Original Research Article

Unveiling the Disaster Risk Management Practices and Challenges of Ata Mandaya Tribe in the Hinterland of Panabo City

Abstract

This qualitative study of the Ata Mandaya tribe in the hinterlands of Panabo City, Davao del Norte aimed at exploring their disaster risk management practices and the challenges encountered. An in-depth interview was conducted on forty-three (43) members of the Ata Mandaya tribe selected through purposive sampling. Data gathering procedures were rigorously carried out such as seeking approval from the City Mayor's Office, Office of National Commission on Indigenous People, tribal leaders, and Barangay officials. The study was carried out from April 2021 to October 2021 wherein the whole world is threatened by a pandemic due to the corona virus, thus, minimum health protocols implemented by the Local Government Unit were strictly followed and observed. The disaster risk management practices were essentially explored based on the four thematic areas of disaster risk management namely: prevention and mitigation, preparedness, response, and recovery and rehabilitation. The study revealed that Ata Mandaya has learned and practiced both indigenous and conventional disaster risk management to remain resilient and adaptive despite varying disasters affecting their community. However, some of this indigenous knowledge and practices were slowly eroded due to the defined factors such as climate dynamics, market integration, and cultural integration leading to the loss of interest of young Ata Mandaya generations to adapt such traditional practices.

Keywords: *Ata Mandaya, disaster risk management, practices, challenges, cultural integration*

1. INTRODUCTION

Indigenous peoples account for 16% of the entire Philippine population and are among the poor and vulnerable sectors of society. Aside from being deprived due to socio-economic conditions characterized by high illiteracy and unemployment rates, they are also among the most affected by a natural disasters. They often lived in far-flung and depressed areas which resulted in limited access to services and assistance. Due to these conditions, these people are particularly at risk of resorting to negative coping strategies that need the government's attention (UNCHR, 2011). Through the years, several indigenous communities have faced natural disasters including earthquakes, floods, typhoons, and drought which have caused enormous loss of lives, and property, and damaged sources of livelihood.

Even though indigenous peoples are often from smaller communities, they were able to understand their environment and practice risk reduction and management strategies. These practices evolved within their communities and have been enhanced and passed down over generations. Despite these advantages, however, still they were at particular risk from the effects of natural disasters because of climate variability and many others (Cuaton *et al.,* 2020). Thus, it is imperative to document their disaster risk management practices and how they were able to survive the challenges and adversities brought by disasters. Moreover, recommendations and management strategies were given to help them increase their adaptive capacity and resilience in the advent of growing risks and disasters.

2. METHODOLOGY

Barangay Sindaton is situated at approximately 7.4396, 125.5842, on the island of Mindanao, Philippines. Elevation at these coordinates is estimated at 52.4 meters or 171.9 feet above mean sea level. It is one of the barangays in the hinterland of the city of Panabo, in the province of Davao del Norte. Its population as determined by the 2020 Census was 4,312 individuals. This represented 2.06% of the total population of Panabo City. The household population of Sindaton in the 2015 Census was 3,396 broken down into 779 households or an average of 4.36 members per household. The population grew from 1,866 in 1990 to 4,312 in 2020, an increase of 2,446 people over 30 years. The latest census figures in 2020 denote a positive growth rate of 5.15%, or an increase of 916 people, from the previous population of 3,396 in 2015 (PSA, 2020).

The researchers conducted a step-by-step entry protocol process before the actual data gathering. These include a courtesy call to the City Government of Panabo, the National Commission on Indigenous People provincial office, Barangay Sindaton Council, and Panabo Tribal Association. After the approval, an in-depth interview was conducted through purposive sampling in which participants were selected based on thorough identification done by the tribal leader. Informed consent was read and explained in vernacular to ensure that the participants understand and were willing to be interviewed. Participants were asked to use the language that they were comfortable allowing them to freely communicate their ideas. Interviews were audio-recorded and then transcribed. Using thematic analysis, we coded the data based on the themes that emerged. To ensure the quality of the derived conclusion, we ask an independent quality auditor to study the data. Then we ascertained the consistency of our interpretations.

Additionally, the research was conducted amidst the global health crisis due to the COVID-19 pandemic, thus, minimum health protocols such as physical distancing and wearing of face masks were strictly followed.

3. RESULTS AND DISCUSSION

The Indigenous peoples in Barangay Sindaton are originally composed of two dominating tribes, Mandaya and Ata Manobo. Accordingly, the dominant Mandaya tribe married some of Ata Manobo and they called the new generation Ata Mandaya. Thus, as to classification of tribe, Barangay Sindaton is dominantly composed of Ata Mandaya. The tribe is headed by its leader Datu Isagani Concian, who served the tribe for more than five decades. He became a tribal leader through appointments from elders who belong to his clan. Accordingly, appointment to such a position is based on their traditional qualifications such as strong character and commitment, bravery, and ability to handle serious threats and problems that the tribe may face.

Barangay Sindaton strongly recognized the presence of the IP community in the area. Every year, they were given recognition for their traditional practices and culture through the presentation in Fiesta and Araw ng Barangay. Also, Indigenous People Mandatory Representative (IPMR) was appointed at the barangay council to act as the chair of the committee on indigenous peoples in charge of the creation of resolutions and ordinances that benefit the political, civil, and economic, social, and cultural rights of the tribe. According to the Tribal Association Leader in Panabo City, Bae Merlinda B. Aranar, Indigenous People in the communities of Panabo City do not have their ancestral lands and do not cover any ancestral domains.

3.1. Indigenous Knowledge System

Indigenous knowledge systems have existed as part of human life from yesteryear (Dube and Munsaka, 2018) and have grown and gained recognition in the 1990s in the field of disaster risk reduction and issues associated with climate change (Hiwasaki *et al.,* 2014). This system was developed by a group of people with an advanced understanding of how individuals interact with their local environment, which has formed over numerous generations of habitation (Dekens, 2007).

According to Mutasa (2015), indigenous knowledge is useful in decision-making by local communities as this can predict the occurrence of disasters and lead people to be aware and prepare for a possible impact of it. Local people are experts in their community and through the years continuously enriching their capabilities and experiences to understand their environment well. Therefore, their capabilities can be relied upon to help their communities to reduce risks and prevent and mitigate the possible effects of a disaster. Nyong *et al*. (2007) emphasize that developmental strategies cannot be successful without incorporating indigenous knowledge into them.

3.2. Disaster Risk Management of the Ata Mandaya

Like non-IP communities, the Ata Mandaya implemented several strategies of disaster risk reduction and management that include planned meeting places for family members, designing activities to strengthen their homes or reduce risk or damage to their property, and preparing emergency supplies to take in case the family leaves their homes. These actions integrate their traditional practices with that of the conventional management of disaster risks.

Moreover, the Ata Mandaya also relied on the local government in terms of the provision of support and basic services when a disaster comes. They received assistance such as cash or *“ayuda*”, non-cash such as food, grocery items, and medicine from the local government. In addition, they acquired services such as spiritual support and services to boost the morale and psychological facets of their lives.

Furthermore, the Ata Mandaya trusted their tribal community to support them when a disaster occurs. The most common support they received is the sense of unity among IP and non-IP members within the community like the “Bayanihan” system. This action consists of the provision of information, communication, and direct support from the various people or groups of people in the community. In short, they developed strong social networks and cohesion not only among IP members but also among non-IP members of the community. This social network is the connectivity among individuals or groups for perpetual sharing of material and non-material resources and it is one of the good indicators of the resilience of a community to any external disturbance like a disaster.

Consequently, this study explored the disaster risk management practices of the Ata Mandaya tribe using the four thematic areas in DRRM namely: prevention and mitigation, preparedness, response and recovery, and rehabilitation (RA 10121).

3.2.1. Disaster Prevention and Mitigation

Prevention and mitigation measures are the initiatives that people or the community act and implement to prevent a disaster from happening and to reduce or eliminate the impact when it comes. The Ata Mandaya in Barangay Sindaton has practiced varying measures to prevent and mitigate different disasters which are discussed below.

Respect all things found in nature and consider disaster as part of it. The Ata Mandaya traditions and beliefs mean that they regard nature with deep respect, and they have a strong sense of place and belonging. They learned to maintain the land to ensure that the resources would continue to be available for generations to come (Dekens, 2007). Also, they believed that it is possible if they could take or use only what was needed and that they should not waste anything. This sustains knowledge that when nature is abused, resources are over-extracted and depleted, which can result in disastrous events such as changes in climate that may result in a lot of climatic issues such as typhoons, floods, and drought.

Read the landscape and interpret where to build or not to build houses. Also, they practiced reading the landscape and interpreting where to build or not to build houses or any structures. Like Blaans of Cotabato (Espesor, 2014), Ata Mandaya believed that they should be careful in choosing a place where to build their houses. They make sure that the place is not within the path wherein bad spirits are living because when it happens, the family that settles therein might experience bad luck like being attacked by diseases and calamities. They respect what nature has as they consider disaster as punishment of nature due to overuse and mismanagement of resources.

Plant trees around houses and near water bodies. For Ata Mandaya, trees are essential for economic activities and spiritual well-being. Also, forests for them are considered sacred and serve as spiritual sanctuaries. Traditionally, they viewed it as the haven of spirits that are present in nature they offered live animals like chickens. They believed that these spirits blessed them with good fortune and healthy life. However, at present times, very few trees are found in the area due to the activities of the big firm logging industry in the late 1980s,

and the illegal cutting of trees by the small-scale farmers ruined the forest that supported them before.

Attend capacity building to improve disaster awareness, understanding, and preparedness. This is one of the conventional practices of disaster risk management that the Ata Mandaya tribe was adapted to. They thrived in a small community immersed with non-indigenous people groups and they were encouraged to attend and participate in activities initiated by their local government. As mentioned by the tribal leader, Barangay Sindaton through City Disaster Risk Reduction and Management (CDRRMO) has conducted capability building on disaster awareness. This is to intensify capacity and build a culture of resilience especially in dealing with various disasters.

3.2.2. Disaster Preparedness

Disaster preparedness refers to measures taken to prepare for and reduce the effects of disasters. That is, to predict and where possible prevent them, mitigate their impact on vulnerable populations, and respond to and effectively cope with their consequences. The Ata Mandaya has also implemented preparedness measures so that they will be ready when a disaster comes.

Observe the unusual appearance and changes in a cloud pattern. Like other IP communities, Ata Mandaya in Barangay Sindaton practiced observing weather conditions like the unusual appearance and sudden change of clouds from light to dark or called *“dag-um*”. It was learned from the participants that the presence of dark clouds is symbolic of heavy rains coming which may have the potential to result in flooding in the area. This traditional observation was also practiced in Northeast India (Chinlampianga, 2011) that when clouds are

thick and black and are arranged perpendicular to the orbit of the sun, it symbolizes that rain is approaching. Consequently, this traditional knowledge helped them to prepare for the possible coming of strong rain that may result in flooding.

Observe the behavior of certain animal species like turtle doves, dogs, and chickens. According to the Ata Mandaya, the unusual movements and sounds created by these animal species mean there are possible impending disasters that may come in the community. In Swaziland (Domfeh, 2007) floods can be predicted by how high birds build their nests on river surfaces. Plenty of studies have shown that some animals can sense major changes in the weather. Birds, for instance, are known to be sensitive to air pressure changes, and often hunker down before a big storm.

Listen and consult their respected tribal leaders. Additionally, Ata Mandaya in Barangay Sindaton is led by their tribal leader Datu Concian who acts as the head of the tribe. He is responsible to mediate and settle the conflict between and among communities, or with the government. He also resolves conflicts, disputes, and crimes within the tribal community. Moreover, despite their strong support and respect for their tribal leader, still they obeyed barangay ordinances and coordinated with local barangay officials for their tribal activities in the community.

Listen to local news on TV and radio. Despite the traditional disaster preparedness measures observed, the tribe has also adopted conventional measures of disaster risk management such as listening to the radio and watching television to gather information about weather conditions. Some of them even acquired mobile phones where they search for daily local and international updates. Similar to other tribes in other areas in modern times, the tribe in Barangay Sindaton, has already adapted to digital technologies like televisions, computers,

and mobile phones for expressing their unique perspectives, maintaining their cultures and livelihoods, and even preparing themselves for incoming disasters through news and advisories (Hiwasaki *et al.,* 2014). This conventional source of disaster risk information among IP communities helped them understand better the outside world, however, diminished their original culture and traditions in different aspects including indigenous disaster risk management.

3.2.3. Disaster Response

Disaster response is the third phase of the disaster management cycle. The focus in the response phase is putting people safe, preventing the next disasters, and meeting the basic needs of the people until more permanent and sustainable solutions can be found. The IP community in Barangay Sindaton has implemented several actions in disaster response. These measures include the following:

Coordination with local officials for relief and subsidies. During a disaster, the tribal leader in coordination with the Barangay officials sees to it that the tribal community can be able to receive relief and subsidies in a form of cash assistance, food packages, and other necessities. The LGU ensures to assess the vulnerabilities of the area and its constituents, instill basic knowledge of natural disasters, and conduct an information and education campaign (IEC) on disaster response.

Ask for support from families and friends and vacate immediately to relatives in safer places. It was recognized that strong family relationships are essential for individual, family, and community well-being, as well as providing long-term benefits to broader society. This is certainly true in the indigenous community, although there are considerable differences

in the structures of their families and their functional dynamics. This explains why a tribal community asks for support first from their clans and relatives during the time of emergency. They are known for having a strong relationship with all members of the tribe, the reason why they considerably helped each other and even let them stay in their houses for safety.

"Bayanihan" system among tribal members. "Bayanihan" system implied the spirit of support and understanding among IP members in the community, especially during the time of disasters. The Bayanihan spirit was remarkable in the indigenous communities where people are bound with a strong kinship. IP believed in helping its members in any possible way they can do to extend a helping hand. Each of the tribal members builds trust within the community. It means that community members' assumption of one another benevolence and their belief that they may rely on one another to take action to assist those in their social entity (Saja *et al*., 2018)

3.2.4. Disaster Recovery and Rehabilitation

The rehabilitation and recovery focus on rebuilding the affected communities, restoring livelihoods, effectively preventing the recurrence of disasters, and harnessing conditions for future development. In this study, the Ata Mandaya in Barangay Sindaton has implemented actions relating to recovery and rehabilitation which include the following:

Search for alternative income sources. Disasters are shown to have a significant negative, but the short-lived impact on local economic activity. A vulnerable community like a tribal community is somehow affected by disasters and made more susceptible to economic loss, hunger, and poverty. Thus, one of the priorities raised by the Ata Mandaya is to have a

diverse source of income among its constituents. Diversity of income protects them from sudden potential shocks, promotes sustainability, and adds resilience to individuals.

***Coordinate the local officials for rehabilitation support*.** During the recovery phase, it is the responsibility of the state to take care of its constituents and provide them the basic needs such as food, water, medicine, clothing, and others. Victims of disasters lack the resources and capability to recover and reorganize themselves, especially the indigenous peoples. Thus, the coordination with the local officials in times of disaster is one of the recovery and rehabilitation phases mentioned by the participants. The tribal leader first coordinated with the local officials, reporting their needs such as food, medicine, water, and clothes. They believed that despite the strong relationship that binds them, still they need support from the local government to guide them in the process of healing from the tragic event they encounter.

Revive the farm crops. In the Ata Mandaya community, the impacts to agriculture due to disasters include damage to crops and destruction of farmlands and other agricultural facilities. They need to learn how to prepare and recover from disasters that come on their way. As it takes time, effort, and monetary resources, thus, they tend to revive farm crops and lands depending on the available resources they had, and the rest of it was coordinated with the government for possible assistance.

3.3. Challenges in Disaster Risk Management of Ata Mandaya

Despite the traditional knowledge and practices that made the Ata Mandaya resilient and highly adaptive to the ever-changing patterns and processes of the community, they also encountered adversities and challenges that affect their delicate lives.

Climate dynamics. The Ata Mandaya observed that the pattern of climatic conditions has changed over time. According to them, they knew when is the best time to do outdoor activities, plant and harvest crops, and undergo extreme activities outside their community. However, they observed that the climate today has changed which affects their traditional pattern of doing outdoor activities such as subsistence farming. The seasons where they relied most on their planting and harvesting activities variably changed. The traditional knowledge in disaster prevention and mitigation, preparedness, response, and recovery to their daily living as well as to their livelihood may no longer be reliable and effective due to climate variability.

Market integration. Dekens (2008) emphasized that traditional knowledge on disaster management is getting eroded due to rapid change in the social-ecological context which highlights the utility of science and technology. In the case of Ata Mandaya in Barangay Sindaton, their tribal leader admitted that most of their collective knowledge on disaster management is gradually eroding due to the influence of modern technology and social media. The present generations of the tribe are no longer aware of these knowledge assets because these practices are no longer transmitted to younger members of the family. He added that the younger generations of the tribe are no longer interested to learn the traditional knowledge and cultural practices including disaster risk management.

Cultural Integration. The Ata Mandaya is hardly influenced by non-indigenous peoples thriving in the place. Their indigenous cultures including that of traditional disaster risk management are at risk of being eroded. The fact is that these people are deprived and often lack the influence to protect their ways and identity against the interests of the superior non-indigenous group. Although this tribe is located in the hinterland, still they were exposed to and vulnerable to the effect of urbanization and market-driven activities in the lowland area. They

were not capable to compete in increasing modernization thus they need to adapt to the culture of the dominant groups to sustain their lives, otherwise, the local government should find an immediate answer to address the need of this delicate and vulnerable community.

3.4 Conclusion

The Ata Mandaya tribe in Barangay Sindaton, Panabo City had practiced a combination of both indigenous and conventional knowledge and ways of disaster risk reduction and management to adapt to the underlying impacts of natural disasters. These knowledge and practices contain several important and unique characteristics originating within the community, passed and developed over several generations, and embedded in a community's culture as a means of survival. However, some of this knowledge and practices were slowly eroded through time due to some reasons like climate dynamics, technological development, market integration, and cultural integration leading to a loss of interest of young IP generations to adopt and assimilate such.

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