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Sa Piling ng mga Buwaya: The Phenomenology of Individuals Living with Crocodiles in Sitio Marabuhay, Rio Tuba, Bataraza, Palawan

INTRODUCTION

In the Philippines where the large and potentially man-eating estuarine crocodile *Crocodylus porosus* inhabits, crocodiles are generally perceived to be dangerous (van der Ploeg & van Weerd, 2005). It has been established that the idea of living with a potentially dangerous predator is inconceivable (Poole & Rick, 2012). The problem, however, is that in some areas where crocodiles are protected, people are living alongside them. In the study of Pooley (2015), scientists think that large parts of Africa will get hotter and drier as the Earth's climate changes driving people moving closer to areas nearer to water.

Many people are depending on the rivers and lakes which serve as sources of water for drinking, washing and catching food--the same water sources that crocodiles inhabit. In a tropical country such as the Philippines, the occurrence of human-predator interaction exists in some of its remote rural areas. In fact, this phenomenon is evident in Rio Tuba, Bataraza, Palawan.

The result of residing in the habitat of crocodiles is the increased risk of crocodile attacks on humans. In the province of Palawan, a total of 3 consecutive crocodile attacks took place in 2015 in separate barangays within the municipality of Balabac. It is noticeable that most victims are locals in the area. This could be attributed to the lack of knowledge about dealing with crocodiles (Pooley, 2015). In several cases, a crocodile will likely be killed after an attack. In lieu of this, the Philippine Crocodile Recovery Team was created. Its members include officials of Palawan Wildlife Rescue and Conservation Center (PWRCC) which is a captive breeding facility for crocodiles (van Weerd & General, 2003), and their primary goals of this recovery plan are to re-establish viable wild populations of crocodiles and to ensure its long-time survival.

This study offers perspectives for understanding and explaining human-animal interaction/conflicts, drawing both ideas from emerging interdisciplinary literature, and approaches from disciplines not previously involved. This study aids both Environment and Psychological principles to develop a more integrated approach for understanding and improving human-predator relations. Lastly, the study offers a discussion of the possible implications that could be used as a form of assistance for the Local Government Unit (LGU) to initiate efforts that would be beneficial for both the human beings and animals.

METHODS

Research Design

This qualitative study is about individuals living with crocodiles. The research utilizes indigenous methods such as *pagtatanung-tanong* and *pakikipagkwentuhan*. Through these methods, it will provide a narrative about the lived experiences of individuals living with crocodiles. Phenomenological research is a study that attempts to understand people's perceptions, perspectives, and understanding of a particular situation or phenomenon.

Research Locale

Approximately 236 kilometers from Puerto Princesa City and almost 6 hours away by land, Sitio Marabahay is one of the sitios in Bgy. Rio Tuba in the Municipality of Bataraza in the province of Palawan. As of 2016, Sitio Marabahay has a total of 517 households in which 1,183 are male residents and 1,202 are female residents. Crocodile sightings are commonplace in this area.

Research Participants

The study used a non-random sampling specifically quota sampling in selecting its participants. The participants are composed of thirteen (13) individuals with ages 30 years old and above who have been living in the area with a minimum of ten (10) years residency. The houses must be situated within the waters of Sitio Marabahay, Rio Tuba, Bataraza, Palawan wherein sightings of crocodiles are commonplace.

Research Instrument

A semi-structured interview was used as a guide to have an organized sequence of questions. The first part provides a socio-demographic profile of the informants. Its second part looks into the cultural beliefs, perceptions on crocodiles, and the adaptive behaviors of the informants. The last part involves the motivation of the selected informants in residing with crocodiles about the profile of the participants, which includes their name, age, sex, occupation, civil status, and duration of residency. Second, is about their cultural beliefs, perceptions toward crocodiles, and adaptive behavior. Lastly, is about their motivations to live with the crocodiles. There are follow up questions on the participants' answers.

Data Gathering Procedure

A letter of request was submitted to the office of Bgy. Rio Tuba, Bataraza, Palawan to ask permission before conducting the research. After the request was approved, the researchers asked the residents to determine if they are qualified to be participants. Moreover, they were also asked regarding other residents who could be prospective participants. Informed consents were presented to those who fit the criteria and were willing to participate to assure them the confidentiality of their identification. After establishing a rapport, informal interview was then conducted to the thirteen (13) participants to address the research problems.

Data Analysis

The researchers used KJ analysis in analyzing the gathered data through the use of a qualitative analytic method for identifying, analyzing and reporting patterns within the data.

RESULTS

Lived experiences of selected individuals living with crocodiles

Cultural Beliefs

The researchers observed that cultural beliefs among the individuals play a significant role in why they opted to stay in the area. These cultural beliefs influence the perceived ideas, attitudes, and traditions shared by the residents of Sitio Marabahay as it was observed that the beliefs are transmitted to the people that originated from the stories of

“matatanda” and is still circulating within the community. While many individuals view the presence of crocodile as problematic and dangerous, there are still some who acknowledge its intrinsic value “the right to live”. For these reasons, the researchers concluded that an individual might have a positive or negative belief concerning the presence of crocodiles.

A.1 Negative Beliefs

Individuals have established some negative beliefs on crocodiles which are rooted from the stories passed down from the “*matatanda*”. These are aggravated by the incidents of crocodile attacks to some locals of the community.

A.1.a Crocodile as revengeful

The researchers observed that the individuals living with crocodiles regard the animal as a revengeful being that would retaliate if harmed or damaged in any possible way. The residents of Sitio Marabahay seems to believe in the possibility of endangering oneself if by any chance they disturb and harmed the crocodiles. In the study of Fijn (2013), the residents of Garrthalala believed that crocodiles are smart and they have a good memory to the extent that they can remember if they are treated badly or treated well.

“Kasi kagaya nung mga buwayang hinuli nila dito noon, ayoko rin mag ano ng buwaya kasi sa kasabihan nga ng mga matatanda, yung buwaya matandain. Isang araw pag nasaktan mo daw yun natatandaan ka nila. Syempre parang maniwala ako kasi marami dito ang nananakit nga sila ng buwaya yung tinutusok nila ng kahoy minsan sinasaktan pa nila, gumaganti nga ang buwaya. Sa ngayon wala na rin sila kasi kinain na nga sila ng buwaya.”
– Tatay Isidro, 5

Based on the statement above, it seems that participants believe that crocodiles are in fact can recognize the person who hurt them. Crocodiles are considered as intelligent creatures (Fijn, 2013); in terms of hurting the crocodile, the participants have these beliefs that crocodiles are capable of recognizing its aggressors. Also, Fijn (2013) added that crocodiles can even detect the sweat of an individual. It can be considered that residents of Sitio Marabahay believe that crocodiles in their place have the capacity to remember its aggressors. The tendency of the crocodile attacks is high when the animal has been hurt. It can be considered that most of the individuals in Sitio Marabahay perceived these notions as a warning since, in lieu of hurting crocodiles, it will be followed

by retaliation. Furthermore, the researchers noticed that some of the participants believe that crocodiles are revengeful when they are deprived of their own territory. Since their shelter had already been occupied by some of the people living in the area, the crocodiles experienced a shortage of food because their shelter, the mangroves had destroyed in lieu of building homes. It was evident on the accounts of:

“Kasi ang mga buwaya may area talaga yan sila na titirahan. Dun man yan sila nakatira sa tahimik na hindi nagagalaw lagi ng tao. Yung liblib, kasi pag lagi sila nagagalaw mag alis man yan sa area niya. Lilipat din yan ng lugar. Parang mga hayop nga kasi di ba ang mga hayop pag lagi na silang nabubulabog lilipat, maghahanp man yan sila ng pagkain nila.” –Tatay Isidro, 52

It appears that individuals believe in the possibility of danger when crocodile starts to hunt for its potential food, and to prey in the area where there is a presence of human life (Fijn, 2013). Based on the accounts of the participants, they are aware that at any moment the crocodile might attack since according to them, the place where the said animal usually search for its food is destroyed by the humans. As a result, they would hunt for any available food in the nearest area.

A.1.b As Predators

While some views the crocodiles as revengeful when disturbed and harmed, others believe in the true nature of crocodile as aggressive and lethal especially if looking for potential prey and to become its food as evident in the accounts of:

Tingin ko hindi, kasi ano kumbaga ewan ko yung pag-iisip niya di natin maano... malaman ba, kung iba yung ano ng buwaya syempre hayop yan manakmal talaga yan lalo kung gutom.” – Nanay Tiil, 45

“Kasi kung gutom na talaga lalabas yan di ba? Ngayon yung tao... syempre nagkuha lang ng kahoy sinalubong, kinain. Ibig sabihin mangakas (mangain) talaga yung buwaya, mangagat talaga...” – Tatay Cresendo, 60

As described by Kelly (2006), crocodiles are opportunistic feeder, have the ability to consume humans as food, and are often described as being the most aggressive predator. In Sitio Marabahay, crocodiles are significant as an integral part of their daily life considering that they are co-existing together in one area. It is inevitable to eliminate the fear that one might be a victim especially if crocodiles are lurking just around their home. As a result, the negative belief about the crocodile was reinforced within their psyche in response to a potential threat if one might encounter the nearby crocodile.

Living in an extensive amount of time with the place, some of the participants had experienced direct loss from a family member in which it further intensifies the negative belief towards the crocodiles as evident in the statement of Nanay Edith:

"Talaga noon sa nangyari na ito sa anak ko, galit na galit talaga kami. Pinainan pa nga namin yan dyan pero wala na. Maisip ko agad na, 'Itong hayop na ito, urtito ang nagpatay sa anak ko'. Yun ang agad na napasok sa isipan ko." –Nanay Edith, 60

As evident on the account, the participant had experienced the consequence of living with crocodile wherein her son was killed by the reptile. Given that most individuals in Sitio Marabahay already perceived the crocodiles as a threat and dangerous, what the participant had experienced strengthen the negative belief as it was confirmed when the crocodile killed Nanay Edith's son. As a result, it further intensifies the hatred towards the animal which in turn reinforces the negative belief. Not only does the incident affect the whole family but also it left a mark within Nanay Edith and was greatly affected emotionally; according to Pierce (2012), emotional harm actually hurts more than physical harm.

Furthermore, some of the participants have responded as well to the danger that the crocodiles pose into their children who often swim at the water. The idea that crocodiles might be staying at close proximity and the possibility of its attack towards the children which according to the participants was their primary concern as stated by Nanay Tiil:

"Syempre nung bago, takot. Natatakot kami kasi minsan kasi yung bagong lipat namin dito nahuhulog yung mga anak ko dito sa tulay parang natatakot ako luksuhan yung anak ko kay baka may buwaya. Sa akin ang epekto pa yun nga nininerbyos nga talaga. Saka di lang para sa akin, yung mga ano ko ba... anak in case na hindi namin maano yung mahulog sila o yung maligo sa dagat. Ayun nininerbyos kami baka may mga buwaya sa ilalim magkain sa kanila."
-Nanay Tiil, 45

The chances of feeling terrified are quite common and can be considered as part of their daily life since the possible danger that the crocodile poses cannot be avoided. Large crocodiles are able to stay undetected underwater without surfacing for several hours (Fijn, 2013), and when a potential meal is at the water's edge or within the water, the crocodile will definitely launch itself rapidly out of the water to capture its prey with great force between the jaws (Caldicott et al, 2005).

A.2. Positive Beliefs

Despite the negative belief regarding crocodiles, there is also a positive belief on how the individuals perceived them. These positive beliefs resulted from the stories of “matatanda” and they consider the beliefs since they must live harmoniously with the crocodiles. They view the presence of the crocodiles as not threat if only they leave it be.

*“Ang paniwala ko wag mo lang saktan kahit anong hayop naman di naman mananakit ng tao yan. Kasi ang alam ko sila kasi may sariling mundo rin sila eh, yung mundo nila galaw nila yun eh ngayon pag pinakialaman mo kahit sino naman pakialaman mo magagalit din. Ngayon ang natatandaan ko na ginagalaw talaga ng buwaya yung nananakit din ng buwaya kasi doon may nabalitaan kami doon na kinain ng buwaya dinala doon nakikita nila yung buwaya gumaganun *with action* kinukunan kasi nila ng bakaw yun, binubundol minsan binabato nila minsan tinutusok ng kahoy.”*
– Tatay Isidro, 52

Although most of the participants expressed their concern about crocodiles living near their home, there are still some who did not feel personally threatened. In the study of Van der Ploeg (2015), local fishermen sometimes encounter the animal underwater during spearfishing and are not afraid of crocodiles, and do not consider the presence of crocodiles problematic. Also, they argued that crocodiles form an important part of Filipino cultural heritage (Van der Ploeg et al. 2011), wherein in the remote rural areas of the Philippines people have tolerant attitudes towards crocodiles. These cultural beliefs provide a positive effect within an individual’s psyche which in turn manifest to some form of protection for the species. In addition, it might be considered that residents of Sitio Marabahay are behaving in accordance with these beliefs and not perceive the presence of crocodiles as a potential danger because they are probably used to the presence of the animal. It agrees in the study of Webb and Messel (2009) wherein a crocodile's behavior change over time as they became a lot more visible to humans, no longer perceive them as a threat.

From the perspective of other countries, crocodiles are not animals to be afraid of but are animals to be aware of and to treat with the utmost respect (Fijn, 2013). Thus, acknowledging the intrinsic value “right to live” of the crocodiles has been existing in several places. The residents of Sitio Marabahay might as well “respect” the crocodiles despite its potential for killing human life. Because being optimistic about their views

towards the crocodiles might enforce their thinking that it is possible to live with a dangerous reptile if only they respect one another.

A.2.a. Crocodile as Domesticated Animal

The researchers found out that an aggressive-type animal like the crocodile can be tamed and treat it as if your own pet as per accounts of the participants:

“yung pakinig-pakinig ko lang sa matatanda, dito ko na rin napakinggan sabi nila kapag nakahuli ka ng buwaya pwede nilang alagaan, maamo raw, mabait, pwede pa raw utus-utusan yun ang pakinig ko sabi nila.”
–Nanay Tiil, 45

“Naisip ko nga na... mabait lang sya. Kay kwan ‘wag kayo mangagat ha’ naga tingin man sya sa akon... “wag ka mangagat’...”
–Lolo P., 73

In the study of Van der Ploeg (2012), crocodiles generally do not pose a threat to humans since some of the residents from Dinang Creek are used to swim with crocodiles. The residents of Sitio Marabahay believe that the crocodile can be reduced from a state of native wildness into controllable and useful to humans. The belief that it can be made submissive seems to occupy in their mind and the possibility that if such animal can be domesticated the fewer chances of danger it might pose.

Adaptive Behaviors

As a result of extensive residency near the habitat of crocodiles, the occupants developed behaviors guided by their beliefs and personal experiences. These are their way of adapting to their situation involving crocodiles. Not just an actual threat is necessary to activate and elicit an emotional and behavioral response (Grupe & Nitschke, 2013). Hence, just the expectation of encountering danger triggers anticipatory response.

B.1. Tolerance of the Presence of Crocodile

Most of the participants would ignore the crocodile to prevent its attacks because they believe that a crocodile retaliates to their aggressor. They believe it does not initiate an attack unless it is harmed. Nanay Duli stated:

“Parang wala na rin. Pag dumadaan lang baliwala nalang din. Kung hindi mo rin sila galawin hindi rin yan makialam diba? Parang wala lang. Normal lang din na baliwala lang na magdaan yan. Walang pakialam. (laughs) Kasi pag saktan mo talaga yan talagang babalik balikan ka. Yun ang ano dyan. Pero pag hindi mo naman sasaktan kahit nadyan pa yan nandyan ka rin mag ano magtabi tabi dyan ‘di ka man saktan pag ‘di sila nasasaktan. Kasi nga sabi nila

parang cellphone daw. Pag naka ponbuk sayo talagang babalik balikan ka. Pag nakita ka.” –Nanay Duli, 37

Deaths from crocodile attacks are blamed on the victims' alleged misbehavior towards the animal. In Social Psychology, illusory correlation is a perception that relationship exists between an action and a phenomenon when in fact there is none. If relationship really exists then it is deemed greater than it actually is (Myers, 2012). Positive attitude and deep affection towards nature may as well play a part. There is an implied moral obligation to protect and promote environmental conservation, as proposed by the eco-centric paradigm (Denis & Pereira, 2014). They recognize the crocodiles' intrinsic value as part of nature and so its presence is tolerated. As stated by Tatay Isidro:

"Kasi ako ayoko mag ano ng buwaya. Kasi kagaya nung mga buwayang hinuli nila dito noon, ayoko rin mag ano ng buwaya kasi sa kasabihan nga ng mga matatanda, yung buwaya matandain. Isang araw pag nasaktan mo daw yun natatandaan ka nila... Parang maniwala ako kasi marami dito ang nananakit nga sila ng buwaya yung tinutusok nila ng kahoy minsan sinasaktan nila, gumaganti nga ang mga buwaya. Sa ngayon wala na rin sila kasi kinain na nga sila ng buwaya. Kaya kung may nahuhuli silang buwaya hindi ako nangingialam. Dahil nakikita kong buwaya dito sa silong iniilawan ko lang di ko ginagalaw kay mas maiigi na ba na di mo sila galawin."

–Tatay Isidro, 52

B.2. Retreat from Areas Where Crocodile Likely Exists

To adapt to the predatory instinct of crocodiles, a few would flight from the places where crocodiles' presence is anticipated. Threat uncertainties cause threat expectancies which lead to avoidance of potential danger (Grupe & Nitschke, 2013). As a precautionary measure, they withdraw from the waters to prevent future attacks. Nanay Duli mentioned:

"Hindi kami nag pupunta sa mga alanganin lugar na nandun sila, tapos pag gabi tulog na kami hindi na kami palakad-lakad. Dyan lang kasi sila banda. Di na kami nagapunta dyan sa loob ng bakawan, pag gabi yung mga bata ano hindi na namin pinapayagan mag labas-labas kasi pag gabi dito na ang buwaya. Yun nga kung nandyan sila di naman namin saktan sila. Magalis lang kami. Buwaya dyan lang din. Di naman sila (children) natatakot kasi kung natatakot sila hindi na sila (children) bababa."

–Nanay Cony, 43

This behavior is imposed on children as they are reminded of the entailed dangers. However, a seemingly reduced or delayed manifestation of fear among children is observed. Children are allowed to submerge in the sea as long as they do not go too far from the sight of their parents. An earlier study (van den Berg & ter Heijne, 2005)

suggests that those who frequently visited nature scored high in sensation-seeking. An individual with this personality trait tends to be less frightened by a threatening situation and may see this as a pleasurable experience. The children may have developed this personality trait over the years.

B.3. Driving Away the Crocodile

The anticipation of a crocodile manifesting is an apparent automatic mental reaction for the residents. Those who engage in the waters try to drive away the crocodile if any is unnoticeably present. Nanay Edith stated that:

“Pina-flashlight-tan ko yan sila. Minsan binabato ko pa yung kwan ba para mag... Yung dagat ba. Para maglagabog yun doon... aatras sila kung andyan man.”

–Nanay Edith, 60

Participants mentioned that flashlight is a vital tool. They flash light to the animal knowing it will eventually submerge back to the lower part of the water. This behavior is guided by their acquired knowledge regarding the nature of the crocodile.

B.4. Taking risk in spite of the Presence

Most of the participants are males who work for their family. A study (van den Berg & ter Heijne, 2005) suggests that men may experience naturally threatening situations as less frightening compared to women. Moreover, some participants choose to counter fear and improvise courage that minimizes anxiety making it manageable. Individuals are self-conscious being and the awareness of their fear enables them to control it (van der Berg & ter Heijne, 2005 as stated by Scherl, 1989). Nanay Edith said:

“Tiis. Kung sa kwan sige nalang. (laughs) Mag ingat nalang kung sa... kundi... yun na nga pag mag alis sya ng madaling araw mag... mag sunod din ako. May takot din pero... yun lang. Kung sa kwan pa eh... tapang tapangan nalang. (laughs) Eh kung hindi... hindi ganunin na kwan ay... paano ang hanapbuhay? Kay ang dagat man ang... hanapbuhay ng asawa ko.”

–Nanay Edith, 60

Another thing that may explain their risk-taking is the Filipino value “Bahala na”. As described (Pe-Pua & Protacio-Marcelino, 2000 as stated by Lagmay, 1977), it is a determination and risk-taking. This is a Filipino’s way of telling himself he is ready and will do his best. Although it has an element of faith, the individual does not remain passive but gets the courage to face the forthcoming situation.

B.5. Trust and Faith in God

The personal faith of the informants adds to their feelings of security and is a significant factor that strengthens courage to overcome a stressful situation (Billig, 2006). A prayer before sailing gives them a sense of protection. Tatay Raul said that:

"...bago tayo magbaba ng bangka manalangin nalang, mag pray, pangalawa flashlight ka muna para sigurado. Kasi di natin alam, dyan lang pala yan." – Tatay Raul, 43

It is common for a Filipino to seek help from a supreme being. They do not solely depend on a higher power. They ask for strength while telling themselves they can do things, as reflected in the Filipino phrase, Bahala na, originally Bathala na.

B6. Attack against the Crocodile

Participants respond to this fear in different ways. If others who fear crocodiles would flight, others would fight. Approaching the animal and killing it may be due to predation pressure. Kuya Will mentioned:

"Ah... Oo, isa rin yan meron din yan. Taga Tagdalungon! Taga Tagdalungon, ginagawa nila pumasok ng lambat hindi na makalabas... Hindi naman kalakihan, mga twelve to thirteen feet... Malaki na rin yun. Di na makalabas tapos takot na takot yung ano may-ari. Minsan binubungbong yan nila... Mmm, ay syempre sa ano, sa takot nila di na makalabas ay sisirain na yung lambat nila, (R4: Pinatay?) binubungbong nila. Para... Mmm-mm, namatay yun. Yung ano, pero bawal yun diba?" –Kuya Wil, 40

As proposed, men are the hunters and have to deal directly with dangerous animals and those whose existence is threatened want to exterminate the threat as a survival strategy (Prokop & Fancovicova, 2010 as stated by Kaplan, 1996; Roskaft et al, 2004; Hawkes et al, 1991).

B.7. Capturing the Crocodile

Some captures crocodiles using the knowledge and techniques from living with and observing them. As suggested by a study (Fijn, 2013), people who live proximal to predatory animal tend to pay attention to the animal's behavior, movements and habits. The participant who happened to be a captor mentioned:

"Dito may buwaya din dito sa silong ba... (R1: Hindi po kayo natakot, 'Tay?) Hindi rin Tapos hinuli, hinuli ko din yun. Sinilo. Pinadala po yan sa Puerto. Inalagaan yata nila doon... Kasi may unggoy kami dito nakatali. Sigaw ng sigaw yung unggoy. Pagti-pagtingin ko doon sa ilalim may kwan... may bu-

waya... Ayun, sinilo ko. Kwan lang ba. Yung technique lang. Tapos, tapos nung nakaraan din sumunod po yung nandito sa bahay. Dyan na naman sa kabila. Hinabol ko yun, maliit liit yung dagat, hinabol ko... Bago tinalian yung leeg nya. Sinilo ko ng ganyan. Tapos yung pinakamalaki dyan sa kabila din. 17 feet... Tinalian ko rin ng lubid sa leeg. Alas dose ng gabi... Parang pinagkakatukaan ko nalang...Pagka umaga tambakan yung tao dito oh. Puno ng mga tao ba. Parang ang tingin nila sa akin... parang artista. (laughs)"
-Croc Hunter, 50

By conquering fear regarding potential danger, an individual may develop positive reactions such as a sense of competence and psychological energy (Ewert, 1986; Fredrickson & Anderson, 1999; Holyfield & Fine, 1997; Kaplan & Kaplan, 1989; van den Berg & ter Heijne, 2005). Furthermore, confrontation of physical challenges and potential danger has positive psychological effects such as increased self-confidence (van den Berg & ter Heijne, 2005). Experimental research (Hennig et al, 1994; van den Berg & ter Heijne, 2005) suggests that threatening situations can elevate levels of beta-endorphins causing a euphoric effect. This effect helps individual to tolerate and survive extreme stress and pain (van den Berg & ter Heijne, 2005).

Motivations of individuals to live with crocodiles

The idea of living with a potentially dangerous predator is inconceivable for many people (Poole & Rick, 2012). Certainly, there are reasons why the residents are motivated to stay and live in a place where threats of crocodile attack exist. In this part, the motivations and reasons why the participants opted to stay and live with the crocodiles were revealed.

Economic

Economic is concerned with worldly necessities of life which are needed to satisfy people and to survive their everyday lives. In Sitio Marabahay, most of the residents satisfy these necessities through fishing, the skill that they are capable of and good at. They are motivated to stay and live along the waters because of this reason.

A.1. Source of Livelihood

In Sitio Marabahay, fishing is the primary work through which the residents could earn money and support the needs of their families. It is believed that if a place meets the needs of the people, they will develop place dependence which will likely make them stay in the area (Anton & Lawrence, 2014). That is why despite the threats and possible dangers of

living with crocodiles, the residents of Sitio Marabahay still opt to stay and live there. One of the participants mentioned that:

"Wala man problema kung meron lang makunan ng hanapbuhay. Ang number one talaga hanapbuhay (pangingisda)."—Nanay Edith, 60

and even added that:

"...Kung mag alis man kami dito... ay saan kami maghanapbuhay? Kay dagat man ang hanapbuhay ng asawa ko."—Nanay Edith, 60

There will be no problem if they will be asked to transfer and leave the place if there are available jobs in the relocation sites. The families depend on their main and only source of income which is fishing- the cause for these residents to develop place dependence. It arises from a positive assessment of a place when it meets an individual's needs and allows them to achieve their goals (Anton & Lawrence, 2014 as stated by Shumaker & Taylor, 1983). The residents cannot leave or transfer to other place worrying that there might no work to sustain their needs; they have nowhere to go like the case of Nanay Edith whose husband's only job skill is fishing.

Place Attachment

Place attachment is a form of connection between a person and the environmental setting (Ujang & Zakariya, 2015). It is evident in a variety of settings (Anton & Lawrence, 2014 as stated by Bricker & Kerstetter, 2005). The resident of Sitio Marabahay's connection to the place serves as a reason why they are motivated to stay and live along the waters. The convenience of the place where they find peace and ease living in the area and the sanitation of the area serve as their connection and attachment to the place.

B.1. Convenience

Living in land is not always convenient for all, there are some that find peace and ease living in a house situated on the waters. This convenience and attachment to the place affect them in staying especially if they have already lived in the place for a long time and their work is more accessible in the area. The residents also see it as a waste of time and energy to move from one place to another. According to Croc Hunter:

"Kasi dito sa... itong lugar na ito pinakamaganda kasi dito tahimik. Yun ang habol namin. Tahimik."—Croc Hunter, 50

The residents' main source of income is through fishing and they find it more convenient for their work to stay in the area because it is more accessible and less bothering whenever they are sailing.

While some see it as a peaceful place and convenient for their work, Kuya Wil, on the other hand, is motivated to stay because of being a resident of the place for a long time. When asked about a possible relocation project, he replied:

"...samantalang thirty years na... Ay, sila nanay, aw tama. Thirty years na kami dito. Mmm, parang ano nalang kami gigibain nalang ang bahay namin ng ganon ganon nalang. Tapos bigyan nalang kami ng relocation gubat pa."
-Kuya Wil, 40

Kuya Wil finds it offensive should they be suddenly relocated elsewhere after all those years that their families have resided and already built their lives there. The possibility of their family's efforts and hard work in building and maintaining their home and life makes it harder for them to leave the place which can be related to a study conducted by Anton & Lawrence (2014), it states that people who own their homes have invested in their area, making it likely that they will live there for a long term, which is also a predictor of place attachment and place identity (Bonaiuto et al., 1999; G. Brown & Raymond, 2007; Hernandez et al., 2007; Lewicka, 2005, 2010; McCool & Martin, 1994; Raymond, et al., 2010; Steadman, 2006).

B.2. Sanitation

Living in houses situated on the waters gives lesser bother in maintaining the cleanliness of their homes. There are participants that used to live in a house situated inland where they have unsanitary neighbors who do not dispose of their wastes properly, and a muddy neighborhood because of accumulation of wet soil due to rain and animal feces just like for Ate Jenny's situation, as she stated:

"Yung unang-una talaga doon kami nakatira sa Iglesia (lupa). Ta, kaso lang nag alis ako kasi yung mga kapitbahay ba, kasi marumi. Yung bahay walang kubeta. Flying saucer lang yung (dumi ng tao). Diba? Minsan magsabit pa sa wire ko, ga-tulo-tulo. Na-discourage ako. Grabe ka putik. Kay ang tae ng baboy, tae ng aso. E na ano ako sa mga bata. Maliit pa sila. Yung dumi ba."
-Ate Jenny, 47

Strong feelings were felt in the form of dissatisfaction towards arising issues affecting the place (Ujang & Zakariya, 2015) that is why they decided to move and transfer to a house

situated on the waters which they see as more liveable because it seems like a more sanitary place to live in. General cleanliness of a place encourages individuals a longer place engagement and the feeling of safety and security (Ujang, 2012).

Limitations

Although living in a house situated in the waters has benefits, there are some participants that are still willing to live and work in the land but are not able to do so because of the limitations that are hindering them. These limitations are the land property where they could transfer or move to and the skills and abilities that they are capable of in order for them to survive.

C.1. Lack of Property

Some of the participants decided to stay in their houses situated on the waters of Sitio Marabahay because of lack of land property. Some have their own lots while most don't have. Just like what Tatay Raul stated:

"...ay gusto ko sa lupa kami... lupa. Kasi nga wala kaming lupa."

-Tatay Raul, 43

Somehow, they wanted and is willing to live in a land surface but for the reason that they do not have a land of their own where they could transfer to, they are is driven to stay and live near the habitat of the crocodiles despite the dangers.

C.2. Lack of Skills

Skills are important as a means of survival. If an individual is raised in the land surface, most probably the individual was taught and learned skills according to his surroundings like farming, but if an individual was raised near or in a house situated on the waters, most probably he will gain skills and abilities that involve the sea. One of the residents named Kuya Wil decided to live in a house situated on the waters because of lack of skills. Kuya Wil stated:

"...ah ano yung dun eh kumbaga komplikado narin. Kasi wala akong alam sa ano... Wala kaming alam sa... sa lupa..."-Kuya Wil, 40

The account above showed that for the participant, it is complicated to live in a land surface given that they grew up and lived in an area wherein the skill that an individual

will most probably learn requires the sea, giving no idea about a job where land is related or required.

DISCUSSION

All of the residents who responded are aged between 37-73 years old who reside in Sitio Marabahay for a duration of at least 10 years wherein the longest is 58 years. There were some who had a direct encounter with crocodiles, one has a family member who got killed by the animal and the rest have only seen it from under their houses and from afar.

The researchers found out that cultural beliefs among the individuals hold a significant role in how they perceived the situation they are currently having. First, the negative beliefs arise from incidents involving crocodile attacks in which the individuals had experienced whether directly or indirectly. Most of them were aware of the possibility of the crocodile assault given their close proximity in the area of the said animal. Believing that crocodiles are revengeful beings somehow serves as an affirmation to disturb and harm the crocodiles. Since they are entitled to live with a dangerous animal that is commonly known for its domineering potential, the individuals perceived them with negative beliefs. In addition, because of its true nature, individuals also believed that crocodiles would always haunt and kill for its prey. It is devastating that people are killed and harmed by the crocodile which brings grief and fear among the victims. However, there are positive beliefs that arise from the individuals as they view the presence of the crocodiles as unharmed and non-life threatening. The research concluded that individuals manage to cope with the situation by believing in the possibilities of their own cultural beliefs.

To live harmoniously with the crocodiles, the residents developed adaptive behaviors. Due to their belief that crocodiles are capable of retaliation, some locals tolerate the presence of crocodiles to prevent being attack by it. They ignore the animal out of the circulating belief in Sitio Marabahay that crocodiles do not cause harm to humans unless humans harm them. In addition, some flight from the bodies of water out of anticipation of the presence of the animal to prevent close contact and further trouble with it. This behavior is likely imposed on children. On the other hand, there are others who drive away the animal whenever there is an actual or anticipated presence. They recognize the

ability of crocodiles to harm and kill humans. As a result, they attempt to drive the animals away from their homes. The working members of the family are compelled to engage in water-related activities and take a risk to fulfill financial needs. Since livelihood is a top priority for these people, they choose to improvise courage to sustain a living. Personal faith adds to their feelings of security. A prayer before sailing gives them a sense of protection. It is common for Filipinos to seek help from a supreme being though they do not solely depend on the higher power. They ask for strength while telling themselves they can do things, as reflected in the Filipino phrase, *Bahala na*, originally *Bathala na*. Moreover, some attack crocodiles as a survival strategy. They prefer to kill the animal to avoid being killed by it. Some residents are pressured to act upon their fear of crocodile attack. So, in order to be alive, they choose to kill the animal. Although, approaching the animal does not always mean killing it. There are a few individuals who capture crocodiles. After extensive stay along the waters, some managed to know the nature of crocodiles and how to safely capture it.

Despite the possible dangers of living in Sitio Marabahay due to the presence of crocodiles, it was found out that these individuals are still motivated to stay and live along the waters mainly because of their need to sustain their needs and support their families. They are determined to stay because it is easier and more convenient for them not to leave given that their work, which is fishing, requires them to be closer to the sea. There are also individuals who traveled all the way from different parts of the country and decided to live in Sitio Marabahay because it is easier to catch fish in the area. These residents are already attached to the place for they find peace and comfort living in houses situated on the waters. They were also able to manage their own time given that their work is in the sea so they have the freedom to go fishing anytime and do whatever they want. There are some that have already lived there for a long time, wherein through their hard work in fishing, they were able to provide for their family's needs and this attachment to the place hinders them to leave the place. These individuals also prioritize their children's health because they see it as more sanitary to live along the waters than in the land wherein unhygienic neighbors surround them. There are some that are willing to leave the place and transfer to land but do not have their own properties. Their skills also

prevent them from leaving the place, because they have lived there for a long time, the skills and abilities that they learned are only limited to fishing and other activities that require the sea, a reason why they do not consider to live in the land.

CONCLUSION, IMPLICATION, AND RECOMMENDATION

This study concluded that an individual can live in a naturally threatening place where positive and negative cultural beliefs coincide. These beliefs can direct the development of essential behaviors that can be used in adapting to the environment. An individual can adapt to a naturally threatening environment through employing these adaptive behaviors which aid in fear regulation. Aside from behaviors, beliefs affect how an individual interprets phenomena regarding crocodile incidents, threats and dangers, and the consequences of their activities towards crocodiles. It is possible to live in a place like Sitio Marabahay since the participants developed adaptive behaviors and possess beliefs that they cling to. Cultural beliefs and adaptive behaviors supplement the motivations of an individual to stay in a crocodile-inhabited area. These motivations produce a long-term behavior of living in a threatening environment.

In addition, this study might aid the local government to initiate an effort that would prioritize both humans and animals involved without compromising the welfare of one another. First, the findings of this study could aid the (CEPA) campaigns in conducting seminars or programs that would educate and raise public awareness regarding one's status whose situation is in the expense of crocodilian assault. Secondly, this study can also contribute to movements of the DENR--the government mandated agency for environmental protection that is tasked to protect the country's wildlife including crocodiles. The findings of this study can further aid the desire of DENR to safeguard the wildlife since the residents already employ this kind of behavior wherein they do not aggravate the crocodiles within their area. Also, the Palawan Wildlife Rescue and Conservation Center (PWRCC) can benefit from this study for the officials can conduct a survey in Sitio Marabahay if crocodiles in captive can be reintroduced to the wild to support their goal in ensuring the long-time survival of crocodiles if they are not congested in Crocodile Farm. Lastly, the study might as well contribute to movements aiming to stop the stigma placed on crocodiles since most Filipinos are indifferent about

crocodiles and regard them as problematic. The public image of crocodiles is very negative to the point that buwaya is commonly used to refer to corrupt politicians and to greedy people in general.

To avoid future crisis, one must still anticipate the likelihood of encountering the crocodile since animals with its true nature are unpredictable. The researchers recommend the individuals to continue living as they were and to employ the learnings from their previous encounters with crocodiles to assure that no one would be a victim of an attack. Meanwhile, the study recommends that individuals in Sitio Marabahay should be given assistance for their livelihood in which they can support their families' needs and be able to build a better home that is less vulnerable to such dangers.

Furthermore, the findings of this study give informative research in the field of Environmental Psychology since it covers human-animal relations. This research contributes to the body of knowledge of Environmental Psychology given that this field is open for new findings. For future researchers, they can use this study as a basis or guidelines in conducting researches relating to topics that this study has identified.

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