



VULNERABLE LIVED EXPERIENCES OF THE LOCALS OF BABATNIN ISLAND, PHILIPPINES

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ABSTRACT – This qualitative study surfaced the lived experiences of the locals residing in an island community. Anchored on the concept of vulnerability, the case study conducted interview, community observation, and focus group discussion. Field texts were checked through vertical and horizontal analyses to identify recurring themes and patterns. The results of the study yielded interesting local-based themes on vulnerability such as danger, poverty, lack of quality environmental programs, inadequate environmental knowledge, typhoon and garbage. In conclusion, the study revealed that the island has weak institutional arrangements as reflected in the solid waste management and poor school and health facilities.

Keywords: Babatnin Island, Island community, Lived experiences, Vulnerability

INTRODUCTION

The Philippine archipelago is vulnerable to disaster. Chi et al., (2017) claimed that the increasing number of human activities threatens the island ecosystem and is likewise affected by the depleting ecosystem productivity. (Ancheta et al., 2017) averred that coastline, being the first line of defense against weather disturbances, coastal communities, and island ecosystem, also come into contact with garbage choking waterways and polluting estuaries. Polidoro et al., (2010) stated that mangrove areas are rapidly decreasing because of various coastal development, aquaculture and production of timber and fuel. The pressing issue of limited resources and climate change risk in small island communities are also contributory to ecological fragility.

The islands beneath major bodies of water are susceptible to typhoons and storm surges given their limited land areas, water supply and natural resources. In this light, people ought to learn how to appropriately respond to overflowing rivers, massive flooding, man-made and natural hazards that threatens health and well-being. People should also identify and address main problems like damages, future flood impacts, disaster mitigation and preparedness (Tas, 2013). However, empowering the locals is not enough to respond to the issue of vulnerability. Given the various stressful situations (Lindell, 2013) as impacts of disaster, institutional response is needed to cover different levels (Corcoran et al., 2012) of risks with the facilitation of the schools in the area.

Notably, environmental policies could respond to these concerns. They could contribute to raising awareness, communities in action (Santiago et al., 2017) and address problems like climate change. Santiago et al. (2017) added that reactive movement to social development, which promotes education practices, characterized with values and projects, can serve as a precursor to improving the community.

Considering the academic setting, one of the thematic areas of resiliency lies on knowledge and education. Twigg (2009) claimed that it is a form of public awareness campaign through knowledge and skills formation. He added that this could be achieved through information management and sharing of culture, motivational activities, attitude, and training.

Education could also influence the local's perception of their surroundings. In the study of tourism development and resiliency on natural resources particularly on small islands, Robinson, Newman and Stead (2019) considered education as one of the important variables that could affect people's perspective toward their concept of development. In the island communities, accessibility to education is vital because the possible learning on environment could help the locals in building their skills that could contribute to their participation in society (Longenecker & Bamum, 2017). Proper education in island communities could improve mangrove defense (Jamero et. al., 2019).

The main objective of the study is to investigate vulnerability in an island community of Babatnin, Malolos. Specifically, the study describes the island's environmental limitations and illustrates how the locals make sense of their lived experiences as exposed to hazardous events like typhoons, storm surges, tidal changes, flooding, depleting mangroves, and floating garbage. Anchored on the concept of vulnerability using the perspective of Social-ecological system, the environment is associated with the concepts of social justice, economic development and sustainability, and the system recognizes the role of humanity as a major force in global change and how they can influence the ecosystem (Folke, 2016).

METHODOLOGY

Study Site

The study site is Babatnin Island (Figure 1), located along the coast of the City of Malolos, in Bulacan Province of the Philippines. The island community is considered one of the five island communities lying between the river delta of Malolos and the Manila Bay. The study used the case study design exploring how the locals construct their way of life and the everyday struggles in the Manila Bay (Creswell, 2014). Yin (2009) averred that case study design is an empirical analysis that investigates the contemporary phenomenon in depth and within its real-life context. Creswell (2014) added that the experiences of the locals would be interpreted and served as key points in representing these realities (Guba & Lincoln, 1994).

Babatnin, whose name is derived from "Pambabating", is characterized with a land area of 309 ha. and with 2.60 km. distance from the city proper of Malolos. Most of the locals are fisherfolks (a total number of 116 based on the *Malolos, Bulacan barangay profile*) and the island is characterized with 1 registered private business and a total number of 23-recorded poverty incidences.

The 45-minute boat ride from Panasahan fish landing is compensated with scenic views of salt beds, nipa mangroves, and crabs along the river edge, fish pens, and Metro Manila's skyline from afar. This boat ride makes one of the island communities the "Venice of Bulacan" (DOT, 2002). As water transportation is more accessible during dry season, mobility is faster where more students are currently studying in mainland Malolos and easier for residents to transact business. However, water transportation is difficult during wet season and high tide. Mobility is slow and transportation is limited to weather disturbances.

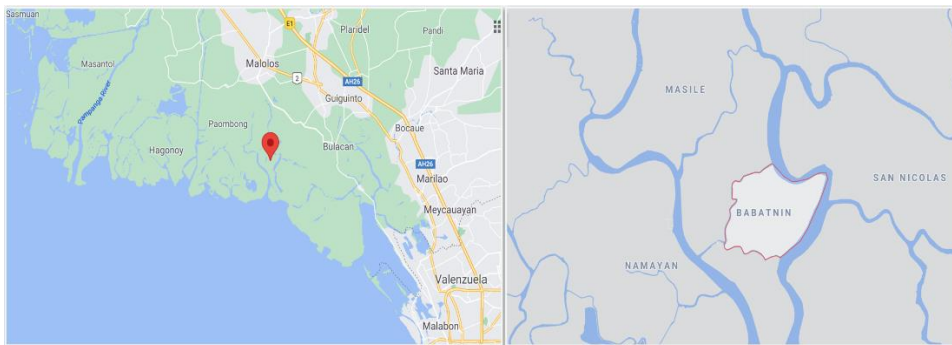


Figure 1. Geographical location of Babatnin Island along the estuary of Manila Bay. A) Location of the island in Malolos, Bulacan (left); B) The island together with its neighboring island communities (right). Source: <https://www.google.com.ph/maps/place/Babatnin,+Malolos,+Bulacan/@14.7856647,120.8198127,16z/data=!3m1!4b1!4m5!3m4!1s0x33964dec5c1dda59:0x5535ba9c0f9bd8af!8m2!3d14.7855425!4d120.8226155>.

Selection of research participants

Selection criteria for the study participants were: 1) the fisherfolks and residents who are living side by side with Manila Bay; 2) the teachers and students who are directly involved in environmental programs, environmental education and activities; residents responsible for waste management and 3) the local officials who are responsible for policy implementation on environmental welfare of the locals.

The local officials, fisherfolks, teachers and students in the island community were interviewed to solicit insights on vulnerable experiences. Narratives were used to provide an eidetic representation of the locals in crafting a model of vulnerability in an island community.

The researchers gathered 26 key informants (KI) from the island. Table 1 illustrates the profile of the key informants and their involvement in the political, environmental, social and economic activities of Babatnin.

Non-participative community observation was also conducted. The researchers documented the locals' verbal, physical, and cultural behavior. Focus group discussion (FGD) highlighted the vulnerability of facilities affecting both physical and socio-economic features of the islands. The method specifically was conducted to the teachers, students and fisherfolks in the island. There were three FGD sessions, the first one involved the 3 Social Sciences and Science teachers together with the school principal. The second session included the 10 junior high school students and the last session involved the 9 fisherfolks and 1 eco aid.

Analysis was done through thematic coding. The verbalizations of the KI were categorized and themes were identified based on the recurring statements of the participants.

Table 1. Profile of the Key Informants.

Key Informants	Involvement in Babatnin Island
Mayor of Malolos City (2010 to 2022)	City official since 2010 up to the present involved in the implementation of environmental laws and disaster management
Councilor of Malolos City (2019 to 2022)	City official involved in environmental activities in Babatnin
School Principal of Babatnin High School	Implementor of environmental activities in the island
Teacher 1	Facilitate in the implementation of environmental activities in the island including disaster risk
Teacher 2	
Teacher 3	
Students from the Junior High School	Participants in the social and environmental activities of the island
Fisherfolks	Skilled in using different fishing techniques and served as the frontliners during typhoon
Eco Aid	Waste worker in the island community

RESULTS AND DISCUSSION

Vulnerability of the small island community

The island of Babatnin is vulnerable to both natural and man-made hazards. Though the island community is favorable for aquaculture and agriculture along the Manila Bay, it is vulnerable to typhoons, tidal changes, and inland flooding due to overflowing of waterways.

High tide in the island limits mobility as water flows into the homes of the locals. Water transportation is difficult during rainy season. Students and employees find it difficult to reach the mainland during strong winds and rains. Typhoons during wet season hinders fishing and limits the trading of fishes in the main land. The fisherfolks cannot go out in the open sea due to strong winds. As most of the houses are made out of light materials, weather disturbances damage these houses and infrastructure. The depleting mangroves that serve as natural buffer against typhoons cannot protect the communities during strong winds and surges. Man-made hazards such as marine litter, floating garbage, inadequate school facilities, and absence of medical facilities affect the economic and health well-being of the locals.

Another concern that the local officials mentioned is the continuous increase of sea level. This could affect food security of the locals and the island itself. As mentioned by one of the officials:

“increasing sea level, talagang nakakaapekto sa kanila kaya continuously talagang nagre-repair sila ng mga seawall nila.” **The increasing sea level really affects them that is why they continuously repair their seawalls.**

Even teachers in the island acknowledged the vulnerability condition of Babatnin island. As verbalized by one of the teachers:

“Since malapit po tayo sa dagat, so meron pong posibilidad na magkaroon po tayo ng tsunami...mga gano’n po na hindi natin inaasahan na pangyayari.” Since we are near the sea, there’s a possibility of experiencing a tsunami...those that we don’t expect to happen.

Vulnerable lived experiences of the locals

The vulnerable lived experiences of the locals highlighted danger poverty, typhoon and garbage problem, inadequate environmental knowledge and programs as narrated in Table 2.

Table 2. Lived experiences of the Key Informants in the island.

KI	Significant Statements	Themes
Government and School Officials	<p><i>“...another, ‘yong danger ng pagta-travel sa tubig, to and from, sa kabayanan natin sa Malolos.”</i></p> <p><i>...another is the danger of traveling across the river, going to or from our town in Malolos.</i></p> <p><i>“increasing sea level talagang nakaka apekto sa kanila kaya continuously talagang nag rerepair sila ng mga seawall nila”</i></p> <p><i>The increase of sea level affects them, that’s why there is a continuous repair of their seawalls.</i></p> <p><i>“kapag may mga bagyo, mga kalagayang pantubig na magpi-prevent sa kanila to have ng kanilang mga huli sa dagat”</i></p> <p><i>“During typhoons, the sea conditions prevent them to fish.”</i></p>	<p>Danger</p> <p><i>“Panganib sa isla”</i></p> <p>Poverty</p> <p><i>“kahirapan sa isla”</i></p>
Teachers	<p><i>“Since malapit po tayo sa dagat so mayro’n pong posibilidad na magkaroon po tayo ng tsunami mga ganun po na hindi natin inaasahan na pangyayari.”</i></p> <p><i>Since we are near the sea, there’s a possibility to have a tsunami where we least expect to happen.</i></p> <p><i>“yung ibang mga magulang hindi rin masyadong nabibigyan ng</i></p>	<p>Lack of Quality Environmental Programs</p> <p><i>“Kakulangan sa kalidad ng programang pangkalikasan”</i></p> <p>Poverty</p> <p><i>“kahirapan sa isla”</i></p>

Table 2 (Continued). Lived experiences of the Key Informants in the island.

KI	Significant Statements	Themes
	<p><i>information about sa kung ano 'yong nagaganap na mga trainings kasi medyo malayo sila dito sa isla. Other parents are not given information about the trainings since they are situated far from the mainland.</i></p> <p><i>“Kasi sa totoo lang eh sa isla na 'to, napakadaming batang dito na talaga namang mahirap” because, to be honest, there are really a lot of poor children here.</i></p>	
<p>Junior High School students</p>	<p><i>“Para po sa akin, kulang po sa kaalaman yung mga tao dito sa isla. ‘Di ba po sa bayan, madali lang po mapuntahan yung mga tao na pwede pong maging nakakatulong sa kanila para malaman yung mga bagay-bagay para po makahanap pa sila ng mga information na kailangan nila. It is easy for them to ask help from townspeople in order to seek information which they need..</i></p> <p><i>“kulang po sa pinag-aralan kasi nga po nasa isla. Malayo po siya sa kabayanan para makapag-aral nang maayos. they lack the knowledge since they are living in the island. They are far from the mainland area where they can study.</i></p> <p><i>“Pag po kasi nakolekta na po yung mga basura yung mga hindi po nabubulok hindi po nakukuha sa taas. Kaya ang ginagawa lang po sinisigang lang po diyan sa may basurahan” During garbage collection, those non-biodegradables aren't collected, so what they do is to burn those in that garbage area.</i></p>	<p>Inadequate environmental knowledge “Kakulangan sa Kaalamang Pangkalikasan”</p> <p>Garbage basura</p>

Table 2 (Continued). Lived experiences of the Key Informants in the island.

KI	Significant Statements	Themes
Fisherfolks	<p><i>“minsang nawawala po ang mga lambat namin at nasisira dahil sa bagyo” Sometimes, we lose our fishnets and they are being damaged due to the storm.</i></p> <p><i>‘Yong impact po ng pagtama ang nagiging sanhi ng pagkasira ng bangka. Sometimes, when the storm rages, our boat gets destroyed while in this nearby dike.</i></p> <p><i>“noong bagyo, nasira ang mga kabahayang nasa baybayin” During the typhoon, houses near the shore were destroyed.</i></p> <p><i>“sa Maynila kasi ‘yong tambakan ng basura kapag umaalon dumadating dito sa amin ang kalat” Garbage from Manila’s dumpsite reaches here due to the current.</i></p> <p><i>“Iisa lang kasi ang nagkokolekta. Kung bawat purok may isa man lang na kumokolekta ng basura, siguro masusuluyonan ang problema” There is only one garbage collector. If there is only a collector per zone, perhaps this problem will be resolved.</i></p>	<p>Typhoon bagyo</p> <p>Garbage Basura</p>

The narratives highlighted how the key informants were exposed to vulnerable conditions in the island.

The local government officials

The distance of the island from the mainland is a dangerous travel. Together with the school principal, the local officials recognized danger during the motorboat travel from the main land (Panasahan) going to the island of Babatnin. As shared by one of the respondents:

“...another, ‘yong danger ng pagta-travel sa tubig, to and from, sa kabayanan natin sa Malolos.”
...another is the danger of traveling across the river, going to or from our town in Malolos.

Another main concern of the officials is the livelihood of the fisherfolks, especially during typhoon. As fisherfolks, fishing in the open sea is a major livelihood. But rainy season and typhoons prevent them from staying long in the open sea.

“kapag may mga bagyo, mga kalagayang pantubig na magpi-prevent sa kanila to have ng kanilang mga huli sa dagat” **“During typhoons, the sea conditions prevent them to fish.”**

The fisherfolks

Definitely, the fisherfolks were the most vulnerable in the islands. They go out in the middle of the night up to early morning to catch fish. They are economically affected by rainy season, typhoons and storm surges. Rainy nights with strong winds means no fish catch and no food on the table. Moreover, the fishing tools and boats were damaged by strong winds and waves. According to one of the fisherfolks: *“minsang nawawala po ang mga lambat namin at nasisira dahil sa bagyo”* ***Sometimes, we lose our fishnets and they are being damaged due to the storm.*** One of them added: *“Yong impact po ng pagtama ang nagiging sanhi ng pagkasira ng bangka. Sometimes, when the storm rages, our boat gets destroyed while in this nearby dike.*

It is unfortunate to know that not just the tools and boats were affected but even their houses. As verbalized by one of the fisherfolks: *“noong bagyo, nasira ang mga kabahayang nasa baybayin”* ***During the typhoon, houses near the shore were destroyed.***

Both typhoon and floating garbage are the main issues narrated by the fisherfolks. Fishing is affected by floating garbage along the shoreline. The fisherfolks articulated two reasons for floating garbage. First, according to them is the lack of discipline from the people in Manila. One of the fisherfolks said *“sa Maynila kasi ‘yong tambakan ng basura kapag umaalon dumadating dito sa amin ang kalat”* ***Garbage from Manila’s dumpsite reaches here due to the current.*** The second reason is the inefficient solid waste management in the island. As shared by one of the fisherfolks: *“Iisa lang kasi ang nagkokolekta. Kung bawat purok may isa man lang na kumokolekta ng basura, siguro masusuluyonan ang problema”* ***There is only one garbage collector. If there is only a collector per zone, perhaps this problem will be resolved.***

Teachers and Students

The vulnerable conditions in the island are not just recognized by the officials, but teachers and students as well. The distance and isolation of the island are the major factors as accessibility to information is a major problem in Babatnin. Communication is difficult due to internet connection. As mentioned by one of them:

“Para po sa akin, kulang po sa kaalaman yung mga tao dito sa isla. ‘Di ba po sa bayan, madali lang po mapuntahan yung mga tao na pwede pong maging nakakatulong sa kanila para malaman yung mga bagay-bagay para po makahanap pa sila ng mga information na kailangan nila. It is easy for them to ask help from townspeople in order to seek information which they need.

Another factor for vulnerability is education. One of the students added: *“kulang po sa pinag-aralan kasi nga po nasa isla. Malayo po siya sa kabayanan para makapag-aral nang maayos. they lack the knowledge since they are living in the island. They are far from the mainland area where they can study.*

For some teachers in Babatnin, the participation in the activities conducted on environmental sustainability in the island are inadequate. The inaccessibility to information regarding the environmental projects is a problem. The parents were not aware of the projects and programs in the island because the fisherfolks prefer to stay out in the sea most of the time. Aside from livelihood, the distance of the school from the locals is also a challenge. As shared by one of the teachers:

“yung ibang mga magulang hindi rin masyadong nabibigyan ng information about sa kung ano ‘yong

nagaganap na mga trainings kasi medyo malayo sila dito sa isla. Other parents are not given information about the trainings since they are situated far from the mainland.

The teachers claimed that lack of involvement from the locals especially the parents is rooted from the issue of poverty in the island. As mentioned by one of them: “*Kasi sa totoo lang eh sa isla na ‘to, napakadaming batang dito na talaga namang mahirap’ because, to be honest, there are really a lot of poor children here.*” Most of the locals forego trainings and environmental activities because they were occupied with their livelihood either at sea or in the mainland.

The problem of waste disposal in Babatnin island was also highlighted by the students. The lack of proper waste collection resulted to more pressing problems. As shared by one of the students: “*Pag po kasi nakolekta na po yung mga basura yung mga hindi po nabubulok hindi po nakukuha sa taas. Kaya ang ginagawa lang po sinisigala lang po diyan sa may basurahan*” **During garbage collection, those non-biodegradables aren’t collected, so what they do is to burn those in that garbage area.** The *pagsisiga* or burning of garbage happens beside the Babatnin High School, that is why students are aware of this issue.

It is necessary to recognize the lack of environmental management in the island. Floating garbage is a common sight. Plastic exists side by side with the mangroves. Marine litters are mixed with fish catch.

CONCLUSION

The island of Babatnin is environmentally vulnerable due to coastal flooding and sea-level rise; exposure to typhoons and tidal changes among others. The island community is poor as people are heavily dependent on fishing. They are economically vulnerable during rainy season as no fish catch means no food on the table. Babatnin has inadequate social organizations, absence of NGO partners and private institutions that could bind the locals in working together. It has weak institutional arrangements as reflected in solid waste management and poor school and health facilities. On the other hand, there are initiatives that could facilitate community engagements like participation in coastal cleaning, mangrove planting, alternative livelihood and women leaders group. Recognizing vulnerable lived experiences in small island environment is one thing, but through pockets of initiatives participated by the youth, facilitated by the teachers, the community island of Babatnin could move towards resilient activities.

STATEMENT OF AUTHORSHIP

The first author identified the scope of the study, objective, methods, study site, framework and field work. The second author provided direction in the crafting of the study and article.

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