



Exploring Social Construct of Place Attachment among Settlers in Disaster-prone Areas

Sharon Feliza Ann Macagba^{a*}, John Ceffrey Eligue^b, Sharmaine Marie
Marasigan^c

^{a,b,c} *Department of Community and Environmental Resource Planning, College of Human Ecology, University of
the Philippines Los Baños, College, Laguna, 4031, Philippines*

^a*Email: spmacagba@up.edu.ph*

^b*Email: jleligue@up.edu.ph*

^c*Email: svmarasigan@up.edu.ph*

Abstract

This paper examines the place attachment of residents living in landslide-prone areas in Los Baños, Laguna, Philippines. It aims to characterize the place attachment of the residents in these communities as they continue to inhabit such areas despite the risk and to identify social attributes which greatly contribute to the characteristics of their place attachment. Results show that place attachment leads to stronger community ties because/as the meanings, experiences and memory of the people are translated into cultural codes through interactions among residents. Patterns of place attachment among the landslide-prone communities in Los Baños show a strong social bond, particularly determined by the presence of their immediate and extended families. This bond is further extended to the neighbors and to the whole community as well. However, the strong community ties among residents and their risk-taking behavior may amplify both their vulnerabilities and adaptive capacities. This social aspect of place attachment suggests pragmatic uses for formulating disaster risk reduction initiatives propelled through collective civic involvement.

Keywords: place attachment; sense of place; disaster risk reduction.

* Corresponding author.

1. Introduction

An individual's sense of place can be cultivated through his or her own character, personality and actual experience of the place [1]. It may blossom through living in an area for a period of time, as well as through learning the place's history, geographical features and its local tales and traditions. It is often used to connect the qualities that make a certain place distinct. Sense of place brings together the people and place where concepts and meanings are created through the physical qualities and characteristics of a place and its perceived concepts and meanings acquired through knowledge and experiences [2, 3].

Sense of place are perceived through various lenses, one of which is place attachment. Place attachment is defined as the emotional bond that people have with their neighborhood or to the place where they are living [4, 5]. Being attached to a place may give an individual a sense of security, access to different connections and sense of identity. Moreover, people who are attached to their place tend to have higher sense of safety even when their place is experiencing threat [6, 7]. The meanings attached by the individual to a place can be further translated into the cultural codes within the neighborhood through interpersonal and constructed interactions among residents [8]. These interactions among residents, which happen in the social space, further enhance their place attachment, thus creating neighborhood ties needed for collective action within the neighborhood [9].

As sense of place enhances a person's relationship to a place and encourage collective action, it becomes an area for discussion in the construct of disaster preparedness and risk reduction. While some local government policies implement relocation away from these disaster-prone areas, communities upheld their decision to stay at their neighborhood most of the times despite the risk. In Malabon City, for instance, migrants have flocked the floodways from the 1960s up to the present with the most intense wave of migration happened in the years covering 1980 to 1990s [10] implying a relatively large proportion of informal settler population living on top of a river or canal, or in low-lying areas of the city [11]. These settlements are at high risk for flooding, which in Malabon happens about eight times a month, yet informal settlements in these risky areas remain and thrive despite the marginal or substandard presence of basic services in these areas [10] The same scenarios happen in other disaster-prone areas in the country as well, despite the "no-build zone" policy as defined by existing laws in the Philippines such as Philippine DRRM Act [12], and Urban Development and Housing Act among others [13]. Scenarios like these pose a question of why the people stay at their neighborhoods despite them being at risk and clearly not having the best housing and living conditions.

Thus, this study examines the place attachment of residents, particularly in the neighborhoods of Purok 3 of Barangay Lalakay and Purok 5 of Barangay Bambang in Los Baños, Laguna, Philippines. It aims to characterize the place attachment of the residents in these communities as they continue to live there despite the risk; and to identify which among the place attachment attributes greatly contribute to their place attachment characteristics. Both of these communities were areas with high susceptibility to landslide (Figure 1). Purok 3, Lalakay is situated at the bottom of the valley walls of Dampalit River where cracks were observed. On the other hand, several cracks were also observed on the slope of the east side of Purok 5, Bambang as an impact of Tropical Storm Xangsane, locally known as Typhoon Milenyo, last 2006. The Mines and Geosciences Bureau of the Department of Natural Resources and Environment has recommended that these areas perform relocation or pre-

emptive evacuation, installation of engineered protection for all types of landslide, among others. There were continued monitoring and awareness campaigns regarding rain-induced landslide that could affect the residents down the slope. Despite their high susceptibility to landslide, these areas still persist as communities for some. There are approximately 280 households in Purok 3, Lalakay and 2,050 households in Purok 5, Bambang.

This study explores the social construct of place attachment of residents in disaster-prone areas. Furthermore, this study only focuses on the social construct of place attachment as influenced by family, friends and community, and how this social construct manifests in place-related behavior and disaster risk reduction actions of the residents of Purok 3, Lalakay and Purok 5, Bambang.

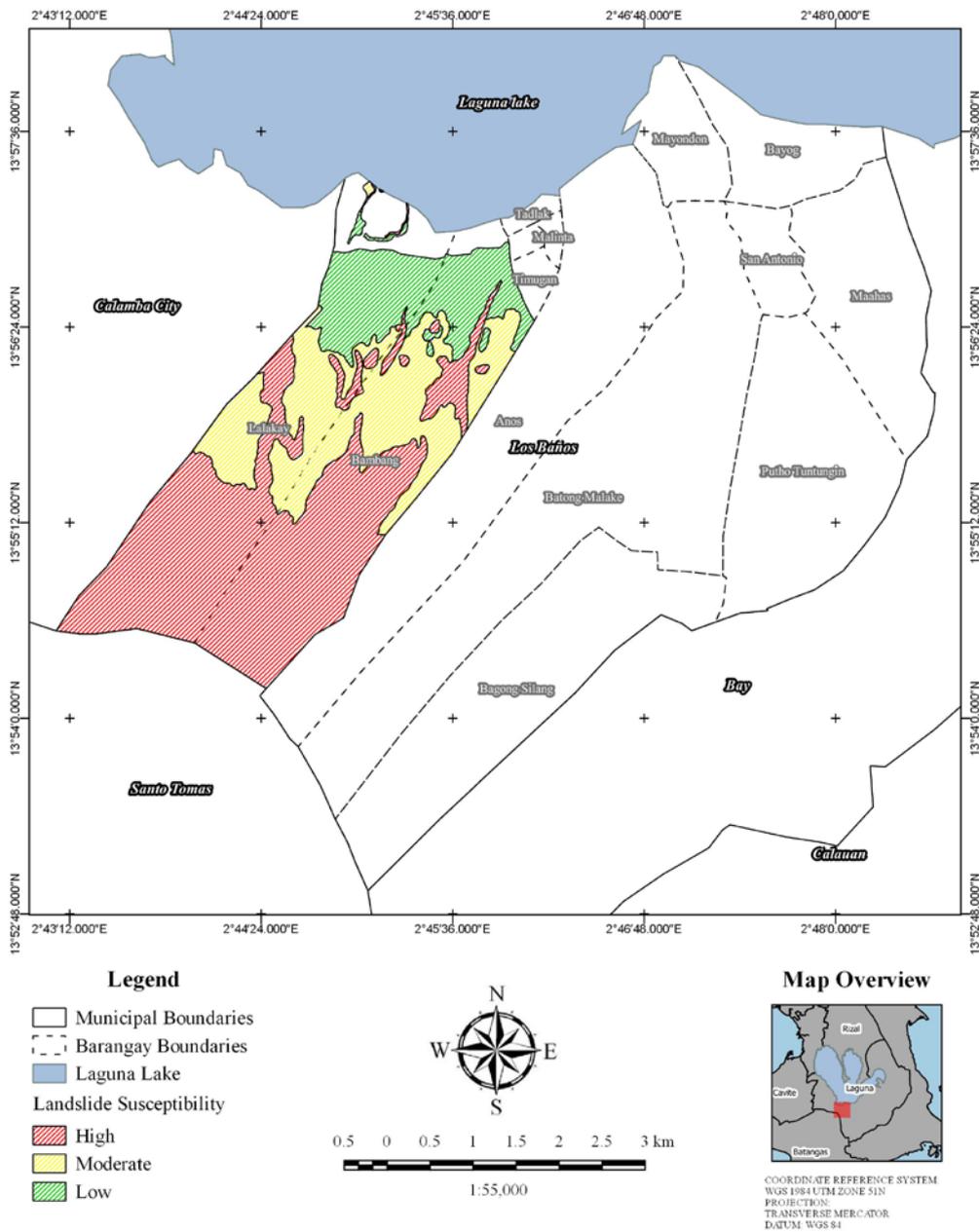


Figure 1: Landslide Susceptibility of Barangay Lalakay and Bambang, Los Baños, Laguna, Philippines

2. Factors Affecting Place Attachment

There are various studies that have identified different factors affecting place attachment. Some studies identified physical, social, cultural, memories and experiences, place satisfaction, interaction and activity features, and time as factors affecting place attachment [3]. Other studies put weight on home ownership, living space status (the concept of whether he/she lives in a “real home” or it is just a place to live), number of community groups one belongs to, proportion of friends living in the community, and length of residence in community [14]. Some others include genealogy, economics, cosmology, pilgrimage, narrative and religion [15].

In the study of Scannell and Gifford [7], they presented a tripartite model of place attachment based from several definitions of place attachment from other research. The model is composed of three components: *person*, *psychological process* and *place dimensions*. The person component specifies that place attachment can transpire individually through captured meanings of personal experiences, or as a community through collective experiences [16]. Individuals tend to have deeper attachment in places which they happily associate themselves with and that its community is connected to historical experiences, values and symbols of that place which they tend to respect and protect [7, 16]. The other component, the psychological component which is basically concerned on how attachment is brought about, comes into the process of the interplay among these aspects called affect, behavior and cognition. Emotions such as happiness, pride and love create affect; that would turn out as part of a person’s memory, schema, knowledge and meanings created as part of the cognition aspect of place attachment [7, 17, 18]. These cognitively processed emotions are then manifested through behavior. People who have place attachment usually exhibit a certain behavior called proximity maintaining behaviors, which refers to the wanting of a person to stay in a certain place [19]. Another type of expressing behavior is through the reconstruction of place. This type of behavior is usually experienced during the aftermath of a disaster or after being relocated [7]. The last dimension on this model is the place dimension which has two features: the physical and social features. The physical feature of a place refers to the built environment while the social feature is explained as the place attachment with regards to encouragement of having social relations, identifying oneself to a certain group and involvement with the community [17].

Another study, presented by Raymond, Brown and Weber [20], shows a model called the Three-pole and Four-dimensional conceptual model of place attachment. It is composed of three-pole features such as the *personal*, *community* and *natural environmental* context; linked to the four-dimensional dimensions such as *place identity*, *place dependence*, *social bonding* and *nature bonding*. These four-dimensions define how place attachment works on different levels of contexts. It is somehow similar to the previous model mentioned as it includes the individual, community and nature or place dimensions of place attachment. However, this is different from the other model because it identified the concepts of place identity, place dependence, social bonding and nature bonding as dimensions of place attachment. Meaning, place attachment differs depending on what context and dimensions we are looking into. For example, a person can have a place identity but if this identity relates to a community, then the place attachment would include another level of dimension that could be within the bounds of social or environmental contexts. Both models established the difference between social and environmental characteristics of a place, yet both models also consider them as characteristics that serve as the basis of

connection to a place. The three-pole and four-dimensional model straightforwardly separated the attributes of the person into place identity and place dependence and the attributes of the community into social bonding, while the tripartite model of place attachment only implied these on its natural environment and social place attachment.

As discussed, place attachment is mainly perceived as part of the personal or individual constructs. Therefore, individual attributes such as age, gender, income and education, as well as housing and land tenure attributes, are contributing factors affecting place attachment [21, 22]. Length of stay is another contributing factor to place attachment. Those who have stayed longer to a place tend to have stronger place attachment compared to those who have lived on a shorter duration [9, 16, 17, 20, 21, 23]. Staying in a place for a long time may increase attachment due to their familiarity and feelings of safety and security to the place, as the bond to the place increasingly linked together through time [5].

Place attachment is created from the mix of different factors involving the various scales. The more a person interacts with the physical environment, the more that person create experiences and memories.

These memories will create further relationship between the person and the place, thus developing a stronger and effective place attachment. However, beyond this individualistic perspective is the observation that place attachment further develops because of people participation, social engagements and cultural interactions [3]. These interactions require social and community ties before it can be translated into collective action.

Sense of place is a result of the dynamics between the social and the natural (i.e. landscape) or built environment [23, 24]. However, researches about the factors affecting sense of place, like the ones conducted by Stedman [23] and Kyle and Chick [24], commonly have focused more on the recreational or leisure aspect of looking at the environment. Conversely, certain behavior of the people in the community can be closely examined by local decision-makers if place attachment is considered in a non-recreational aspect. This also becomes vital in formulating place-specific actions leading to preservation of life, particularly in the context of hazard-prone areas.

Hence, the framework of the study as shown in Figure 2 emphasizes more the social aspect of place attachment. The study integrated the physical aspect of place in its contextualization of a hazardous landscape – in this case, in landslide-prone areas.

At the neighborhood level, place attachment is determined and measured by spatial experiences of the people including the memories and meanings they attach to the place. These individual experiences and perceptions are influenced by the type and degree of their interaction or bonding with their family relatives, friends and to the community. Social bonding is defined as a type of place bonding that pertains to the feeling of belongingness to the community and the common link shared such as history and interests [21]. Family bonding refers to the attachment to place based on family relationships while friend bonding are the connections to place based on relationships with friends [25].

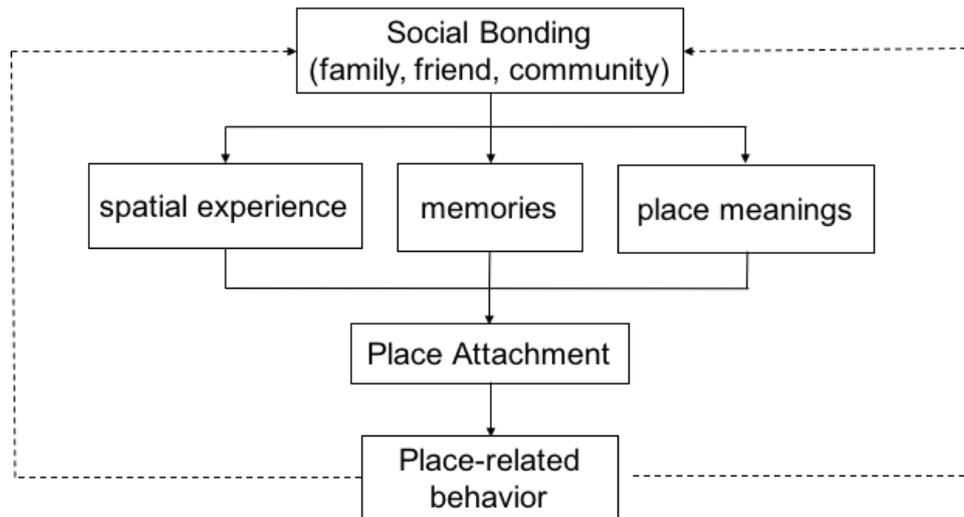


Figure 2: Social construct of place attachment at the neighborhood level.

In turn, the social processes embedded in the spatial context of living in a specific area (i.e. hazard-prone area) translates to certain types of environmental behavior. This environmental behavior can either be positive or negative depending on the dynamics of personal, social and cultural attributes [3]. In the context of disaster risk reduction, this environmental behavior can manifest as a challenge or opportunity for local authorities' initiative.

3. Research Methodology

Both qualitative and quantitative measurements were used to determine the degree of place attachment of the neighborhood and to identify the attributes that influenced such degree.

A survey questionnaire was used with five-point Likert scale (*strongly disagree* to *strongly agree*) to determine the degree of place attachment amongst the neighborhood of Barangays Lalakay and Bambang. Three dependent variables for social construct were considered namely: social bonding, family bonding and friend bonding. The question items for social construct were based from Kyle and his colleagues [26]. A total of 200 randomly selected respondents were surveyed for the study.

Focus group discussions were conducted with the local community as represented by several sectors including the youth, women, men and the elders. Key informant interviews were also conducted to obtain place-specific perceptions and behavior of the community. Data were analyzed separately for the two barangays for comparison of results.

4. Results and Discussion

4.1. Respondents' profile

The survey was administered to 200 random respondents from Purok 3, Lalakay (n=73) and Purok 5, Bambang

(n=127). The respondents' ages range from 18-35 years old (30.5%), 36-55 years old (50.5%), and 56 years old and above (38%). Most of them are also married (59.5%). More than half of the respondents graduated high school (53%), some just finished elementary school (22%), and only a few portions have reached college level (11.5%). Sixty eight percent (68%) of the respondents engage in informal economy and only 32% are in the formal economy. Those in the informal economy works as vendor, beautician, manucurist, laundry woman, construction worker, street sweeper, whereas those in the formal economy works as call center agent, factory worker, nurse, government employee.

Residents started encroaching the area in the 1960s. There are families in these neighborhood with the longest stay of 46 and 50 years in Barangay Lalakay and Bambang, respectively. In the recent years, the residents were given the rights to occupy these areas by virtue of Presidential Proclamation No. 550 Series of 2004, with rules and regulations attached to it such as these lots cannot be sold, leased or transferred to another party [27]. Instead of land title, the residents was awarded with a certificate of lot allotment by the local government of Los Baños, together with the Inter-Agency Committee implementing the abovementioned proclamation. Ninety percent (90%) of the respondents said that they were granted the rights to use the land (some are still waiting for proper documentation while others have inherited their homelots from their parents.) Ten percent (10%) of the respondents were renting house spaces from the residents who were given rights to the land.

The earliest residents and families who settled in these neighborhoods are already on their third generation. They consider their neighborhoods as places where they raise a family, together with their extended families and relatives. Most women respondents came to these neighborhoods because their spouses or the family of their spouses live there. Renters choose these neighborhoods because it is relatively cheaper and is close to their places of work.

4.2. Place attachment attributes of respondents

This study used nine (9) question items based from Kyle, et. al. [26] to characterize the degree the place attachment among the respondents from Purok 3, Lalakay and Purok 5, Bambang.

For Purok 3, Lalakay, respondents have a strong place attachment as presented in Table 1. They feel that Purok 3, Lalakay is a part of themselves (66% SA; 22% A) and they identify themselves with the place (60% SA; 26% A). These place attachment attributes manifest through how they rate their memories (68% SA; 14% A) of Purok 3, Lalakay, and on their belief that they have a special connection to the place and to the people living in it (73% SA; 15% A).

As established on the respondents' profile, the respondents have a long and deep history with the Purok 3, Lalakay. In the survey, the respondents believe that they live in Purok 3, Lalakay because their families are there (78% SA; 18% A); and their relationship with their family is special to them (77% SA; 12% A). These ratings are the highest responses among all the question items listed.

Although the presence of family is important in their place attachment attributes, it is not the sole determinant of place attachment, albeit a strong one. Question #7 asked if they are likely to move to another place without their

relationship with their families. Although their responses for the question is still positive (44% SA; 27% A), this question item has the most number of negative responses (5% D; 16% SD) among all the place attachment attributes. Belonging to community volunteer groups (56% SA; 16% A) and friendships made by doing these activities (52% SA; 16% A) also scored positive responses.

Table 1: Perception of Purok 3, Lalakay respondents regarding their place attachment

QUESTION	STRONGLY AGREE	AGREE	NAD	DISAGREE	STRONGLY DISAGREE
Purok 3, Lalakay (n=73)					
1. I feel that this place is a part of me.	66%	22%	0%	0%	1%
2. I identify strongly with this place.	60%	26%	12%	1%	0%
3. I have a lot of fond memories about this place	68%	14%	12%	1%	4%
4. I have a special connection to this place and the people who live in it.	73%	15%	10%	0%	3%
5. I live in this place because my family is here.	78%	18%	3%	0%	1%
6. My relationships with family in this place is very special to me.	77%	12%	4%	1%	5%
7. Without my relationships with family in this place, I would probably move.	44%	27%	7%	5%	16%
8. Belonging to volunteer groups in this place is very important to me.	56%	16%	26%	1%	0%
9. The friendships developed by doing various community activities strongly connect me to this place.	52%	16%	29%	1%	1%

Similarly, Purok 5, Bambang have a strong place attachment, evident in the results of the survey presented in Table 2.

Cumulatively, responses from Purok 5, Bambang are almost similar to that of Purok 3, Lalakay. However, they still differ on the intensity of their responses.

Most respondents from Purok 5, Bambang also feel that their neighborhood is a part of themselves (52% SA; 31% A) and they identify with the place (54% SA; 33% A),

although there are some that neither feel as part of the neighborhood (17%) nor identify with it (13%) as compared to Purok 3, Lalakay.

Respondents from Purok 5, Bambang also have fond memories (45% SA; 26% A) of Purok 5, Bambang and have a special connection to the place and the people living in it (48% SA; 29%).

The respondents also believe that the reason for living in Purok 5, Bambang is because of their families (61% SA; 28% A).

This question item garnered the highest positive response from all the listed question items for Purok 5, Bambang, with 89% positive responses cumulatively.

They also perceive that their relationship with their families are important (52% SA; 27% A). This is one of the reasons why they would stay or leave in the neighborhood (45% SA; 30% A), which is slightly higher compared to that of Purok 3, Lalakay. They are also keen on volunteering to community activities (39% SA; 34% A) and develop friendships along the way (43% SA; 31% A).

Table 2: Perception of Purok 5, Bambang respondents regarding their place attachment

QUESTION	STRONGLY AGREE	AGREE	NAD	DISAGREE	STRONGLY DISAGREE
Purok 5, Bambang (n=127)					
1. I feel that this place is a part of me.	52%	31%	17%	0%	0%
2. I identify strongly with this place.	54%	33%	13%	0%	0%
3. I have a lot of fond memories about this place	45%	26%	27%	2%	0%
4. I have a special connection to this place and the people who live in it.	48%	29%	23%	0%	0%
5. I live in this place because my family is here.	61%	28%	11%	0%	0%
6. My relationships with family in this place is very special to me.	52%	27%	18%	2%	2%
7. Without my relationships with family in this place, I would probably move.	45%	30%	24%	1%	1%
8. Belonging to volunteer groups in this place is very important to me.	39%	34%	20%	2%	4%
9. The friendships developed by doing various community activities strongly connect me to this place.	43%	31%	20%	2%	4%

Analyzing these responses allows us to see patterns of place attachment and how the social attributes contribute to these patterns.

Both respondents from Purok 3, Lalakay and Purok 5, Bambang identify themselves with their neighborhood. This shared identity among the respondents show that there is a strong social bond in both neighborhoods, particularly determined by the presence of their immediate and extended families and the bond that they share.

This is further extended to the neighbors and to the whole community as well (Figure 2 and Figure 3.) Although there are hesitations among some respondents in pursuing friendships and community bond, their intention of living in their neighborhood with harmony and community greatly show.

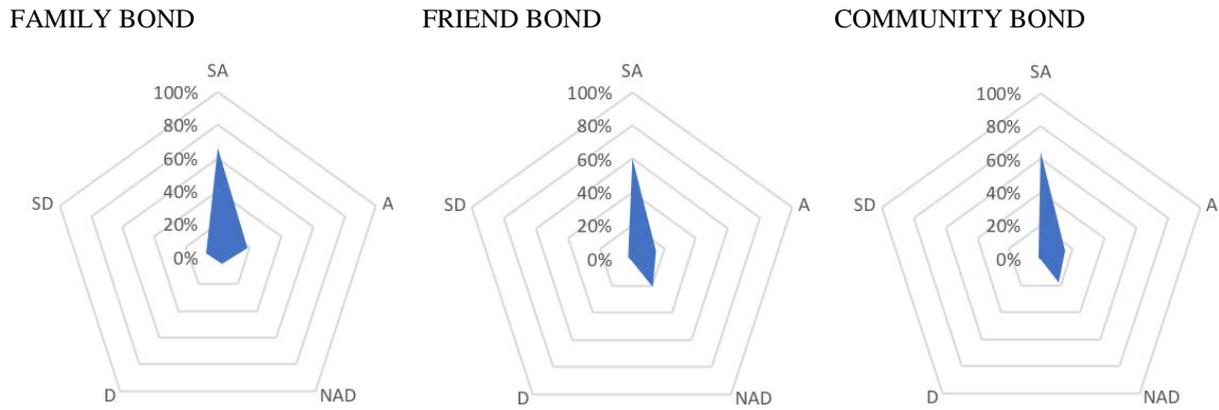


Figure 3: Social Construct of Place Attachment in Purok 3, Lalakay

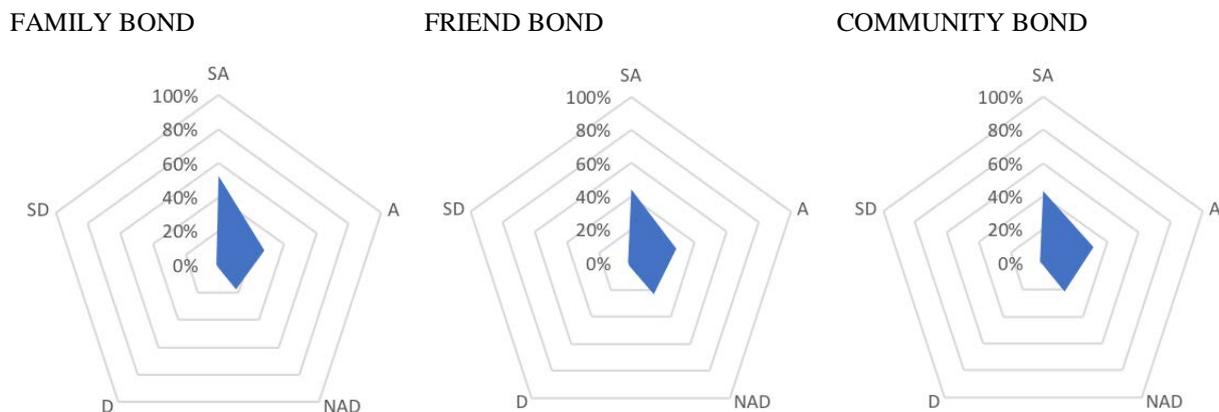


Figure 4: Social Construct of Place Attachment in Purok 5, Bambang

4.3. Place-related behavior and disaster risk reduction actions in the neighborhoods

Beyond these social constructs of place attachment is the dimension of these places as disaster-prone areas. Purok 3, Lalakay and Purok 5, Bambang are both highly susceptible to landslide (Figure 1). Local authorities have been advised to employ disaster risk reduction management (DRRM) activities to ensure safety among the residents. About 92% of Purok 3, Lalakay and 98% of Purok 5, Bambang respondents are aware that their neighborhood is at risk of landslide, but they have not experienced the direct impact of landslide yet. However, DRRM programs from the local authorities focused on relocating residents away from highly susceptible areas, at the same time institute an evacuation plan as preparation for the probability of disaster. Residents are also aware of these programs. In Purok 3, Lalakay, 49% believe that there is a relocation program intended for them, 27% are aware of the IEC mechanisms of their barangay regarding disaster awareness, and 17% are also aware of the evacuation protocol in case of disaster. In Purok 5, Bambang, 83% are aware of the relocation program, while 8% are aware of the disaster awareness campaigns.

Despite these, residents do not want to relocate. Respondents from Purok 3, Lalakay and Purok 5, Bambang share the same sentiments as to why they do not want to be relocated. These reasons are: 1) they feel safe and

contented due to the accessibility of their neighborhoods to social services and amenities like schools, transportation facilities, etc., 2) they already have established a way of life together with their families in these neighborhoods; 3) they have lived for a long time in these neighborhoods; and 4) they have established a social network among their neighbors. Other respondents from Purok 5, Bambang mentioned that it is difficult to move from one place to another. Although negative responses to relocation resonates among the respondents in both neighborhoods, possibilities of agreeing to relocation is being considered only if: 1) the situation gets more life-threatening and dangerous for them and their families; 2) relocation areas have better living conditions; and 3) if they will be relocated as a community and not as individual households. But since relocation is a far-fetched option for them at the moment, the imminent danger of disasters in their neighborhood allows them to improve the conditions of their housing units, employ positive environmental behaviors such as planting trees and taking care of the cleanliness of the neighborhood, and follow evacuation protocols imposed by the local government such as preparing an emergency kit, heeding disaster advisories, and cooperating in times of evacuation. The risk-taking behavior, as related to the lack of spatial experiences of landslide in their neighborhood, as well as the collective action demonstrated in disaster preparedness among the respondents illustrate a mix of vulnerabilities and adaptive capacities of Barangay Lalakay and Barangay Bambang, and suggest possible points of entry for collective participation to reduce risk in these landslide-prone areas as well.

5. Conclusion

Living in a landslide-prone area can mean disaster. But examining the reasons why people would still choose to stay in their disaster-prone neighborhoods emanates from their high sense of place attachment. In the study, Purok 3, Lalakay and Purok 5, Bambang show a strong place attachment. This strong place attachment is rooted in the collective spatial experiences, memories and place meanings created by the residents. The housing and land ownership issues and threat of relocation due to landslide risk are part of their collective spatial experiences. These experiences coupled with deep history manifested in their length of stay in the neighborhood and the social relationships that they have (family bond) and have built (friend and community bond) are part of their memories of the place. Thus, leaving their neighborhoods seems unbearable and unthinkable despite their places being at risk. In turn, these experiences, memories and bonds react as driving forces for them to have a positive environmental behavior and collectively participate in community activities. Going beyond the physical aspect, one can then ponder that being attached to a place comes fundamentally from social ties and sense of belongingness. This social aspect of place poses pragmatic uses for decision-makers and stakeholders particularly for disaster risk reduction initiatives. In these initiatives, collective civic involvement is an important recipe to achieve safe, adaptive and disaster resilient communities. This civic involvement, however, is correlated with neighborhood or social ties [9] which are actually translations of individual place attachments formed from shared experiences and meanings.

References

- [1] G. Roberson & R. Wilkie. "Sense of Place" in *Encyclopedia of Geography*, 1st ed. B Warf, Ed. London and California: Sage Publications, 2010, pp. 2532-2534.

- [2] M. Najafi & M.K.B.M. Shariff. (2011). "The Concept of Place and Sense of Place in Architectural Studies." *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, [On-line]. 5 (8), Available: <http://waset.org/publications/14034/the-concept-of-place-and-sense-of-place-in-architectural-studies> [June 2, 2017].
- [3] H. Hashemnezhad, A. A. Heidari, & P. M. Hossein. (2013). "Sense of Place and Place Attachment: A Comparative Study". *International Journal Architecture and Urban Development*, [On-line]. 3 (1), Available http://ijaud.srbiau.ac.ir/article_581_a90b5ac919ddc57e6743d8ce32d19741.pdf [June 2, 2017].
- [4] K.L. Wolf, S. Krueger, & K. Flora. "Place Attachment and Meaning - A Literature Review." Internet: www.greenhealth.washington.edu, 2014 [July 5, 2017].
- [5] N. Bailey, A. Kearns, and M. Livingston, (2012) "Place attachment in deprived neighborhoods: The impacts of population turnover and social mix." *Housing Studies*. [On-line]. 27 (2) pp. 208-231. Available: <http://eprints.gla.ac.uk/56263/> [June 29, 2017]
- [6] N. Mihaylov, & D. D. Perkins. "Community Place Attachment and its Role in Social Capital Development in Response to Environmental Disruption" in *Place Attachment: Advances in Theory, Methods and Research*, 1st ed., L. Manzo & P. Devine-Wright, Ed. New York: Routledge, 2014, pp. 61-74.
- [7] L. Scannel, & R. Gifford. (2010, Mar.). "Defining place attachment: A tripartite organizing framework." *Journal of Environmental Psychology*. [On-line]. 30 (1), pp 1-10. Available: [doi:10.1016/j.jenvp.2009.09.006](https://doi.org/10.1016/j.jenvp.2009.09.006). [August 27, 2017].
- [8] R. Walker. "An Alternative Construction of Identity: A Study of Place-based Identity and Its Implications." *American Communication Journal*. 9:3, pp 1-17, 2007.
- [9] Lewicka, Maria. (2005). Ways to make people active: The role of place attachment, cultural capital, and neighborhood ties. *Journal of Environmental Psychology* 25: 381–395. 2005.
- [10] E. Sajor, B. Resurreccion, & S.F.A. Macagba. "Generating vulnerability to floods: Poor urban migrants and the state in Metro Manila, Philippines" in *Living with Floods in a Mobile Southeast Asia*. 1st ed. C. Middleton, R. Elmhirst, and S. Chantavanich. Oxon and New York: Routledge, 2018, pp. 105-126.
- [11] FDA. (2012) Enumeration of urban poor households along riverways. Unpublished Data Report. Foundation for Development Alternatives, Manila.
- [12] Republic Act 10121. Internet: http://www.ndrrmc.gov.ph/attachments/article/45/Republic_Act_10121.pdf , July 27, 2009. [August 8,

2017].

- [13] Republic Act 7279. Urban Development and Housing Act of 1992. Internet: http://www.nha.gov.ph/about_us/2015-pdf/RA7279.pdf, 1992, March 24, 1992. [August 8, 2017].
- [14] K.J. Kiecolt & J.M. Nigg. "Mobility and perceptions of a hazardous environment." *Environment and Behavior*, vol 14, 131-154, Mar. 1982.
- [15] S.M. Low, & I. Altman. "Place Attachment." in *Place Attachment. Human Behavior and Environment (Advances in Theory and Research)*, 1st ed., vol. 12. I. Altman, S.M. Low, Ed. Boston MA: Springer, 1992, pp. 1-12.
- [16] M. Lewicka. 2011. "Place attachment: How far have we come in the last 40 years?" *Journal of Environmental Psychology*. [On-line]. 31 (3): 207–230. Available: doi:10.1016/j.jenvp.2010.10.001 [March 4, 2018].
- [17] S.E. Jelley. "A study of place attachment." MA thesis, University of Wollongong. Australia, 2013.
- [18] M.Y. Li. "Place Attachment in University Students: Social Antecedents and Academic Motivations." MA thesis, University of Pittsburgh. USA, 2008.
- [19] R.G. Jones. *Psychology of Sustainability: An Applied Perspective*. Routledge, 20015 84-164.
- [20] C. M. Raymond, G. Brown & D. Weber. (2010, Dec.) "The Measurement of Place Attachment: Personal, Community, and Environmental Connections." *Journal of Environmental Psychology*. [On-line] 30 (4), pp. 422-434. Available: <https://www.sciencedirect.com/science/article/pii/S0272494410000794> [April 30, 2017].
- [21] C.E. Anton and C. Lawrence (2014, Dec.) "Home is where the heart is: The effect of place of residence on place attachment and community participation." *Journal of Environmental Psychology*. [On-line] 40, pp 451-461. Available: <http://dx.doi.org/10.1016/j.jenvp.2014.10.007> [May 25, 2017].
- [22] S.D. Arifwidodo & O. Chandrasiri (2013, Oct.) "The relationship between housing tenure, sense of place and environmental management practices: A case study of two private land rental communities in Bangkok, Thailand." *Sustainable Cities and Society*. [On-line] 8, pp. 16-23. Available: <https://doi.org/10.1016/j.scs.2012.11.003> [June 16, 2017].
- [23] R.C. Stedman. "Is It Really Just a Social Construction?: The Contribution of the Physical Environment to Sense of Place." *Society and Natural Resources*, vol. 16, pp. 671–685. 2003.
- [24] G. Kyle & G. Chick. "The Social Construction of a Sense of Place." *Leisure Sciences: An Interdisciplinary Journal*, vol. 29, pp. 209-225, Apr. 2007.

[25] C.M. Raymond, G. Brown, G.M. Robinson. "The influence of place attachment, and moral and normative concerns on the conservation of native vegetation: A test of two behavioural models." *Journal of Environmental Psychology*, vol 31, pp 323-335, Dec 2011.

[26] Kyle, G., A. Graefe, and R. Manning. "Testing the dimensionality of place attachment in recreational settings." *Environment and Behavior*, vol. 37, pp. 153–177. Mar. 2005.

[27] Proclamation No. 550, Series 2004. Internet:

<http://www.officialgazette.gov.ph/2004/02/17/proclamation-no-550-s-2004/>, Feb. 17, 2004. [Jan. 13, 2018].