
PERCEPTIONS OF DISASTER RESILIENCE AND PREPAREDNESS IN THE PHILIPPINES



PROGRAM ON
**RESILIENT
COMMUNITIES**



**HARVARD
HUMANITARIAN
INITIATIVE**

Vincenzo Bollettino, Tilly Alcayna, Krish Enriquez, Patrick Vinck
June 2018

The **Harvard Humanitarian Initiative** (HHI) is a university-wide initiative with a mission to advance the science and practice of humanitarian response worldwide through research and education. HHI serves as the humanitarian arm of Harvard University and brings an interdisciplinary approach to building the evidence base of humanitarian studies and professionalizing the field of humanitarian aid. Through its research programs and educational offerings, HHI is an influential forum for humanitarian innovation, effectiveness, and leadership.

HHI's **Program on Resilient Communities** uses evidence-based approaches to interpret how communities mitigate the impact of disasters. The program's starting point is the central role local communities play in both disaster preparedness and response. Communities are the front line and locus for interactions with local civil society organizations, the private sector, national disaster management agencies, and the international humanitarian community.

DisasterNet, as part of the Program on Resilient Communities, specifically seeks to support local and national capacity for disaster preparedness and response by enabling grassroots organizations to: 1) adopt evidence based tools and practices; 2) leverage existing HHI best practices, data collection systems, and online educational tools to enhance research and training; 3) build leadership capacity; and, 4) promote intellectual exchange across national and disciplinary boundaries. DisasterNet will establish a foundation for more integrated, coordinated, and evidence-based preparedness and response structures for humanitarian disasters.



PROGRAM ON
**RESILIENT
COMMUNITIES**

PERCEPTIONS OF DISASTER RESILIENCE AND PREPAREDNESS IN THE PHILIPPINES

ACKNOWLEDGMENTS

The Program on Resilient Communities is grateful for the contributions provided by Javad Amoozegar, Rafaela Jane Delfino, Philip Dy, Niamh Gibbons, Rebecca Hemono, Tara Kelly, Saira Khan, Dr. Tony La Vina, Theresa Lund, Lea Manzanero, Usec. Gloria Mercado, Dr. Gemma Narisma, Usec. Austere Panadero, Dr. Phuong Pham, Dr. Emma Porio, Marianne Quebral, Sarah Schwartz, Perpi Tiongson, May Celine Thelma Vicente, as well as all of the participants of the workshops held in Manila, and the enumerators and team at Kantar TNS.

PERCEPTIONS OF DISASTER RESILIENCE AND PREPAREDNESS IN THE PHILIPPINES

GLOSSARY

EXECUTIVE SUMMARY	iv
1. INTRODUCTION	1
1.1 CONTEXT	2
1.2 METHODS	4
1.3 SAMPLING	4
1.4 LIMITATIONS	5
2. SOCIO-ECONOMIC CONTEXT	6
2.1 GENERAL DEMOGRAPHICS	6
2.2 EMPLOYMENT AND SOURCES OF INCOME	8
2.3 HOME OWNERSHIP AND OWNERSHIP OF OTHER ASSETS	10
2.4 ACCESS TO BASIC SERVICES AND TRANSPORTATION	12
3. VULNERABILITY AND PREPAREDNESS	14
3.1 IMPACTS OF NATURAL HAZARDS	14
3.2 INFRASTRUCTURE AND SUB-POPULATIONS	16
3.3 INDIVIDUAL DISASTER PREPAREDNESS, PLANNING, AND COPING	16
3.4 SENSE OF CONTROL	20
4. SUPPORT AND ASSISTANCE	21
4.1 SOCIAL COHESION	21
4.2 GOVERNMENT AND COMMUNITY	21
4.3 MENTAL HEALTH	23
5. DAMAGE AND RECOVERY TIME	25
6. SOURCES OF INFORMATION	27
6.1 TECHNOLOGY	27
6.2 TRAINING	27
7. BARRIERS AND OPPORTUNITIES	28
7.1 RESOURCES	28
7.2 KNOWLEDGE	29
7.3 PUBLIC INFRASTRUCTURE	29
8. CONCLUSION	30

TABLES

TABLE 1	Regional household variation (% of respondents) in ability to cover basic needs (food & water, healthcare or education) and costs associated with disaster management (emergency expenses and investments)	9
TABLE 2	Variations in education level (% of respondents) by different categories of preparedness	10
TABLE 3	Variation in education level (% of respondents) by internet access and mobile phone ownership	11
TABLE 4	Regional household variation (% of respondents) with internet access or a mobile phone ownership	11
TABLE 5	Regional household variation (% of respondents) with access to different basic and emergency services	13
TABLE 6	Regional household variation (% of respondents) perceptions of being affected by different natural hazards	16
TABLE 7	Regional household variation (% of respondents) in different forms of insurance coverage	18
TABLE 8	Regional household variation (% of respondents) in perceptions on different measures of resilience, sorted by descending order for the sum of the component measure of resilience	19
TABLE 9	Regional household variation (% of respondents) in perceptions on assistance received, types of assistance received, and who provided the assistance	22
TABLE 10	Regional household variation (% of respondents) in experience of disaster-related trauma, recovery from trauma, and receipt of psychological care/therapy	24
TABLE 11	Regional household variation (% of respondents) in damage to home and associated displacement from the worst disaster experienced	25
TABLE 12	Regional household variation (% of respondents) in length of time needed to recover from the worst disaster experienced	26

FIGURES

FIGURE 1 Overview of disaster preparedness behaviors and perceptions in the Philippines vi

FIGURE 2 Maps of combined risk due to climate-related and geophysical disasters 2

FIGURE 3 Spatial distribution of survey points conducted in the Philippines 5

FIGURE 4 Respondent Age pyramid 6

FIGURE 5 Head of household age pyramid 7

FIGURE 6 Respondent educational levels 7

FIGURE 7 Head of household education levels 8

FIGURE 8 Map of regional access to healthcare, drinking water, and transportation 12

FIGURE 9 Maps of the Philippines showing perceived hazard risk compared to the actual risk of hazard 15

FIGURE 10 Improvements in household disaster management knowledge as a result of training provided by the local government unit 27

FIGURE 11 Obstacles preventing households from preparing for a disaster 28

FIGURE 12 Reasons Filipinos prepare for disasters 29

GLOSSARY

PHILIPPINES REGIONS

NCR — National Capital Region

CAR — Cordillera Administrative Region

REGION I — Ilocos

REGION II — Cagayan Valley

REGION III — Central Luzon

REGION IV – A — CALABARZON

REGION IV – B — MIMAROPA

REGION V — Bicol

REGION VI — Western Visayas

REGION VII — Central Visayas

REGION VIII — Eastern Visayas

REGION IX — Zamboanga Peninsula

REGION X — Northern Mindanao

REGION XI — Davao

REGION XII — SOCCSKSARGEN

REGION XIII — Caraga

REGION XVIII — Negros Island Region (NIR)¹

ARMM — Autonomous Region in Muslim Mindanao

TERMS

GOVT — Government

INGO — International Non-Governmental Organization

LGU — Local Government Unit

NGO — Non-Governmental Organization

PAR — Philippine Area of Responsibility

PHP — Philippine Pesos

PPS — Probability Proportion to Size

1. Region XVIII Negros Island Region has been dissolved by Executive Order No. 38 by President Duterte on August 7, 2017. The Province Negros Occidental has been returned to Western Visayas (Region VI) and the Province Negros Oriental has been returned to Central Visayas (Region VII).

EXECUTIVE SUMMARY

Despite a large body of research on disasters in the Philippines, there is limited data on household levels of preparedness for disaster. This report provides findings from a nationwide household survey in the Philippines addressing disaster resilience and preparedness. The results of the survey provide a comprehensive baseline of household measures on each.

Preparedness relates to steps that are taken by government, communities and individuals to mitigate the impact of hazards. Preparedness is a component of resilience. Resilience is a long-term concept that covers the full disaster continuum and includes aspects of positive transformation that enhances the ability of future generations to meet their needs.

Survey participants were selected using a nationally representative sample of randomly selected adults aged 18 years old and above, representing all Philippines economic strata (ABCDE households). A total of 4,368 interviews were conducted. Data collection took place across the country between March 10, 2017 and April 9, 2017. Two hundred and forty household interviews were conducted in each of the 18 regions² of the Philippines with oversampling in the National Capital Region.

FINDINGS

SOCIO-ECONOMIC MEASURES

Roughly half of Filipinos felt they had inadequate household incomes to cover food, water, electricity, healthcare, and education. On average, only half the population has access to basic services such as healthcare facilities, transportation, and safe drinking water. Yet, the Philippines is a society that has widespread access to various communications technologies. Ninety percent of Filipinos own a mobile phone, 83 percent own one or more televisions, and 60 percent own one or more radios.

VULNERABILITY AND PREPAREDNESS

Unsurprisingly, most respondents ranked typhoons as most likely to affect them of all the natural hazards experienced in the Philippines. Other threats highlighted by respondents included: very heavy rainfall (45 percent), floods (37 percent), and earthquakes (32 percent). People felt their homes were most at risk, and the most vulnerable subpopulations were the elderly and children.

Perceptions of individual disaster preparedness, planning, coping, and adaptation revealed that at the national average, Filipinos were divided with 31 percent saying they are only slightly prepared or not at all prepared to respond to a disaster in the near future.

2. At the time of data collection there were 18 Regions. As of Executive Order No. 38 passed on August 7, 2017 there are now 17 Regions <hyperlink: <http://nap.psa.gov.ph/activestats/psgc/listreg.asp>>

Yet, 83 percent of Filipinos claimed to have discussed emergency plans with their families. However, only 27 percent of the population was confident that they could adapt to changes resulting from a disaster, and 41 percent of Filipinos said they would struggle to cope with changes in weather patterns if this resulted in more frequent disasters. When the different broad measures of resilience—preparedness, adaptability, coping, and recovery—were taken together they revealed significant overall differences between regions.

SUPPORT AND ASSISTANCE

A substantial part of the national population (63 percent) have received assistance following a disaster. The vast amount was provided by their local government units (LGU) (52 percent). When asked about who they would receive help from if a disaster were to happen, respondents did not feel as though they would receive much help and assistance from neighbors, friends, or non-government organizations (NGOs). Most Filipinos believed that they are self-reliant in preparing for a disaster (64 percent), during a disaster (62 percent), and in the aftermath of a disaster (63 percent). Most Filipinos (70 percent) cited their experience with previous disaster as the reason for being prepared for future disasters.

DAMAGES AND RECOVERY

Large numbers of the population have experienced significant damage to property and assets and have been displaced from their homes due to a disaster. At the national average, 42 percent of respondents reported that their homes had been partially destroyed due to a disaster.

MENTAL HEALTH

A notable finding was that 18 percent of respondents nationwide reported experiences of depression or trauma associated with disasters. Yet, less than 1 percent of the population in these same regions acknowledged receiving any form of treatment or therapy. A large part of the population (79 percent) cited feelings of discouragement associated with disasters.

SOURCES OF INFORMATION

At the national level, 82 percent of the population received their main source of news from television followed by 9 percent from radio. When asked specifically about information from their LGU, respondents agreed that information from the LGU arrived in a timely manner (62 percent), was sufficient to prepare for a disaster (65 percent), and was reliable (68 percent).

TRAINING

While there was an interest in training for preparedness, most respondents had not previously participated in any training. For those that had taken training, roughly a third cited they gained new knowledge.

BARRIERS AND OPPORTUNITIES

One-third of Filipinos reported spending money on household preparedness in the last year. Those same respondents said had they had more money and resources they would have invested in emergency supplies and strengthening the house. Respondents did not feel strongly that public infrastructural improvements, such as roads and early warning, would help households better prepare.

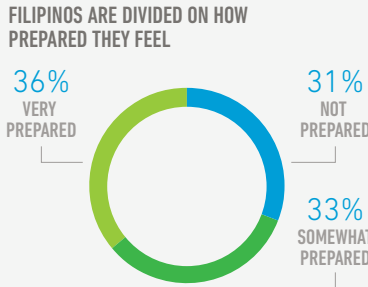
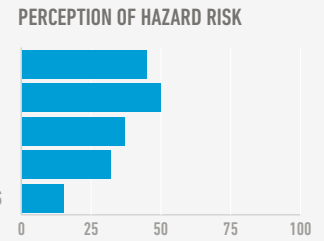
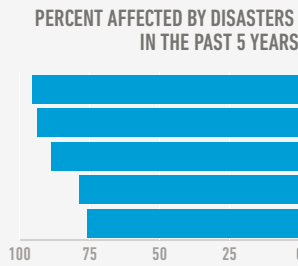
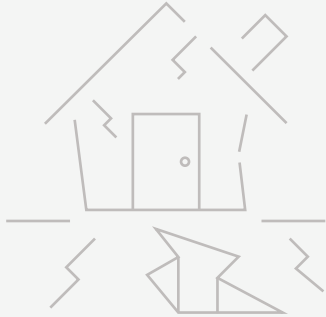
FIGURE I - OVERVIEW OF DISASTER PREPAREDNESS BEHAVIORS AND PERCEPTIONS IN THE PHILIPPINES

9.29 MILLION

Filipinos have been **affected by a disaster** in the past 5 years

42%

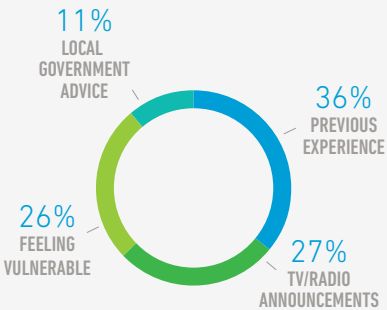
have had their **homes partially destroyed** due to a disaster



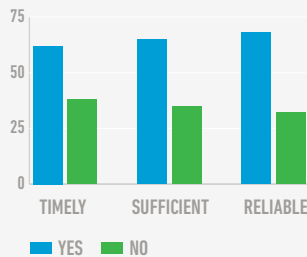
Disaster Preparedness can be improved:

INFORMATION AND KNOWLEDGE

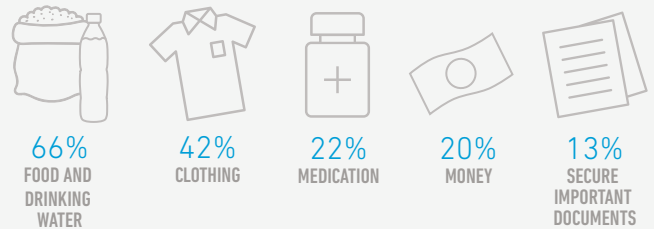
WHY DO PEOPLE PREPARE?



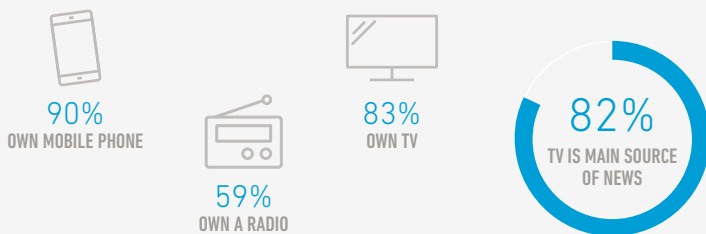
IS INFORMATION FROM THE LOCAL GOVERNMENT UNIT (LGU) USEFUL?



WHAT DO PEOPLE PREPARE?



HOW CONNECTED ARE FILIPINOS TO COMMUNICATION TECHNOLOGIES?

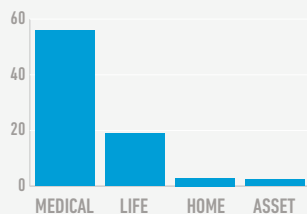


EMERGENCY SUPPLIES



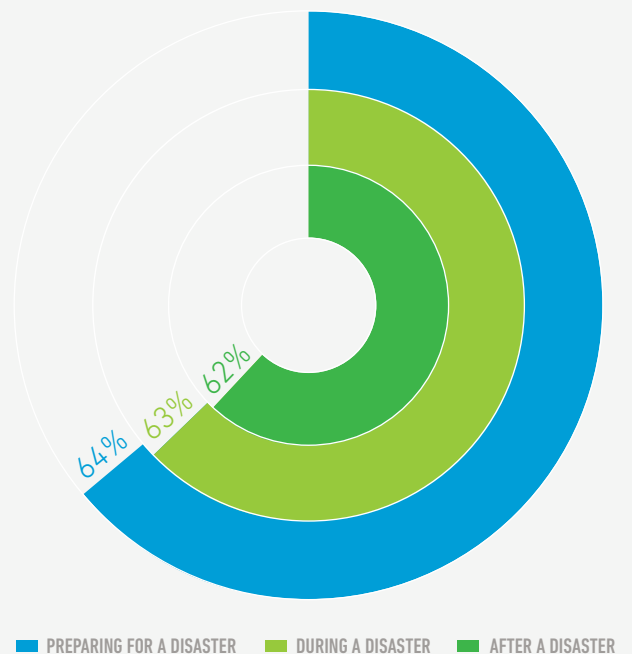
INSURANCE

HOW INSURED ARE PEOPLE?



Filipinos have a positive resilient outlook:

FEEL SELF RELIANT:



I. INTRODUCTION

The Philippines is one of the world's most disaster-prone countries. Located along the boundary of major tectonic plates and at the center of a typhoon belt, its islands are regularly impacted by floods, typhoons, landslides, earthquakes, volcanoes, and droughts.¹ The Philippines also ranks among the top three countries in the world for population exposure and vulnerability to hazards. The Philippine government has developed strong coping mechanisms² over their long history of experience with disasters. Yet, significant gaps remain in disaster management capacities³ across different regions of the Philippines and surprisingly little data are available referencing local levels of disaster resilience and preparedness.

This research aims to address the gap in knowledge on both local disaster resilience and preparedness by providing a comprehensive overview of household measures of resilience and levels of disaster preparedness. This is the first nationwide household survey on measures of disaster resilience and disaster preparedness carried out in the Philippines. It comes at a time of critical importance as efforts are being made to ensure disaster management is based on evidence, especially at the local level and amid national discussions on centralizing disaster resilience efforts under a single national agency.

Good disaster preparedness and resilience-building measures are essential to saving lives and property, yet, many more resources are still channeled into disaster response. This is despite abundant evidence that investment in preparedness saves more lives

and costs less.⁴ This survey provides baseline information on disaster resilience across the Philippines, giving disaster management officials and planners the information needed to identify current strengths and weaknesses in household levels of preparedness for disaster as well as the opportunity to identify gaps where future preparedness measures can be focused.

This survey was undertaken as part of the DisasterNet project housed within the Harvard Humanitarian Initiative. DisasterNet seeks to provide both evidence and educational tools relevant to multisectoral stakeholders focused on disaster preparedness and disaster resilience. The report is based on a face-to-face household survey of 4,368 adult respondents nationwide in the Philippines, geographically representative at the regional level. Interviews were conducted between March and April of 2017. The survey instrument included questions about the demographics of the household as well as respondent perceptions about their own levels of preparedness, their experience with previous disasters, where they receive information on disasters and who else (e.g., government, professional responders, civil society etc.) they expect to be involved in disaster preparedness and response.

The results and findings help to better characterize the factors that influence disaster preparedness and the functioning of services and how they are used by the population. Gathering information on respondents' perceptions provides particularly important insights into local perspectives that can reveal previously hidden connections between quantitative data and behavior, which could drive innovative reforms in disaster resilience policy and practice.

1. ACAPS, Secondary Data Review, Philippines Typhoon Yolanda, 2014. See: <https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/assessments/140111%20SDR%20Yolanda%20Philippines%20final.pdf>.

2. Inter-Agency Standing Committee, INFORM Country Risk Profiles. See: <http://www.inform-index.org/Countries/Country-profiles>.

3. Bollettino, V., Dy, P., Alcayna, T., Vinck, P., DisasterNet Philippines Scoping Study Report, Harvard Humanitarian Initiative, 2015. See: <http://hhi.harvard.edu/publications/disasternet-philippines-scoping-study-report>.

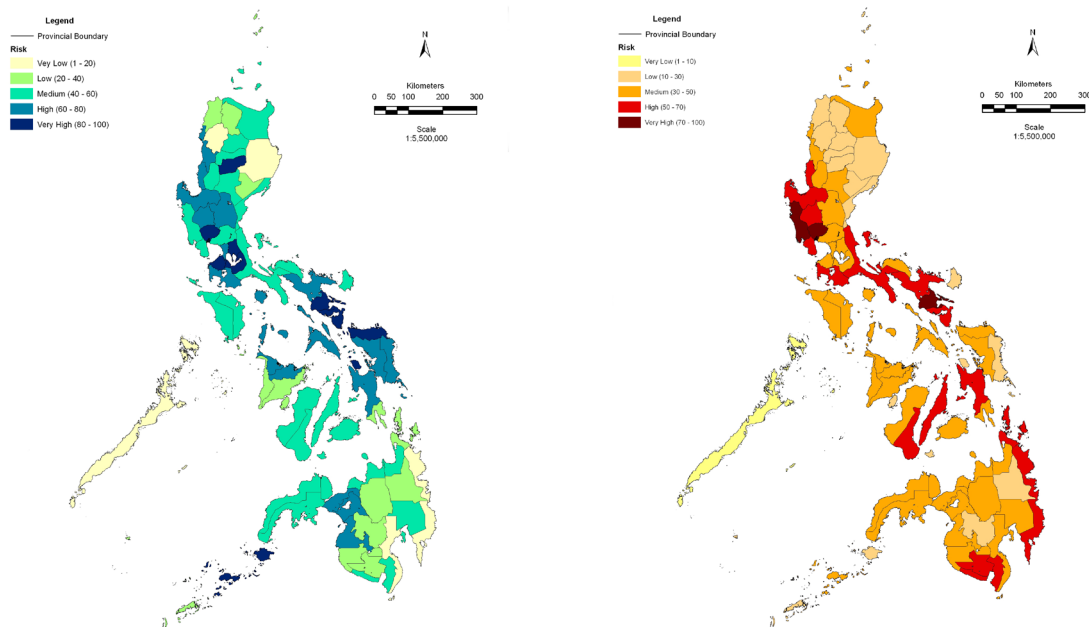
4. Shreve, C. M. and Kelman, I., "Does mitigation save? Reviewing cost-benefit analyses of disaster risk reduction," *International Journal of Disaster Risk Reduction*, Volume 10, Part A, December 2014, pp. 213–235. See: <https://doi.org/10.1016/j.ijdr.2014.08.004>.

I.1 CONTEXT

Every year the Philippines archipelago of over 7,100 islands experiences on average 10 to 25 disaster events.⁵ An average of 20 tropical cyclones enter the Philippine Area of Responsibility (PAR) every year⁶ with 8 or 9 making landfall.⁷ Roughly 900 earthquakes are recorded annually.⁸ These are only the recorded events. There are numerous smaller shocks and stresses that go unrecorded beyond the local levels yet routinely impact the daily lives of the Filipino population who inhabit the extensive, flood-prone, interior lowland plains, the steep mountainsides, and the narrow, low-lying, coastal plains of the islands. Roughly 60 percent of municipalities and 10 of largest cities are located along the coast.⁹ These habitats are often fragile and sensitive to change, especially due to the effects of sea level rise and the changing weather patterns associated with climate change.

Climate trend data indicate that the Philippines is likely to continue to experience adverse effects to "lives, health and well-being, the environment, and economy."¹⁰ There has been an increase in the number of hot days (i.e., daily temperature rise) and this is set to continue to 2050 with annual mean temperatures rising by 1.8 to 2.2 Celsius¹¹—having significant impacts on health and cities. Future modelling predicts that there will be a reduction in rainfall during summer seasons and an increase in rainfall in the island groups of Luzon and Visayas during monsoon season but a decrease in Mindanao. Both droughts and floods are more likely, which will impact the economy, particularly the agricultural sector. While previous climate trends do not show a change in frequency of cyclones, they do suggest an increase in the number falling in the typhoon category, i.e., having maximum sustained winds of greater than 150 kph during El Nino years.¹²

FIGURE 2 - MAPS OF COMBINED RISK DUE TO CLIMATE-RELATED (LEFT) AND GEOPHYSICAL DISASTERS (RIGHT)¹³



Source: Manila Observatory and Department of Environment and Natural Resources



MANILA OBSERVATORY



DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

- Guha-Sapir, D., Below, R., Hoyois, P., Decoding the Monsoon Floods, SEEDS and CRED. See EM-DAT: The CRED/OFDA International Disaster Database, <http://seedsindia.org/wp-content/uploads/2018/01/Decoding-the-monsoon-floods-report180118v-min.pdf>.
- DOST-PAGASA, Climate Change in the Philippines, 2011. See DILG: http://dilg.gov.ph/PDF_File/reports_resources/DILG-Resources-2012130-2ef223f591.pdf.
- ACAPS, op. cit.
- Ibid.
- Ibid.

- DOST-PAGASA, op. cit.
- Ibid.
- Ibid.
- These maps are based on an updated World Bank LGU-GFDRR Project from 2008-2009. Risk profiles of the Regions of the Philippines may have changed since the publication of these maps.

Extreme events—such as Typhoon Haiyan—might become the “new normal.” The Philippines, like the rest of the world, is entering a time of climatic uncertainty.

Typhoon Haiyan (Yolanda) made history as the strongest typhoon to make landfall ever recorded (November 8, 2013) and affected at least 11 million people.¹⁴ The devastation and loss of life were staggering. During 2013, the Philippines ranked the highest for mortality due to disasters worldwide.¹⁵ Typhoon Haiyan traversed some of the poorest areas in the Philippines with livelihoods based on small-scale farming or fishing, which were destroyed in the strong winds. A disaster of this scale overwhelmed disaster responders and exceeded the national government’s ability to respond without international aid “despite having a seemingly well-crafted disaster management plan.”¹⁶ With more future super storms predicted, it is imperative that Filipinos are prepared and underlying vulnerabilities are addressed.

Vulnerability is determined by a combination of social and political factors. Where people live and work, wealth and health, quality of housing, access to resources, class, gender, ethnicity, age, mobility, immigration status, and, most importantly, access to information and knowledge all influence an individual’s and a community’s vulnerability.¹⁷

Another definition of vulnerability is used by the United Nations Office for Disaster Risk Reduction (UNISDR) which applies the term to populations who are likely to experience increased susceptibility to the impacts of hazards.¹⁸ By these criteria, the Philippines has numerous vulnerable populations—25 percent of the population are living below the national poverty level; there are huge numbers of informal settlements in coastal/flood prone areas, especially in Metro Manila (37 percent of the population—or more than 4

million—according to a 2007 estimate);¹⁹ the population is still largely young, i.e., a third of the population is below 14 years;²⁰ and over a million people are displaced each year due to rapid-onset disasters.²¹ Further, those living in coastal communities and poor urban communities are the most vulnerable.

Disaster risk is a product of a population’s vulnerability and exposure to a hazard. While disasters are clearly triggered by a natural hazard, social factors have a significant role in people’s exposure to risk,²² as explained above. A UNISDR 2015 Global Assessment Report²³ defines disaster risk as a function of the particular hazard faced, the exposure of the population to that hazard, and the population’s level of vulnerability.

$$\text{Disaster Risk} = \frac{\text{Exposure} \times \text{Hazard} \times \text{Vulnerability}}{\text{Capacity}}$$

A population’s resilience to disasters is a similarly multifaceted concept. While a number of competing definitions of resilience are found in the literature as well as frameworks for measuring it, the terms disaster preparedness, resilience, vulnerability, and sustainability are sometimes conflated or used interchangeably in the literature. We see resilience as a long-term concept that covers the full disaster continuum and includes aspects of positive transformation that enhances the ability of future generations to meet their needs.²⁴

In disaster management—especially during the recovery phase—care should be taken to avoid recreating the same conditions of vulnerability and exposure that led to the disaster in the first place. But recovery is

14. Guha-Sapir, op. cit.

15. Ibid.

16. Santiago, J. S. S., Manuela, W. S., Tan, M. L. L., Sañez, S. K. and Tong, A. Z. U., “Of timelines and timeliness: lessons from Typhoon Haiyan in early disaster response,” *Disasters* 40(4), 2016, pp. 644–667.

17. Wisner, B., Blaikie, P., Cannon, T. and Davis, I., *At Risk: Natural Hazards, People’s Vulnerability and Disasters*, second edition (Routledge, 2014). See: http://www.preventionweb.net/files/670_72351.pdf.

18. UNISDR terminology.

19. Alcayna-Stevens, T., *Slum socio-ecology: an exploratory characterisation of vulnerability to climate-change related disasters in the urban context*, Harvard Humanitarian Initiative working paper, 2015. See: https://hhi.harvard.edu/sites/default/files/publications/slum_socio-ecology_an_exploratory_characterisation_of_vulnerability_to_climate-change_related_disasters_in_the_urban_context.pdf.

20. Index Mundi, Philippines Age Structure. See: https://www.indexmundi.com/philippines/age_structure.html.

21. ACAPS, op. cit.

22. Wisner, op. cit..

23. UNISDR, *Global Assessment Report on Disaster Risk Reduction 2015, Making Development Sustainable: The Future of Disaster Risk Management*. See <https://www.preventionweb.net/risk/disaster-risk>.

24. Bollettino, V., Alcayna, T., Dy, P., & Vinck, P., *Introduction to Socio-Ecological Resilience*, 2017. See *Oxford Research Encyclopedias, Natural Hazard Science*: <http://naturalhazardscience.oxfordre.com/view/10.1093/acrefore/9780199389407.001.0001/acrefore-9780199389407-e-261>.

only one of the phases in which action can be taken. Preparedness is about effectively anticipating the impacts of a hazard before it occurs. Preparedness is the combination of knowledge and capacities of governments, organizations, communities, and individuals.²⁵

As individuals and communities are at the front line of disasters, how effectively they implement disaster knowledge and preparedness activities, in combination with support from the government, significantly influences the outcome of a disaster. The following survey results highlight household-level perceptions of the key factors in disaster management, including vulnerability, preparedness, and local barriers to preparedness. Ideally, these findings will inform disaster programming and policy in the Philippines.

As one of the world's most disaster-prone countries, the Philippines has considerable experience with, and has invested heavily in, disaster preparedness and response capacity.

1.2 METHODS

This report is based on a nationwide, household-level survey on disaster preparedness and resilience in the Philippines. As one of the world's most disaster-prone countries, the Philippines has considerable experience with, and has invested heavily in, disaster preparedness and response capacity. Despite a large body of research on disasters in the Philippines, there is limited data on household levels of preparedness for disaster. The results of this survey begin to address this gap and

contribute to the evidence base on household levels of preparedness for disaster.

Household-level data were collected using a survey instrument designed following a review of literature using previously validated instruments. Both nominal- and ordinal-level data were collected. The survey instrument was developed as a part of an iterative process with disaster experts from academia, the government, and NGOs in the Philippines, drawing on both focus groups and key stakeholder interviews with private, government, and NGO contacts conducted in the Philippines in 2016 (before the survey was administered in 2017).

The survey was conducted by trained enumerators working with Kantar TNS, a market research agency based in the Philippines. Enumerators collected data using a digital data collection tool and were conducted face-to-face with adult household members. One hundred and sixty-five trained interviewers conducted the survey.

The survey instrument was translated by Kantar TNS from English into five languages, including Tagalog, Ilocano, Bicolano, Ilonggo, and Cebuano. The translated questionnaires were then back-translated into English to ensure that the meaning of the questions was consistent with the original English questionnaire.

Kantar TNS field managers were responsible for overall field implementation and supervisors were responsible for overseeing the interviews. Supervisors monitored the study full-time and observed live interviews and conducted surprise checks on the research team. Supervisors observed at least 10 percent of the total interviews for each interviewer.

1.3 SAMPLING

1.3.1 SAMPLE SIZE

In the first stage of sampling, a random selection of cities and municipalities was taken in each region. Ten cities or municipalities were selected, without replacement, per region using a probability proportional to population size (PPS). The only exception was the National Capital Region, where all cities and municipalities were included.

25. UNISDR terminology.

The sampling points used in the surveys were barangays (the Philippines smallest political unit). Barangays were classified as either urban or rural using Philippines Statistics Authority guidelines. Three barangays were selected in proportion to the population size for each of the selected municipalities or cities. Sampling points were chosen using a random start point and a fixed interval unit to cover three barangays. Interval sampling was used to select eight sample households. In the National Capital Region, a starting street corner was selected at random and a fixed interval of every tenth household was sampled. In all other regions, a random corner was selected and every fourth household sampled.

The total response rate was calculated taking the product of the contact rate, cooperation rate, and the survey completion rate. Total response rate was 42.5 percent. See Figure 3 for the spatial distribution of locations at which the surveys were conducted.

In total, 9 municipalities and 12 barangays were replaced either because they were in high-risk areas,

where there is ongoing conflict between the military and various non-state actors or because local government officials declined the presence of the enumerators.

1.3.2 SELECTION OF PARTICIPANTS

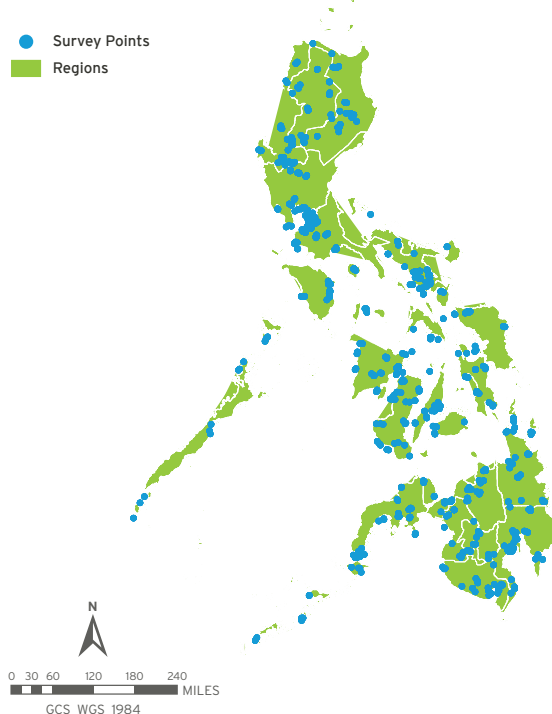
Participants were selected using a nationally representative sample of randomly selected adults aged 18 years old and above, representing all Philippines economic strata (ABCDE households). A total of 4,368 interviews were conducted. Data collection took place across the country between March 10, 2017 and April 9, 2017. Two hundred and forty household interviews were conducted in each of 18²⁶ regions of the Philippines with oversampling in the National Capital Region.

1.4 LIMITATIONS

The survey had a 42.5 percent response rate that was relatively high in comparison with acceptable response rates in the social sciences. It must be noted, however, that the survey took up a considerable amount of respondents' time. With over 300 questions, it took approximately 1.5 hours to complete. Some respondents cited the length of the survey as a reason for refusing to take it or for dropping out during the interview. It is unknown how their responses might have differed to those obtained. Nevertheless, a representative sample was still achieved.

In general, there is an inherent tendency in survey research to select answers that fall toward the mid-point or average of the extremes. This may be due to recall biases in which respondents cannot remember how they were affected, or it may be linked to the risk of social desirability bias in face-to-face surveys, meaning a respondent will answer in a way that makes themselves "look good" and avoid controversial answers. However, the survey instrument and probes were designed to reassure and enhance the respondents' comfort, trust, and willingness to talk openly and truthfully. The questionnaire was designed to build on previous questions and introduce challenging and personal questions gradually.

FIGURE 3 - SPATIAL DISTRIBUTION OF SURVEY POINTS CONDUCTED IN THE PHILIPPINES



26. At the time of data collection there were 18 Regions. On August 7, 2017, Executive Order No. 38 dissolved Negros Island Region (Region XVIII).

2. SOCIO-ECONOMIC CONTEXT

Disaster resilience is a measure of a society's ability to withstand shocks and recover from these shocks in a timely manner, leaving the society better prepared for future shocks. Disaster resilience is also a measure of a population's ability to adapt to changes in the environment and to the types of risks they face. There are many dimensions (social and economic) of a society that contribute to its ability to prepare for, cope with, and recover from disasters. Some of these dimensions are structural (the vulnerability of the places people live, the structure and integrity of their homes, and their proximity to evacuation routes and evacuation centers), some are economic (the sources of people's livelihoods, the diversity of livelihoods in a community, and their savings), some are social (strength of social networks and access to community resources), some are about levels of preparedness (disaster training, disaster early warning, investments in disaster kits,

and disaster plans), and access to communications and timely information.

This section focuses on the demographics, sources of income, and access to basic services such as health facilities and transportation.

2.1 GENERAL DEMOGRAPHICS

The nationwide household-level survey was taken by respondents between the ages of 18 and 88 (see Figure 4, and Figure 5 for the age of the head of household), and the average respondent age was 42 years of age. There were equal numbers of male and female respondents.

With respect to highest level of educational achievement, 15 percent of total respondents had completed primary school, and 31 percent had completed secondary school (Figure 6). Five percent of respondents

FIGURE 4 - RESPONDENT AGE PYRAMID

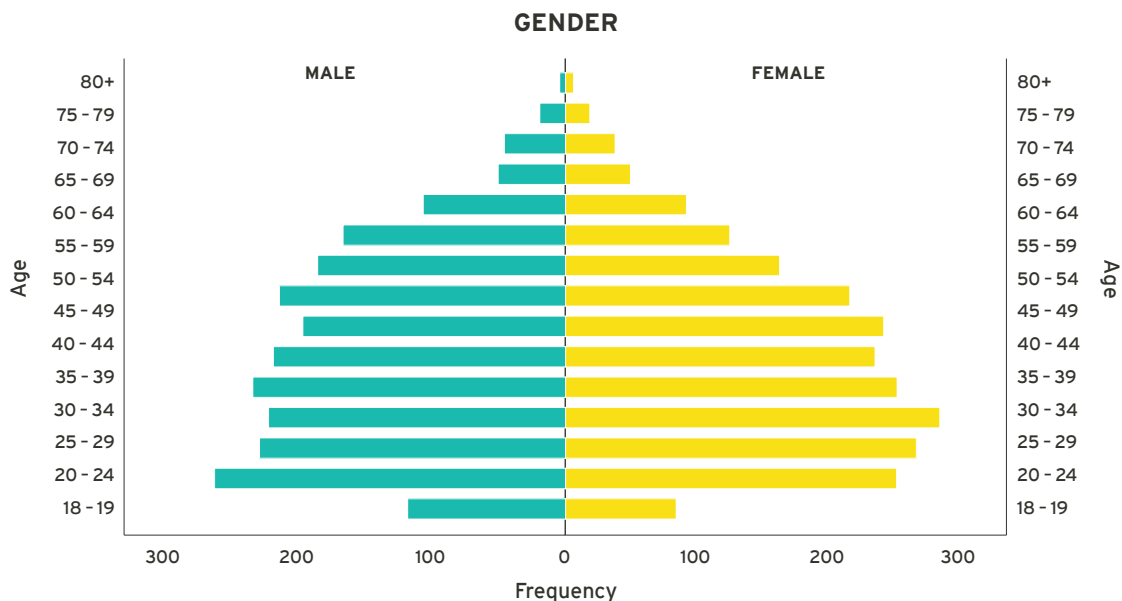


FIGURE 5 - HEAD OF HOUSEHOLD AGE PYRAMID

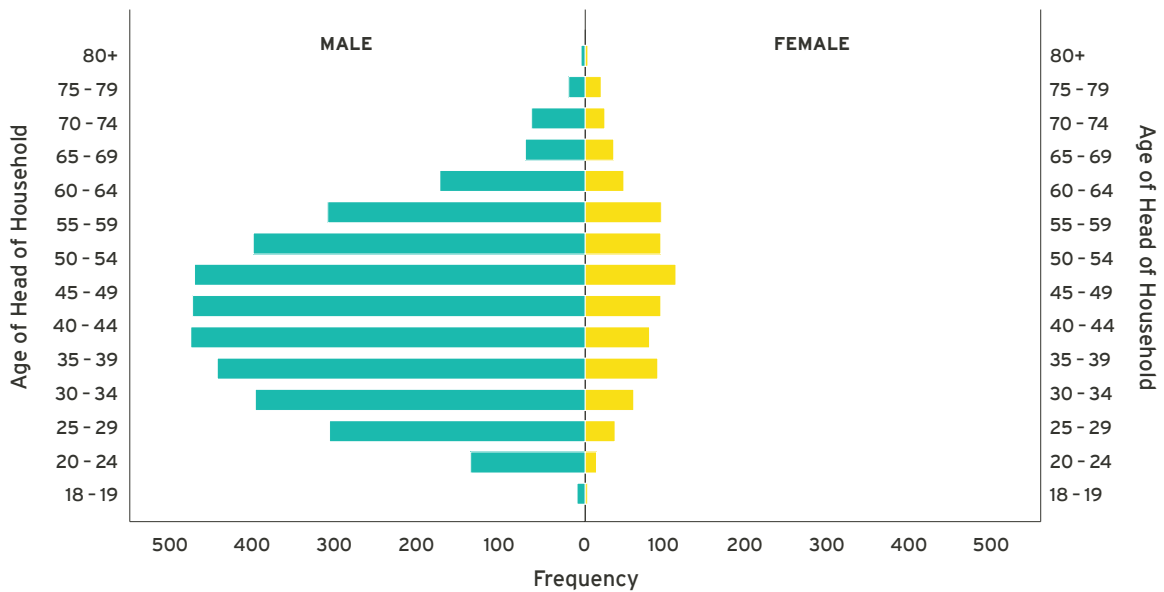
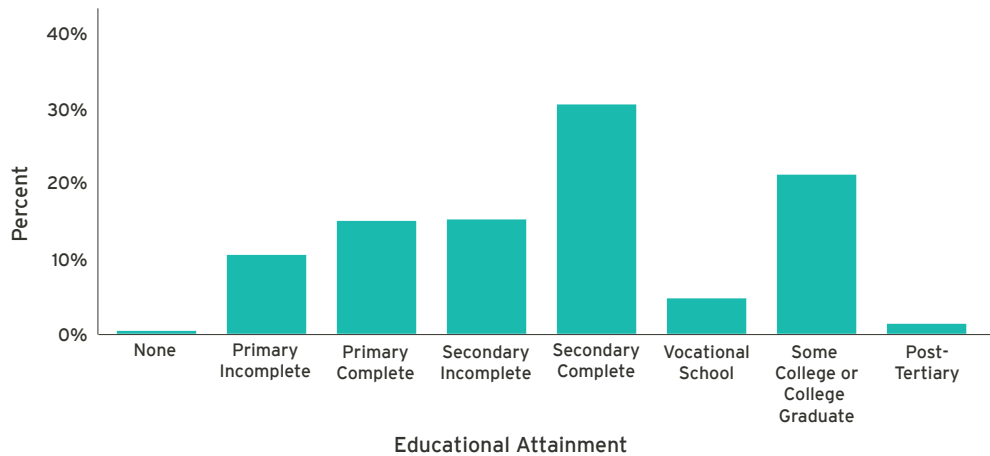


FIGURE 6 - RESPONDENT EDUCATIONAL LEVELS

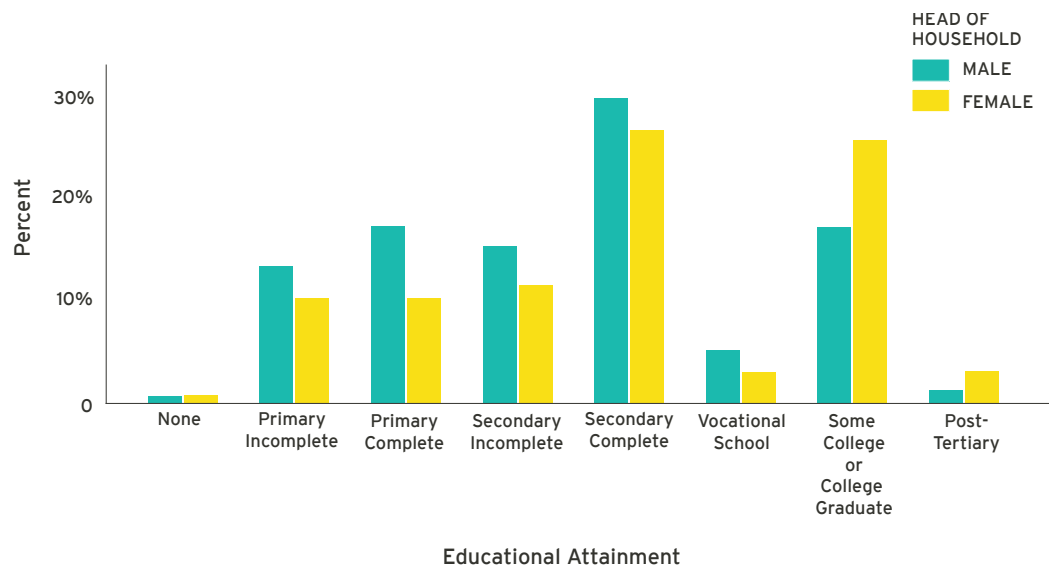


completed vocational school, and 21 percent had either started a college education or were college graduates. On a regional level, respondents with the highest level of educational achievement came from the Cordillera Administrative Region, where 43 percent of respondents had attended college, and the National Capital Region, where 37 percent had attended college. The lowest levels of higher educational attainment were found in

MIMAROPA and the Negros Island Region, where only 13 percent of respondents had attended college.

Seventy-one percent of respondents were married, and 20 percent were single and had never been married. Eighty percent of respondents nationally identified as being Catholic, 5 percent identified as Muslim, and 15 percent as other.

FIGURE 7 - HEAD OF HOUSEHOLD EDUCATION LEVELS



2.2 EMPLOYMENT AND SOURCES OF INCOME

At the national average, the household’s primary sources of income came from farming (17 percent), daily unskilled labor (11 percent), and daily skilled labor (5 percent). Not surprisingly, the highest percentage of households with income derived from skilled employment came from the National Capital Region. Forty percent of respondents in the Autonomous Region in Muslim Mindanao (ARMM) reported that their highest level of income came from farming.

On average, 57 percent of Filipinos claimed a monthly household income of between PHP1,000 and PHP10,000 (one U.S. dollar is roughly 50PHP). Twenty-two percent claimed household incomes of between 10,000 and 20,000 PHP, 6 percent between 20,000 and 30,000, and 3 percent earned more than 30,000 PHP. Five percent of those surveyed reported earning less than 1,000 PHP per month. Remittances from family members working abroad was a source of income for 30 percent of Filipinos with 45 percent of these households receiving money at least once per month or more. Fifteen percent of Filipinos received less than PHP5,000 in total, 5 percent received between PHP5,000–7,999, 3 percent received between PHP8,000–11,999, and 5 percent of Filipinos received more than PHP15,000 in remittances on average per year.

As a national average, 38 percent of Filipino women interviewed reported having no annual income, 12 percent reported earning less than PHP1,000 per month, 38 percent reported earning between PHP1,000–10,000 per month, and the remaining 12 percent earning more than PHP10,000 per month. This contrasts sharply with the national average for Filipino men. Twelve percent of Filipino men interviewed reported no monthly income, 9 percent reported earning less than PHP1,000 per month, 63 percent reported earning between PHP1,000–10,000 per month, and the remaining 16 percent earned more than PHP10,000 pesos per month.

The percentage of both women and men reporting no monthly income varied widely across regions. The largest number of women reporting no monthly income was found in Caraga, where 59 percent of women reported no monthly income. This contrasts sharply with Davao, where 11 percent of women reported no monthly income. Men living in Zamboanga Peninsula and the National Capital Region reported the highest percentages of no monthly income, with 22 percent and 23 percent respectively. By contrast, only 4 percent of men residing in Davao claimed to have no monthly income.

When asked whether their incomes were sufficient to meet basic needs (food, water, and shelter) 58 percent of survey respondents answered yes and 42 percent answered no. Again, these statistics varied widely from one region of the Philippines to another. In the National Capital Region, 72 percent of respondents said their households could meet basic needs, whereas only 39 percent of households in Central Visayas felt they had adequate income to meet basic needs (See Table 1). When respondents were asked about their household's ability to cover services like healthcare and education, on average, roughly half of Filipinos felt they had inadequate household incomes to cover these costs. In places like the Autonomous Region in Muslim Mindanao, the numbers are starker: 75 percent of respondents felt they were unable to cover the costs of healthcare and education.

In contrast to income, levels of education showed strong positive association with perceptions about whether households could cover their basic needs (food, water, and shelter) and their ability to cover expenses in the event of an emergency (see Table 2). Those with a higher level of educational attainment, for example post-tertiary or college graduate, reported higher levels—above 65 percent—compared to those with no or only primary education—below 45 percent—in their ability to meet basic needs. In the case of emergency, less than 20 percent of those with primary or no education felt able to meet needs compared to around and above 40 percent for those with a college or post-tertiary education.

TABLE I - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) IN ABILITY TO COVER BASIC NEEDS (FOOD & WATER, HEALTHCARE OR EDUCATION) AND COSTS ASSOCIATED WITH DISASTER MANAGEMENT (EMERGENCY EXPENSES AND INVESTMENTS)

REGION	FOOD & WATER	HEALTHCARE OR EDUCATION	EXPENSES IN CASE OF EMERGENCIES	INVESTMENTS IN DISASTER PREPAREDNESS
NCR	72	64	42	38
CAR	70	55	33	32
Region I Ilocos	67	60	36	33
Region II Cagayan Valley	55	46	26	23
Region III Central Luzon	53	41	23	20
Region IV-A CALABARZON	65	55	34	31
Region IV-B MIMAROPA	44	35	17	13
Region V Bicol	50	35	13	16
Region VI Western Visayas	57	50	30	30
Region VII Central Visayas	39	32	22	19
Region VIII Eastern Visaya	56	51	22	19
Region IX Zamboanga Peninsula	63	51	26	25
Region X Northern Mindanao	49	46	31	30
Region XI Davao	62	53	31	27
Region XII SOCCSKSARGEN	40	34	19	16
Region XIII Caraga	48	45	23	22
Region XVIII Negros Island Region	65	61	34	30
ARMM	45	25	10	8
TOTAL	58	49	28	26

TABLE 2 - VARIATIONS IN EDUCATION LEVEL (% OF RESPONDENTS) BY DIFFERENT CATEGORIES OF PREPAREDNESS

LEVEL OF EDUCATION	PREPARED TO MEET BASIC NEEDS	PREPARED TO MEET NEEDS IN EMERGENCY	TOTAL POPULATION
No education	21	5	<1
Primary, incomplete	42	15	10.6
Primary, complete	44	18.5	15.1
Secondary, incomplete	52	21.5	15.3
Secondary, complete	59	26	30.7
Vocational School	57	29	4.9
Some College or College Graduate	69	39	21.3
Post-Tertiary	76	53	1.4

2.3 HOME OWNERSHIP AND OWNERSHIP OF OTHER ASSETS

Beyond employment, ownership of property and material goods is another sign of wealth and in many cases these goods or items may be of direct benefit in disaster preparedness measures. Most of those surveyed owned their homes (74 percent on average), with only 15 percent of Filipinos renting properties, and the remaining living in properties under some other arrangement. A measure of caution should be taken in interpreting these numbers, however, since 21.6 percent of the population live below the national poverty line,²⁷ and many Filipinos are homeless and so would not have been surveyed.

Phones and diesel generators are further examples of assets that may be beneficial in disaster management. A phone can be used to receive early warning messages or locate family and friends while diesel generators can be used to maintain power when grids fail in storms. Despite frequently being impacted by severe weather, which routinely affects electricity supplies, only a small percentage of Filipinos (2 percent) owned a generator. Overall, the Philippines is a society that has widespread

access to various communications technologies. Ninety percent of Filipinos reported owning a mobile phone, 83 percent owned one or more televisions, and 60 percent owned one or more radios.

On average, only 12 percent of Filipinos owned a personal computer. This varied widely across regions with the highest level of ownership in NCR (29 percent) and the lowest in the ARMM (3 percent). The level of education was positively correlated with access to the internet, but phone ownership remained high for all education levels (see Table 3). Similarly, mobile phone ownership was consistently high across regions, however, access to the internet showed some regional variability with the lowest access in ARMM (Table 4).

As a national average, only 3.5 percent of Filipinos owned an automobile. The highest levels of automobile ownership were in the National Capital Region, where 10 percent owned an automobile. Thirty-seven percent of Filipinos owned a motorbike, 23 percent owned a bicycle, and 5 percent owned a boat.

27. World Bank 2015 <https://data.worldbank.org/country/philippines?view=chart>, and estimates place 44 percent of the urban population as living in informal/temporary settlements (footnote: UN-HABITAT 2008 UN-Habitat Country Programme Document 2008-2009 Philippines)

TABLE 3 - VARIATION IN EDUCATION LEVEL (% OF RESPONDENTS) BY INTERNET ACCESS AND MOBILE PHONE OWNERSHIP

LEVEL OF EDUCATION	ACCESS THE INTERNET	OWN A MOBILE PHONE	TOTAL PERCENT OF POPULATION
No Education	--	--	<1
Primary, Incomplete	4	74	10.6
Primary, Complete	8	84	15.1
Secondary, Incomplete	21	90	15.3
Secondary, Complete	34	92	30.7
Vocational School	46	99	4.9
Some College or College Graduate	58	96	21.3
Post-Tertiary	52	96	1.4

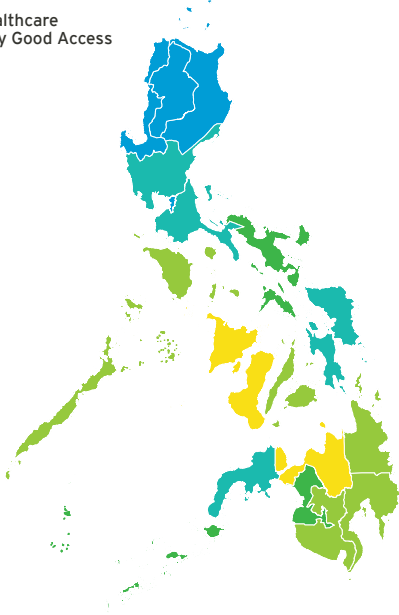
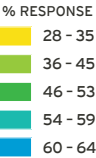
TABLE 4 - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) WITH INTERNET ACCESS OR A MOBILE PHONE OWNERSHIP

REGION	ACCESS THE INTERNET	OWN A MOBILE PHONE
NCR	39	93
CAR	35	92
Region I Ilocos	38	93
Region II Cagayan Valley	24	91
Region III Central Luzon	42	93
Region IV – A CALABARZON	50	95
Region IV – B MIMAROPA	23	89
Region V Bicol	24	89
Region VI Western Visayas	19	85
Region VII Central Visayas	39	88
Region VIII Eastern Visayas	19	84
Region IX Zamboanga Peninsula	26	85
Region X Northern Mindanao	21	87
Region XI Davao	37	92
Region XII SOCCSKSARGEN	21	91
Region XIII Caraga	25	84
Region XVIII NIR	22	85
ARMM	12	85

2.4 ACCESS TO BASIC SERVICES AND TRANSPORTATION

FIGURE 8 - MAP OF REGIONAL ACCESS TO HEALTHCARE, DRINKING WATER, AND TRANSPORTATION

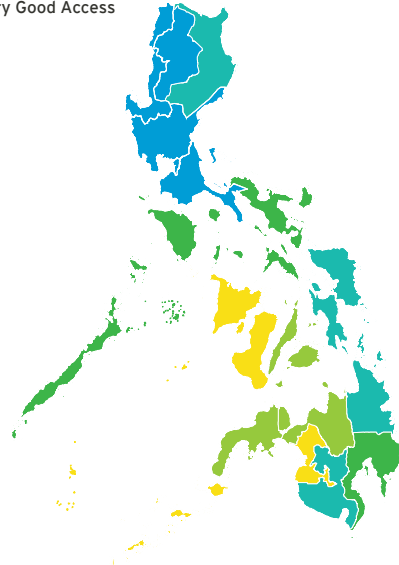
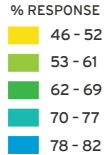
Access to Healthcare
Good and Very Good Access



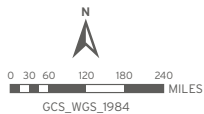
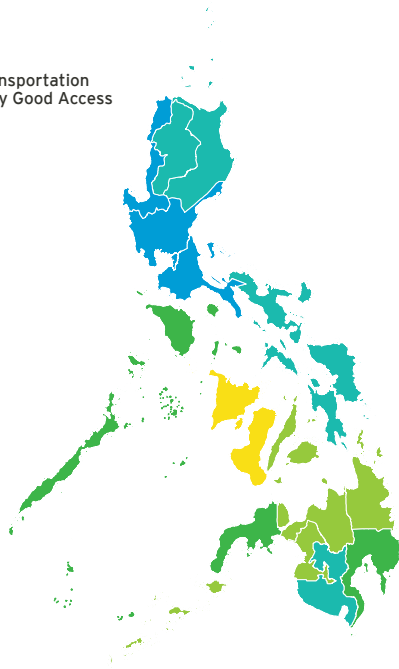
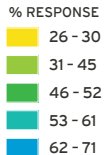
Access to basic services such as electricity, healthcare facilities, transportation, evacuation centers, and safe drinking water varied regionally (Figure 8). For Filipinos living in the National Capital Region, only 3.8 percent said they did not have reliable electricity in their homes, whereas more than 10 percent of those living in MIMAROPA or ARMM were without reliable electricity.

When asked about their access to healthcare facilities (Table 5), 52 percent of those surveyed said they had either good or very good access to these facilities. Fifty-six percent said they had good access to transportation, but only 45 percent of Filipinos felt they would have good or very good access to transportation when an evacuation order is issued. Almost half, 49 percent, of Filipinos claimed they could access an evacuation center. On average, 71 percent of Filipinos felt they had good or very good access to safe drinking water, though numbers varied widely across regions with only 46 percent of people living in Negros Island Region claiming access to safe drinking water and only 52 percent of those living in ARMM (Table 5).

Access to Drinking Water
Good and Very Good Access



Access to Transportation
Good and Very Good Access



Source: Author

Table 5 shows the regional variation in "good" or "very good" access to healthcare facilities, transportation, safe drinking water, and evacuation centers. There was considerable regional variation in access

to these resources with notably low access on aggregate in the Negros Island Region, Western Visayas, Northern Mindanao, and the ARMM.

TABLE 5 - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) WITH ACCESS TO DIFFERENT BASIC AND EMERGENCY SERVICES

REGION	% OF RESPONSES			
	GOOD OR VERY GOOD ACCESS TO HEALTH-CARE FACILITIES	GOOD OR VERY GOOD ACCESS TO TRANSPORTATION	GOOD OR VERY GOOD ACCESS TO SAFE DRINKING WATER	GOOD OR VERY GOOD ACCESS TO AN EVACUATION CENTER
NCR	64	68	82	54
CAR	64	60	78	63
Region I Ilocos	62	70	80	68
Region II Cagayan Valley	64	61	77	49
Region III Central Luzon	58	71	90	55
Region IV – A CALABARZON	59	65	79	54
Region IV – B MIMAROPA	42	48	65	50
Region V Bicol	52	58	68	50
Region VI Western Visayas	28	30	51	36
Region VII Central Visayas	42	45	56	46
Region VIII Eastern Visayas	57	59	77	56
Region IX Zamboanga Peninsula	57	48	62	45
Region X Northern Mindanao	36	37	57	36
Region XI Davao	44	52	69	44
Region XII SOCCSKSARGEN	43	56	74	47
Region XIII Caraga	43	43	71	50
Region XVIII NIR	33	26	46	29
ARMM	52	41	52	21

3. VULNERABILITY AND PREPAREDNESS

As natural hazards are numerous and much of the population is vulnerable to the effects of these hazards, it is not surprising that the Philippines government emphasizes preparedness and mitigation measures. Disaster risk reduction rather than disaster response is the priority. The way in which this national-level commitment is implemented at the local level across the country varies and so a section of this survey focused on household-level perceptions of vulnerability and preparedness.

The household-level perceptions of vulnerability and preparedness was measured in four dimensions:

1. *Households' perceptions of the perceived likelihood of being impacted by a natural hazard*
2. *Households' perceived vulnerability of physical structures, people, and livelihoods*
3. *Household-level planning and individual's preparation for disaster*
4. *Individual's sense of control over their own lives and their ability to participate and influence their community and government*

3.1 IMPACTS OF NATURAL HAZARDS

The first dimension explored was the respondents' perceptions of exposure to, and impacts from, various natural hazards.

Unsurprisingly, most respondents ranked typhoons as most likely to affect them of all the natural hazards experienced in the Philippines. Household members were asked how likely they were to be affected by a variety of different natural hazards (Table 6). Typhoons were ranked the highest with half of the population nationwide saying that they are highly likely to be impacted.

Ninety-three percent of the country's population reported experiencing at least one typhoon and 78 percent reported experiencing more than one typhoon, in the past five years. Respondents in Cagayan Valley Region, Bicol Region, Western and Eastern Visayas — provinces that are routinely affected by typhoons and lie directly in the path of most typhoons — reported the highest levels of impact from typhoons with more than 70 percent of residents reporting being highly impacted.

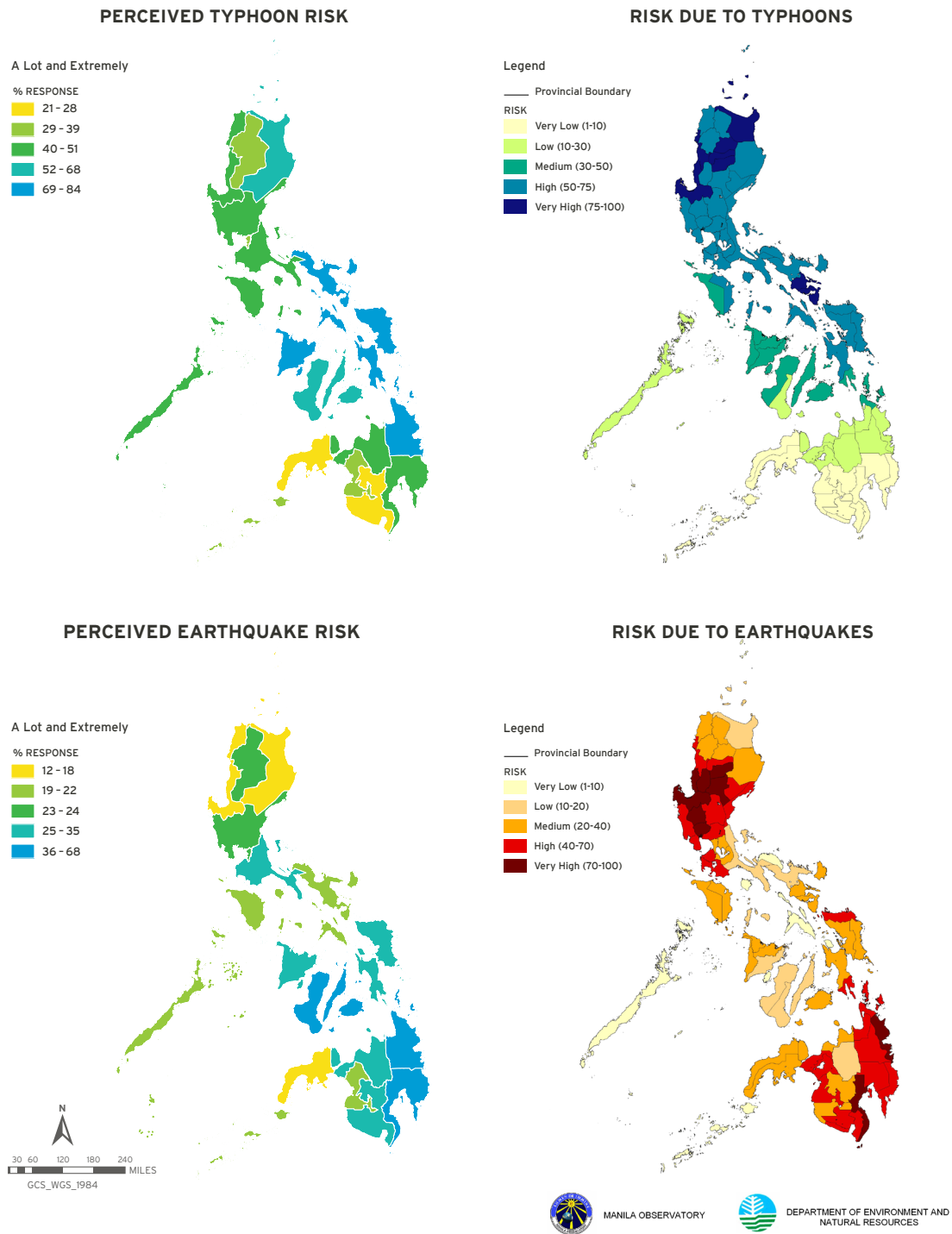
Other threats highlighted by respondents included very heavy rainfall (45 percent of respondents), floods (37 percent), and earthquakes (32 percent). Fifty-two percent of respondents nationwide had dealt with flooding more than once. Eighteen percent of respondents had experienced a landslide or mudslide, and 44 percent had experienced more than one earthquake. A significant part of the population, 42 percent, cited the impacts of climate change as posing a high level of threat. Eighty-three percent of the population believed they had experienced the effects of climate change.

3.2 INFRASTRUCTURE AND SUB-POPULATIONS

The second dimension of resilience and preparedness explored was Filipinos' perceptions of their own vulnerability and the vulnerabilities of both infrastructure and the communities in which they live.

People felt their homes were most at risk, and those that were most vulnerable were the elderly and children. A large part of the population of the Philippines, 69 percent, felt their own homes were at most risk of all the assets they owned. In regions like Western Visayas and the National Capital Region the concern regarding the risk to homes rose to 84 percent and 81 percent, respectively. Thirty-two percent of respondents highlighted the dangers posed to farmland from natural hazards. In terms of subpopulations who may be

FIGURE 9 - MAPS OF THE PHILIPPINES SHOWING PERCEIVED HAZARD RISK COMPARED TO THE ACTUAL RISK OF HAZARD



Source: Author

Source: Manila Observatory and the Department of Environment and Natural Resources²⁸

28. These maps are based on an updated World Bank LGU-GFDRR Project from 2008-2009. Risk profiles of the Regions of the Philippines may have changed since the publication of these maps.

TABLE 6 - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) PERCEPTIONS OF BEING AFFECTED BY DIFFERENT NATURAL HAZARDS

REGION	TYPHOON	FLOODS OR STORM SURGE	LANDSLIDE	DROUGHT	EARTHQUAKE
NCR	35	32	3	11	25
CAR	40	7	31	32	24
Region I Ilocos	51	31	8	41	18
Region II Cagayan Valley	68	22	13	55	17
Region III Central Luzon	45	44	6	16	24
Region IV – A CALABARZON	48	41	15	20	33
Region IV – B MIMAROPA	49	30	16	47	22
Region V Bicol	77	32	17	39	23
Region VI Western Visayas	80	37	14	61	34
Region VII Central Visayas	57	41	28	48	68
Region VIII Eastern Visayas	83	42	15	42	33
Region IX Zamboanga Peninsula	21	22	13	25	13
Region X Northern Mindanao	43	30	15	57	30
Region XI Davao	45	55	37	63	65
Region XII SOCCSKSARGEN	27	35	17	67	35
Region XIII Caraga	76	69	23	54	66
Region XVIII NIR	62	42	25	54	60
ARMM	39	35	23	39	23

vulnerable, more than half of respondents pointed to the elderly and children. Thirty-four percent suggested the poor are highly susceptible to the impacts of natural hazards.

3.3 INDIVIDUAL DISASTER PREPAREDNESS, PLANNING, AND COPING

The third dimension focused on an individual's perceived disaster preparedness, disaster planning, coping, and recovery. This dimension encompassed the full disaster management cycle from pre-disaster to post-disaster and long-term recovery.

As a national average, Filipinos were divided with 31 percent saying they were only slightly prepared or not

at all prepared to respond to a disaster in the near future. Thirty-three percent felt somewhat prepared, and 36 percent felt they were very prepared. Interestingly, respondents who live in the regions most impacted by typhoons also cited the highest levels of preparedness. Only 32 percent of people living in the National Capital Region felt very prepared, with 39 percent in Cagayan, 49 percent in Bicol, 44 percent in Western Visayas, and 52 percent in Eastern Visayas reporting high levels of preparedness (these are some of the regions most often impacted by typhoons). Thirty-one percent in Northern Mindanao and 41 percent in Central Visayas were the lowest levels of preparedness cited across the regions.

When asked how well they were prepared for a disaster early warning, 40 percent of Filipinos felt very prepared and 83 percent of Filipinos claimed to

have discussed emergency plans with their families.

Again, those living in areas more frequently impacted by typhoons cited the highest levels of preparedness: 52 percent in Eastern Visayas and 57 percent in Bicol cited high levels of preparedness specifically to an early warning. Those regions experiencing more frequent disasters cited higher levels of advance discussion (89 percent in Bicol, 92 percent in Western Visayas, and 91 percent in Eastern Visayas). When asked about their planning for specific disasters (i.e., a disaster management plan for a specific natural hazard), 33 percent of Filipinos said that their families have a specific disaster management plan: for example the majority of plans were made for tropical cyclones (22.8%), floods/storm surges (7.8%), heavy rain (including monsoons) (6.5%), and earthquakes (6.3%).

Ability to cope and recover were limited. If suddenly cut off from services, including electricity and water, 38 percent of Filipinos were confident they could cope well, 23 percent could cope a little, and 6 percent said they could not cope at all. A large portion of Filipinos, 38 percent, felt they would have difficulty recovering from a disaster if it were to happen in the near future, and only 22 percent said they would be able to recover. When asked about their family's ability to recover financially from a natural disaster it was those living in the National Capital Region that fared best with 62 percent saying they could easily recover.

A large portion of Filipinos, 38 percent, felt they would have difficulty recovering from a disaster if it were to happen in the near future, and only 22 percent said they would be able to recover.

Strikingly, very few Filipinos were adequately insured to deal with disasters. Only 19 percent of Filipinos claimed to have life insurance, 56 percent had health or medical insurance, 3 percent had some form of home insurance, and 2.5 percent had some form of asset insurance. Not surprisingly, only 17 percent of the population felt sufficiently insured for natural disasters. Those living in the National Capital Region (24 percent) and the Cordillera Administrative Region (28 percent) reported feeling adequately insured to protect themselves from the impact of a natural disaster whereas only 9 percent of those living in Central Luzon felt adequately insured (Table 7).

TABLE 7 - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) IN DIFFERENT FORMS OF INSURANCE COVERAGE

REGION	HEALTH INSURANCE	PROPERTY INSURANCE	CROP OR ASSET INSURANCE
NCR	70	8	1
CAR	61	4	2.5
Region I Ilocos	69	3	7
Region II Cagayan Valley	43	2	4
Region III Central Luzon	45	3	2.5
Region IV–A CALABARZON	52	2	2.5
Region IV–B MIMAROPA	53	3	7
Region V Bicol	69	2	1
Region VI Western Visayas	63	3	5
Region VII Central Visayas	36	3	1
Region VIII Eastern Visayas	53	2	2
Region IX Zamboanga Peninsula	55	2	1
Region X Northern Mindanao	40	1	0
Region XI Davao	72	4	3
Region XII SOCCSKSARGEN	61	1	4
Region XIII Caraga	59	1	1
Region XVIII NIR	56	3	4
ARMM	50	0	0

Only 27 percent of the population was confident that they could adapt to changes resulting from a disaster.

A fairly large portion of the population felt they would struggle to adapt to changes resulting from a disaster: 31 percent claimed they would not be able to adapt, or only adapt a little, and 43 percent felt they would be somewhat able to adapt. Forty-one percent of Filipinos said they would struggle to cope with changes in weather patterns if this resulted in more frequent disasters.

When the different broad measures of resilience — preparedness, adaptability, coping, and recovery — are taken together they reveal significant overall differences between regions (Table 8).

Western Visayas, for example, had a cumulative score of 144 for these measures of resilience compared to Zamboanga Peninsula that had a cumulative score of 63. These are not statistically robust measures and should not be viewed as such. However, they do provide a rough index of these four aspects of resilience to help identify broad regional differences.

TABLE 8 - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) IN PERCEPTIONS ON DIFFERENT MEASURES OF RESILIENCE, SORTED BY DESCENDING ORDER FOR THE SUM OF THE COMPONENT MEASURE OF RESILIENCE

REGION	% RESPONDENTS WHO STATED EXTREMELY OR A LOT FOR COMPONENTS OF RESILIENCE				SUM OF COMPONENT MEASURES FOR RESILIENCE
	HOW PREPARED ARE YOU TO RESPOND	HOW ABLE ARE YOU TO ADAPT TO CHANGES	HOW WELL COULD YOU COPE IF CUT FROM SERVICES	HOW ABLE ARE YOU TO RECOVER	
Region VI Western Visayas	44	28	53	19	144
Region I Ilocos	33	26	18	63	140
Region VIII Eastern Visayas	52	37	20	29	138
Region IV–B MIMAROPA	46	32	36	23	137
Region V Bicol	51	29	27	29	136
Region XIII Caraga	50	36	23	27	136
Region II Cagayan Valley	40	31	26	34	131
Region XI Davao	46	40	19	26	131
CAR	37	31	27	31	126
Region XII SOCCSKSARGEN	46	35	15	26	122
Region III Central Luzon	38	26	23	26	113
Region IV–A CALABARZON	38	25	21	19	103
Region X Northern Mindanao	32	30	13	19	94
NCR	32	23	10	22	87
Region XVIII NIR	30	15	19	13	77
Region VII Central Visayas	21	19	9	15	64
ARMM	19	15	13	17	64
Region IX Zamboanga Peninsula	20	16	13	14	63

3.4 SENSE OF CONTROL

The fourth dimension of preparedness and vulnerability measured was the individual's sense of control over their own life and their perceptions of their influence on local and national decision-making.

How much control Filipinos felt they had in daily life and during a disaster was similar. When asked how much control they felt over their lives in general, 11 percent of Filipinos felt they had no control at all, and 28 percent felt they had very little control. Many Filipinos, 40 percent, felt they had some control over their lives, 16 percent said they had a lot of control, and 5 percent claimed to have full control over their lives. The numbers were very similar for respondents' sense of control over their lives during a disaster.

Whereas 29 percent of household members in Davao felt they had little or no influence on the decisions of local community leaders, 55 percent of people in Negros Island Region also felt this way and a significant majority of those living in the National Capital Region (74 percent) said they had little to no influence on the decisions of local leaders.

When it comes to influencing decisions made in their communities by local leaders, 24 percent felt they had no influence at all and 25 percent felt they had little influence. Only 14 percent of Filipinos felt they could exercise a good deal of influence over decisions made at the local level. Interestingly, these numbers varied considerably by region. Whereas 29 percent of household members in Davao felt they had little or no influence on the decisions of local community leaders, 55 percent of people in Negros Island Region also felt this way, and a significant majority of those living in the National Capital Region (74 percent) said they had little to no influence on the decisions of local leaders.

While those living in the National Capital Region tend to feel less influence with their leaders, the opposite is true with respect to their ability to bounce back after a difficult time. Just 5 percent of those in the National Capital Region felt they had a significant amount of influence compared 24 percent in Eastern Visayas. There were clear, stark, regional differences. One characteristic of resilience is the ability to recover in a timely and robust manner from a shock. For those living in the National Capital Region, 73 percent felt they could bounce back quickly from a disaster with only 7 percent suggesting they would have a difficult time. This stands in sharp contrast to Eastern Visayas, where 58 percent felt they could bounce back quickly and 28 percent felt they would have a difficult time recovering. Similarly, in Caraga, 48 percent felt they could recover quickly following a disaster, and 28 percent felt they could not do so.

4. SUPPORT AND ASSISTANCE

Perceptions were explored of whose role it is to help prepare, support, and assist households before and after a disaster; what households would spend money on in order to prepare; and what training exists and how it improved knowledge and capacity.

4.1 SOCIAL COHESION

A part of a society's resilience can be measured by the level of social cohesion its citizens enjoy. Social cohesion incorporates elements such as having a sense of belonging, being accepted by others, and working together for a common good. Respondents were asked about their level of engagement with social institutions and their levels of participation in civil society organizations, volunteer groups, or other social groups. Respondents were also asked about their levels of trust in a variety of different institutions, their fellow community members, local and national government, and other social and religious groups.

In general, Filipinos claimed to have been active in some form of civil association, however, there were large regional differences, especially between the National Capital Region and the provinces. Many respondents (74 percent) claimed to be active in some form of civil association. Thirty-eight percent claimed to have attended a public meeting on community issues. Twenty-nine percent of Filipinos acknowledge contributing money, food, or clothing to local causes, charities, or to others in their communities. However, a significant number also stated that they either never or rarely work with others to improve community life (68 percent) and never or rarely participate in local activities or events (69 percent). Respondents from the National Capital Region, a highly urbanized region, reported the least community involvement. For example, when asked whether they attended a public meeting on community issues, less than 6 percent of residents of the National Capital Region claimed to have done this often or all the time. This contrasts sharply with Caraga, where 34 percent of respondents

said they attended a public meeting on community issues often or all the time. Results were similar for both men and women at the national level, but in the Eastern Visayas, men were less likely than women to attend public meetings: 15 percent of men compared to 28 percent of women. When asked whether they participated in local activities or events, 3 percent of respondents from the National Capital Region said they did so often, whereas 12 percent of residents from the CAR participated in these activities often.

4.2 GOVERNMENT AND COMMUNITY

A substantial part of the national population (63 percent) have received assistance following a disaster (See Table 9 for regional breakdown). For those that did receive assistance, it came in the form of food and water (57 percent), emergency shelter (5 percent), emergency medicine (8 percent), temporary employment or cash (4 percent), or livelihood assistance (4 percent). Only a small portion of the population received housing and relocation assistance: 5 percent in Eastern Visayas, 9 percent in Central Luzon, and 6 percent in Northern Mindanao. Temporary employment and cash-for-work represented a fairly small portion of overall aid received by Filipinos after disasters with the exception of those living in Eastern Visayas (20 percent) and Western Visayas (17 percent).

The vast amount of support Filipinos received in the aftermath of a disaster was provided by their local government units (52 percent), which is consistent with the national disaster management policies of the country. Across the regions, most Filipinos received assistance in the wake of a disaster from their LGU (see Table 9). Filipinos claimed to have received limited support from friends (2.5 percent), neighbors (2.5 percent), their communities (4 percent), national government (8 percent), or Filipino NGO (3 percent) after a disaster.

TABLE 9 - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) IN PERCEPTIONS ON ASSISTANCE RECEIVED, TYPES OF ASSISTANCE RECEIVED, AND WHO PROVIDED THE ASSISTANCE

REGION	RECEIVED ASSISTANCE POST-DISASTER	TYPE OF ASSISTANCE RECEIVED				ASSISTANCE PROVIDED BY		
		FOOD AND WATER	SHELTER	CASH FOR WORK	LIVELIHOOD ASSISTANCE	LGU	NATIONAL GOVT.	COMMUNITY
NCR	52	49	2	1	2	43	4	3
CAR	49	42	2	2	3	37	11	5
Region I Ilocos	83	79	2	3	3	72	4	2
Region II Cagayan Valley	70	60	4	5	5	51	15	3
Region III Central Luzon	61	56	5	4	1	47	8	3
Region IV-A CALABARZON	65	63	2	2	3	58	7	4
Region IV-B MIMAROPA	64	59	3	4	6	56	5	8
Region V Bicol	87	85	1	2	1	83	3	2
Region VI Western Visayas	88	75	14	17	20	69	11	13
Region VII Central Visayas	63	60	14	2	7	43	16	5
Region VIII Eastern Visayas	92	90	18	20	10	74	14	12
Region IX Zamboanga Peninsula	26	18	2	1	1	13	7	1
Region X Northern Mindanao	50	34	9	1	5	40	10	3
Region XI Davao	56	45	5	1	4	46	10	2
Region XII SOCCSKSARGEN	54	40	1	3	2	40	13	1
Region XIII Caraga	75	70	2	3	2	67	7	3
Region XVIII NIR	45	38	2	4	1	34	5	3
ARMM	37	35	3	0	1	31	9	0

When asked about who they would receive help from if a disaster were to happen, respondents did not feel as though they would receive much help and assistance from anyone despite believing that local government should provide assistance. They were equally split on whether they would receive a lot, some, or not much support from household members or their family. Sixty percent and sixty-five percent of respondents did not feel that they would receive help from friends or neighbors, respectively. High percentages of respondents also did not feel that they would receive help from colleagues at work/school (67 percent) nor from community/charity or religious organizations (64 percent). More than half of respondents also did not feel like they would receive support from the LGU (56 percent), government (59 percent), Philippines NGOs (67 percent), or INGOs (69 percent). It appears then that respondents did not feel they would receive much external support during a disaster despite 71 percent of respondents reporting that the LGU should provide assistance followed by 30 percent feeling that the national government should and 25 percent feeling that relatives should provide assistance.

Filipinos believe in their own self-reliance and the government to manage disasters. Most Filipinos believed that they are self-reliant in preparing for a disaster (64 percent), during a disaster (62 percent), and in the aftermath of a disaster (63 percent). Most Filipinos (70 percent) cited their experience with previous disaster as the reason for being prepared for future disasters. Similarly, a large majority of Filipinos (68 percent) believed their local government is well-prepared to deal with disasters and 70 percent felt that the national government is well-prepared to cope with disasters.

Regarding preparations ahead of a disaster, 40 percent believed that relatives, and 50 percent believed the LGU, had a role in helping their household to prepare. Less than 20 percent of the population thought that friends, neighbors, colleagues at work/school, community/charity/religious organizations, national government, Philippines NGOs, and INGOs had any role in helping households prepare for disasters. This is consistent with the previous finding that there was limited assistance received from anyone else but the

LGU or families after a disaster. Consistent views were reported regarding who is not perceived to have a role in helping households, for example, 96 percent of respondents did not feel that community/charity or religious organizations had any role to play in helping households prepare for disasters. Yet, this was somewhat contradicted by the response from participants that had active community-based organizations in their community. In these cases, half of the surveyed population felt that community-based organizations were helping to prepare their communities for disaster and that these organizations were effective.

It appeared that most households believed they should be self-reliant but that close family and the LGU should provide assistance during preparedness activities and in the aftermath of a disaster.

It appeared that most households believed they should be self-reliant but that close family and the LGU should provide assistance during preparedness activities and in the aftermath of a disaster.

4.3 MENTAL HEALTH

Questions related to the impact of disasters on respondents' mental health were also asked. The results demonstrated a clear and pronounced impact from natural disasters—a startling result was the very low level of treatment for psychological trauma despite high-incident rates cited in some regions.

Mental health support in the aftermath of a disaster was reported as low across the Philippines. Eighteen percent of respondents nationwide reported experiences of depression or trauma associated with disasters. Roughly a third of households in the Visayas, MIMAROPA, and Davao all indicated some level of depression or trauma associated with disasters. Yet, less than 1 percent of the population in these same regions acknowledged receiving any form of treatment or therapy (Table 10). With respect to individuals experience

with disasters, a significant part of the population felt that disasters prevent them from achieving their goals. A large part of the population (79 percent) cited feelings of discouragement associated with disasters. Filipinos living in areas of the country frequently hit by disasters, especially the Visayas and Negros Island Regions, cited challenges recovering emotionally. More targeted research on the link between experiences with disasters, level of aid, and levels of trauma and depression are needed.

TABLE 10 - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) IN EXPERIENCE OF DISASTER-RELATED TRAUMA, RECOVERY FROM TRAUMA, AND RECEIPT OF PSYCHOLOGICAL CARE/THERAPY

REGION	EXPERIENCED DEPRESSION, TRAUMA	RECOVERED EMOTIONALLY (NOT AT ALL OR ONLY A LITTLE)	RECEIVED PSYCHOLOGICAL CARE/THERAPY
NCR	14	12	<1
CAR	13	27	0
Region I Ilocos	9	18	0
Region II Cagayan Valley	15	29	0
Region III Central Luzon	8	29	<1
Region IV–A CALABARZON	14	27	<1
Region IV–B MIMAROPA	25	35	<1
Region V Bicol	19	28	<1
Region VI Western Visayas	38	27	<1
Region VII Central Visayas	25	29	<1
Region VIII Eastern Visayas	41	29	<1
Region IX Zamboanga Peninsula	12	9	0
Region X Northern Mindanao	18	7	0
Region XI Davao	13	30	0
Region XII SOCCSKSARGEN	8	7	1
Region XIII Caraga	26	30	0
Region XVIII NIR	24	34	0
ARMM	3	8	0

5. DAMAGE AND RECOVERY TIME

One measure of disaster resilience is the time required to recover from a disaster. Household members were asked how long it took them to recover from the worst disaster they had experienced.

Unsurprisingly, large numbers of the population had experienced significant damage to property and assets and had been displaced from their homes due to a disaster. At a national average, 42 percent of respondents reported that their homes had been partially destroyed in a disaster, and this was particularly pronounced in the Visayas (Table 11). Ninety-seven

percent of homes in Eastern Visayas have either been partially damaged (51 percent) or completely destroyed (46 percent) at some point by a disaster. Similarly, 27 percent of the population in Eastern Visayas reported being displaced for at least one week, and 17 percent of the population claim to have been displaced for more than three months. At a national average, 16 percent of the population had been displaced for at least one week and 7 percent for more than three months. People living in the Visayas also noted the longest periods of time required to recover from disasters (Table 12).

TABLE II - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) IN DAMAGE TO HOME AND ASSOCIATED DISPLACEMENT FROM THE WORST DISASTER EXPERIENCED

REGION	PARTIALLY DESTROYED	TOTALLY DESTROYED	DISPLACED FOR AT LEAST ONE WEEK	DISPLACED > 3 MONTHS
NCR	35	9	9	3
CAR	42	14	11	6
Region I Ilocos	52	16	16	2
Region II Cagayan Valley	62	19	18	10
Region III Central Luzon	34	20	19	9
Region IV – A CALABARZON	50	12	17	6
Region IV – B MIMAROPA	44	23	25	4
Region V Bicol	58	35	18	1
Region VI Western Visayas	51	41	19	7
Region VII Central Visayas	53	18	15	2
Region VIII Eastern Visayas	51	46	27	17
Region IX Zamboanga Peninsula	8	7	8	5
Region X Northern Mindanao	31	13	18	12
Region XI Davao	25	13	10	10
Region XII SOCCSKSARGEN	18	8	10	8
Region XIII Caraga	46	21	15	6
Region XVIII NIR	59	12	24	10
ARMM	43	9	8	5

TABLE 12 - REGIONAL HOUSEHOLD VARIATION (% OF RESPONDENTS) IN LENGTH OF TIME NEEDED TO RECOVER FROM THE WORST DISASTER EXPERIENCED

REGION	<3 DAYS	1 WEEK	8 DAYS TO 1 MONTH	>1 MONTH, <6 MONTHS	>6 MONTHS, <1 YEAR	1 – 2 YEARS	>2 YEARS	NOT YET RECOVERED
NCR	53	25	12	8	<1	<1	<1	<1
CAR	14	30	18	23	9	4	2	<1
Region I Ilocos	30	34	27	7	2	<1	<1	<1
Region II Cagayan Valley	14	22	20	30	5	2	3	3
Region III Central Luzon	35	27	17	10	6	<1	3	<1
Region IV – A CALABARZON	27	38	17	13	3	1	<1	1
Region IV – B MIMAROPA	<1	18	23	21	13	10	8	3
Region V Bicol	5	12	20	34	13	10	4	2
Region VI Western Visayas	12	13	9	21	12	21	8	3
Region VII Central Visayas	25	25	21	14	4	5	3	3
Region VIII Eastern Visayas	4	7	8	18	23	24	8	8
Region IX Zambo-anga Peninsula	44	19	8	11	4	3	<1	<1
Region X Northern Mindanao	29	21	17	15	7	8	2	2
Region XI Davao	36	23	7	12	13	5	2	2
Region XII SOCCSKSARGEN	3	21	17	8	20	20	6	3
Region XIII Caraga	20	19	19	19	26	8	7	1
Region XVIII NIR	25	31	19	15	2	4	2	1
ARMM	19	38	24	10	3	3	<1	3

6. SOURCES OF INFORMATION

Where people receive their information and their trust in different sources is important when planning how to target awareness raising programs for disaster resilience and preparedness.

6.1 TECHNOLOGY

At the national level, 82 percent received their main source of news from TV followed by 9 percent from radio. When specifically asked about their main source of warning on disasters, 86 percent cited TV, 26 percent cited radio, 10 percent cited friends or neighbors, and 9 percent cited their LGU. Overwhelmingly, the most trusted source was TV (79 percent).

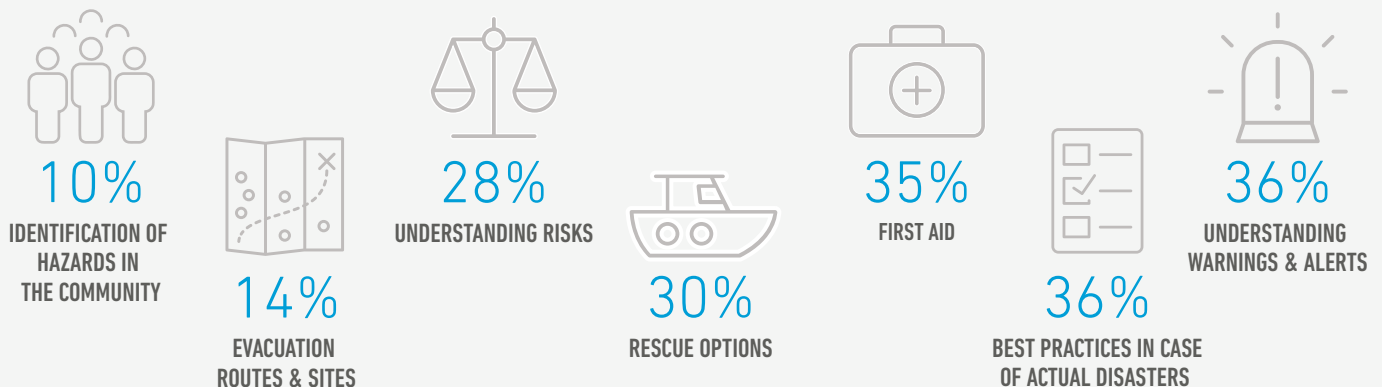
When asked specifically about information from their LGU, respondents agreed that information from the LGU arrived in a timely manner (62 percent), was sufficient to prepare for a disaster (65 percent), and was reliable (68 percent). However, respondents were largely unfamiliar with their local disaster risk management officer (85 percent). Similarly, respondents were unfamiliar with the existence of a local disaster risk management plan (81 percent), and had not heard of the disaster risk management fund (74 percent).

6.2 TRAINING

While there was an interest in training for disaster preparedness, most respondents had not previously participated in any training. Eighty percent of respondents had not participated in training on disaster preparedness, risk reduction, and management. Seventy-five percent had never participated in any drills for disasters organized in the community. Of the 25 percent that had participated in trainings or drills, half had taken these in the past year. These trainings were largely led by the LGU (53 percent) followed by community, charity, or religious organizations (8.2 percent), and the national government (7.6 percent).

For those that had taken training, roughly a third had gained new knowledge. Respondents were asked whether they had improved skills or knowledge across a variety of topics. The improvements on average were reported by approximately a third of respondents as follows: understanding warnings and alerts (36 percent), understanding risks (28 percent), first aid (35 percent), rescue options (30 percent), evacuation routes and sites (14 percent), identification of hazards in the community (10 percent), and best practices in case of actual disasters, (e.g., drop-hold-cover in case of earthquakes, switch the power off in case of flooding) (36 percent).

FIGURE 10 - IMPROVEMENTS IN HOUSEHOLD DISASTER MANAGEMENT KNOWLEDGE AS A RESULT OF TRAINING PROVIDED BY THE LOCAL GOVERNMENT UNIT



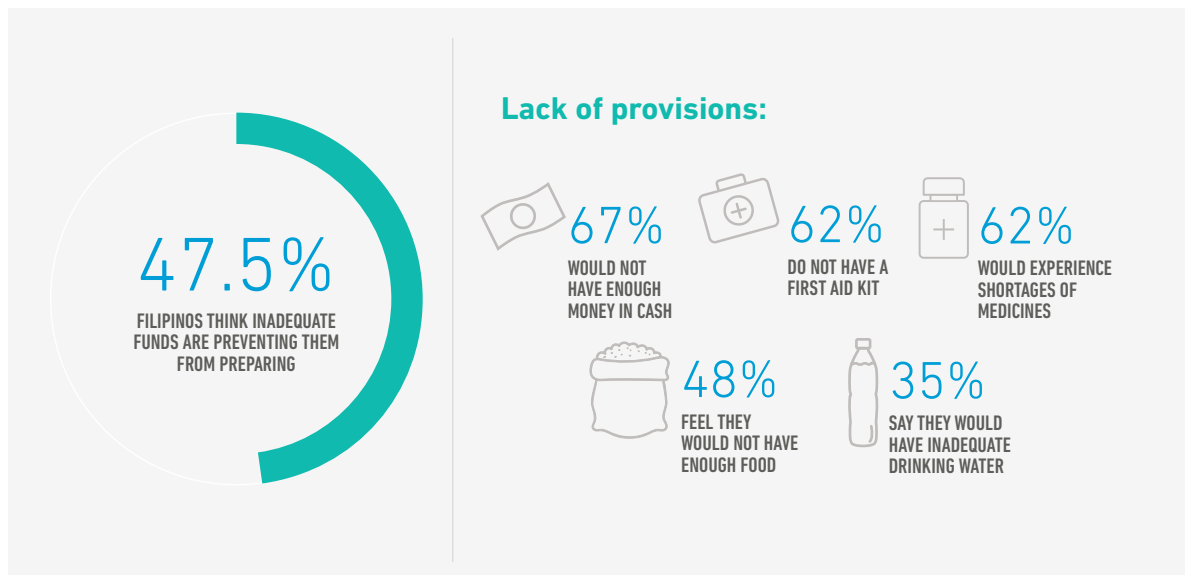
(e.g., drop-hold-cover in case of earthquakes
switch the power off in case of flooding)

7. BARRIERS AND OPPORTUNITIES

Perceived barriers to household-level disaster preparedness were explored. A series of questions explored what households would do if they were to receive a disaster early warning, what they have done in the past five years to prepare for disasters, and what prompted them to take these measures. Finally, respondents were asked about perceptions of obstacles or barriers to preparedness.

households from better preparing for disasters, 47.5 percent of Filipinos cited inadequate funds. This was followed by 20 percent who said they did not have enough time. Interestingly, 20 percent of those living in the Caraga Region cited a physical disability as a barrier to their taking steps to better prepare for disasters compared to 5 percent for the national average. When asked specifically about the household provisions they

FIGURE II - OBSTACLES PREVENTING HOUSEHOLDS FROM PREPARING FOR A DISASTER



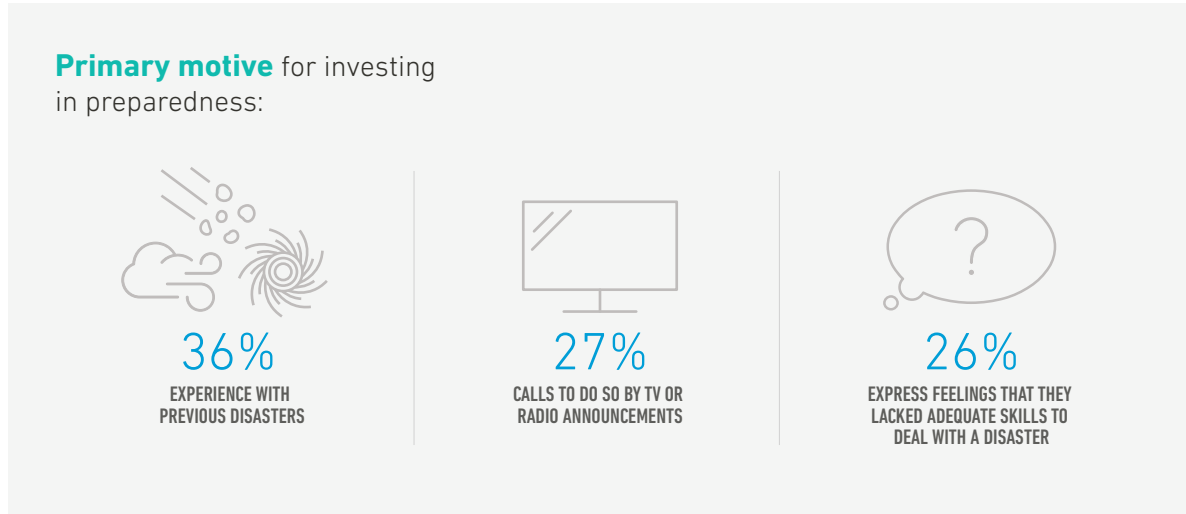
7.1 RESOURCES

As already mentioned, respondents did not have adequate resources to cover even basic needs, so when asked about their ability to invest specifically in disaster preparedness it is evident that there would also likely be a lack of resources. An inability to invest in disaster preparedness was reported by the majority (74 percent) of respondents and was particularly high in some regions. For instance, in ARMM, 92 percent of those surveyed said they could not afford to invest enough in order to adequately prepare for disasters. When given choices of specific barriers preventing

would have on hand if a disaster happened, 67 percent would not have enough money in cash, 62 percent would experience shortages of medicines, 62 percent did not have a first aid kit, 48 percent felt they would not have enough food, and 35 percent said they would have inadequate drinking water. Given the frequency of natural disasters in the Philippines, a surprisingly large percentage, 82 percent, did not have a go bag or emergency kit.

If respondents had more money and resources they would focus on supplies and strengthening the house. Of the 30 percent that had spent money

FIGURE 12 - REASONS FILIPINOS PREPARE FOR DISASTERS



on household preparedness in the last year, a third had spent PHP1000 or less and 44 percent had spent PHP1001–5000. These sums are equivalent to less than US\$20 or between US\$20 and US\$95 (the average Philippines family has roughly US\$1000 in savings per year). There were limited regional differences. If respondents had money specifically in order to prepare for disasters they would spend it on strengthening the home with better materials (43 percent), and storing water, food, flashlights, and cooking supplies (82 percent). Radio, phone, clothing, motorbike, relocating to other areas, and insurance were not chosen as items to spend money on in preparation for a disaster.

7.2 KNOWLEDGE

Despite the frequency with which Filipinos are exposed to disasters, nearly 47 percent claimed to have done nothing to prepare for a natural hazard in the last five years. Of those Filipinos that did prepare for disasters, 36 percent cited their experience with previous disasters as the primary motive for investing in preparedness, 27 percent were motivated by calls to do so by TV or radio announcements, and 26 percent were motivated by their own feelings that they lacked adequate skills to deal with a disaster. When asked specifically if they had done any of the following preparedness measures, 7 percent of Filipinos claim to have been involved in disaster training, 5 percent in an evacuation drill, and 17 percent had stored emergency food, water, and medicine.

In response to a disaster early warning, the majority of Filipinos would prepare consumables and other household items. For example, 66 percent of Filipinos would prepare food and drinking water in response to a disaster early warning. This was followed by 42 percent who would prepare clothing, 22 percent who would prepare medications, 20 percent who would prepare to get cash, and 13 percent who would secure important documents. There were also important regional variations. Larger percentages of Filipinos living in the National Capital Region reported preparing important documents (31 percent) and money (26 percent) compared to the Negros Island Region, where only 2 percent would secure important documents and 8 percent would prepare money.

7.3 PUBLIC INFRASTRUCTURE

Respondents did not feel strongly that public infrastructural improvements would help households better prepare. For example, respondents overall did not feel that improved roads and transport, building construction, early warnings, health services, or support from NGOs, civil society, or the government would help households better prepare. Only 20 percent of respondents thought that improved LGU planning would help households better prepare. Yet, 30 percent of respondents thought that training, education, or awareness would help households better prepare.

8. CONCLUSION

This survey was undertaken to highlight people's perceptions of their own level of disaster resilience and experience with disaster preparedness systems in the Philippines. The data and analysis highlight the populations' perceptions across a number of measures of resilience, including experience with disasters, perceptions on vulnerability to disaster, their priorities and behaviors on disaster resilience and levels of preparedness for future disaster, where people get their information on disasters, from whom they receive assistance, and what the barriers and opportunities are.

The results of this survey will ideally serve as one important source of information for the Philippines government, civil society, and the private sector involved in drafting disaster resilience policies and plans. As one of the most disaster-vulnerable countries in the world, the Philippines provides a unique and important opportunity to understand how disasters impact the social and economic fabric of a country. The Philippines has invested a good deal in disaster management and preparedness and has directed policy, economic, and institutional reform to better prepare the country for a wide variety of disasters.

Many of the findings may not come as a surprise to Filipinos but the data highlights numbers, and provides evidence, to support the experiences of many communities. The findings speak for themselves though several of them are worthy of further emphasis. These include the strong association between higher levels of education and higher levels of perceived disaster resilience across the country, which is consistent with global trends. Better educated households tend to be more aware of their risk and invest more into mitigating these risks.

On average, people did not feel that they had enough resources to cover investments in disaster preparedness, which is unsurprising as nearly half the population did not feel able to meet basic needs (food, water, and

shelter). Well over a third of the population believed they would have a difficult time recovering from a disaster were it to happen in the near future. Perceptions on ability to adapt to, and recover from, a disaster were also low (around a quarter of the population). This varied regionally with those in the National Capital Region most likely to feel they could bounce back rapidly. Even though many Filipinos have experienced property damage as a result of disasters, there were negligible levels of reported property insurance. This is a significant gap requiring attention by government and the private sector.

A significant portion of the population impacted by disasters expressed difficulties coping psychologically with the trauma.

One of the greatest gaps identified in this research lies in mental health. A significant portion of the population impacted by disasters expressed difficulties coping psychologically with the trauma. In some regions, again those reporting the lowest levels of disaster resilience (Visayas, MIMAROPA, Negros Island Region, and SOCCSKSARGEN), as much as a third of the population expressed difficulties coping with trauma. Yet, consistently, less than 1 percent of those surveyed, in every region of the Philippines, reported having access to mental health services or being treated for mental health issues.

Just over a third felt that they were very prepared and knew how to respond to a disaster. Those living in areas more frequently impacted by typhoons cited highest levels of preparedness and those with previous disaster experience cited this as a reason for being prepared for future disasters. While a large percentage of families claimed to have made explicit disaster management plans, a similarly high number did not have an emergency go bag.

Most Filipinos felt self-reliant when it came to disasters. The majority of the population focused on preparing food, drinking water, and clothing in anticipation for a disaster but given adequate funds would choose to strengthen their homes and store more food, water, flashlights, and cooking supplies. Access to communication technologies was high (mobile phones, televisions, and radios) but participation to training was low (only 20 percent of population). The vast majority of Filipinos received their information from television and radio. Access to the internet was regionally variable though most Filipinos did own mobile phones and used these to access the internet.

The Philippines is, and will continue to be, a key focus and area of study on disaster resilience and preparedness. With the anticipated changes in weather patterns and sea level rise associated with global climate change, researchers and policymakers will benefit from continuing to examine how Filipinos cope with and prepare for future disasters. •

The Philippines is, and will continue to be, a key focus and area of study on disaster resilience and preparedness.

The Harvard Humanitarian Initiative (HHI) brings an interdisciplinary approach to promoting understanding of humanitarian crisis as a unique contributor to global health problems and to developing evidence-based approaches to humanitarian assistance.

Readers are encouraged to reproduce material from HHI publications for their own reports, as long as they are not being sold commercially. For online use, we ask readers to link to the original resource on the HHI website. The views presented in this paper are those of the author(s) and do not necessarily represent the views of HHI.

DISCLAIMER

This publication may be freely quoted but acknowledgement of the source is requested.

Citation: Bollettino, V., Alcayna, T., Enriquez, K., & Vinck, P. (2018) Perceptions of disaster resilience and preparedness in the Philippines. Harvard Humanitarian Initiative, Harvard University.

© Harvard Humanitarian Initiative 2018.

All HHI publications are available from www.hhi.harvard.edu

Front Cover Photo: View of the resettled GK-Kalayaan village, above its previous flood-prone location, Neuva Ecjica, the Philippines (2017).
Credit: Aubrey Graham

Back Cover Photo: Woman washes fish by the stream as there is limited supply of potable water at the resettlement site of GK-Kalayaan, Neuva Ecjica, the Philippines (2017).
Credit: Aubrey Graham.

Report Design by Opus



PROGRAM ON
**RESILIENT
COMMUNITIES**

hhi.harvard.edu