World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(REVIEW ARTICLE)

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Geographical distinctiveness: The structural identity of stilt houses

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World Journal of Advanced Research and Reviews, 2024, 24(02), 2663–2675

Publication history: Received on 20 October 2024; revised on 26 November 2024; accepted on 29 November 2024

Article DOI: https://doi.org/10.30574/wjarr.2024.24.2.3638

Abstract

The study looked into the relevance of structural identity of the stilt houses and its cultural heritage as a community in order to put in place the proper perspective to distinguish the geographical distinctiveness of the stilt houses so unique among the dwellers of San Agustin in Candaba, Pampanga, and to bring to light its own developing structural distinction. Utilizing the qualitative narratological approach, an approach in qualitative research which described the meaning of a lived experience of identified individuals, where the purpose is to describe the commonalities of the experiences of the community people in barangay San Agustin in terms of the structural identity of stilt houses as they faced challenges due to the threat of too much flooding in their present geographical location. The structural identity of the stilt houses was described by the informants in terms of the age of the house built, amount used in building the house, and its architectural designs. Likewise, the factors that nurtured the geographical distinctiveness of the dwellers as participants were identified to develop a written contemporary development of barangay San Agustin. The San Agustin dwellers are traditional people who have strong faith to their Patron Saint "San Agustin", yearly celebrating "Fiestang Tubig". The type of house they built made them feel flexible to accept the benefit of flooding instead of being fearful of the coming weather condition; they looked into it as blessing. The life of the people in San Agustin is heavily dependent in heavy rain and agriculture like farming and fisheries. The people residing in Stilt Houses have a simple life.

Keywords: Stilt Houses; Structural Heritage; Structural Identity; Geographical Distinctiveness; Barangay San Agustin; Flood Prone Municipality

1. Introduction

Flooding has become a serious environmental problem that the Philippines is facing. According to an article on Time Magazine (2013) "the Philippines is the most exposed country in the world to tropical storms". The devastating effects are seen on the physical and human damages they produced that affect the lives of thousands of people and their resources. People living in a geographical location which is commonly affected by flooding are being confronted and challenged in terms of their resiliency to move forward after a disaster.

San Agustin a low-lying barangay in Candaba province of Pampanga usually flooded during wet season from August to November floods reaches up to 10-15 feet high that lasts 1 to 2 months before it subsides. Businesses, livelihood and education of pupils and students are affected. Living in this community is a huge challenge for its residents. Flood may occur several times in a year depending on the monsoon season and gravity of its rain. Residents of this barangay need to cope with the challenge given by their geography. Stilt houses are their response to this geographic challenge.

Decision regarding housing facilities is a priority concern among affected families. It is innate for people as unique human beings with peculiar needs to live and survive in a changing environment to prepare their houses against natural disasters. Most of the residents choose to stay in inundated area, find shelter and security from the support and help of the neighbors because they live in the place since birth and are used to the perennial problems of flooding and other

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storm effects. The stilt house is their fortress against outside forces trying to destroy what they have built. The stilt house, therefore, should be stable enough to accommodate and take care of the family members especially when disasters strike.

Although stilt houses are no longer peculiar in our country, but in San Agustin these types of houses made them feel strong and capable above all natural calamities and other disastrous events bestowed upon them. These are houses with raised structures that are commonly built above water. These structures normally stood about 10-12 feet off the ground to allow water flow when high tide or flooding comes. This design works to avoid water damage and provides other purposes. In the past or even in the present, stilt houses are created from bamboo and other water-resistant timber most specially the stilts that serve as the house foundation.

Stilt houses are also commonly found around the globe. "Kelong" is known in Indonesia and Singapore and neighboring countries which is a house built for fishing as well as an offshore housing. Papa New Guinea has stilt house similar to Philippines traditional nipa hut better known as Bahay Kubo. Thailand also has stilt houses that are usually built above fresh water. "Palafito" is common on the river valleys of South America. United States Gulf Coast is also utilizing the usefulness of stilt houses from the threats of hurricanes.

Bahay Kubo is a typical form of stilt house less its height. Kubo is a simple traditional house of Filipinos. It provides ample comfort and security for its dwellers. Local house builders provide their expertise to create a house suitable to the needs and capacity of the owner. Vernacular construction materials are utilized in building these houses.

Various Filipino houses are structurally related. Badjao have their houseboats which they use for fishing. Floating homes with strong platforms and its ends have kitchen utensils, fish and fishing equipment. In Agusan and Misamis Oriental, Higaonon have their tree houses which are high and made up of local light materials such as bamboos and rattans. Ivatan of Batanes build their houses which primary function is to protect them against typhoons. The Mandaya house in Davao Oriental has elevated floor line. Ifugao houses are constructed in clusters of 20-30 houses. They have a square floor and typically windowless. These houses are elevated up to four feet from its post wIth cylindrical wooden rat-guards.

These Filipino houses have common characteristics to meet the needs of its dwellers as well as harnessing the available materials within the community. The stilt houses manifest a spirit of Filipino resilience. Most prominently, these stilt houses can be found in the municipality of Candaba, Pampanga specifically in Barangay San Agustin.

San Agustin can be considered as one of the most resilient baranggays in the region. This can be justified by their willingness to stay in that area even they know from a fact that flood comes when the rain starts to pour during rainy season. Their resilience may be said to be evident on their tall houses that majority of the dwellings rise to 10-15 feet high. These stilt houses can fascinate an observer. Another amusement on their dwellings is their parking space. Instead of wheeled-vehicles, there are boats park and seem like waiting for the flood waters to come.

The stilt houses of San Agustin is a distinguished feature of the barangay. These houses represent their endurance to survive from the wrath brought by unconditional and unpredictable flooding. The structural development of these houses, its building process, parts, age of the building, and other significant features were described in this study.

Furthermore, vernacular architecture is one of the key ideas that were considered in this study. This explained every detail in these tall houses and its importance to the people and community. It tried dissecting the information behind each part of the house as well as the totality of change that happened and looked into the process that took part in changing the identity of the community as far as their dwellings is concern.

Malaquiais (1994) wrote in an essay, that *"you are what you build",* where he emphasized that *"human being and their dwellings are linked in a symbiotic relationship".* This can simply mean that people tend to be sentimental in their houses and eventually called it home, as the saying says "*there's no place like home*". Filipinos are sentimental people. From this idea, they tend to stay in their houses and home even it is not safe but rather stay and do something to mitigate the risk and make it suitable for their families' safety and comfort.

The economy of the informants was also taken into consideration by understanding their means of livelihood, their capacity to deal with adversity, withstand challenges and transcend their vulnerability. As part of the study, the researcher compared and analyzed their resilience given by their economic status. For this matter, the researcher looked for the significance of the structural identity of stilt houses to the social life of its dwellers. Our government has always committed themselves in supporting each and every Filipino citizen. This study tried to assess from the

respondent's perspective the extent of the governments' assistance to those people who are exposed to natural calamity and challenges.

In general, this research paper aimed to describe the geographical distinctiveness in the face of the structural identity of "stilt houses" of Barangay San Agustin. Specifically the study focused on the description of the lived experiences of barangay people about the design of the "stilt houses". The output of the study aspires to write a contemporary development about these stilt houses of San Agustin as part of its contribution to the community.

2. Foreshadowed Problem

The general problem of this narratological study is: "How may the geographical distinctiveness through the structural identity of stilt houses in barangay San Agustin Canbada Pampanga is explored on the basis of the lived experiences of its residents?"

Specifically, the study sought answers to the following questions:

- What is the geography of barangay San Agustin in terms of geographical location and geography of flooding?
- How may the development of these stilt houses contribute to their capacity on dealing with flood in barangay San Agustin be described?
- How does the structural identity of stilt houses contribute to the geographic distinctiveness of barangay San Agustin?
- What are the factors that nurtured the geographical distinctiveness of San Agustin as a community?
- What contemporary development of Barangay San Agustin can be written focusing on the structural identity of stilt houses as symbol of their geographical distinctiveness?

3. Methodology

3.1. Stilt houses: a preparation for flood

The history and culture of the Philippines are reflected in its architectural heritage. It can be found on people dwellings, even on religious structures such as churches and mosques, and in other buildings answer to the demands of progress and the ambitions of people (NOCHE, 2015).

Building a house is a common goal of every individual family. Shelter is a necessity of an individual. In building a house, there are so many considerations to be made. Houses built today have so many influences from different cultures both foreign and local. Materials used change drastically because of it source and application of modern technology.

Geography and climatic conditions are additional factors considered in building a house. Considering the environment is a great future plan for the house owner and dwellers especially during this time that the world is changing right in front of our eyes. Climate change is real and it is a huge deal in planning and developing our dream house.

The stilt houses are common structural design of houses in the Philippines and technically defined as Bahay Kubo. It is a simple yet practical design of traditional Filipino house. It has stilts for its height above ground and utilizes its underneath for other livelihood purposes. Bahay Kubo has not been spared to change and innovations from its builders. Designs are improved to meet the demand of the dweller and materials are changed to strengthen its foundation and structure.

3.2. Stilt Houses of San Agustin

Towering in the land of the barangay is so obvious at the distant, noticeably high if you see it from the main road. It is an amazement to observe such scenery of a village standing tall in a low lying land. San Agustin is a village besides the famous Candaba Swamp, the catch basin of rain water from its neighboring communities/municipalities. Flooding is a perennial event in the village, which is the reason behind the towering houses. The community tries to out-high the flood waters to be safe and avoid leaving their house and life in the community toward evacuation area.

The structural design of these houses is a result of the ingenuity of its residents. It is their local adaptation on the geographical adversity of flood. The challenge, adjustment, preparation and their mitigation because of flooding are now evident in their dwellings.

Figure 1 Towering stilt houses of San Agustin viewed from the main road towards the municipality (photographed by the researcher 2016)

Figure 1 Stilt houses of San Agustin slightly submerge to floodwaters

A folk story says that before the village was established, it was settled by *"balsa".* Lola Carmen said, "My father told me that, his father has a story when they were young, that the village was settled by houses on raft which did travel from here up to Manila traversing Pampanga River for trade, because this area during that time was flooded and underwater for almost a whole year."

The folk story lived in the villagers but the *balsa* transformed into stilt houses. The travel was omitted and replaced with settling. The local dwellings in the barrio had gone to evolutionary process thru time and experience. Their houses change depending on their needs and capacity in life. Most of the houses are restructured and reinforced to deal with the adversity of perennial floodings.

Nowadays, the villagers are so much adapted to flooding; their houses are higher and stronger. They build their house the same manner their ancestor did. They try to out-high the flood waters but never tried to leave the village. Their houses are their sanctuary during flood seasons. The houses in the village had drastic and fast-pacing make over; the houses on stilts that are usually made from bamboo and wood are transformed from stilts made from concrete and steel to avoid being washed out with flood waters. Many of these village houses had evolved and adapted to perennial torrent. They are made with stronger construction materials that can withstand raging flood water and last longer than bamboo or wood.

Tall designs of common houses are evident then and now. They constructed their house above expected flood level. Now is comparably higher than then, an indication of rising water level or broadening adapting knowledge of the villagers and builders. The usual construction materials for the foundations then were wood and bamboo that changed to concrete and steel to reinforce its stability for the raging flood waters. This is to avoid the reoccurrence of history when sometime more or less 50 houses had been washed out, leaving many families homeless.

According to Mang Andres, there was a time when flood occurred; he usually disassembled their house removing the wall as the flood came to avoid being washed out. Since then, he built his house suitable and stable even how big the flood waters will be. His house until today is a progress in the making. Presently, there are still houses in Purok 4 Little Baguio that are not yet improved, just like the neighbors of Mang Andres whose houses are made up of light materials and evidently vulnerable to floods.

Majority of the old houses of the informants were built from the 80's and early 90's with prices ranging from fifty (50) thousand pesos. They said that then construction materials are way cheaper than today. Houses then were made from light materials such as bamboo and woods used for the foundations, *sawali* (knitted bamboo strips), plywood and *lawanit* for the walls, bamboo strips for the flooring, nipa, pawid, and cogon for the roofing and others had used galvanized roofing which cost a bit higher but more durable.

Figure 2 An example of a house made from light materials and yet still surviving the flood

Labor cost was so minimal then because *bayanihan* was practiced among the villager. According to majority of the respondents, almost all of the laborers who built their house were free of charge, usually kin and family members are the usual workers to build the house. In cases that they are not family, they are still free of charge and don't have any compensation at all. The locals call this *"batares".* The usual compensation is food and snacks during working hours, and later concluded a day of work by an *"inuman"* or a drinking session.

Is house today in San Agustin different from before? Most of the houses of the interviewees are a work in progress; the dwellers prioritized reinforcing foundations and the height of their houses. Construction of these houses commonly started from 2000's and 2010's. Majority are not fully finished yet and waiting for additional construction budget to continue and be finished according to the residents themselves. Materials used in constructing the houses today are strong and durable construction materials such as gravel, cement and steel for the concrete foundations, hollow blocks, cement, gravel and steel for the walls, concrete slabs and steel for the floor, and galvanized roofing for majority of the middle class houses. In addition with these material are prefabs, ceramic tiles, stainless steel, glass windows and other finishing materials are utilized on upper class houses or to those who can afford these materials. However, if you inspect the houses thoroughly, you will see the mixtures of old and new construction for most of the houses of the interviewee.

Most of the houses visited and observed by the researcher are assessed as half-finished because preponderance is not built in completion. Many are concrete houses with bamboo flooring. There are houses with concrete foundations but the majority of the house are made from wood. Some houses have concrete flooring but have unfinished interiors. Moreover to these observations, the houses in the village have humongous floor area that serves as their safe place for their belongings that can be destroyed by the flood waters.

Building house higher than the flood water became the first concern of the residents on their building plans. Flood had become a huge factor on the structural design of the house of the residents of San Agustin. These stilt houses showed long-term adaptation and geographical resilience of the residents of San Agustin to the adversity and challenges anchored to perennial flooding in the village.

These changes on stilt houses of San Agustin discussed are guided by the concepts of vernacular architecture. Vernacular architecture has five principal features (Lico 2008) these are: First feature, the builders, could be artisans or buildings owners who are nonprofessional architect engineers; most of the builders in San Agustin are now old or deceased especially those old houses. The builders of stilt houses are not professional and usually kin of the house owner. One of the famous house builders was Mang Ramon Lalu. He said that he built most of the big houses in the community and this was attested by the house owner like Aling Nida Sagum and Nanay Nita Rivera. According to Mang Ramon, the biggest challenge in building tall houses is the foundation.

He usually surveys the land and asks the owner about their future plans in the house. He makes sure that the foundation is suitable to more improvement in the future. As an experienced builder, he said that almost one third of the material cost was expended on the foundation alone of the stilt house to ensure its stability and durability and to cater more improvements for the future.

Second feature, there is a consonant adaptation, using natural materials, to the geographical environment; Stilt house is a proof of the adaptability and resilience on the geographical environment of the residents of San Agustin. Old houses used natural materials such as bamboos and cogons that are present in the community for some time but as time passed and age has come, innovations on construction materials took place and consonant adaptation to flood augmented thru time where concrete foundations replace the bamboo and wooden foundations to endure the challenge of its geographical environment.

Third feature is the actual process of construction. It initiates intuitive thinking. Buildings are done without the use of blueprints. And it is open to later modifications; Stilt houses are built to withstand the water level higher than two standing men. As Mang Ramon said, one third of the material cost suits the construction of the foundations in preparation for more improvements and modifications. Every house owner is subjected to think about their future plans for their houses before the construction starts for the worker to have an idea which part of the foundation will be reinforced to cater their future plans.

Fourth feature, there is a balance between social/economic functionality and aesthetic features; in regards with aesthetic features, some houses had sacrificed its architectural beauty to meet the demands of social/economic functionality. These high rise houses have idle first floor that usually serves as park area for their boats, the most important function of stilt houses. Those houses that built stronger and safer become an evacuation center for those residents that are less fortunate and their houses are not safe and stable during typhoons and floods.

And the fifth feature is architectural patterns and styles. These are subject to an extend evolution of heritage styles identified to an ethnic domain. In this feature, stilt houses are houses built in the village with just one architectural pattern, to out-high the flood waters. The residents of San Agustin had endured the perennial flooding and they adapted their way of life to it by building tall houses and acquiring boats for fishing and transportation flood season. The village is now known as a fishing village of the municipality, and the San Agustinian people celebrate flood in honor of their patron saint Apong Gustin. They celebrate "*fiestang danum",* festival of waters.

3.3. Living in Stilt Houses

Living high above ground is not ordinary for most. In San Agustin, almost every household lives in this scenario. Houses in this barangay are obviously high above ground due to their geographic condition. Majority of the houses in this barangay has a high rise structure, especially those stilt houses of the community. Stilt houses are houses built 10-12 feet above ground through high foundations leaving the lower part idle. This idle part may serve as boat parking, work area, and a common place for family in dry seasons.

The prime purpose of these stilts is to avoid flood waters and continue to dwell in the community even in times of flooding instead of evacuating to a safer ground. These stilt houses provide security and capacity to endure the adversity of this geographic condition.

Building house safe on flood level became the first concern of the residents on their building plans. Flood had become a huge factor on the structural design of the house of the residents of San Agustin. We may find the distinction of these stilt houses in San Agustin by taking a look in the following characteristics which may present something about these peculiar dwellings.

Age of the House. Majority of the old houses of the informants were built from the 80's and early 90's with prices ranging from fifty (50) thousand pesos. They said that then construction materials were way cheaper than today. Houses then were made from light materials such as bamboo and woods used for the foundations, sawali (knitted bamboo strips), plywood and lawanit for the walls, bamboo strips for the flooring, nipa, pawid, and cogon for the roofing and others had used galvanized roofing which cost more but more durable.

Nowadays, most of these old houses are reconstructed and replaced with new ones. Majority of the new houses were built less than a decade and for others is a decade or two. The construction cost ranges from 100 thousand up to almost a million pesos depending on the materials used. Materials used in constructing these houses today are strong and durable construction materials such as gravel, cement and steel for the concrete foundations, hollow blocks, cement, gravel and steel for the walls, concrete slabs and steel for the floor, and galvanized roofing for majority of the middle class houses. In addition with these materials are prefabs, ceramic tiles, stainless steel, glass windows and other finishing materials which are utilized on upper class houses or those can afford these materials. However, if you inspect the houses thoroughly you will see the mixtures of old and new construction for most of the houses of the interviewee.

Cost of Building the Stilt Houses. The building cost for their old house is much way cheaper than the new ones. The construction cost before ranged only from 5 thousand up to 50 thousand pesos only. Informants explained that the low building cost before was due to the low cost of the building materials and the cheap or free labour cost then. While for the new houses, most of the informants spent 150K to 400K pesos for their houses or more depending of the structural design of the house including the choice of building materials. This would mean that most of the informants living in stilt houses can afford to spend much money as needed for the benefits and safety of their whole family.

Architectural Designs of Stilt Houses. Cement, hollow blocks, bamboo, woods, and steel are the materials used in building these stilt houses. Majority of the informants believed that these are the types of materials that are very much useful and readily available for them to build their houses on stilts. Making their houses tall and strong using concrete, stone, steel, hollow blocks makes them confident that they are safe from flooding during wet or rainy seasons.

Most stilt houses in San Agustin had reconstruction and had been mitigated to endure flooding. Most of the stilts of their houses foundations are now made up of steel, concrete and cement to provide stability and strength against raging flood water during wet seasons.

Stilt houses are mainly just a typical house less the height. Majority of these houses have rectangular flooring and most of its important parts are elevated as well. The comfort room and the kitchen are leveled with the floor area. These houses also have ample elevated area that can serve as storage place. Stairs is the most important part of the house that can't be disregarded. Most of the houses of the informants have more than ten steps on their stairs. These stairs help the dwellers of the stilt houses to stay grounded even their houses are high rise.

Most of the houses visited and observed by the researcher assessed as half- finished because preponderance was not built in completion. Many are concrete houses with bamboo flooring. There are houses with concrete foundations but the majority of the house is made from wood. Some houses have concrete flooring but have unfinished interiors. Moreover to these observations, the houses in the village have humongous floor area which serves as their safe place for their belongings that can be destroyed by the flood waters.

The structural distinction of stilt houses of San Agustin discussed with the concepts of vernacular architecture. One major factor is *the builders*, whether artisans or non-professional architect engineers are the usual builders in San Agustin. Most of them are now old or deceased already especially for those old houses. The builders of these stilt houses are not professional and usually kin of the house owner. One of the famous house builders was Mang Ramon Lalu. He said that he built most of the big houses in the community. According to Mang Ramon, the biggest challenge in building these stilt houses is the foundation.

Most of the houses that Mang Ramon built were huge modern houses that are their structural design and are considerably far more distinct than the stilt houses. Modern construction materials and modern style were adapted by these families because they can afford it. These houses are capacitated to withstand and up high flooding in a major way. These houses according to its owners are offered as evacuation centers for those villagers in need during floods.

3.4. Building then shows the materials used (1994)

The picture shows the modest way of building a house then. It was mainly made from woods specifically its foundation and structure but height is evident. The house was so simple and its materials. It looked like that the house even finished would not be safe from floods. But just like any other aspect of our society, change is inevitable on how they construct their dwellings in San Agustin. Their perspective has been shaped as time passed and experienced adversity brought by flooding.

Most of the informants said that they are used to live in such houses, and these houses helped them to cope with the perennial flooding in their community. They also felt much safer because of the height of their houses, and they can also help others because of their tall houses.

Further analysis of the results would mean that the informants are very much aware of the effects of typhoon and flooding on their place. Thus, they make sure that they are prepared all the time, so, that can ensure a totally free and safe living.

4. Results and discussions

The primary objective of this study is to expound the idea of stilt houses in San Agustin and introduce it to the academe community as a distinct attribute to the village. This starts the writing of local community contemporary history for the development of its future reference for researchers, students, teachers, and other who might be interested.

4.1. Summary of Findings

The history of Candaba shows the richness of the cultures among Kapampangans. The artifacts exist on the trading economy and the society. The pre-Hispanic and Hispanic era is noticeable in the building design. The old map shows the location of the Barangay San Augustin and Candaba location in Pampanga province. The major sources of living among Candabaueños in San Agustin are fisheries and agriculture. People utilize the Candaba Swamp and rice field all year rounds. The livestock business is also increasing like ducks, pigs and chickens.

Fisher folks of San Agustin are ready and enthusiastic for the water level to rise. This gives them great economic opportunity compared to dry season. During flood, the people catch tilapia, dalag/bulig, carp, eel, hito, gourami, rohu, silver fish and shell fish. Shrimp and crabs are also abundance where the villagers take advantage with exotic foods like dagang bukid, kamaru, and palakang bukid.

The resident profile resides in stilt houses. The people residing in stilt houses have a simple life. Most of the male occupation is fishing and others are agricultural. Most of the females are housewives who serve as home steward.

Pampanga is flood prone area specially Candaba because of being low-laying area. Community is very resilient in preparedness and adopting the different situation and challenges whether ecological or geographical intervention. The houses are the main features of this research. Houses are high to be safe in flood. It's made of light materials such as wood and bamboo. These make it durable and safe to flood. As times passed by, the houses evolved and adapted to the perennial flooding. Those light materials are now replaced with concrete and cement together with other durable and dependable construction materials to withstand the adversity of flood and in order for the dwellers to avoid evacuating their homes.

The thought that everything is good and easy if the family stays intact and together to whatever life must offer relates the idea of close-family ties of Filipinos. Families are expected to be the first to help in tough times and share everything even it is not ample for everyone. Family is life. "Family first", one of the respondents said. Community composes of neighbors has a strong tied relationship. Each of them cares for each other. They are united during rough times. Friend and neighbors serve as second family that respond during evacuation. The livelihood of the people inside the community are fishing and farming. Nowadays, the transformation of villagers happening is brought by modern technology. The local "*pesantes"* are obliged to leave the community to seek job in other places due to limited labor needed in the farmland because of the new machineries utilized by the land owners. The local government program for flood are prioritizing the monitoring level of flood and assisting the villager who urgently needed to evacuate.

The San Agustin's stilt house has distinct characteristic compare to other community. Houses that are built on stilts and dwellers are more comfortable if their houses are higher most likely during floods. It is well-known in famous delicacy, friendly community, simple and safe house in time of flood water compare to ordinary house. Community has strong volunteerism, and helps each other in time of disaster. The community unique celebration adds on their characteristic where they pray for flood.

4.2. Highlights of the Findings

4.2.1. What is the geography of barangay San Agustin in terms of geographic location and geography of flooding?

The emerging themes suggest that the geographical resiliency of barangay San Agustin can be mirrored with the building of stilt houses which started as early as 1980s to 1990's or as needed even up to the present time. The Stilt houses served as the safety nests among its residents during flooding which is very rampant in the barangay. The construction of houses is less expensive because it was made from light materials such as bamboo and woods used for the foundations, sawali (knitted bamboo strips), plywood and lawanit for the walls, bamboo strips for the flooring, nipa, pawid, and cogon for the roofing and others had used galvanized roofing which cost much more but more durable. The stilt houses are built for the soul purpose of protecting them from the wrath of flooding which most of the time occurs during their least expected moments.

4.2.2. How may the evolution of the houses towards resiliency capacity-building in barangay San Agustin be described?

There are three main themes that emerged from the responses of the participants. These include, "living in stilt houses made them always ready for flood", "life for them is simple", and "flooding for them is just part of their ordinary life." In general, the stilt house of the town folks serves as the major protecting shield of the residents. Majority of them become tough enough and adaptable to believe that it serves as the only safe place for them during wet or rainy season. Most of them are also confident for having this type of house where they can be safe from all the danger brought about by the wrath of the weather. Having these stilt houses made them comfortable to flooding instead of fearing it. They looked into it as blessing that made them capable of adjusting and adopting with life challenges.

4.2.3. How does the structural distinction of stilt houses contribute to the geographic resilience of barangay San Agustin?

The interview guide question showed the various responses of the participants on how they describe the structural distinction of their stilt houses which contribute a lot to the geographic resilience of their barangay. From the emerging themes which were developed out of the responses of the participants, the guide question does not directly ask the structural distinction of the stilt houses to avoid descrepancies and comparison among the residents. The themes that were gathered which aligned to the question included the, "House is strong and high enough for the flood," and "House renovation every time it is needed." This means the stilt houses which served as the safety dwelling among the residents because of its unique structural distinction of having tall appearance and strong materials that would make them safe from flood added a significant feature to the geographical resiliency of the barangay.

4.2.4. What are the factors that nurtured the geographical resilience of San Agustin community?

Based of the common themes that emerge from the responses of the respondents, the factors like the house on stilts, family, friends, neighbors, livelihood (work/jobs), as well as the local municipality are very helpful to develop the geographical resilience of the people living in San Agustin. The house on stilts according to them made them feel free from the danger of flooding and it also served as an evacuation place not only for them but also to some other families in nearby barangay. They all expressed the idea of close-family ties of us Filipino. They thought everything is good and easy if the family stays intact and together to whatever life has to offer. Families are expected to be the first to help in tough times and share everything even it is not ample for everyone. Family is life. More so, the people in San Agustin had aligned their lives in the flood; they had adapted their way of life to it. They made it one of their major sources of livelihood and benefit from it at the utmost they can. Their livelihood is affected by flood in different ways. For few, it is a hindrance for their chance to earn and to others it can be a propounding element that boosts their economy. But they all agreed on one thing, fisher folks and non-fisher folks, flood is important to their village. The Municipality of Candaba has its programs especially for flood, and San Agustin is one of the focus areas. They have the San Agustin barangay council own program for the villagers. There is a regular flood level monitoring for them to assess the village, and the villagers who urgently need to be evacuated. They also ready to help these families to transfer them to safety. Most of the respondents attested that the barangay council always do relief operations especially those indigent families.

4.2.5. What contemporary history of San Agustin focusing on the structural distinction of stilt houses as symbol of geographical resiliency can be written?

The researcher developed a direction for the contemporary development of barangay San Agustin derived from the findings of the study. As an offshoot of the study, the researcher outlined a proposed direction for a learning guide for contemporary development of the Stilt Houses of barangay San Agustin.

- The barangay of San Agustin is rich with survivors' beliefs that made them distinct among other dwellers of the different barangays in the province of Pampanga.
- Most of the dwellers of the barangay are people who are not well-educated but they have all the knowledge and understanding of how people must learn to adopt to survive with the challenge of life to live and survive.
- The Stilt Houses are one among the distinguishing qualities of how the dwellers managed to survive in the type of geographical residents they chose to live.
- The researcher through this research study has managed to name the houses made by the dwellers of barangay San Agustin. The Stilt Houses realistically described the kind of life the people of San Agustin have experienced during the time of wrath and life challenges naturally bestowed to them by their choice of geographical territory.

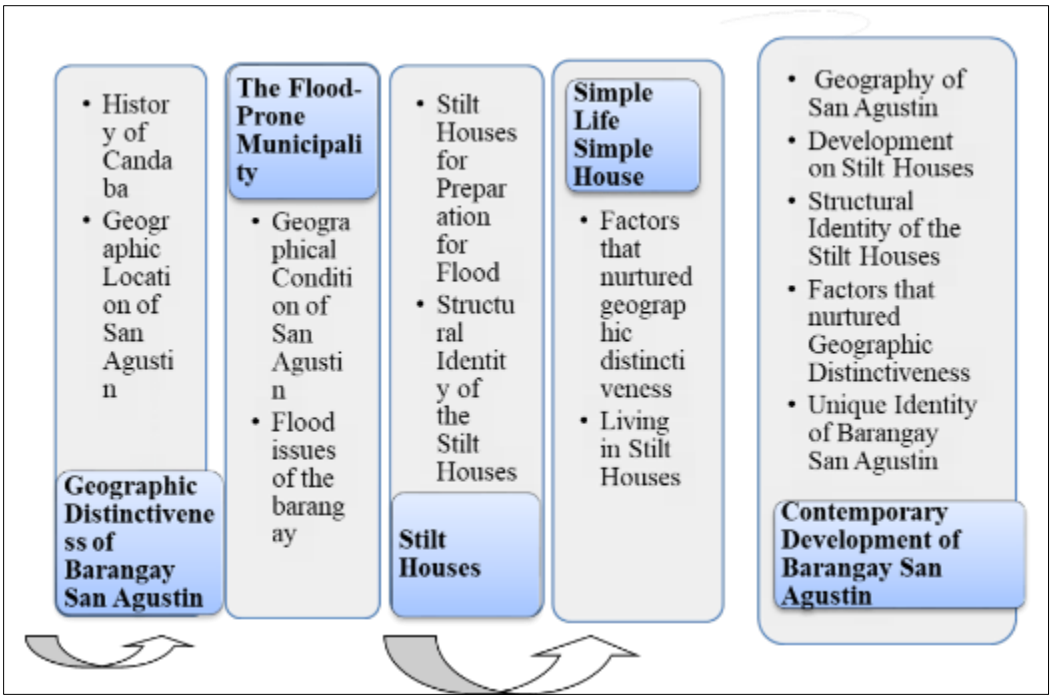

Figure 3 Summary of Thematic Analysis

4.3. Implications

This study showed the development of distinctiveness of barangay San Agustin from the structural identity of the stilt houses. The narratives of its residents are utilized to write its contemporary development discussing the issues of flood concerning the community. The geographical condition and the geography of flooding are taken into consideration to expound the community identity. Stilt houses are identified as the unique characteristic of the community providing distinctiveness for the barangay of San Agustin. Its residents cope and overcome the challenges of flooding thru these stilt houses.

5. Conclusion

In view of the foregoing findings, the following conclusions were drawn. The life of the people in San Agustin is heavily dependent in heavy rain and agriculture like farming and fisheries. The people residing in Stilt Houses have a simple life. Most of the male occupation is fishing and others are agricultural. Most of the females are housewives who serve as home steward. Pampanga is flood prone specially Candaba because of being low-laying area. The Pampanga River is the basin of nearby provinces. Community is resilient in preparedness and adopting the different situations and challenges whether ecological and geographical intervention. The houses are the main features of this research. Houses are high to be safe in flood and made from light materials such as wood and bamboo. This will make it durable and safe to flood.

The idea of close-family ties of Filipino associates the thought that everything is good and easy if the family stays intact and together to whatever life must offer. Families are expected to be the first to help in tough times and share everything even it is not ample for everyone. Family is life. “Family first”, one of the respondents said. Community composes of neighbors have a friendly relationship. Each of them cares for each other. They are united during rough times. Friends and neighbors serve as second family that respond during evacuation. The occupations of San Augustine community are fishermen and farmers. Nowadays, the transformation of villagers happens and brought by modern technology. This will serve as threat to community since they are highly dependent on the agriculture and fishery. Because of the flood problem in San Agustin, the government devices a flood program that monitors, assists and evacuates the people in case of urgency. This program will lessen the casualties in times of flood. The Stilt House of San Agustin has a unique characteristic among other community. During time of flood, people still exercise *bayanihan* without compensation or something in return.

Recommendations

Considering the findings and conclusion of the study from the words of the inhabitants, in consideration of the predicaments of the residents in San Agustin, the following recommendations were drawn:

- People should look for other source of income in case their livelihood is very much affected by natural disasters. As the technology changes the people's life, the citizen must look for other alternatives.
- Inhabitants must continue the development of new house designs that will cater to the needs of the flood-prone communities.
- The residents themselves must initiate in proposing a name or distinct colloquial term for the stilt houses of San Agustin that may be used to identify its distinction from other like structures.
- The government should provide alternative means of livelihood to affected residents.
- The local officials may introduce livelihood program to the community, to give alternative source of income for them and their family.
- Write the evolution of the stilt houses down to the contemporary development of houses

Compliance with ethical standards

Disclosure of conflicts of interest

I declare that I have no conflicts of interest, financial or otherwise, that could compromise the objectivity or integrity of this research. I have not received any funding or other support from any organization or individual that could influence the results or conclusions of this study.

I have no personal or professional relationships with any individuals or organizations that could potentially bias the research. All data and analyses have been conducted independently and objectively.

I am committed to adhering to the highest ethical standards in research, and I have disclosed all potential conflicts of interest to ensure transparency and accountability.

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