals of information from different parties align with those of the community, and how community members understood storms as hazards.

The researcher found that the Roxas City local government wants an empowered population only in word, but actually wants its people to simply obey. Each community, however, already has varying ways of consuming warning information. Coastal has a system of sanctions that pushes it to obey warnings, but the citizens still use some form of indigenous knowledge to read the weather before they choose to evacuate. Inland has a system of

good neighbors that helps it understand the information in warnings and therefore spurs action, but also has a reflexive nature to help it learn from previous hazards.

The findings of this research show the distinct character of the city compared with other Haiyan-affected areas in the Philippines investigated by the researcher. In Coron (Ponce de Leon, 2021a), the researcher found a relief goods distribution system that had long been in place; Haiyan's arrival tested this system, which then bonded the community. In Camotes (Ponce de Leon, 2021b), a system of passing warnings was used to bond the community, but pre-existing power struggles made the supposedly empowering system oppressive to some citizens. In the Eastern Seaboard (Ponce de Leon, 2020a; Ponce de Leon, 2020b), citizens assumed that disasters simply happened, so they learned to simply keep meeting disasters rather than prevent them.

In Roxas, the communities had strong social ties to begin with. Adding a system of force (Coastal) or media warnings (Inland) allowed warnings to spread, and for the system to be refined post-Haiyan. This research shows that the community character itself can dictate how communication is consumed; moreover, the social ties of a community, whether they are built on authority (Coastal) or cooperation (Inland) can change how a community constructs how it should approach a hazard.

These findings have implications for how a community interacts with its environment to make decisions. Coastal's citizens use indigenous knowledge to discern the behavior of storms. Their indigenous knowledge comes as no surprise, as the research participants were fisherfolk who used their understanding of their lived environment to guide their livelihood. Inland's citizens have a reflexive nature in that they can look back on storms and see how hazards are meant to teach lessons for future events rather than be mere isolated occurrences to later be forgotten. This more cosmopolitan thinking might be due to the fact that the participants were city dwellers, less reliant on the environment for their livelihood, and with perhaps a higher degree of education that gave them the capacity to think critically of past events.

These findings have implications for Encoding–Decoding as a model. Hall's theory took into account social capital as networks

among people, which includes with it the concept of trust. Emergent in this paper is the concept of sanction and authority as an imposed form of trust. The question arises: can trust be forced, so that a lack of questioning becomes trust, by default? Also interesting is reflexivity, as it appears that commitment of events to collective memory can also be another source of capital from which to draw risk-related decisions.

This research shows that local governments, as well as future research, should examine social networks that are already endemic to a community, incorporating indigenous knowledge, and using community reflexivity. All these characteristics play an important role in risk communication, above and beyond the information being transmitted, and can enable a community to recognize and use its own capacity to respond to and rebuild after future hazards. Risk communicators should therefore partner their work in disseminating information with first assessing a community's needs and character, and then working within these indigenous networks rather than simply handing out information wholesale.

This study focused on only one city in a Philippine province. Its results cannot be extrapolated to other provinces in the country. Nevertheless, the methods used in this study can prompt researchers to examine other locations in the country, all of which have their own identities and unique attributes, as a way to also examine how disaster risk reduction can be carried out in ways that can best benefit communities.

The researcher chose to carry out FGDs with local communities in order to gather the most data possible in the shortest amount of time, all while engaging the community in a conversation that would help them reveal and negotiate their opinions as a group. The FGD approach, however, can silence community members who feel that their dissenting opinion will cause rifts in the group, or who feel that expressing any form of dissent will also lead to broken social relationships outside of the research. While the participants in this study were nevertheless bold in their remarks despite some disagreements, future research might consider interviews with community members who experienced violent and damaging hazards in order to examine more personal perspectives on risk communication.

Hall's Encoding-Decoding is useful when studying communities and the capital from which they draw their understanding of the world. On a psychological level, however, other theories might be used to gain a deeper understanding of people's experiences and personal meaning-making. Future research might consider a broad-based, quantitative approach to glean large-scale opinions on decision-making. The data gathering process was also carried out over the period of several days, which provides only a snapshot of the experiences of the community. Future research should consider site immersion and longer engagement with the community to unearth even more constructs on risk and communication.

This research nevertheless provides a specific view of a Philippine community that contributes substantially to the economy, but that was nearly crippled by one of the most violent storms in modern times. It is hoped that this study can be of use to researchers who wish to explore how specific communities, which might have their own understandings of reality and networks through which information moves, and which draw on other forms of capital to make meaning of their world.

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