Climate Change in the Eyes of the Vulnerable Community Residents in the Province Of Negros Occidental, Philippines

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Abstract. Climate change will affect various sectors, including water resources, agriculture and food security, ecosystems and biodiversity, human health, and coastal zones. Many environmental and developmental problems will be exacerbated by climate change. This study explored and revealed the different views, experiences, and practices of vulnerable community residents. The qualitative research design was employed narrative inquiry, which gathered data through interviews and focuses group discussions. The study transpired in one municipality and two city villages in the Province of Negros Occidental. The conversation partners were the vulnerable community residents represented by the youths, professionals, local government unit personnel, and people identified as a person with a disability. A thematic approach was used for the data explication. The rigors of the findings were established using prolong engagement for Credibility, Purposive sampling for Transferability, Code – Recode Strategy for Dependability, and Audit Trail for Confirmability. The results specified certain themes that came from frequently repeated terms which are the following: 1) Residents Observed changes in climate 2) Environmental Warming Experienced by the residents 3) Experiences of the residents on surviving the typhoon 4) Poor hygiene practices that may lead to global scourges 5) Poor waste management system: part of the loop that contributes to climate change 6) Inconvenient schedule of water supply: Climate change disrupts the water cycle 7) Air Pollution through Unpleasant smell 8) Unsafe food:Climate Change impacts to fundamental aspects of food supply 9) Climate change may affect human health through multiple and interactive pathways that include safe water scarcity 10) Sickness: The Impacts of Climate Change on Human Health 11) Human Intervention to the community reducing the negative impact of climate change. The study revealed significant insights into the narrated experiences of the residents in dealing with environmental changes from now and then.

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1 Introduction

Climate change is the case of how weather patterns change over decades or longer. Climate change takes place due to natural and human influences (Brath et al., 2015). It is well admitted that human beings cause climate change (Wewerinke, & Yu, 2010). There is a strong consensus in the international scientific community that climate change occurs and that the consequences are already felt in some regions (Warren et al., 2004).

Experience is the best teacher; thus, direct experience of climate change inarguably a greater individual and societal threat than the previous three examples is constrained by individuals' difficulties in detecting its effects amid the normal variation of daily weather (Marx et al., 2007; Moser & Dilling, 2011; Weber, 2010; Weber & Stern, 2011).

If individuals can personally experience adverse effects of climate change, those encounters should result in heightened recognition of its dangers, according to the psychological literature on information processing (Weber, 2006). Yet physical environmental conditions are not the only drivers of perception. Perceived experiences of global warming can also be influenced by social environments, including culturally conveyed interpretations of how global warming will manifest. As evidence, the cultural world- views are predictive both of perceptions of environmental changes (Goebbert, Jenkins-Smith, Klockow, Nowlin, & Silva, 2012), and risk, including climate change (Kahan, 2012; Kahan & Cohen, 2007)

1.1 Objective

The study aimed to explore the different views, experiences, and practices of the vulnerable community residents on climate change.

1.2 Framework of the Study

This investigation was anchored to the concept of Weber and Stern (2011) that Physical, psychological, and social determinants together help explain why public understanding has not tracked scientific knowledge. First, climate change as a set of natural phenomena interacting with their human causes and consequences is intrinsically challenging to understand. Second, scientists and nonscientists have different ways of understanding these phenomena, making divergence of beliefs possible. Moreover, when people apply their conventional modes of understanding to climate change, they are likely to be misled. Third, non- scientists' views and some other countries are being formed by an ongoing struggle to require conceptual frames on climate change as a policy concrern, in which a well-funded and organized campaign has had advance in promoting frames that are at remarkable variance with the scientific evidence and the solidifying scientific consensus.

Climate change is a challenging problem to convey. Relevant to human perceptual capacities, the problem is building far too slowly to be noticed by the lay eye. The early environmental results of climate change have frequently occurred in regions far from where most of mid-latitudinal audiences live. The lack of firsthand experience makes climate change—at least for now—fundamentally a problem that requires signaling, illustrating, and explaining by those who have the expert knowledge to those who don't. Communication is essential (Moser & Dilling, 2011).

Proof has accumulated that people draw inferences about changes taking place in the broader climate from perceived changes in their local weather patterns (Goebbert et al., 2012).

The results illustrated the diagram on the experiences of the conversation partners, which includes eleven (11) themes that came from frequently repeated terms, namely: 1) Residents Observed changes in climate, 2) Environmental Warming Experienced by the residents, 3) Experiences of the residents on surviving the typhoon 4) Poor hygiene practices that may lead to global scourges 5) Poor waste management system: part of the loop that contributes to climate change 6) Inconvenient schedule of water supply: Climate change disrupts the water cycle 7) Air Pollution through Unpleasant smell 8) Unsafe food: Climate Change impacts to fundamental aspects of food supply 9) Climate change may affect human health through multiple and interactive pathways that include safe water scarcity 10) Sickness: The Impacts of Climate Change on Human Health 11) Human Intervention to the community reducing the negative impact of climate change.

1.3 Scope and Limitation

The study delimits on the conversation partners who were the vulnerable community residents on climate change represented by the youths, professionals, local government unit personnel, and people identified as a person with a disability. The study was conducted in the cities of Bacolod, Cadiz, and Municipality of Murcia. Qualitative research through narrative inquiry was applied. The method of data gathering was through a series of individual interviews and focus group discussions.

2 Methodology

2.1 Research Design

The study used a qualitative design. The narrative generally means a spoken or written story (Bold, 2016). Narrative research is a design of inquiry from the humanities in which the researcher studies the lives of individuals and asks one or more individuals to provide stories about their lives (Creswell, 2014). As narrative research develops, its boundaries must be more clearly defined. Narrative research; arguing first, that in-person data collection should exercise appropriate initiating prompts while giving the story-teller ample time and freedom to perform a logical narrative; second, that data analysis should discuss not only the content but also the composition of the story; and third, that description of data should recognize the context of the story-telling, as well as its narrative intent. The process of boundary definition is further interpreted by exploring the possibility of co-authorship among researchers and story-teller and the researcher's narrative (Barusch, 2012).

The interview was the primary tool in data gathering. The interview is used widely in qualitative research and takes several various forms. It is also a method that is continually evolving, in response both to theoretical and technological developments (Peters, K., & Halcomb, 2015).

On the other hand, A Focus Group Discussion (FGD) is a qualitative research design and data collection procedure. A chosen group of people discusses a given topic or issue in-depth, facilitated by a professional, external moderator. This method serves to solicit participants' attitudes and perceptions, knowledge, experiences, and practices shared in the course of interaction with different people (Eeuwijk & Angehrn, 2017).

2.2 Sources of Data

Data gathered were from the conversation partners through the gatekeepers. The conversation partners were those from Cadiz City, Bacolod City, and the Municipality of Murcia following inclusion criteria. For this study, based on relevant research, the gatekeepers are the members of an organization who initiate exposure to a wide variety of external information sources in the field of their expertise or in general; who filter information, obtain information, translate information into the organizations' language, and distribute it among their colleagues with the varying extent and frequency; and who testify to their possessing strategies for distributing information within the organization (Bouhnik & Giat, 2015). The gatekeepers of the conversation partners were the secretaries of the LGU of Bacolod City, Cadiz City, and the Municipality of Murcia. The gatekeepers gave referrals and information to the researcher about the conversation partners.

2.3 Data Gathering Procedure

The researcher wrote a letter asking for permission to the Village Captain of the respected villages and was received by the Secretary of the Office. The Secretary of the village Captain referred the researchers to the qualified conversation partners. The sources of data were the information taken from the series of interviews and Focus Group Discussion, wherein the conversation partners related their experiences and stories associated with Climate Change.

2.4 Ethical Considerations

For the information of the conversation partners who participated in this study, the following provisions were included in the informed consent form: the purpose of the study, the profile of the conversation partners, and the conditions that may apply to them as conversation partners. The conditions that the conversation partners may consider in participating were: not having incentive or compensation; conversation partners' identity to be kept confidential through coded names; and the right to withdraw from the study without any consequence. The form was given prior to their participation and served as an approval of the conversation partners to be part of the study. Password protected audio recording in the series of interviews was implemented to secure the collected confidential information. The encoded data in the Spreadsheet and the audio recordings were discarded after the data were analyzed. Coded names for the conversation partners were provided and identities are kept confidential. Informations were assigned with code numbers and the list connecting to the names to this numbers were kept in a locked file of the researchers.

2.5 Rigors of the Findings

The rigors of the findings are part of the procedure being considered by the researches to make the study accurate and ethical. This ensured the study's trustworthiness and reliability in terms of credibility, transferability, dependability, and confirmability, resulting to a good quality outcome. With all of these rigors met along with the data analysis, the success of the study was assured.

Credibility. The credibility of data refers to its believability or the believability of its sources (Weerkamp & de Rijke, 2012). Credibility is described as the confidence that can be placed in the research findings (Anney, 2014). Credibility confirms whether or not the research findings describe plausible data carried from the participants' original data and is

an accurate interpretation of the participants' actual views (Anney, 2014; Graneheim & Lundman, 2004; Lincoln, Y. G., & Guba, 1985) Further, credibility refers to the degree to which the research represents the actual meanings of the research participants, or the "truth value" (Lincoln, Y. G., & Guba, 1985; Moon, K., Brewer, T. D., Januchowski-Hartley, S. R., Adams, V. M., & Blackman, 2016).

The prolonged engagement was used by the researchers wherein the fieldwork helps the researcher to understand the core concern that might affect the quality of the data because it helps to develop trust with study participants (Anney, 2014).

Transferability. The transferability refers to the degree to which the results of qualitative research can be transferred to other contexts with other respondents – it is the interpretive equivalent of generalizability (Anney, 2014). Transferability, a kind of external validity, refers to how the phenomenon or findings described in one study apply to theory, practice, and future research (Lincoln, Y. G., & Guba, 1985; Moon, K., Brewer, T. D., Januchowski-Hartley, S. R., Adams, V. M., & Blackman, 2016).

Purposive Sampling is the technique mainly used in naturalistic inquiry studies. It is defined "as selecting units (e.g., individuals, groups of individuals, or institutions) based on specific purposes associated with answering a research study's questions" (Teddlie & Yu, 2007). It helps the researchers focus on key informants, who are particularly knowledgeable of the issues under investigation (Schutt, 2014). Purposive Sampling allows decisions to be made about selecting of participants (Ary, D., Jacobs, L. C., Sorensen, C., & Razavieh, 2010; Ryan, G. W., & Bernard, 2000)

In this study, the researchers used purposive sampling. The researcher chose the conversation partners based on the inclusion criteria, which assured that the sources of data were reliable and abundant.

Dependability. The dependability refers to "the stability of findings over time." Dependability involves participants evaluating the findings and the interpretation and recommendations of the study to make sure that they are all supported by the data received from the informants of the study (Korstjens & Moser, 2018). This refers to the consistency and reliability of the research findings and the degree to which research procedures are documented, allowing someone outside the research to follow, audit, and critique the research process (Moon, K., Brewer, T. D., Januchowski-Hartley, S. R., Adams, V. M., & Blackman, 2016).

The researchers coded and recoded the data they gathered. The two groups gathered information from the conversation partners and had these recorded and interpreted. To ensure that the data are the same, the data analysis was guided by the code and recode method, where the researcher coded and recoded the data for more consistent and accurate results. The code-recode strategy involves the researchers codings the same data twice, giving one or two weeks' gestation period between each coding. The results from the two coding are compared to see if the results are the same or different (Chilisa, B., & Preece, 2005).

In this study, the researchers used a code-recode strategy. The code-recode strategy involves the researcher coding the same data twice, giving one or two weeks' gestation period between each coding. The results from the two codings are compared to see if the results are the same or different.

Confirmability. The confirmability refers to how the results could be confirmed or corroborated by others (Baxter & Eyles, 1997). The researcher can document the procedures for reviewing and rechecking the data throughout the study. Confirmability refers to the extent to which the outcomes of an inquiry could be confirmed or corroborated by other researchers. It is concerned with establishing that data and interpretations of the findings are not figments of the researcher's imagination, but are derived from the data (Tobin, G. A., & Begley, 2004). Results are clearly linked to the conclusions in a way that

can be followed and, as a process, replicated (Moon, K., Brewer, T. D., Januchowski-Hartley, S. R., Adams, V. M., & Blackman, 2016).

The audit trail is the research step taken from the start of a research project to the advancement and writing of the findings. The records of the research path are maintained throughout the study (Korstjens & Moser, 2018). The researcher used the method of Audit Trail of data. This was to make sure that the data collected were true and correct. The researcher rechecked each part of the study through reviewing of gathered data and validated results. Each member took part in revising after checking and re-checking. Moreover, the method checking and rechecking lessened errors in the study. Continuous checking of data gathered was ensured. The checking and rechecking of data are the ways for the researchers to review and revise the study where misconception occurred.

2.6 Data Explication

In this study, the thematic analysis guided the researcher to saturate the results further to be interpreted by a series of coding, starting from the general to the specific. Chunking of data was observed to saturate the expected results further. The data were classified by setting codes according to their classification as assigned by the researchers. The researcher used the six (6) Phases of Thematic Analysis by Braun and Clarke, (2006):

The first phase was familiarizing the data. The researcher familiarized the data through listening to the recording device during the series of interviews and by reading the transcribed data.

The second phase was generating the initial codes. The researcher identified the units of meaning and provided the initial codes from the transcribed data.

The third phase involved the sorting and combining of codes to create potential themes. Different codes were identified and analyzed to form themes of the study, which turned specific codes into general themes. In this phase, the researcher analyzed the codes, themes and its levels.

The fourth phase was reviewing themes. It became apparent that some candidate themes were not themes, while others were collapsed into each other. Other themes are required to be broken down into separate themes. Data within themes should cohere together meaningfully, while there should be clear and identifiable distinctions between themes.

The fifth phase was defining and naming of themes. The researcher analyzed and reviewed the gathered data and identified what was the essence of each theme through refining and define.

Finally, the last phase is producing the report. The researcher provided a report which included the concise and logical interpretation of the data with the adequate evidence of themes.

3 Results, Discussion, and Implications

The results specified eleven (11) themes that came from frequently repeated terms, namely: 1) Residents Observed changes in climate, 2) Environmental Warming Experienced by the residents, 3) Experiences of the residents on surviving the typhoon, 4) Poor hygiene practices that may lead to global scourges, 5) Poor waste management system: part of the loop that contributes to climate change 6) Inconvenient schedule of water supply: Climate change disrupts the water cycle 7) Air Pollution through Unpleasant smell 8) Unsafe food: Climate Change impacts to fundamental aspects of food supply 9) Climate change may affect human health through multiple and interactive pathways that

include safe water scarcity 10) Sickness: The Impacts of Climate Change on Human Health 11) Human Intervention to the community reducing the negative impact of climate change.

The researchers gathered the data by conducting a series of interviews and Focus Group Discussion with the conversation partners who were actively involved in the study regarding climate change.

With a thorough examination of data, these were following themes that came out:

1) Residents Observed changes in climate

Weather and climate play an important role in individuals' perceptions and interpretations of the world they live in. Climatic precipitation, temperature, humidity, atmospheric pressure, and winds inform individual and societal beliefs, narratives, and rituals (Strauss, S., & Orlove, 2003; West, Vásquez-léon, & Finan, 2003)

These are the statements from the conversation partners relating to the theme:

CP from Cadiz stated that:

"Time has changed; it was different back then. We used to have a lot of catch at 9am. Nowadays, we have to sail out to sea for one day; we won't earn."

CP from Murcia said that:

"We used to wash clothes/do laundry in the river; nowadays, we can no longer do that."

CP 3 uttered that:

"Yes, of course, because we used to bathe in the river after school. The river used to be clean; others even used to do their laundry. The water in the river used to be clear, unlike now, the water looks brown and muddy."

CP for Barangay Tangub emphasized that:

"Before, the river used to flow along its natural watercourse. But now the flow path is distracted, and everything is submerged."

Reaching any conclusion concerning global warming and climate change by merely observing one or two years trend in the phenomenon of extreme and unusual weather events is scientifically untenable, and this conclusion makes many suspects that no fundamental change in climate is occurring (Paul, 2012). The severity of climate change impacts on human systems becomes particularly visible in analyzing observed and future changes in the Asia and Pacific zone. The deterioration of the Asian "water towers," prolonged heat waves, coastal sea-level rise, and changes in rainfall patterns could disrupt ecosystem services and lead to severe effects on livelihoods, which in turn would affect human health, migration patterns, and the potential for conflicts (Asian Development Bank, 2017).

2) Environmental Warming Experienced by the Residents

The causes of the current phase of environmental warming have received a great deal of attention both from scientific literature and in the public sphere (Hassall & Thompson, 2014). Although a direct connection to global warming is challenging to establish for some of these phenomena in isolation, the multitude of changes collectively provides clear evidence of the direct and growing threat that global warming poses to the economy, human health, and the ecosystems upon which humans and other species depend(Wang & Chameides, 2005). Global warming and climate change is another dangerous threat which may not only harm the interests of millions of people of the region but also put them into serious risks (Islam & Sultan, 2009). As these economies rely much on agriculture, natural resources, forestry, and fisheries sectors, increased risk of floods and droughts would decrease production in these sectors and exacerbate the condition of the poor (Fischer, Shah, M., Tubiello, & Van Velhuizen, 2005; Islam & Sultan, 2009).

These are the statements from the conversation partners relating to the theme:

CP from Murcia asserted that:

"Indeed, the hot season affects us as we age. Our body, when you are young, reacts differently to certain conditions. Compared to my younger years, my body is no longer the same. During the colder seasons, it seems that I could not tolerate cold temperatures anymore."

CP form Barangay 40 stated that:

"It's very hot, of course. The heat seems inconsistent. There are times when the heat is tolerable that the body can easily adapt to it, but at times, the heat is so extreme that it causes headaches."

CP from Cadiz said that:

"It's only these days when the heat is extreme."

Due to global warming and climate change, ultimate events and environmental degradations will influence numerous lives and properties worth millions dollar over the South Asian region. Even in recent years, these economies have experienced some of the deadliest furies of nature (Islam & Sultan, 2009).

Global warming would modify the natural climate and environmental systems in many ways, leading to an increased frequency of ultimate weather events, rising sea levels, the reversal of ocean currents, and changes in precipitation patterns. These changes could impact social and economic activities, with severe implications for the well-being of humans long into the future (Anbumozhi, Breiling, Pathmarajah, & Reddy, 2012). Climate projections point towards an increase in the incidence and intensity of extreme weather events, and one outcome of this trend is the loss of employments and productivity. The increase in global temperatures caused by climate change will also make the phenomenon of "heat stress" more common. Heat stress refers to the heat received more than that of that which the body can tolerate without physiological impairment (International Labour Organization, 2019).

3) Experiences of the Residents on Surviving the Typhoon

Typhoons are expected to become more destructive under climate change, with the possibility of typhoons such as Haiyan becoming more common (International Labour Organization, 2019). One of the significant concerns about the consequences of 21st-century climate change is the increase in typhoon intensity (Lap, 2019).

CP from Cadiz uttered that:

"Typhoon Yolanda hit in the daytime. We anxiously watched as the roofs of our houses were being blown away by the very strong wind. The materials of our houses were stacked in that area."

CP from Barangay 40 emphasized that.

"In 1995, I was pregnant at that time when Typhoon Tipang hit our place. I will never forget that Typhoon because I lost one of my twins when I gave birth to them (when I delivered them). My two brothers were very worried because my husband stayed behind to get something. They couldn't carry me because my tummy was big, and I was heavy. Lucky enough, I know how to swim; I was floating."

Supertyphoon Haiyan in 2013 hit the Philippines, destroyed more than a million homes, and killed 6300 people [National Disaster Risk Reduction and Management Council (NDRRMC 2014)] (Kang & Elsner, 2016). The scale of the impact of Typhoon Haiyan in the Philippines showed a high degree of vulnerability and exposure of coastal communities to ultimate events in a region that is regularly hit by tropical cyclones. Vulnerability to typhoon-related dangers and impacts of climate change is considered one of the major issues affecting land use in these areas (Santos, Toda, Orduña, Santos, & Ferrão, 2015).

4) Poor Hygiene Practices that may Lead to Global Scourges

Climate change describes the most significant challenge of the twenty-first century and poses risks to water and sanitation services (Howard, Calow, Macdonald, & Bartram, 2016). Climate change has become increasingly pronounced; there are abnormal changes in the seasonal pattern and weather. It is resulting in diminishing opportunities for livelihoods and growing uncertainties in the life of the communities. On the one hand, people's vulnerability is growing; on the other hand, hazards such as cyclones, floods, and riverbank erosion are becoming more recurring and severe. These elements of climate change and disaster risk seriously constrain water supply, sanitation, and hygiene practices (Santos et al., 2015).

CP from Murcia stated that:

"I try to observe others/somebody, especially at night. When it gets dark, the national road becomes other people's toilets. The road is used by workers going to the fields, so I can't understand why others treat the road as their toilet, defecating or throwing their wastes/feces there."

CP from Barangay 40 said that:

"Then, residents would bathe in the dirty river, men mostly."

CP from Barangay Tangub uttered that:

"But still, there still some people who do not have toilets."

Sanitation concerns involve destruction and loss of services from floods and decreeased carrying capacity of waters receiving wastewater. Fundamental actions to reduce climate risks encompass the integration of measures of climate resilience into water safety programs, as well as improved accounting and management of water resources (Howard et al., 2016). Cyclones or floods seriously damage the water supply and sanitation system. Cyclones always come with storm surges. Along with other infrastructure, it washes away latrines and tube-wells. Floods inundate latrines and tube-wells in the low-lying areas. Latrines collapse; tube-wells become contaminated, becoming non-functional (Santos et al., 2015).

5) **Poor Waste Management System: Part of the Loop that Contributes to Climate Change**

Introducing alternative community- based waste management techniques that involve waste minimization at the household level with local level recycling would be a low-cost in house mechanism to manage the waste at local level. Awareness should be raised on the disposal of waste, and its impact on the climate change, and people should be motivated to segregate recyclable materials from organic materials by providing separate containers for the collection of waste (Rahman, Shams, & Mahmud, 2010).

CP from Murcia stated that:

"Piggery waste is discharged in the river. Their effluents are drained directly to the river water."

CP from Barangay 40 said that:

"In our area, there are domestic piggeries. Moreover, their toilets drain to the river."

CP from Barangay Tangub that:

"Garbages are not bagged. They are just dumped indiscriminately."

Waste management has a wide variety of impacts on the environment apart from those associated with climate change and these impacts, which are outside the remit of the present study, but which also require proper consideration as part of a complete evaluation of the options (Smith, Brown, Ogilvie, Rushton, & Bates, 2001). Waste management has at least five kinds of impacts on climate change, attributable to: (1) landfill methane emissions; (2) reduction in industrial energy use and emissions due to recycling and waste reduction; (3) energy recovery from waste; (4) carbon sequestration in forests due to decreased demand for the virgin paper; and (5) energy used in long-distance transport of waste (Ackerman, 2000).

6) Inconvenient Schedule of Water Supply: Climate Change Disrupts the Water Cycle

Water scarcity occurs when demand for fresh water exceeds the supply in a specified domain due to lack of water availability, inadequate infrastructures to store, distribute and access water, or a lack of institutional capacity to provide necessary water services (Mujumdar, 2013).

These are the statements from the conversation partners relating to the theme:

CP from Murcia stated that:

"We have to stay up all night because the water supply becomes available during the wee hours of the morning."

CP from Barangay 40 said that:

"Of course, it is such a burden that we have to stay up all night just to fetch enough water. If you wake up at 5 AM, there'll be no more water left for you. My mom wakes up at 2 AM just to fetch water."

Climate change can exacerbate water scarcity by raising both climatic and non-climatic stressors to a higher level (Bates, Kundzewicz, Wu, & Palutikof, 2008). Climate change impacts on precipitation, which is one of the key climatic drivers that determine water availability at a particular location, are of particular concern (Shivakoti, Lopez-Casero, Kataoka, & Shrestha, 2014).

7) Air Pollution Through Unpleasant Smell

Odor, or malodor, which leads to offensive smells, is considered a significant environmental pollution issue. Odor pollution abatement has involved several of bodies. A comprehensive description of pollution lessening and the development of the accompanying instrumentation technology are, therefore, critical links to understand the whole dimension of odor pollution in the environment (Yuwono & Lammers, 2004). Urban air pollution has a notable impact on the chemistry of the environment and thus, potentially on regional and global climate. Already, air pollution is the main issue in an increasing number of megacities around the globe, and current policies to address urban air pollution are expected to be established in numerous developing countries irrespective of the participation of these nations in any explicit future climate policies (Prinn et al., 2005).

These are the statements from the conversation partners relating to the theme:

CP from Barangay 40 stated that:

"Of course, we can feel it. The foul odor is like that of a rotten/decomposing animal. They would just tell us that there is no garbage collector available."

CP from Cadiz said that:

"But I think it's because of the weather. When the wind blows, it carries the odor. And we don't have problems with the air we have here."

CP Murcia uttered that:

"Indeed, we can identify the odor. Sometimes, we can tell the odor of chemicals used to get rid of weeds. Another odor that we can identify is that of the tower, suggesting the use of insecticides and pesticides."

Air quality is entirely dependent on weather and is therefore sensitive to climate change (Daniel & Winner, 2009). The importance of air pollution as one of the contemporary issues and accelerating factors that propel climate change in both developed and developing nations cannot be overemphasized. Air pollution has seemingly become intractable with the incessant failure of both global and local environmental policies purportedly emplaced to address its devastating trend, particularly in growing megacities of the world (Komolafe, Adegboyega, Anifowose, Akinluyi, & Awoniran, 2014).

8) Unsafe food: Climate Change Impacts to Fundamental Aspects of Food Supply

Climate change is anticipated to have essential impacts on food safety, both direct and indirect, placing public health at peril. With shifting rainfall patterns and increases in extreme weather events and the annual average temperature, we will begin to face climate change (World Health Organization, 2018). Climate change will influence all four dimensions of food security: food availability, food convenience, food utilization, and food systems stability. It will have a result on human health, livelihood assets, food production, and distribution channels, as well as shifting purchasing power and market flows (Food And Agriculture Organization Of The United Nations, 2008).

These are the statements from the conversation partners relating to the theme:

CP from Barangay 40 stated that:

"Yes, my 13-year-old child, who is in grade 6, went to the river one night to catch some fish/crustaceans. I got mad at him for bravely going to the river, even if it's too dark. But then, I knew that he was with older boys. Sometimes, they catch tilapia using flashlights. They had a big catch, and they enjoy eating them."

CP from Murcia said that:

"Because of our environmental condition today, our food is no longer safe, regardless of the source. Even our rice grains are unsafe because of the insecticides."

9) Climate Change may Affect Human Health through Multiple and Interactive Pathways that Include Safe Water Scarcity

Abundant water supply sources (rivers, lakes, groundwater basins, etc.) are already over-allocated, suffer degraded water quality, and are frequently not an insufficient condition to support threatened species. Climate change will increase these water challenges, driving to inadequate water for people and the environment, and making it more challenging to meet the needs of both (Natural Resource Defense Council, 2010).

These are the statements from the conversation partners relating to the theme:

CP from Murcia stated that:

"We have a (water) well here in our area. We made it deep, but it's for domestic use only. We buy our drinking water from Pandanon."

CP from Barangay Tangub said that:

"I think it's fine. If the water is clear, I reserve it for drinking. I have to reserve it because at times, the water appears muddy and we can't drink it. I don't even use the water from the well for laundry because it's dirty or turbid. In my mother's house, I recall only one instance when the water is very turbid or discolored since the waterline was connected."

CP from Cadiz explained that:

"We used the water from the artesian well ever since. Since before, we have never used mineral/distilled water."

CP from Barangay 40 explained that:

"We use the water from the deep well for domestic use. What we do is that we buy mineral water for drinking."

Though the challenge of halting and shifting climate change is more consequencial than any one country, mitigating its health-related results is both possible and important. Across the WHO Member States, health systems should, in collaboration with agriculture, environment, and other releted sectors, be able to prevent, detect and control the increased foodborne risks correlated with climate change and do so in a move that advances health equity and ensures no one is left behind (World Health Organization, 2018).

10) Sickness: The Impacts of Climate Change on Human Health

The shifts in global climate that have been forecast by the IPCC (Houghton, 1999) may affect human health both directly and indirectly (Woodward, Hales, & Weinstein, 1998).

These are the statements from the conversation partners relating to the theme:

CP from Barangay Tangub stated that:

"Since I settled in this place, my child often gets sick and skin allergies or rashes. It seems that we often get sick."

CP from Barangay 40 said that:

"Their children get sick of cough, fever, and colds. It could not be avoided. There's nothing more we can do because people would simply argue that there's no garbage collector. On the contrary, we clean our surroundings every day. But I think it's because of the weather. When the wind blows, it carries the odor. And we don't have problems with the air we have here."

CP from Murcia said that:

"During the wet/cold season, the children easily get sick of cough or colds. In the daytime, it's very hot, but it's very cold at night. (Because of the dry weather, the ground gets dried, a lot of dust is generated; thus, people get sick easily, especially the children."

Scientists have long prognosticated large-scale responses of infectious diseases to climate change, giving rise to a polarizing discussion, especially regarding human pathogens for which socioeconomic drivers and control actions can limit the detection of climate-mediated changes. Climate change has already increased the existence of diseases in some natural and agricultural systems, Still, in many cases, outcomes depend on climate change and details of the host-pathogen system (Altizer, Ostfeld, Johnson, Kutz, & Harvell, 2013). There is no doubt, however, that climate change is currently transforming public health through myriad environmental consequences, such as sea-level rise, changes in precipitation leading in flooding and drought, heatwaves, changes in the intensity of hurricanes and storms, and degraded air quality, that are anticipated to continue into the foreseeable future (Portier et al., 2013).

11) Human Intervention to the community reducing negative impact of climate change.

Lessening, the most critical of climate impacts, need a substantial push to restrain global temperature changes over the course of this century. This, in turn, depends on humankind's capacity to achieve rapid and sustained reductions in greenhouse gas emissions over the next several decades (Williamson, Satre-Meloy, Velasco, & Green, 2018). To address one of the most significant environmental issues of our lifetime, the scientific and policymaking communities should work collectively to formulate evidence-informed public policy to mitigate greenhouse gas emissions and adapt to its inevitable impacts in this generation and, more importantly, in future generations to come (Tong, Confalonieri, Ebi, & Olsen, 2016).

These are the statements from the conversation partners relating to the theme:

CP from Murcia stated that:

"I suggest the collection of waste every Sunday and segregation here in our barangay; that is, separate biodegradable vs. non-biodegradable. Since the residents put/prepare garbage bags/bins along the street, so I suggest collection every Sunday, perhaps. We can provide sack for biodegradable and non-biodegradable garbage for a simpler and easier system."

CP from Cadiz said that:

"It is our responsibility to clean our surroundings."

Doing so requires a transformation of our economy and our systems of production and consumption, from changing how we generate energy and provide food to how we consume goods and services. While the focus for the most utmost of this change frequently rests at the scale of government and industry, changes at the level of people, households, and communities are of profoundly greater importance than most people appreciate (Williamson et al., 2018).

4 General Statements

Climate change will affect variuos sectors, including water resources, agriculture and food security, ecosystems and biodiversity, human health, and coastal zones.

Several environmental and developmental problems will be exacerbated by climate change. This study explored and revealed the different views, experiences, and practices of vulnerable community residents.

The results specified certain themes that came from frequently repeated terms which are the following: 1) Residents Observed changes in climate 2) Environmental Warming Experienced by the residents 3) Experiences of the residents on surviving the typhoon 4) Poor hygiene practices that may lead to global scourges 5) Poor waste management system: part of the loop that contributes to climate change 6) Inconvenient schedule of water supply: Climate change disrupts the water cycle 7) Air Pollution through Unpleasant smell 8) Unsafe food: Climate Change impacts to fundamental aspects of food supply 9) Climate change may affect human health through multiple and interactive pathways that include safe water scarcity 10) Sickness: The Impacts of Climate Change on Human Health 11) Human Intervention to the community reducing the negative impact of climate change.

Developing countries like the Philippines have very complex individual circumstances, and the particular impacts of climate change on a nation depend on the climate it encounters as well as its geographical, social, cultural, economic, and political conditions. Countries need a diversity of adaptation measures, depending on individual circumstances in the fields of agriculture, water resources, human health, terrestrial ecosystems, biodiversity, and coastal zones.

The study revealed significant insights into the narrated experiences of the residents in dealing with environmental changes from now and then.

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