

## An Evaluation of Emergency Preparedness of Local Government Unit on National Calamities

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**Abstract** – This descriptive survey method was used to evaluate the Emergency Preparedness practices of Local Government Unit Municipality of Calinog on the National Calamities specifically the Typhoon Haiyan hit the town last November 8, 2013. The findings revealed that in preparing for the storm, the respondents preferred to contact a local geologist or country planning department; in making sure the family knows the name, address, and phone number of the contact person, they prefer to post emergency phone numbers at every phone; during flood watch and warning, the respondents preferred to gather the emergency supplies you previously stocked in your home and stay tuned to local radio or television station for updates; when it comes to an emergency supplies at home, the respondents have several cleaned containers of water, large enough for a 3-5 day supply of water; in preparing to evacuate, they prefer to fill their vehicle's gas tank and make sure the emergency kit for their car is ready. Finally, when ordered to evacuate, the respondents preferred to take only essential items.

**Keywords:** Evaluation; Emergency Preparedness; Local Government Unit; National Calamities.

### I. INTRODUCTION

Typhoon Haiyan, considered the strongest typhoon ever, with sustained winds of 234 kph and gusts of 275 kph, made landfall in the Philippines on 8 November 2013. The winds, torrential rain and tide surges severely affected nine regions in the entire nation; 36 provinces, 39 cities, 343 Municipalities and 1,741 barangays. The super typhoon “Yolanda,” hit the Province of Iloilo City specifically in the municipality of Calinog, displacing thousands of families and destroying houses and a man and his son were killed after they got electrocuted in Badlan Calinog due to these national calamities but the victims would have been saved of the Local Government Unit and the people were prepared.

Through a series of common managerial functions, mitigation, preparedness, response, and recovery, emergency managers can organize their programs for an all-hazard approach through implementing a series of broad strategies and specific tactics (Lindell and Perry, 1992 and Drabek, 2004).

Wai Man Fung & Yuen Loke (2010) cited that being prepared for disasters can minimize damage to our health, lives, and property. Families with young children are particularly vulnerable during disasters. Most of the householders considered the SARS outbreak have been a disaster. They considered that the disastrous events most likely to occur in Hong Kong were infectious disease outbreaks and major transport accidents. In preparing for unexpected events, these families reported having stocked up on “young children’s necessities” and “medications” sufficient for three and seven days respectively. These families also kept a flashlight with adequate batteries, extra blankets, and a first aid kit at home for safety. They reported “panic buying” for necessities during previous typhoon strikes and infectious disease outbreaks. Only considered themselves adequately prepared for disasters. Although the families with young children are prepared for

disaster to some extent, their preparedness is still considered grossly inadequate and in need of public attention.

Kumar Mishra (2012), identify floods pose significant risks to the country’s population, several institutional incapacities in terms of weak extension services, poor coordination across administrative bodies and line agencies, dysfunctional relationship between the planner and the affected groups, poor implementation and skewed government intervention which lead to suboptimal output. Furthermore, in order to minimise losses in such a situation, it is necessary that a system be created for increasing preparedness at all levels, that is, government, civil society and community, to effectively reactivate these institutions in performing the roles they are intended for.

According to Faith Ka Shun Chan; Mitchell; Adekola and McDonald (2012), flood risk is increasing due to urban growth, which makes people more vulnerable and threatens economic assets, and due to factors that increase flood hazard, including reduced delta aggradations, subsidence though natural resource extraction, and climate change, including extreme weather events, such as typhoons, and sea level rise. The flood risk is substantial, but flood risk management appear to suffer through a lack of sufficient strategic planning, and the difficulty of defending deltaic cities through traditional engineering approaches alone. Drawing on lessons from flood risk management internationally there are ways forward in developing flood mitigation strategies for deltaic cities in the region, which deserve further exploration.

The researchers firmly believe that emergency preparedness of local government official of Municipality of Calinog and Municipal disasters office seek to promote safer, less vulnerable communities with the capacity to cope with hazards and disasters. Furthermore, they protect communities by coordinating and integrating all activities necessary to build,

sustain, and improve the capability to mitigate against, prepare for, respond to, and recover from threatened or actual natural disasters and the use creative and innovative approaches in solving disaster challenges and value a science and knowledge-based approach based on education, training, experience, ethical practice, public stewardship and continuous improvement. In order to find out what is really happening in the field, the researcher decided to conduct this study particularly in the Municipality of Calinog.

## II. OBJECTIVES OF THE STUDY

The main objectives of the study were to evaluate the Emergency Preparedness practices of Local Government Unit Municipality of Calinog on the National Calamities specifically when the Typhoon Haiyan hit the town.

## III. MATERIALS AND METHODS

This descriptive survey method was used to evaluate the Emergency Preparedness practices of Local Government Unit Municipality of Calinog on the National Calamities specifically the Typhoon Haiyan hit the town last November 8, 2013. The data gathering was done from November 15 to December 15, 2013. A comparison of data was done because the respondents were composed of two groups. Thus, there was a need to verify views and statements using the researcher made questionnaire.

The first group of respondents was identified through the following criteria: having lived in the Poblacion area is composed of four (4) barangays, namely: Poblacion Centro, Poblacion Ilaya, Poblacion Delgado and Poblacion Rizal Ilaud. There is a proposed additional five (5) barangays to be included in the rural land area. They are Barangays Carvasana, Dalid, Simsiman, Bo. Calinog, and Libot. They will constitute the greater Poblacion area, Barangays officials, and the people who are affected of Typhoon Haiyan. The selection was coupled with a snowball sampling where an interviewee would recommend another prospective respondents. The first group of respondents were composed of elected Barangays officials the second set of respondents chosen through convenience sampling should be people who are affected of Typhoon Haiyan who could represent the community of Poblacion area is composed of four (4) barangays, namely: Poblacion Centro, Poblacion Ilaya, Poblacion Delgado and Poblacion Rizal Ilaud. There is a proposed additional five (5) barangays to be included in the rural land area. They are Barangays Carvasana, Dalid, Simsiman, Bo. Calinog, and Libot. These were composed of a businessman, government employee, farmers, a member of Philippine National Police, and Municipality Utility workers.

The researchers personally sought the permission of the respondents to be part of this study through face-to-face encounter. The main purpose of the present study and the process by which the respondents were chosen were explained to them thoroughly. Then an oral consent was secured before the actual gathering of data were scheduled and conducted. The respondents were given 20 to 30 minutes to complete the data-gathering instruments.

Upon retrieval of the accomplished instruments, the obtained data were coded, tallied, computer-processed, and

interpreted. The statistical tools used were frequency counts, and percentage analyses descriptive statistics.

## III. RESULTS AND DISCUSSION

The 133 respondents came from 9 barangays of the Municipality of Calinog. 21 from Poblacion Centro, 20 from Poblacion Ilaya, 17 from Poblacion Delgado, 16 from Poblacion Rizal Ilaud, 15 from Barangay Carvasana and Dalid, 10 from both Barangay Simsiman and Bo. Calinog and 9 from Barangay Libot. Table 1 presents the data.

Table 1. Distribution of Respondents per Barangay

Barangays	Rank	N	%
Poblacion Centro	1	21	15.8
Poblacion Ilaya	2	20	15.0
Poblacion Delgado	3	17	12.8
Poblacion Rizal Ilaud	4	16	12.0
Barangays Carvasana	5	15	11.3
Barangays Dalid	6	15	11.3
Barangays Simsiman	7	10	7.5
Bo. Calinog	8	10	7.5
Barangays Libot	9	9	6.8
<b>Total</b>		<b>133</b>	<b>100%</b>

Most of the respondents, 95 or 71.47% contact the local county geologist or county planning department followed 20 or 15.0% who find out if your home is located in a flash-flood-prone area or landslide-prone area and lastly, 18 or 13.5% learn about your community's emergency plans, warning signals, evacuation routes, and locations of emergency shelters. Table 2 presents the data.

Table 2. Steps in Preparing in Storm

Category	N	%	Rank
1. Contact the local county geologist or county planning department.	95	71.4	1
2. To find out if your home is located in a flash-flood-prone area or landslide-prone area.	20	15.0	2
3. Learn about your community's emergency plans, warning signals, evacuation routes, and locations of emergency shelters.	18	13.5	3
<b>Total</b>	<b>133</b>	<b>100%</b>	

Twenty three (23) or 17.3% of the respondents post emergency phone numbers at every phone, followed by 20 or 15.0% who inform local authorities about any special needs, i.e., elderly or bedridden people, or anyone with a disability and identify potential home hazards and know how to secure or protect them before the flood strikes. Be prepared to turn off electrical power when there is standing water, fallen power lines, or before you evacuation. Turn off gas and water supplies before you evacuate. Secure structurally unstable building materials. 19 or 14.3% buy a fire extinguisher and make sure their family knows where it is and how to use it. 15 or 11.3% buy and install sump pumps with back-up power. 13 or 9.8% have a licensed electrician raise electric components (switches, sockets, circuit breakers and wiring) at least 12" above their home's projected flood elevation and who install backflow

valves or plugs in their drains, toilets, and other sewer connections to prevent floodwaters from entering and lastly, 11 or 8.3% anchor fuel tanks which can contaminate their

basement if torn free. An unanchored tank outside can be swept downstream and damage other houses.

Table 3. Make sure everyone in the family knows the name, address, and phone number of this contact person.

Category	Rank	N	%
1. Post emergency phone numbers at every phone.	1	23	17.3
2. Inform local authorities about any special needs, i.e., elderly or bedridden people, or anyone with a disability.	2	20	15.0
3. Identify potential home hazards and know how to secure or protect them before the flood strikes. Be prepared to turn off electrical power when there is standing water, fallen power lines, or before you evacuate. Turn off gas and water supplies before you evacuate. Secure structurally unstable building materials.	3	20	15.0
4. Buy a fire extinguisher and make sure your family knows where it is and how to use it.	4	19	14.3
5. Buy and install sump pumps with back-up power.	5	15	11.3
6. Have a licensed electrician raise electric components (switches, sockets, circuit breakers and wiring) at least 12" above your home's projected flood elevation.	6	13	9.8
7. For drains, toilets, and other sewer connections, install backflow valves or plugs to prevent floodwaters from entering.	7	13	9.8
8. Anchor fuel tanks which can contaminate your basement if torn free. An unanchored tank outside can be swept downstream and damage other houses.	8	11	8.3
<b>Total</b>		<b>133</b>	<b>100%</b>

Shown in Table 4 are the measures the respondents do during flood watch and warning.

Table 4. Flood Watch or Warning

Category	Rank	N	%
1. Gather the emergency supplies you previously stocked in your home and stay tuned to local radio or television station for updates.	1	53	39.8
2. Turn off all utilities at the main power switch and close the main gas valve if evacuation appears necessary.	2	35	26.3
3. Have your immunization records handy or be aware of your last tetanus shot, in case you should receive a puncture wound or a wound becomes contaminated during or after the flood.	3	18	13.5
4. Fill bathtubs, sinks and plastic soda bottles with clean water. Sanitize the sinks and tubs first by using bleach. Rinse and fill with clean water.	4	14	10.5
5. Bring outdoor possessions, such as lawn furniture, grills and trash cans inside or tie them down securely.	5	13	9.7
<b>Total</b>		<b>133</b>	<b>100%</b>

Fifty three (53) or 39.8% of the respondents gather the emergency supplies they previously stocked in their home and stay tuned to local radio or television station for updates, followed by 35 or 26.3% who turn off all utilities at the main power switch and close the main gas valve if evacuation appears necessary, 18 or 13.5% have their immunization records handy or aware of their last tetanus shot, in case they should receive a puncture wound or a wound becomes

contaminated during or after the flood, 14 or 10.5% who fill bathtubs, sinks and plastic soda bottles with clean water. Sanitize the sinks and tubs first by using bleach. Rinse and fill with clean water and lastly, 13 or 9.7% who bring outdoor possessions, such as lawn furniture, grills and trash cans inside or tie them down securely.

Table 5. Emergency Supplies at Home

Category	Rank	N	%
1. Several clean containers for water, large enough for a 3-5 day supply of water (about five gallons for each person).	1	14	10.5
2. A 3-5 day supply of non-perishable food and a non-electric can opener.	2	14	10.5
3. A first aid kit and manual and prescription medicines and special medical needs.	3	13	9.8
4. A battery-powered radio, flashlights, and extra batteries.	4	13	9.8
5. Sleeping bags or extra blankets.	5	12	9.0
6. Water-purifying supplies, such as chlorine or iodine tablets or unscented, ordinary household chlorine bleach.	6	12	9.0
7. Baby food and/or prepared formula, diapers, and other baby supplies.	7	11	8.3
8. Disposable cleaning cloths, such as "baby wipes" for the whole family to use in case bathing facilities are not available.	8	11	8.3
9. Personal hygiene supplies, such as soap, toothpaste, sanitary napkins, etc.	9	9	6.8
10. An emergency kit for your car with food, flares, booster cables, maps, tools, a first aid kit, fire extinguisher, sleeping bags, etc.	10	7	5.3
11. Rubber boots, sturdy shoes, and waterproof gloves.	11	6	4.5
<b>Total</b>		<b>133</b>	<b>100%</b>

When it comes to an emergency supplies at home, the respondents ranked number 1 several clean containers for water, large enough for a 3-5 day supply of water (about five gallons for each person) and a 3-5 day supply of non-perishable food and a non-electric can opener followed by, a first aid kit and manual and prescription medicines and special medical needs and lastly, a battery-powered radio, flashlights, and extra batteries.

For the least three, the respondents' personal hygiene supplies, such as soap, toothpaste, sanitary napkins, etc ranked as number 9 followed by an emergency kit for your car with food, flares, booster cables, maps, tools, a first aid kit, fire extinguisher, sleeping bags, etc and lastly rubber boots, sturdy shoes, and waterproof gloves.

In preparing to evacuate, the top three measures are the following: First, fill your vehicle's gas tank and make sure the emergency kit for your car is ready. Second, if no vehicle is available, make arrangements with friends or family for transportation and lastly, identify essential documents such as medical records, insurance card along with ID cards and put in waterproof material to carry with you during evacuation. For the least 3, listen for disaster sirens and warning signals ranked 8<sup>th</sup>, put livestock and family pets in a safe area. Due to food and sanitation requirements, emergency shelters cannot accept animals ranked as 9<sup>th</sup> and adjust the thermostat on refrigerators and freezers to the coolest possible temperature ranked as 10<sup>th</sup>. Table 6 presents the data.

Table 6. Preparing to Evacuate

Category	Rank	N	%
1. Fill your vehicle's gas tank and make sure the emergency kit for your car is ready.	1	17	12.8
2. If no vehicle is available, make arrangements with friends or family for transportation.	2	15	11.3
3. Identify essential documents such as medical records, insurance card along with ID cards and put in waterproof material to carry with you during evacuation.	3	14	10.5
4. Fill your clean water containers.	4	14	10.5
5. If you have pet, identify a shelter designated for pets.	5	13	9.8
6. Review your emergency plans and supplies, checking to see if any items are missing.	6	13	9.8
7. Tune in the radio or television for weather updates.	7	13	9.8
8. Listen for disaster sirens and warning signals.	8	12	9.0
9. Put livestock and family pets in a safe area. Due to food and sanitation requirements, emergency shelters cannot accept animals.	9	11	8.2
10. Adjust the thermostat on refrigerators and freezers to the coolest possible temperature.	10	11	8.2
<b>Total</b>		<b>133</b>	<b>100%</b>

When ordered to evacuate, the respondents preferred to take only essential items, followed by turn off the gas, electricity, and water. Then, disconnect appliances to prevent electrical shock when power is restored, follow the designated evacuation routes and expect heavy traffic and lastly, not to attempt to drive or walk across creeks or flooded roads. Table 7 presents the data.

Table 7. Ordered to Evacuate

Category	Rank	N	%
1. Take only essential items with you.	1	32	24.1
2. If you have time, turn off the gas, electricity, and water.	2	32	24.1
3. Disconnect appliances to prevent electrical shock when power is restored.	3	31	23.3
4. Follow the designated evacuation routes and expect heavy traffic.	4	20	15.0
5. Do not attempt to drive or walk across creeks or flooded roads.	5	18	13.5
<b>Total</b>		<b>133</b>	<b>100%</b>

#### IV. CONCLUSIONS AND RECOMMENDATIONS

In preparing for the storm, the respondents preferred to contact a local geologist or country planning department. In

making sure the family knows the name, address, and phone number of the contact person, they prefer to post emergency phone numbers at every phone. During flood watch and warning, the respondents preferred to gather the emergency supplies you previously stocked in your home and stay tuned to local radio or television station for updates. When it comes to an emergency supplies at home, the respondents have several cleaned containers of water, large enough for a 3-5 day supply of water. In preparing to evacuate, they prefer to fill their vehicle's gas tank and make sure the emergency kit for their car is ready. When ordered to evacuate, the respondents preferred to take only essential items. The respondents can respond to the natural calamity wisely as shown by their choices and preferences. However, not all of them agree with the majority.

It is recommended that more information discrimination part of the LGU regarding on the respondents disasters. Disaster Management and respondents should be an advocacy of many and be taught in schools. More mass media information dissemination and campaign be maximized.

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