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Pagtagam: A Narrative on the Traditional Knowledge and Practices on Disaster Risk Reduction of the Local Folks at Tapaz, Capiz, Philippines



Abstract: - This study explored on Pagtagam: A Narrative on the Traditional Knowledge and Practices on Disaster Risk Reduction of the Local Folks at Tapaz, Capiz, Philippines. Using the qualitative research design, five (5) informants were purposively chosen. Data was collected using fieldwork, observations, interviews with key informants, and analysis of documents and photographs. Verbatim data transcripts were analyzed using the approach by Flick (2018).

This study aimed to document and record the local folks' traditional knowledge on disaster risk reduction in Tapaz, Capiz, Philippines. This study also imparted the narratives of the local folks specifically living in disaster prone areas such as San Nicolas, Candelaria, Santa Petronila, Daan Banwa, and Salong, so we may learn something from them. These narratives consist of the traditional practices and techniques they employ for disaster risk reduction, the application of traditional knowledge and practices during times of hazards, and the effective measures of protection against natural disasters. These practices include using environmental cues such as coconut leaves, mushrooms, tadpoles, chickens, and ants to predict and prepare for storms, typhoons, and floods. Building of kurob and lantay, planting of trees and bamboos, fortifying their homes and finding higher areas, storing food and necessities and evacuating as early as possible are some practices they have been doing to cope and protect themselves during natural disasters.

Such traditional knowledge, passed down through generations, not only enhances community resilience but also fosters a deeper connection between people and their environment.

Keywords: Hazards, Indigenous Wisdom, Preparedness, Resilience, Traditional Knowledge

I. INTRODUCTION

Natural disasters, like typhoons and floods, can be very dangerous for people and their homes. In the Philippines, these events happen often because of where the country is located. According to Williams et al. (2020), the country is in a part of the world where big storms, called typhoons, and heavy rains that cause floods happen often and because the country is made up of many islands. The country's position makes it like a target for these natural events. Typhoons bring strong winds and lots of rain, while floods happen when too much rain makes water spill over, covering the land and homes. To stay safe, people have learned to prepare for these disasters.

In the town of Tapaz, Capiz, locals use traditional knowledge passed down through generations to help them during these times. Just like in Samar, Philippines where Cuaton and Su (2020) conducted their study, they found that local people utilize their local old wisdom and knowledge in times of disaster. Similarly, Reyes et al. (2019) discovered that the locals understand their environment well, which helps them reduce the risks from these natural events. This traditional knowledge is very important for keeping everyone safe and ready for disasters.

People are starting to see how important traditional knowledge is for staying safe during natural disasters. However, there has not been much research on how the people in Tapaz, Capiz, a rural area where typhoons and floods often happen, use their traditional practices to deal with these events. While some studies look at different communities and their ways of handling disasters such as the studies of Domingo and Manejar (2018), Balay-As (2019), Reyes et al. (2019), Brucal et al. (2020), Mizutori (2020), Ravago et al. (2020), and Hadlos et al. (2022), and there is not much information specifically about Tapaz, Capiz.

That is why, as a Tapaznon, this motivated the researcher to learn about their traditional methods for he has seen how resilient the Tapaznons are, and he believes that they can surely help us understand disaster safety better. It can also help combine old ways with new ways to protect everyone from typhoons, floods, and other natural dangers. Understanding and using this traditional knowledge can make disaster preparations stronger and more effective.

This study aims to fill the research gap by investigating the traditional knowledge on disaster risk reduction of the local folks at Tapaz, Capiz. By listening to their stories and learning about their practices and beliefs, the study hopes to understand the special ways they deal with dangers like typhoons and floods. The goal is to share this knowledge with people who make rules, those who help during disasters, and the local communities. This way,

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they can create better plans that respect the culture unique to their areas and are good for the environment. The study will help everyone work together to make disaster preparations stronger and safer.

This study aimed to document and record the local folks' traditional knowledge on disaster risk reduction in Tapaz, Capiz, Philippines. Specifically, it sought answers to the following questions:

1. What are the traditional practices and techniques that the people in Tapaz, Capiz use for disaster risk reduction?
2. When do the people in the community use their traditional knowledge and practices to deal with disasters?
3. How do the people in Tapaz, Capiz use their traditional knowledge to protect themselves from natural disasters?

II. METHODOLOGY

Research Design

Qualitative research was chosen as it allows for a comprehensive exploration of subjective experiences, meanings, and social contexts. By utilizing methods such as interviews, observations, and document analysis, the researcher was able to gather detailed and extensive data that provided deep insights into the community's knowledge and practices related to disaster risk reduction. Specifically, the narrative inquiry was utilized in this study to delve into the personal stories, anecdotes, and narratives of the local folks. By collecting and analyzing these narratives, the researcher gained a deeper understanding of the community's experiences, perspectives, and cultural contexts. This approach allowed for the exploration of the community's lived experiences, cultural heritage, and the meanings embedded in their narratives. Through the analysis of the collected narratives, the researcher identified themes, patterns, and unique insights that contributed to a more comprehensive understanding of traditional knowledge and practices on disaster risk reduction of the local folks at Tapaz, Capiz, Philippines. By centering the study on the narratives of the community members, the research design gave voice to their experiences and shed light on their old and traditional practices in mitigating and adapting to natural hazards.

Participants

The respondents of this study were the purposively selected five (5) key informants from the community at Tapaz, Capiz, Philippines. This sampling technique refers to a type of non-probability sampling where the target participants meet specific practical criteria, such as easy accessibility, availability at the given time, or the willingness to participate are included for the study (Etikan et al., 2016). The key informants were chosen based on the following criteria: (1) elders of the community who have a deep understanding on the traditional practices on mitigating disasters, (2) traditional leaders of the community with experiences on the practices in disaster risk reduction, and (3) members of the community who are actively engaged in improving disaster resiliency.

Locale of Study

The locale of the study is Tapaz, Capiz, Philippines. Tapaz is a municipality located in the province of Capiz, situated in the Western Visayas region of the Philippines. It is known for its diverse natural environment, including mountains, rivers, and agricultural lands. Tapaz is predominantly inhabited by the Panay Bukidnon indigenous community, also known as the Indigenous Peoples of Panay Bukidnon. The Panay Bukidnon people have a rich cultural heritage and strong connection to their ancestral lands. They have developed traditional knowledge and practices over generations, particularly in relation to disaster risk reduction (PhilAtlas, 2024).

Five specific barangays where the key informants came from and where natural disasters such as typhoons and floods often happen were chosen. These are: San Nicolas, Candelaria, Santa Petronila, Daan Banwa, and Salong. Brief descriptions of each barangay are provided below.

San Nicolas is situated at approximately 11.3250, 122.5239, in the island of Panay. Elevation at these coordinates is estimated at 59.8 meters or 196.2 feet above mean sea level. The population of San Nicolas grew from 2,180 in 1990 to 2,669 in 2020, an increase of 489 people over the course of 30 years. The latest census figures in 2020 denote a positive growth rate of 0.10%, or an increase of 13 people, from the previous population of 2,656 in 2015 (PhilAtlas, 2024).

Candelaria is situated at approximately 11.2907, 122.5244, in the island of Panay. Elevation at these coordinates is estimated at 41.8 meters or 137.1 feet above mean sea level. The population of Candelaria grew from 1,707 in 1990 to 2,208 in 2020, an increase of 501 people over the course of 30 years. The latest census figures in 2020 denote a positive growth rate of 1.54%, or an increase of 155 people, from the previous population of 2,053 in 2015 (PhilAtlas, 2024).

Santa Petronila is situated at approximately 11.2825, 122.5788, in the island of Panay. Elevation at these coordinates is estimated at 38.5 meters or 126.3 feet above mean sea level. The population of Santa Petronila grew from 417 in 1990 to 525 in 2020, an increase of 108 people over the course of 30 years. The latest census figures in 2020 denote a positive growth rate of 1.55%, or an increase of 37 people, from the previous population of 488 in 2015 (PhilAtlas, 2024).

Daan Banwa is situated at approximately 11.2698, 122.5346, in the island of Panay. Elevation at these coordinates is estimated at 36.5 meters or 119.7 feet above mean sea level. The population of Da-an Banwa grew from 416 in 1990 to 1,296 in 2020, an increase of 880 people over the course of 30 years. The latest census figures in 2020 denote a positive growth rate of 9.69%, or an increase of 461 people, from the previous population of 835 in 2015 (PhilAtlas, 2024).

Salong is situated at approximately 11.2567, 122.5287, in the island of Panay. Elevation at these coordinates is estimated at 40.5 meters or 132.9 feet above mean sea level. The population of Salong grew from 465 in 1990 to 646 in 2020, an increase of 181 people over the course of 30 years. The latest census figures in 2020 denote a positive growth rate of 2.26%, or an increase of 65 people, from the previous population of 581 in 2015 (PhilAtlas, 2024).

The choice of these barangays as the locale for this study is significant because it allows for an in-depth exploration of the traditional knowledge on disaster risk reduction among the local folks as these are locations where typhoons and floods often happen. They provide an ideal setting for investigating the traditional knowledge and narratives of the local folks in managing and mitigating the risks associated with natural hazards prevalent in the area. The geographical and cultural characteristics of the locale contribute to the distinctive context in which the study was conducted, offering valuable insights into the old and traditional community's response to disaster risks.

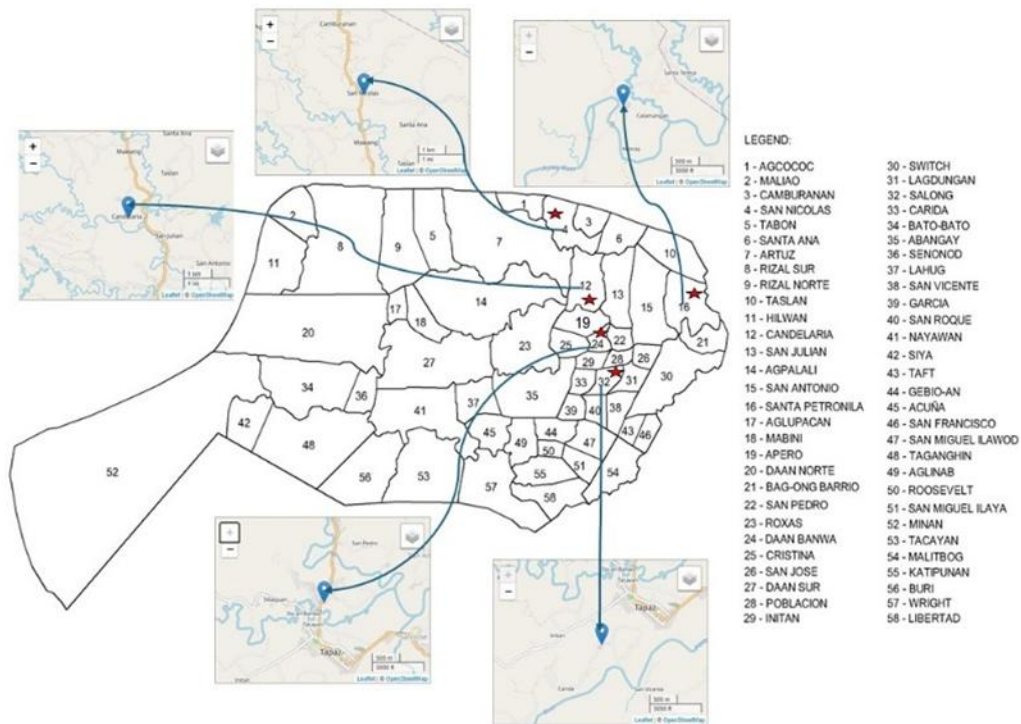


Figure 1. Map of Tapaz, Capiz, Philippines (Berondo, 2023)

Data Collection

Data was collected using fieldwork, observations, interviews with key informants, and analysis of documents and photographs. These methods support and cross-check the information gathered from the informants. To ensure ethical standards, required permits were obtained, and informants were given necessary disclosure information before the study began.

Data Analysis

The data collected from interviews was written down word for word. To understand this data, a method by Flick (2018) was used, which helped organize ideas into themes. This study used these themes to understand what people experienced during natural disasters. First, every important comment from the interviews was listed and

treated equally. The researcher went through all the interviews, marking words, phrases, and sections that related to their questions. These marked parts were called "codes," and they were grouped into themes. This helped the researcher answer their questions and understand the experiences of the people, both individually and as a group. All this work was done by hand, without using any computer software.

III. RESULTS AND DISCUSSION

Basic themes from the codes were developed and organized into four (4) categories that eventually led to three (3) themes. The thirteen (13) statements from the five (5) respondents gave way to thirteen (13) codes that were grouped into four (4) categories that were further arranged into three (3) organizing themes paving the way to the central idea of the study which is to document and record the local folks' traditional knowledge on disaster risk reduction in Tapaz, Capiz, Philippines (Table 1).

Table 1. Thematic Analysis of the study

Statement	Coding	Category	Theme
1. Using of <i>bagacay</i> (coconut leaves), <i>pana</i> (bow and arrow) or <i>binangon</i> (long knife) to mislead the direction of the storm	Mislead	Intimate connection with nature	Traditional practices and techniques
2. Observance of the height of the <i>uhong</i> (mushroom) to predict the impending arrival of the typhoon	Predict	Intimate connection with nature	Traditional practices and techniques
3. Looking for the presence of <i>urok</i> (tadpole) swimming near the edges of the creeks to indicate an upcoming flood	Indicate	Intimate connection with nature	Traditional practices and techniques
4. If the house is a lighting magnet, hearing the clucking sounds of the hens signals you to leave the house and find shelter	Signal	Warning Signs	Application of traditional knowledge and practices
5. The presence of <i>guyom</i> (ants) in the homes signals an impending storm thus alerting them to store food and wood and to reinforce the roofs of their houses with bamboo to make them sturdier and resilient against strong winds	Reinforce	Warning Signs	Application of traditional knowledge and practices
6. Building of <i>kurob</i> (traditional house capable of withstanding the impacts of natural disasters) to ensure that when a typhoon arrives the people may have a safe shelter to seek refuge in	Ensure	Seeking Solution	Application of traditional knowledge and practices
7. Constructing of <i>lantay</i> (bamboo rafts) to assist people to cross areas affected by the flood	Assist	Seeking Solution	Application of traditional knowledge and practices
8. Planting of trees and <i>botong</i> (bamboo) in areas prone to flooding	Prone	Seeking Solution	Effective measures of protection
9. Moving to safe places and evacuation centers when early warning signs appear	Moving	Seeking Solution	Effective measures of protection
10. Getting in touch with nature to be provided with signs that impending natural disasters will happen	Impending	Seeking Solution	Effective measures of protection
11. Fortifying homes to make them withstand the impending storms and strong winds	Fortifying	Preparation	Effective measures of protection
12. Storing of food, wood and other necessities to prepare for the natural disaster that will happen	Storing	Preparation	Effective measures of protection
13. Building houses in stilts and in higher areas to protect from flooding	Building	Preparation	Effective measures of protection

Traditional Practices and Techniques Employed by the Local Folks for Disaster Risk Reduction

Local people use special ways to stay safe from disasters like storms, typhoons, and floods. These methods come from their ancestors and are part of their culture. They know a lot about their surroundings and pay close attention to nature. By watching the weather and understanding the land, they have learned how to protect themselves and their homes. These traditional practices have been shared through generations, helping communities stay safe during natural disasters.

When faced with a storm, the local folks utilize traditional tools such as *bagacay* (coconut leaves), *pana* (bow and arrow), or *binangon* (long knife) to drive away or mislead the direction of the storm. These tools are believed to have protective properties and are used to ward off the destructive forces of the storm. One participant stated and agreed by another that “Kung gulpi lang abi mag abot ang bagyo, ang ginahimo namun may bagacay gid kami na, indi gd mawad-an ang balay namon sang bagacay, kay amo na ang tradisyon namon. Dayon ang amon ginabra, gina tiro ina namon ang bagyo ka mataliwis ka bacagay o ginapana namon sila o binangonon namon ang paparapit nga bagyo para malikaw sila.” (When a storm is about to come, we always have bamboo sticks ready because it is our tradition. We use bamboo sticks to fight the storm. We shoot or cut through using the bamboo sticks at the storm, hoping it will go away and keep us safe.)

In tracking the arrival of typhoons, the community has developed a unique system based on the growth of *uhong* (mushroom) after the harvest season. They observe the height of the *uhong*, and if it appears shorter than usual, it symbolizes the impending arrival of a typhoon. This observation serves as an early warning sign, prompting the community to make necessary preparations in advance. One participant shared and agreed by the other that “Sang natandaan namon antis mag-bagyo, pagkatapos sang ani, may makita kami sing uhong. Kung manaba gani ang tubo sinang uhong, ma preparar na ang mga tawo kay may bagyo na maabot.” (As far as our recollection goes regarding typhoons, after the harvest, if we come across mushrooms and notice that their growth is stunted or

shorter than usual, it signifies the imminent arrival of a typhoon. In response to this indication, the community would make necessary preparations since a typhoon is expected to occur.)

The local folks have also devised a method to predict and prepare for floods. By observing the sides of creeks, they look for the presence of tadpoles swimming near the edges. If there are urok (tadpoles) spotted, it indicates that the rainy season will arrive within approximately two weeks, serving as an indication of an upcoming flood. This enables the community to take preventive measures and mitigate potential damage caused by flooding. Once participant mentioned as agreed by the others, “Ang palatandaan namon sang baha, lantawon namon ang binit sang sapa kung nagahunog na ang tubig kag damu na buto ka urok kag kung gasirib sa binit, siguro mga duha ka semana maabot na ang baha kag mag uran na”. (Our signs for flood, we will observe the sides of the creeks, if there are many tadpoles near the sides, maybe after two weeks there will be flood and rain.)

Application of Traditional Knowledge and Practices in Disaster Risk Reduction

The local folks apply their traditional knowledge and practices in mitigating the risk of natural disasters in various situations. Local communities often have their own systems for predicting and signaling impending disasters. They observe changes in animal behavior, such as unusual migration patterns or the movement of birds, which can serve as indicators of an approaching disaster. Traditional weather forecasting techniques, such as observing cloud formations or the behavior of certain insects, can also provide early warnings. With these indicators, communities take proactive measures to evacuate or prepare for the impending disaster.

During lightning storms, the locals utilize their deep understanding of traditional practices to assess the risk and take appropriate actions. They believe that if the place attracts lightning, residents will hear the clucking sound of fowls and hens, which serves as a sign that the area is at risk of a lightning calamity, prompting immediate evacuation from the vicinity. Notable answer as shared by one participant goes like this, “Kung kirilatan guid man ang balayan, may patimaan na kanimo nga may mabatyagan ikaw nga gahuni na manok nga gabutok-butok. Kung may mabatian ikaw nga amo day-a ideyahe na nga daan nga maghalin balay samtang gabagyo kay malukpan guid ka gid sina ka kilat ang inyo balay.” (If the house can attract the impending lightning, there are signs, you will feel clucking sound of hens. If you hear these sounds, you need to leave for the lightning will hit the area.)

The local folks have also developed an early warning system for predicting the onset of typhoons by observing the movements and patterns of guyom (ants). When these insects start appearing in their homes, it signals an impending storm, alerting them to store food and wood. They also reinforce the roofs of their houses with bamboo to make them sturdier and more resilient against strong winds. Many participants agree on the statement made by Participant 1 as he mentioned, “Kung maguwa dun kag magsararaka sa balay namon ang mga guyom, gapatimaan ina nga may maabot nga mabaskog nga bagyo. Nagapanghimos dun kami ka amon nga pagkaon kag mga garamiton. Kag gabuol ka mga kahoy panggatong sa katarunan agud may pangluto kami bisan gainuran.” (If the ants will appear and come up to our houses, this signs that there will be storm coming. We prepare our food and things. We gather firewood so we may cook despite the stormy nights.). Participant 3 further added, “Kung manug-abot na ang bagyo, gabutang kami sa amon atop sang mga layon nga butong agud indi magka-arapok among nga atop”. (If there is an upcoming storm, we will place bamboos in our roofs so that it will not be swept away by the storm.)

In addition to their predictive capabilities, traditional knowledge also guides the locals in designing and constructing houses that are well-suited to their environment and capable of withstanding the impacts of natural disasters. The kurob is an example of such a traditional house. It is constructed using materials like wood, lamban (rope), uway (rattan), cogon, and bamboo. The kurob is carefully designed and built to endure strong winds and heavy rains. These houses are constructed in advance, ensuring that when a typhoon arrives, the occupants have a safe shelter to seek refuge in. Participant 4 mentioned as agreed by the others, “Halimbawa sa bulan ka Nobyembre kag Disyembre nga tigoro-ras ka bagyo, gahimo lagi kami ka kurob para proteksyon sa kaugalingon namun na indi kami maapektuhan sang bagyo”. (For example, in the month of November and December, time for typhoons, we made the kurob for us to be protected against the typhoons.)

When floods happen, local folks make bamboo rafts called lantay to help everyone cross the water safely. These rafts are strong and float well, making them perfect for moving through flooded areas. By building lantay, the community helps each other stay safe and get where they need to go even when there is a lot of water around. It is a clever and helpful tradition. Participant 3 and highly agreed by Participants 1 and 2 shared, “Kung tig-ururan, dasig lang magbaha sa amon nga lugar amo ina nga damo na sa amon ang nakatuon maghimo lantay para makabulig sa mga gatararabok nga makakadto sa ila kaladtuan. Naga hatag lang sila sang ginagmay nga kantidad para amon sila buligan makatabok bisan nagabaha.” (When it rains a lot, our place floods quickly. That is why many of us

have learned to make bamboo rafts to help people cross the water and get where they need to go. They give us a small amount of money, and we help them cross safely even when it is flooded.)

Effective Measures of Protection against Natural Disasters

In places where it floods a lot, local people plant trees and bamboo called "botong" to help stop the water. These plants have strong roots that hold the soil together and slow down the water, making floods less dangerous. By planting trees and bamboo, the community works together to protect their homes and stay safe during heavy rains. All of them agreed when Participant 2 shared that, "Ang pinaka epektibo nga pagprotektar sa kada isa sa tunga sang mga bagyo kag iban paguid nga kalamidad amo ang pagpananum sang mga kahoy sa aton palibot. Akon paguid nga nakita nga epektibo amo ang pagpananum sang mga botong sa kilid sang mga suba kay ini maga bulig guid magsupsup sang tubig kag magahagan hagan ang pagbaha." (The best way to protect everyone during storms and other disasters is by planting trees around us. I have seen that planting bamboo called "botong" by the rivers is very effective as well. It helps absorb the water and slows down flooding, keeping us safer.)

When there are early signs of danger, like storms or floods, local people quickly move to safe places and evacuation centers. These centers are safe buildings where everyone can stay until the danger is gone. By moving to these safe places early, the community makes sure everyone is protected from harm. This smart practice helps keep everyone safe during bad weather and other emergencies. Participant 5 mentioned and agreed by others that, "Ang indi pagpaawat-awat kung nagapaabot ang mga kalamidad ang isa ka importante nga hilimoon para masigurado nga safe ang tanan. Sa pagkabalo nga manugpaabot na ang baha, bisan senyalles palang nagaguwa, nagahalina kami sa mga kurob kag evacuation centers para indi magsala kung magtaas na ang mga katubigan sa palibot." (Not waiting when a disaster is coming is very important to make sure everyone is safe. When we know a flood is coming, even if there are just small signs, we leave early and go to safe places and evacuation centers. This way, we stay safe and do not get caught when the water rises.)

Local people pay close attention to nature to notice signs of natural disasters coming. They watch animals, plants, and the weather to see if something unusual is happening. By understanding these signs, they can prepare early for storms, floods, and other disasters. This practice helps keep everyone safe because they know when to act before danger arrives. It is like nature is giving them a warning. Participant 4 added as agreed by others that, "Ang amon mga tradisyonal nga nabal-an nahanungod sa pagpakot kung may maabot nga kalamidad nahanungod ina tanan sa natural nga pamaagi. Ini bulig sa amon sang kalibutan kag ang pagbantay sang palatandaan sa palibot amo ang pagdala sa kadalag-an sa pagbato sa mga kalamidad nga naga-alalabot." (Our traditional knowledge about knowing when a disaster is coming is all about natural ways. The world helps us by showing signs in nature. Watching these signs around us helps us succeed in dealing with the disasters that come our way.)

Local folks strengthen their homes to withstand big storms and strong winds. They use strong materials and build their houses carefully, so they do not get knocked down by the wind. This helps keep everyone safe inside when bad weather comes. It is like giving their homes extra armor to protect them from the powerful forces of nature. The notable answer of Participant 1 is worthy to be mentioned, "Ang pagpanigurado nga indi maapektuhan sang kalamidad ang imo panimalay nagasugod sang pagpa-obra mo sang imo hulot. Ginatinguhaan na sang may mga may kaya-kaya nga ang ila mga balay nahimo sa mga mayad nga materyales. Ang mga iban sa kumonidad naga amlig sa ila nga pabakuron ang ila mga kabalayan para mayad ang ila pag istar bisan may mga natural nga kalamidad nga naga abot sa banwa sang Tapaz." (Making sure your home stays safe from disasters starts when you build it. Some people use strong materials to make their houses sturdy. Others in the community reinforce their homes so they stay safe to live in, even when natural disasters like storms come in the town of Tapaz.)

Preparing for natural disasters may also be done by storing food, wood, and other important supplies. They keep these things in safe places, so they have enough to eat and stay warm when bad weather comes. This helps everyone stay healthy and comfortable during storms or floods. By being ready with these necessities, the community can handle tough times better and take care of each other. Participant 3 answered and agreed by the group that, "Ang pagtago sang mga kinahanglanon artis mag abot ang kalamidad ang isa ka mayad nga ginahimo sang mga Tapaznons. Nagapanigana ang kada isa para malikawan ang kabudlay sa tunga sang mga bagyo kag baha." (Storing necessities before a disaster is something the people of Tapaz do well. Everyone prepares to avoid hardships during storms and floods.)

Lastly, local people build their houses on stilts and in higher places to stay safe from flooding. This way, when heavy rains come and the water rises, their homes stay dry and safe. By choosing higher ground and using stilts, the community protects their families and belongings from being damaged by floodwaters. This smart way of building helps keep everyone safe during bad weather. Participant 2 shared, "Ang pagpatindog sang mga balay sa

mas mataas nga lugar isa ka pamaagi nga makalikaw sa pagbaha. Pati magpatindog sang balay nga paataason mayad man nga mga pamaagi para nga kung magbaha, indi agad agad masulod sang tubi ang buluthuan.” (Building houses in higher places is a way to avoid floods. Building houses on stilts is also a good idea because when it floods, the water does not get inside the house easily.)

Discussions

This study aimed to document and record the local folks’ traditional knowledge on disaster risk reduction in Tapaz, Capiz, Philippines. This study also imparted the narratives of the local folks specifically living in disaster prone areas such as San Nicolas, Candelaria, Santa Petronila, Daan Banwa, and Salong, so we may learn something from them. These narratives consist of the traditional practices and techniques they employ for disaster risk reduction, the application of traditional knowledge and practices during times of hazards, and the effective measures of protection against natural disasters.

The study shows how local people use old ways to stay safe from storms, typhoons, and floods. For storms, they use things like coconut leaves, bows and arrows, and long knives to try to push the storm away. For typhoons, they watch mushrooms after harvest. If the mushrooms are shorter than usual, it means a typhoon is coming, so they get ready. For floods, they look at the sides of creeks for tadpoles. If they see many tadpoles, they know it will rain and flood in about two weeks, so they prepare. These old methods have been shared for many years, helping everyone stay safe. These ways of watching nature help them get ready before bad weather comes. Combining these old ways with new ones could make everyone even safer. In his study on indigenous knowledge in disaster management, Shtob (2019) discusses how traditional practices in North America have proven effective in managing natural hazards. Like the findings of this study, local communities use environmental signs and symbols to predict weather patterns and natural events, thus supporting the integration of traditional knowledge with modern disaster management strategies.

Also, in their study predicting climate and weather using animals, Alves and Barboza (2018) found that local knowledge systems, including the observation of animal behavior and environmental changes, played a crucial role in predicting and preparing for natural disasters. This supports the idea that traditional practices are valuable tools in community-based disaster risk reduction. However, the study of Harrison and Williams on the frequency, social, and economic impacts of natural disasters shows that although traditional knowledge is valuable, it often lacks the capacity to deal with large-scale and unpredictable disasters. The researchers advocate for a more systematic approach that includes modern technology and infrastructure.

The study showed that local people use their traditional knowledge to stay safe during natural disasters. They can tell when a disaster is coming by watching animals and insects. For example, if hens cluck a lot, it means lightning might strike, so they leave their houses. When ants appear, it signals a storm, and they prepare food and secure their roofs with bamboo. They build special houses called kurob to protect themselves from strong winds and rain. During floods, they make bamboo rafts called lantay to help everyone cross the water safely. These traditions help them stay safe and help each other during bad weather. The findings align with the growing recognition of traditional knowledge in disaster management. For instance, a study by McMillen et al. (2017) underscores the value of traditional knowledge in enhancing community resilience. This study, conducted in the Hawaii Island, found that local knowledge, including the observation of natural signs, significantly improved the ability of communities to anticipate and respond to natural hazards. In contrast, a study by Ulicsni et al. (2019) suggests that while traditional knowledge is valuable, it may sometimes lack the precision and reliability of scientific methods. Their research found that local weather prediction methods, while culturally significant, were often less accurate than modern meteorological forecasts. The study highlighted the need for integrating traditional knowledge with scientific approaches to enhance disaster preparedness and response. This integration ensures that communities benefit from both cultural practices and advanced technologies.

In places where it floods a lot, people work together to stay safe. They plant trees and bamboo to hold the soil and slow down the water. They also move quickly to safe places and evacuation centers when they see early signs of storms or floods. By watching animals, plants, and the weather, they can tell when a disaster is coming and prepare early. They build strong homes and store food and supplies to stay safe and comfortable during bad weather. Lastly, they build houses on stilts or in higher places to avoid floodwaters. All these smart practices help the community protect their families and homes from natural disasters. The study by Uy and Tapnio (2021) conducted across the Philippines found that proactive measures such as early warning systems, community evacuation plans, and nature-based solutions like planting trees and bamboo significantly reduce the impact of floods and storms. Communities that implemented similar strategies showed lower damage rates and faster recovery times. However,

another study by Hu et al. (2017) explored socio-economic impacts of early evacuation strategies during disasters. While early evacuation is crucial for safety, it noted challenges such as resource allocation, psychological stress, and disruption to daily life. Some communities reported mixed outcomes in terms of evacuation effectiveness and community acceptance.

IV. CONCLUSION AND RECOMMENDATION

The resilience and ingenuity of communities are often reflected when something bad happens to them. In Tapaz, Capiz, theirs is reflected using traditional knowledge for disaster risk reduction. They have unique insights how go about disaster and predict them. If they are combined with modern approaches, stakeholders can pave the way for more effective disaster preparedness and response efforts, ultimately safeguarding lives, livelihoods, and cultural heritage in vulnerable regions.

As this study aimed to document and preserve the traditional knowledge of disaster risk reduction among local communities in Tapaz, Capiz, Philippines, it illuminated the ways in which residents in disaster-prone areas like San Nicolas, Candelaria, Santa Petronila, Daan Banwa, and Salong utilize traditional practices to mitigate the impact of natural disasters. These practices include using environmental cues such as coconut leaves, mushrooms, tadpoles, chickens, and ants to predict and prepare for storms, typhoons, and floods. Such traditional knowledge, passed down through generations, not only enhances community resilience but also fosters a deeper connection between people and their environment.

The findings underscore the effectiveness of integrating indigenous wisdom with contemporary disaster management approaches. By recognizing and incorporating these traditional practices into disaster preparedness plans, local authorities and organizations can significantly bolster their capacity to respond to natural disasters. However, it is crucial to acknowledge the limitations of traditional knowledge, particularly in the face of large-scale and unpredictable disasters. Therefore, while leveraging traditional practices, it is recommended to complement these with modern technologies and scientific methodologies for more robust disaster risk reduction strategies.

Moreover, community-based initiatives may be prioritized to ensure that local knowledge remains relevant and accessible. This involves fostering dialogue between community members and disaster management experts to co-create adaptive strategies that blend indigenous wisdom with state-of-the-art tools. Furthermore, educational programs may be implemented to enhance awareness and appreciation of traditional practices among younger generations, ensuring the continuity and efficacy of these methods in the face of evolving environmental challenges.

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