Itawit Architecture: An Emic Approach

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Abstract. This study presents and defines Itawit Architecture as a distinct architectural practice still existing in various areas of Cagayan in the Northern Philippines. The data culled are from two distinct architectural practices in the province of Cagayan: the Middle Cagayan style and the Southern Cagayan style. This research includes elicited data from the respondents (building owners, carpenters, shamans, and elders) from the Middle Cagayan area being those of Piat, Tuao, Santo Niño, and Amulung, and the Southern Cagayan includes the towns of Iguig, Tuguegarao City, Solana, Enrile and Peñablanca. Coding, memoing (a.k.a. "theory building"), and other similar approach is undertaken to develop a good interpretation of the data being taken from the Itawit (individual or community); this combination of approaches, known as bricolage, was done by the Researcher as the "bricoleur." The bricoleur is an Itawit and an architect, hence being emic and authoritative in nature. Central with this documentation is the idea of sustainability as practiced by the locals, and the transferring of knowledge via oral tradition, apprenticeship, and others. This resulted in a comprehensive collection of terminology, visualizations, photographs, and other media showing their enduring building traditions an example of Sustainable Architecture of the ethnic group in the archipelago.

Keywords: Itawit, sustainable architecture, ethno-sustainability, indigenous-knowledge, grounded theory, comparative analysis.

Introduction

The Itawit is one of the cultural and ethnic communities of the Cagayan Valley. Anthropologically, they are the descendants of the Austronesians that populated the region as early as 3,500 BCE. Linguistically, Itawit is among the Ibanagic language family of Northern Luzon. (Bellwood, 2017; see also Keesing, 1962) To date, the Itawit settlements are identified south of Cagayan Province, specifically along the towns of Amulung, Enrile, Iguig, Peñablanca, Piat, Solana, Santo Niño, Tuao, and the city of Tuguegarao (Salgado, 2002) including the ones 130 kilometers away south from Tuguegarao City to

Echague, Isabela, which still practices their animistic beliefs. (Malumbres, 1918, p. 378; Manzolim & Quilang, 2016) In this paper, the endonym "Itawit" will be used.

Historically, Aduarte (Malumbres, 1918) generally described Cagayan Valley divided as Siguiran (North), Itaves (Western Cagayan/Eastern Cordillera), and the South. Malumbres (1918) also notes that the Itawit area is composed of the towns "Piat, Tuao, Malaueg, and Sta. Cruz de Gumpat" being Itawit-speaking including the great plain or valley of Pangul (Amulung). Salgado (2002:262) says they are originally seen living in the lands along the Chico River, in the towns of Tuao, Piat, and Tabang (now Santo Niño). Furthermore, the gradual settling of the Itawit can be observed southwards the Cagayan Province up to the town of Echague, Isabela in the late 19th-century. Early ethnographic studies and surveys have shown the peopling of these mentioned territories by either by tribute, actual population, or the language they actually speak. (Keesing, 1962; Malumbres, 1918) The earliest encounter of the Spaniards with this region was during the documentation believed to be by Morga in the Boxer Codex of 1590s and of the listing of encomiendas in 1591 (Blair & Robertson, 1903), where the place Lobo (which is along the estuary of now town of Sto. Niño) had a "hostile" population of 4,000 tributes or 16,000 people. Statistical data on the Itawit population can also be seen on the works of Malumbres (1918) and Keesing (1962). In another National Statistics Office (now the Philippine Statistics Authority) count, the total number of Itawit in the Philippines was 119,522 (where Tuguegarao had 23,916, Enrile 20,378, Peñablanca 17,087, Amulung 4,336, and Tuao 19,066, with the others being distributed in other Provinces of the nation). (National Commission for Culture and the Arts, 2022) The latest published ethnicity count is in the year 2010 where the Itawit totals 211,291 (108,189 for Male and 103,302 for Female). (National Statistics Office, 2010)

The first mentions on the Itawit settlement called "Lobo" (among others) was included in the listing of sites being considered to be *encomiendas* in Cagayan by Don Luis Dasmariñas. (Blair and Roberston, 1903) Later, the Itawit settlements afterwards became *reduccion* areas in 1604 forming three major "town centers": Piat, Tuao, and Tabang. As shown in the earliest contacts with the Itawit, particularly during the Spanish colonial period, the people have distinct characteristics among the ethnic groups in Cagayan Valley. The architecture of the Itawit shows signs in narrative and graphic form, which appeared in the 1600s and 1700s, this study asserts that their construction methods in domestic, animal, and agricultural structures are one of the long-standing building traditions in Cagayan and in the Philippines. The earliest accounts included the towns of Piat and Tuao as the richest indications of Itawit architecture making the Spanish colonial era one of the most important period not only in "civilizing" the area but also on the realm of documenting native cultures. The attempts in "civilizing" the Itawit is evident with the *reduccion* (resettlement) of the people and eventually into new towns or *pueblos*. Based on Spanish historical accounts, Keesing produced a map estimating the territorial boundaries of ethnic

groups in Northern Luzon and highlighted the reduccion towns and mission centers. Perhaps one of the most compelling citations Kessing (1962) included is the early Itawit dictionary and grammar book of Fr. Iniguez of the 17th century, that when discovered, will be one of the most important scholarly works to be looked upon in the future. Aside from accounts of local hamlets, the architecture of the locals (even of the Itawit) is not fully discussed in his work.

Building traditions in the Philippines have been documented by architects and other researches (Perez, Dacanay, & Encarnacion, 1989; Macalintal, 1994; Ignacio & Alejandrino, 2005; Klassen, 2010; Morales, 2013; Lico, 2021; Valera-Turalba, 2005) and it is not new that the Itawit architecture is documented but is rarely done by an Itawit architect (Nozaleda, 2020; Andal, 2018; Tabao, 2021). However, limitations on studies for the Itawit due to the absence or the inactivity of state-recognized "Mandatory Representatives" (IPMRs) and their ancestral domain as defined by Republic Act 8371 of the Philippines. In this case, Itawit architecture can be defined as the artistic expression and construction prowess as shown in their religious, residential, and agricultural structures based on their indigenous knowledge in their (1) rituals, (2) building materials, and (3) methodology in the construction of their structures. This study even presents Itawit architecture as a distinct architectural practice still existing in various areas of Cagayan in the Northern Philippines. The data culled are from two distinct architectural practices in the province of Cagayan: the Middle Cagayan style and the Southern Cagayan style.

While this documentation is solely on architectural practices, the results of this study can be a reference in the development and creation of policies to further protect the Itawit cultural expression in building traditions and of the language attached in it (See also United Nations, 2002; Hoffman, M., 2009; Soini, & Birkeland, 2014; Dessein, Soini, Fairclough, & Horlings, (eds) 2015; Leza, 2020). For example, the linguistic documentation further introduces "ethno-sustainability in architecture" as the ethnic or collective interpretation and manifestation of sustainable architecture by an ethnic group and can be a framework in vibrant and self-sustaining communities.

Materials and Methods

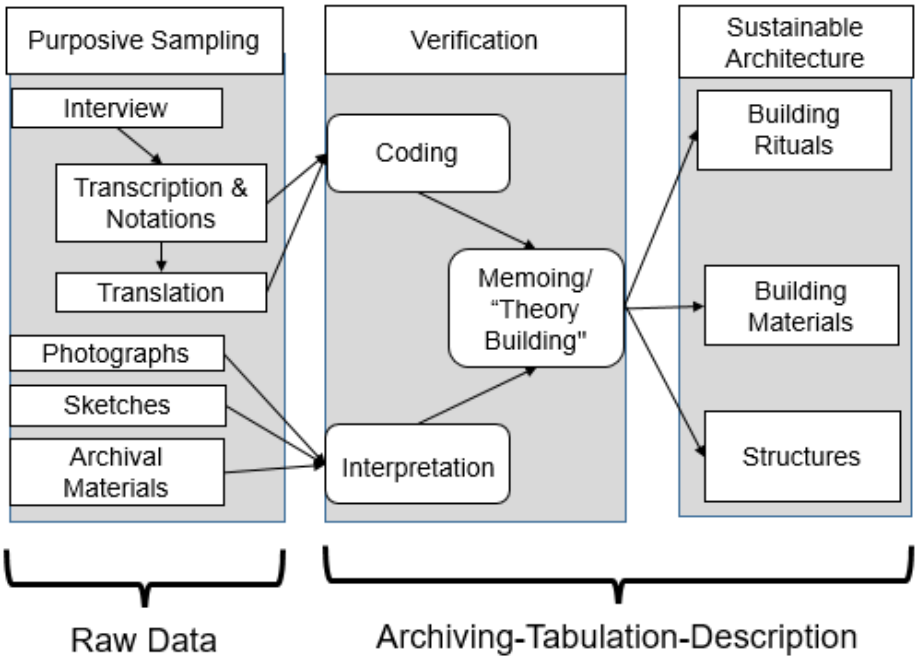
Elicitation has been made in this paper along two general regions as identified by Keesing (1962), that is the Middle Cagayan (MC) and Southern Cagayan (SC). Respondents (building owners, carpenters, shamans, and elders) from MC are from the towns Piat, Tuao, Santo Niño, and Amulung and SC along Iguig, Tuguegarao City, Solana, Enrile and Peñablanca. Coding, memoing (a.k.a. "theory building"), and other similar approach is undertaken to develop a good interpretation of the data being taken from the Itawit (individual or community); this combination of approaches, known as bricolage, was done

by the Researcher as the "bricoleur." The bricoleur is an Itawit and an architect, hence being emic and authoritative in nature.

Data taken was from archival documents and actual fieldwork. For the archival documents, they were culled from manuscripts and books available online: (1) *Portal de Archvos Españoles*, (2) Miguel de Benavides Library and Archives, (3) *Biblioteca Nacional de España*, (4) Google Digital Books and (5) *Biblioteca Virtual de Defensa* and on locally catalogued manuscripts at the Cagayan Museum and Historical Research Center (CMHRC). In the actual fieldwork, a modified Swadesh list (see also UP Department of Linguistics, 2021) was used for the collection of terminology, questionnaires on the architectural practice, sketching and photography used for the actual structures. In the interpretation of data, tabulations were made to organize them and visualized using SketchUp software. The narration of the results is descriptive and was made after the data was collected and analyzed. The mapping of the sites were done using QGIS as shown below in Figure 2.

Figure 1

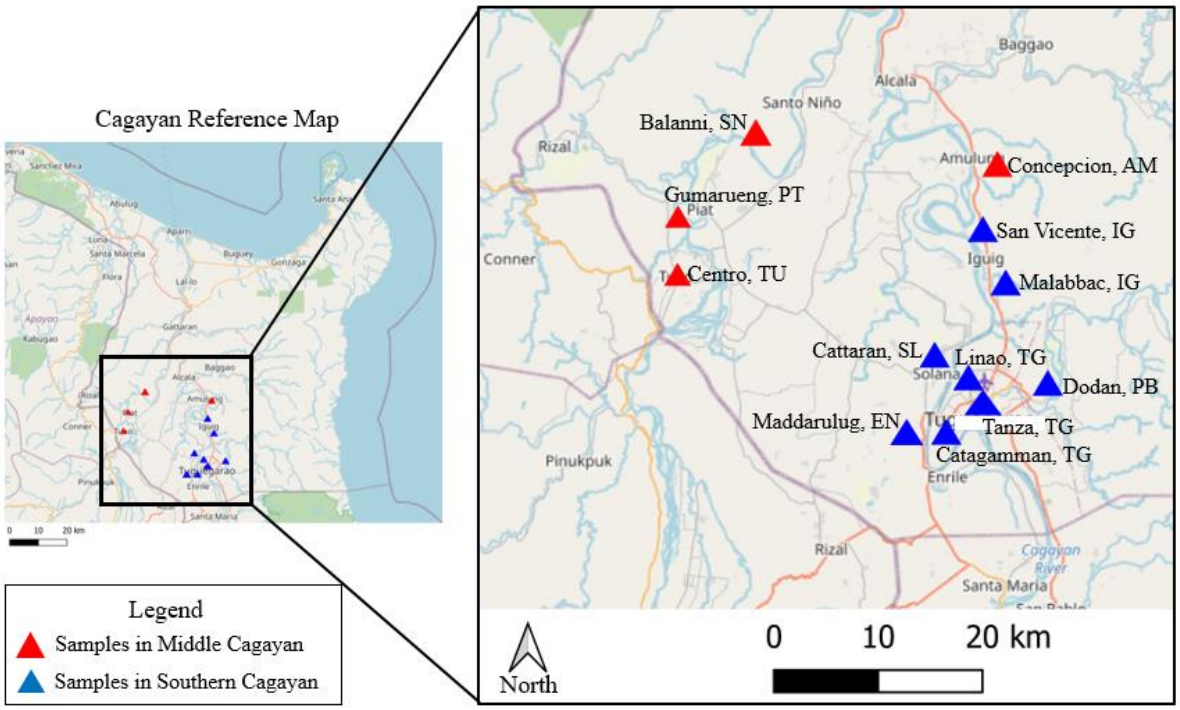
The emic approach in documenting sustainable architecture of the Itawit.



Note. Figure 1 shows the bricolage process in documenting and organizing the sustainable architectural practices of the Itawit.

Figure 2

Map of the identified sites



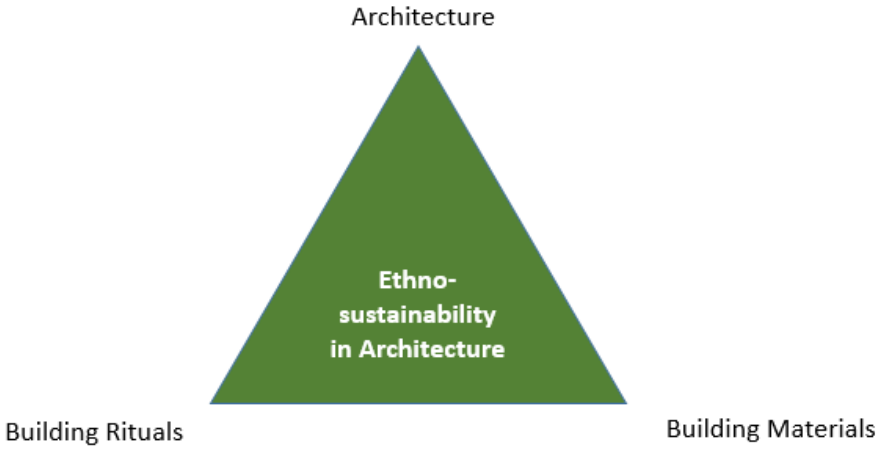
Note. Map of the communities being preselected. Map plotted using QGIS software.

Results and Discussion

Based on the bricolage process in compiling and making sense of the data taken on archives and on-site, it seems that the emic approach shows a more comprehensive grouping of indigenous terminology and narration in (1) rituals, (2) building materials, and (3) their architecture. It is assumed that the practitioners of Itawit architecture are mainly the (1) shamans, (2) carpenters, and (3) elders or adults. This made it more possible in developing an understanding in their sustainable practices in architecture, herein referred to as "ethno-sustainable architecture" (Fig. 3). This practice that involves careful thought, planning, and execution is an amalgam of the sophistication and influences of (1) building rituals (and taboos), building materials chosen, and their (3) architecture. As noted, the data was generally grouped as identified by Keesing (1962), that is, the Middle Cagayan (MC) and Southern Cagayan (SC) (Fig. 2).

Figure 3

Ethno-sustainability in Itawit architecture



Note. Figure 3 shows "ethno-sustainability" as an underlying concept in the documentation process on studying the sustainable architecture of the Itawit.

With "ethno-sustainability in architecture" as a base concept in taking and analyzing data, it has been instrumental also in this study the understanding of the Itawit language. Emic approach have this insider's understanding of the Itawit culture from MC and SC and discusses the three subheadings below: (1) Building Rituals, (2) Building Materials, and visualizing their (3) Architecture.

Building Rituals

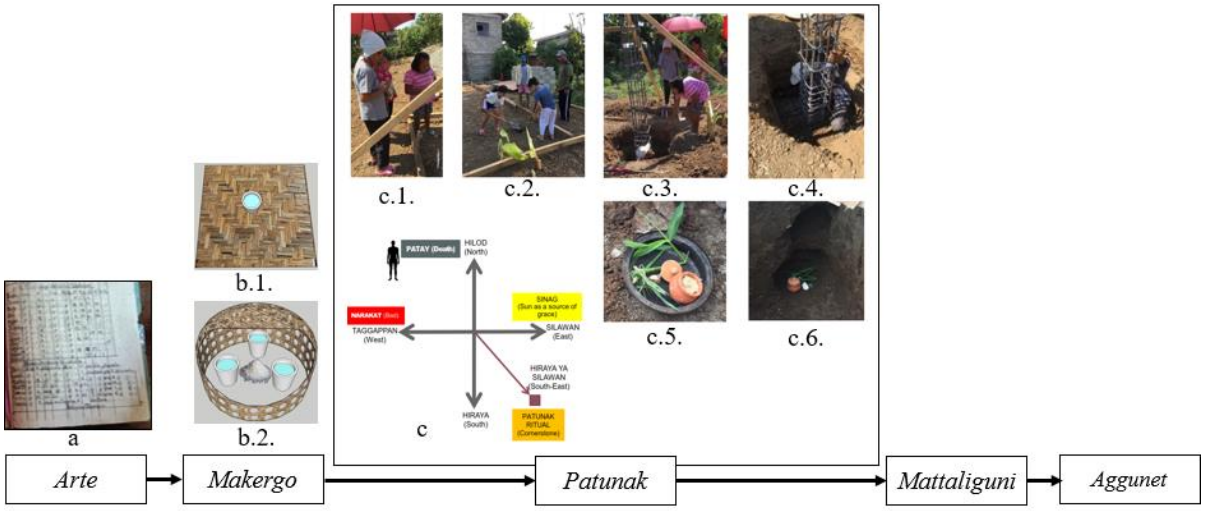
Historically, rituals (including taboos) are perhaps the most influencing factor in the construction process of early people of Cagayan as mentioned by Fr. Diego Aduarte (1640; Blair and Roberston, 1903), albeit not specifically referring to the Itawit. As observed, building rituals have a special place in this study with the reason of the Itawit's attachment with the unseen elements. This perspective is generally shared to the people that highlights their relationship with the environment, particularly the sun and of the things unseen, shows that they have their own concept of sustainability in connection with their immediate environment.

The Building Rituals presented can be in a total of five key steps, i.e. (1) *Arte*, (2) *Makergo*, (3) *Patunak*, (4) *Mattaliguni*, and (5) *Aggunet*. These were elicited based from what shamans, elders, and carpenters narrated during this study. In MC, the shaman from Amulung stated that all five of these "subrituals" are still practiced, while in SC, in Tuguegarao City, elders mentioned the first four but can still be

considered to complete until five because of the existing tradition of "celebrating" or preparing special food during the transfer of the building owners to their newly-constructed house.

Figure 4

The five steps in the Itawit Building Ritual



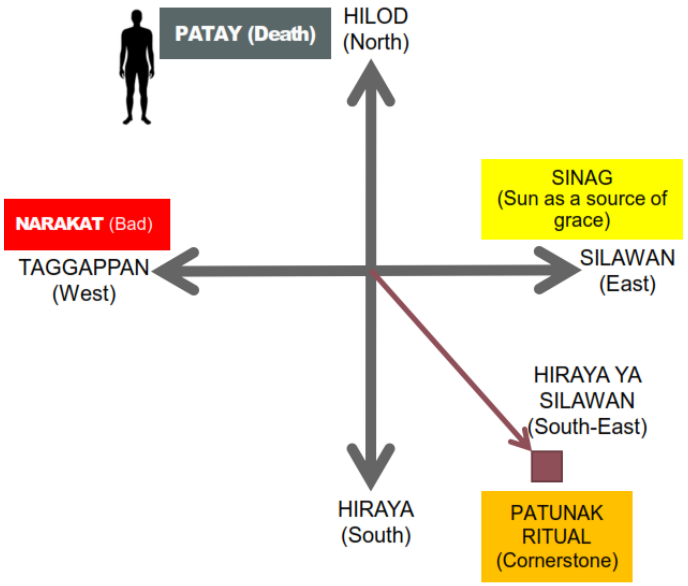
Note. Illustrated above in Figure 4 shows the steps in the Itawit Building Ritual: (1) *Arte*, (2) *Makergo*, (3) *Patunak*, (4) *Mattaliguni*, and (5) *Aggunet.* (a) *Arte* book, (b.1) glass of water placed at the center of a bamboo mat (AM) and (b.2.) three glasses of water in a triangular formation with a lump of salt at the center covered with a *balulang* (SL), (c) *Patunak* reference, (c.1) prayer to the ancestors/departed ones, (c.2.) two unorphaned children (boy and girl) traditionally begins the work, (c.3.) offerings are given, (c.4.) offerings placed in a niche of soil at the foundation, (c.6.) constituents of the ritual, (c.7.) offering at the niche at the foundation.

What makes MC's data on these ritual stages is the existence of terminologies especially referring to them: *Arte, Makergo, Patunak, Mattaliguni,* and *Aggunet.* But on SC, these terminologies are known only when they are narrated completely (like *Arte* and *Patunak*) or depending on what the people remember (like *Makergo*); Manzolim and Quilang's (2016) *Sisiwa* may be the Itawit-Echague version of the *Aggunet* in MC due to their similarity in process. Shamans have given detailed oral accounts which includes the elements needed, omens, and the processes involved. This study makes it more important to check on the local's availability and information on shamans, in this case there were two shamans encountered and elicited as much oral account as possible.

The most complex and well-known of the rituals being listed is the third ritual known as *Patunak* which is literally the cornerstone of any Itawit structure located at the Southeast portion of the building and should not be in conjunction with the bad days listed in the *Arte* book. The placement of the cornerstone in the Southeast, in this sense, evades the death-related North and therefore keeping away the building occupant from ill-fate and answers why construction begins by two children who are not orphaned is for the occupants' family to be kept away from death. Ecological elements were identified such as (a) *bannay* (Dwarf cardamom), (b) *nammurangngan* (goose grass), (c) *asin* (salt), (d) *baggat* (rice), (e) *kikkid* (kabibe shell), (f) *daha-manuk* (chicken blood), and (g) *clam shells* which were used as in rituals. *Patunak* requires a long list of constituents as prescribed by the local shaman, celestial and natural considerations, and omens which is a glimpse of how they respect their local elders and the signs shown in their immediate environment. It is ultimately a constant reminder of the importance of the environment to the Itawit worldview.

Figure 5

Location of the Patunak



Note. Figure 5 illustrates the descriptions of the respondents in locating the *Patunak* (cornerstone) and the ritual itself of the same name.

In all Itawit towns being interviewed, particularly the elders, carpenters, and shamans, they consistently describe the location of the Patunak ritual to be started on the *Hiraya* (or the linguistic variant "*Ziraya*") ya *Silawan* ("*Hiraya*" means South and "*Silawan*" means "East"), literally in the Southeast. It is

believed that the underlying purpose or origin of the practice of placing the *Patunak* in the Southeast principal column of the house due to the enduring oral accounts. It is said that this placement in the Southeast portion of the building is based on the Itawit belief that avoids the spirit realm at the North and the bad omen facing the West, and destructive winds from the Southwest. The rising of the sun and moon from the East is regarded as a source of grace. Death is directly related to the North, as such, every deceased Itawit should be laid down with his head oriented at the North. One idiomatic expression about someone who died is uttered as: "*Nappatazzilog (nappa-hilod) igginan.*" which literally translates as: "He went North." The placement of the cornerstone in the Southeast, in this sense, evades the death-related North and therefore keeping away the building occupant from ill-fate. With this in mind, it answers why construction begins by two children who are not orphaned is for the occupants' family to be kept away from death.

Building Materials

For the sake of discussion, this subsection includes what were available information that has relevancy in building materials such as dealing with people in choosing, taking, processing, and storing of natural materials herein can be grouped as (1) wood, (2) bamboo, (3) grass, and (4) palm. It can be also considered that this subsection can include "social sustainability" since it is inevitable that people are involved in this matter. The entirety of this study also based the building materials' name of its respective species primarily on the work of Rocero (1981) on the Itawit ethnobotany.

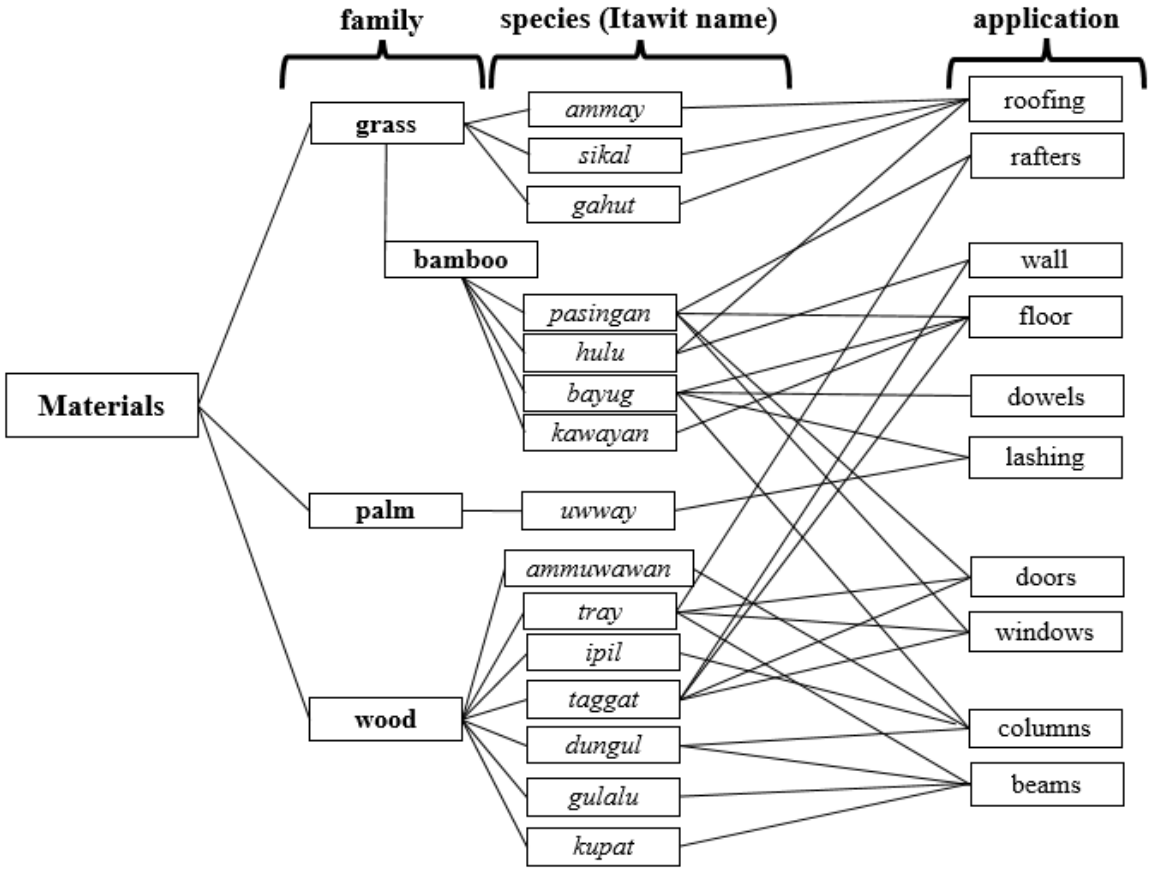
Elders recall that the building materials should all be prepared even before the construction, that carpenters are so meticulous even in the timing of the construction. An idea during the entirety of the construction is the word *ivvet* which literally means "unified voluntary work." *Ivvet* is a condition were the community or the building owner's relatives voluntarily build. This also makes an unwritten "community contract" that a family should have a representative in an *ivvet* so that when the same family will be in need of constructing their house, people will also volunteer. *Ivvet* also means a financial responsibility of the owner, that they are also obliged to support the builders by preparing their meals and snacks.

When planning or having the intent to construct structures, the owner asks or invites his kins or neighbors in gathering the materials, typically one year in advance to give time for the timber to be seasoned. When someone goes to the forests of Sierra Madre, the Itawit asks the help of Attas in the area to find the best kinds of timbers in the forests. The Atta of the Sierra Madre have been interacting with the Itawit (of Amulung) due to their valuable knowledge in assessing the quality of timbers and rattans (*uwway*). For instance, when taking rattans (*uwway*) from the mountains, the Itawit negotiates

(oral contract) with the Atta of Sierra Madre mountains by providing them sacks of rice, tobacco, and other goods, place them to carabaos and be received; in turn, the Attas give the rattans required to be used for ropes, strings, furniture, and so on. The general term for taking rattan is *megalut.* This narrative shows that the Itawit recognizes the skill of the Atta (as foresters) in finding good or high-quality materials, which makes them the legitimate masters (or more appropriately, owners of the territory) of the forests. They aptly described the Atta as "*napenam da kan kabakuludan*" (they are used to the mountains) and "*kukwa da ballalaman ya kakaywan"* (they own the forests). The process of coordinating the gathering of materials, dealing with people, and recognizing the experience and local knowledge of other ethnic groups is one of the key aspects of the economic and environmental (and even social) ethno-sustainability of the Itawit. This process is not an afterthought, and have been passed down to generations, especially among the Itawit of Amulung and Peñablanca.

Figure 6

Building Materials and their application



Note. Building materials used by the Itawit of Middle and Southern Cagayan presented above as network based on their application in construction (partial).

Itawit Architecture Visualized

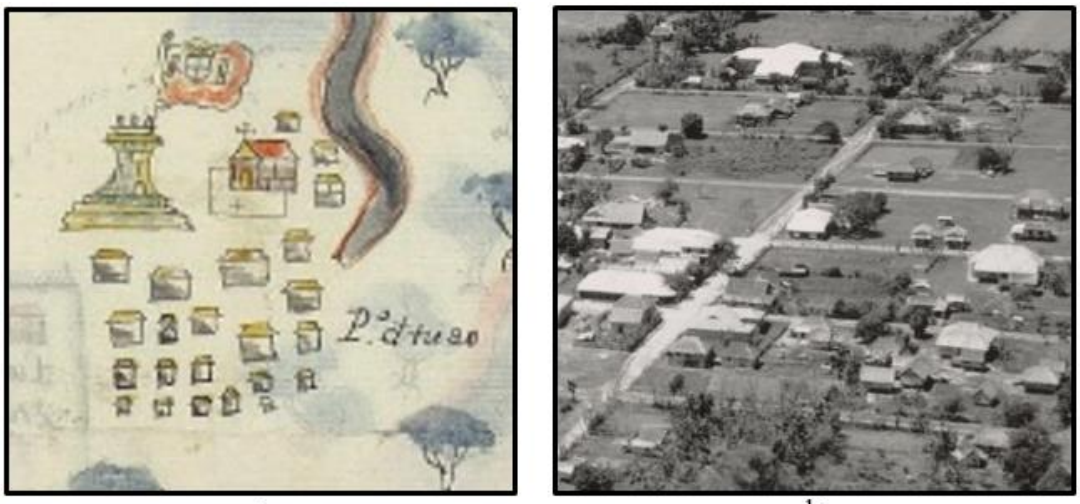
Archival materials show that the Itawit have their own expressions in their architecture and was visually presented in Acosta's 1719 drawing (Fig. 7a) showing the earliest example of graphic interpretation of houses in a known Itawit area and an aerial photograph of Tuao (Fig. 7b) showing one of the best examples of early 20th-century assemblage of Itawit indigenous houses.

It can be said that there are three (3) general classification of structures in Itawit architecture based on their respective uses: (1) dwellings/residential buildings which includes the *balay* (main house), *darafuwan/ kusina* (kitchen), and the *banyu* or outhouse (which sometimes separate with the bathroom), and occasionally the *sarong* (collapsible tent or shed during marriage, important occasions, or funerals); (2) agricultural buildings which includes the *abayaw/gitad* (granary), *garung* (storage for rice husk), and *amingan* (field shed); and (3) animal housing which includes *galineru/kasaw* (poultry housing), *palayag* (for cows, horse, and carabaos), and the *gutug* (for pigs). To add with the classification of structures, a "fourth" group can be recognized as part of the extinct architectural tradition of the Itawit, that is, their military structures which includes the *kota* (fort) and the *amata* (watchtower or lookout). These military structures were mentioned by Lobato (1766), Bugarin (1854), Scott (1994), and Coballes and dela Cruz (2021) that showed their similarity with the Ibanag. Albeit being extinct in practice, these terminologies are sparsely used by the Itawit of Tuao and Amulung (Middle Cagayan) to this day.

The set of buildings of the Iringan family (Fig. 8b) was built in the 1950s and is located in San Vicente, where these structures are in one site and is owned by only one family. This may be the most authentic and only known surviving sample of a structure joined by a bridge and having a storage building adjacent to it. This type of site setting is known for the Itawit due to their lifeways in agriculture and raising livestock. The *balay* (main house) can be accessed by a stair through the covered terrace, and it has a living and dining area and two bedrooms. The kitchen is found in the rear of the main house and is a relatively large structure separated by a *balag* (bridge). The *balag* is also a space used for washing dishes. The third building in this site is an *abayaw* (storage building) that has an elevated floor used to store corn, and below this is where another storage is placed and adjacent to it is two *gutug* or pig pens. According to the relative of the owner (since the owner of this house died), these structures were roofed originally with *gahut* or cogon grass until 2016 due to the devastation of Typhoon Lawin. Traces of cogon grass can be still be seen underneath the roofing sheets of the kitchen. See also Fig. 9 on the floor plan and master plan of the Iringan house.

Figure 7

Itawit structures in Tuao



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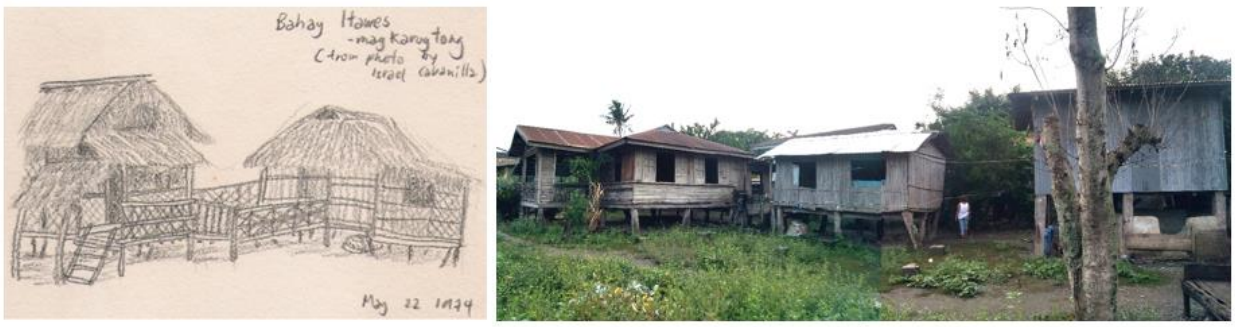
Note. (a) The *pueblo* of Tuao according to Juan Luis Acosta (1719). Source: *Archivo General de Indias.* MP-FILIPINAS,22BIS. (b) A cropped aerial photograph of Tuao Town Center. Source: National Archives and Records Administration. Title: Tuao, Cagayan Province, Luzon Island, P. I. Rec'd from Nichols Field, P. I. – 5/18/35. [Handwritten note: "Copied – 9/17/43"].

Figure 8

The "bridged" house

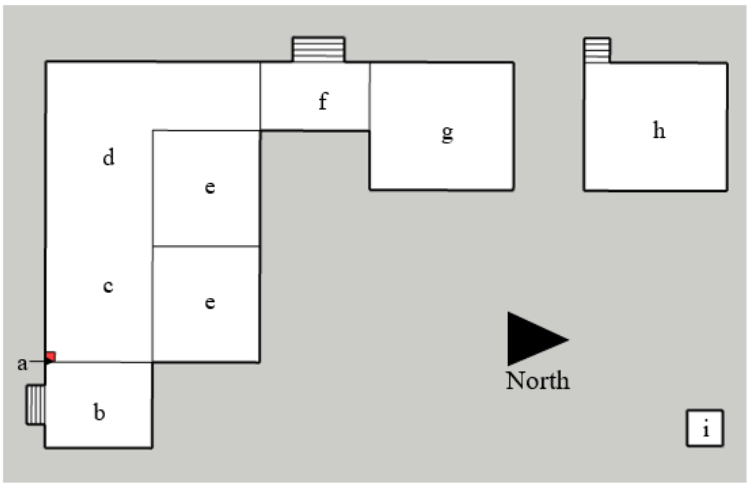


a b

Note. (a) Professor Jose's sketch as shown above shows two structures: one on the left perhaps as the main house and the right the storage house. The left side shows that it can be accessed by an *addan* (stair) to the *balag* (which can interchangeably refer to the "landing" or "bridge"); (b) the Iringan house in San Vicente (Uwwad), Iguig, Cagayan where the main house (leftmost) is connected with the kitchen (middle) by a bridge. The storage structure (rightmost) have a pig pen below it. Photo sources: (a) Regalado Trota Jose, 1974 (2022, via email); (b) Michael T. Tabao, 2022.

Figure 9

Master plan of the "bridged" house in San Vicente, Iguig



Note. An estimated sketch of the master plan of a "bridged house" in San Vicente, Iguig (SC) showing the (a) *patunak* located at the Southeast principal column, (b) *patagwag* (extension), (c) *kamonayan* (living area), (d) *pangnganan* (dining area), (e) *duba* (bedroom), (f) *balag* (platform/bridge), (g) *darafuwan* (kitchen), (h) *abayaw* (storehouse; in this case included is a *gutug* or pigpen underneath it), and (i) *kasilyat/pazzihutan* (toilet/bathroom).

Perhaps, the most authentic and extant specimen of an Itawit house is the Pamittan house in Brgy. Malabbac, Iguig, Cagayan. There are important points to be considered in the case of the Pamittan house, which is asserted here as the only extant house that is unique in all the buildings surveyed in this study. The owner claims that the building was built between 1890 and 1900 since the house was inherited from his grandfather. Mr. Pamittan is already seventy years old and was the youngest of the siblings. The Pamittan house includes one key aspect – the usage of *uwway* (rattan strings) instead of metal nails as the main fastening and lashing materials along the structural components of the house, i.e. (a) *wanan* to *wanan* (roof beam to roof beam) connection, (b) *tarawag* to *tarawag* (rafter to rafter) connection, (c) *tarawag* to *basibat* (rafter to roof backing) connection, (d) *tarawag* to *wanan* (rafter to roof beam) connection, and (e) *arihi* to *wanan* (column to roof beam) connection as shown in Fig. 11 below. Since metals, particularly iron, are very valuable to the Itawit of Cagayan for their use in bladed weapons or agricultural tools, they are rarely used for the building's fastening mechanisms.

Figure 10

Northwestern view of the Pamittan house

Note. Northwestern view of the Pamittan house. Photo source: Michael T. Tabao, 2022.

Figure 11

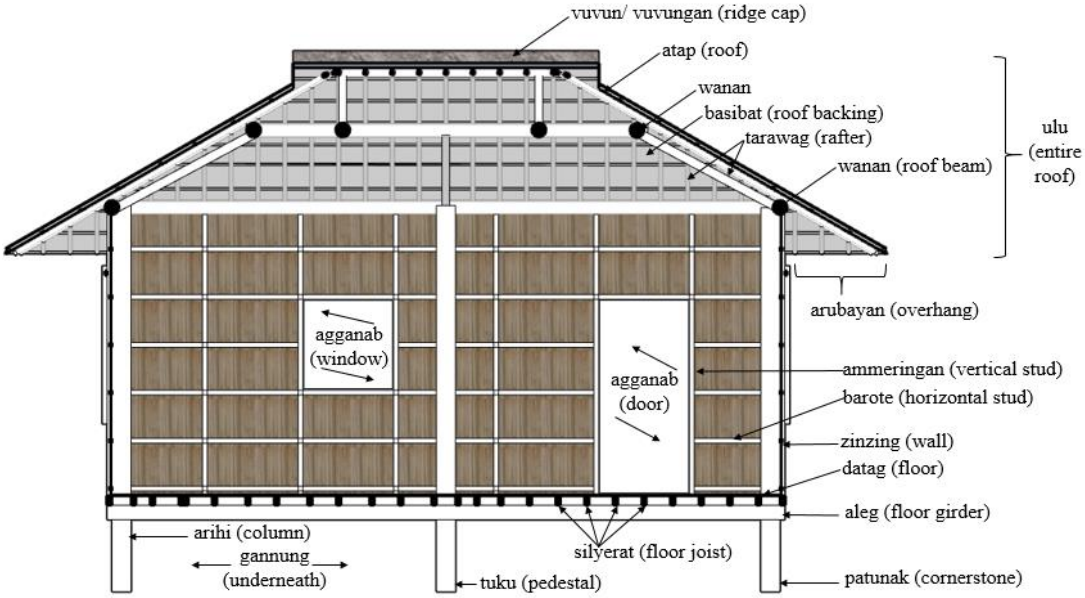
The extant lashing techniques shown in Malabbac, Iguig.

Note. Samples (and only known example) of extant lashing on an Itawit house in Malabbac, Iguig (SC) showing (a) *wanan* to *wanan* connection, including the horizontal brace of two *tarawags*, (b) *tarawag* to *tarawag* connection, showing also the holes at the end of each *tarawag*, (c) *tarawag* to *basibat*

connection, (d) *tarawag* to *wanan* connection, and (e) *arihi* to *wanan* connection. Photo source: Michael T. Tabao, 2022.

Figure 12

Anatomy of an Itawit house



Note. Figure 12 is a longitudinal section showing the anatomy of an Itawit house. For the terminology, refer to Table 1. Photo source: Michael T. Tabao using Trimble SketchUp software and Microsoft Powerpoint, 2022.

Table 1.

List of Itawit terminology and their respective English equivalents.

Itawit	English	Itawit	English	Itawit	English
abayaw	granary/ storage	*datag*	floor	*palu*	stair step
addan	stair	*duba*	room/ bedroom	*patagwab*	house extension
agganab	door	*galineru/ kasaw*	chicken cage	*patak*	nail
agganab	window	*galut*	tie	*patal*	dowel
aleg	floor beam	*gutug*	pigpen	*patunak*	cornerstone
ammasiteran	garden	*inangkamalig*	gable roof	*pazzihutan*	bathroom
ammeringan	vertical stud/ clip for walls	*ivvet*	unified voluntary work	*sarong*	temporary roofed structure
arihi	column	*kamonayan*	living room	*sinampalayag*	uneven-sloped roof
Arte	book/ reference for signs	*kasilyat*	toilet	*sinilsig*	herringbone patterned weave for wall
arubayan	overhang	*kattri*	bed	*solweras*	floor joist
atap	roof	*kinama*	wall assembly of half-cut bamboo	*tarawag*	rafter
attammitan	handrail	*koman*	field	*taribban*	tied-bamboo-slats coffin
balag	bridge/ terrace	*laha*	weaved beaten bamboo	*tarug*	cornerstone offering
balay	house	*mangibantag*	to elevate	*trangka*	gate
barateha	purlin	*mappolit*	to repair	*tuku*	prop/ pedestal
barote	horizontal stud	*mangibangun*	to build	*tuttug*	chair
basibat	roof backing/ undersheathing	*mappatadwal*	to renovate	*vuvun*	roof ridge
binangan	hipped roof	*palak*	boundary marker	*wanan*	roof beam
darafuwan	kitchen	*palayag*	one slope roof	*zinzing*	wall

Note. Table 1 above shows Itawit architectural terminology and their English equivalents in alphabetical arrangement taken from MC and SC.

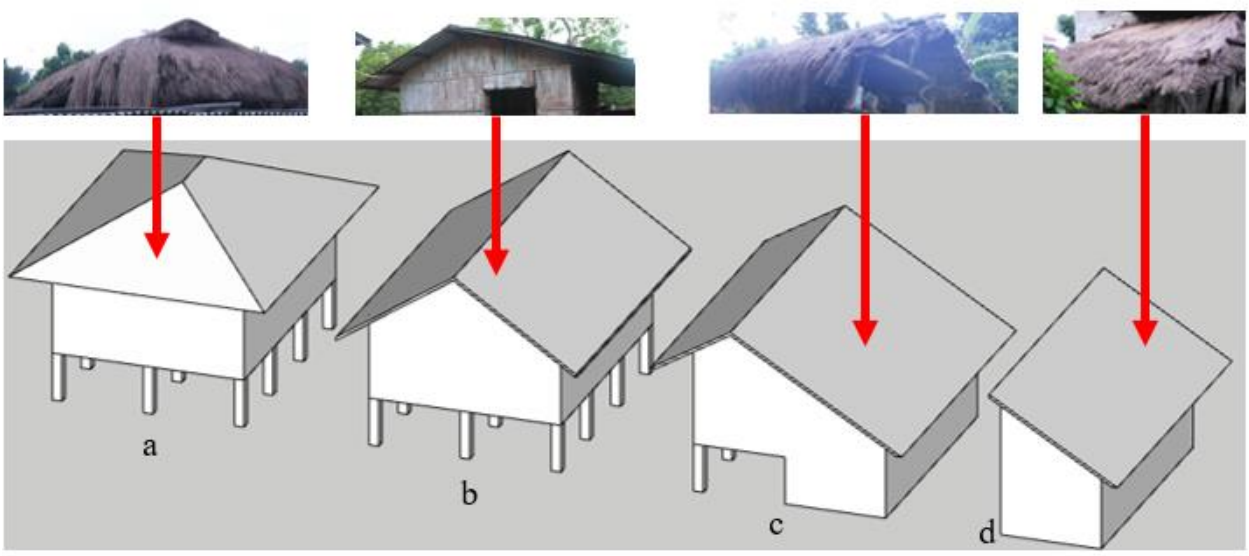
The Itawit also refer to their structures based on roof form. There are four types of Itawit roofs (Fig. 13): (1) *binangan* or hipped roof, (2) *inangkamalig* or the gabled roof, (3) *sinampalayag* is also gabled but have unequal length of roof, and (4) *palayag* or a single-sloped roof. It appears that the name of buildings are based on the types of their roofs. For example, the Itawit frequently call a house with a hipped roof (somewhat pyramid like form due to the four slopes meeting at one apex or ridge) as "*binangan nga balay*" probably based on their term on one side as "*bangan*" (when looking at two sides of a hipped roof they appear to be the same). The *inangkamalig* type of roof is a gabled roof where two slopes are equal, resembling an A-shape. Since *inangkamalig* is often used in storage structures, it seems too bold to argue also that the archaic word *"kamalig"* with cognates in other languages (eg. Iloko) referring to storehouses can also be considered a reference in the term *"inangKAMALIG.*" Another gabled house with two unequal length of roofs is called *sinampalayag nga balay*, where "*palayag*" is referred to roofs with only one slope. *Palayag* is also a term for structures for domestic animals (such as for pigs and horses) with one-sloped roof.

Additionally, there are two significant types of wall styles (Fig. 14): the *sinissig/sinilsig* and *kinama*. The *sinilsig* is a type of wall where the cut and flattened and weaved in a herringbone pattern (appears both in MC and SC) which occurs more frequent in SC. *Kinama* is a type of wall made of bamboo poles cut in half and its *vuku* (interior node of the bamboo) is removed to make it work to overlap each other, on both sides.

Finally, there are generally four types of indigenous flooring (Fig. 15): (1) earth, (2) bamboo slats, (3) solid bamboos and (4) wooden planks. Earth floors are generally along areas where the Itawit chooses to build extensions of their houses for additional kitchens or terraces, i.e. the *patagwab*. Bamboo slats where also used typically for houses, but the solid bamboo floors (which were just arranged alongside each to form floors) appears only on the *abayaw*. Wooden planks also appears both in MC and SC in their floors, particularly the families that can afford it.

Figure 13

Types of Itawit Roofs



Note. Perspective view of the types of roofs with the field samples above: (a) *binangan*, (b) *inangkamalig*, (c) *sinampalayag*, and (d) *palayag*. Image source: Michael T. Tabao using Trimble SketchUp, 2022.

Figure 14

Kinama in MC and Sinilsig in SC

Note. In the Figure 14 above, it presents the identified use of *kinama* in different areas of MC in (a) Tuao, (b) Santo Niño, (c) Piat, and (d) Amulung and the wall type *sinilsig* in different areas of Southern Cagayan in (e) Iguig, (f) Tuguegarao City, (g) Solana, (h) Peñablanca, and (i) Enrile. Photo source: (a), (b), (c), (e), (f), (g), (h), and (i) by Michael T. Tabao, 2022 and (d) by Harold S. dela Cruz, 2020.

Figure 15

Types of floors

Note. (a) Earth floor at Dodan (PB), (b) bamboo slats at Malabbac (IG), (c) solid bamboo at San Vicente (IG), and wood planks at Cattaran (SL). Photo source: (a), (b), (c), and (d) by Michael T. Tabao, 2022.

Conclusion and Recommendations

This study sustained a good relationship with the people involved during the communication process, elicitation of information, and the fieldwork made. The key factor in the success of this study is the emic approach – that the researcher himself is part of the community and has a deep connection with his culture. The study's elicitation process - the interview, visiting extant examples of their architecture, as well as hearing stories have been largely in the Itawit language, hence needing translation to English. This makes the documentation process authentic and original in which the language has shown vestiges of old terminology, particularly in their rituals, architecture, and ethnobotany that has been sustained by transferring the knowledge into the later generation of the Itawit. This makes it necessary to translate the Itawit terminology as well as expressions into English (academically), albeit some have no direct equivalent in the said foreign language as shown in Table 1.

Surprising finds particularly in the Middle Cagayan offer other points of view that can be regarded from unique to different in their language as well as their architectural practices. It also answers the persisting question that if culture is fixed, then it could not change but in the case of this study, the lifeways of Itawit have evolved through time and have shown this phenomenon based on the morphology of their structures at present. In total, this study offers a glimpse of the rich literature of the Itawit in their sustainable architecture for the very reason that the researcher is an Itawit architect and has been fondly attached to his culture and language. Kinship has also played a role in the continuation of the practices as observed, for example transferring the building or animistic traditions to the next and childbearing generations.

This comprehensive and rigorous documentation further preserves the intangible aspect of the Itawit – their indigenous knowledge of their architecture unique in the Cagayan Valley. It can be said that while there are stylistic as well as preferential differences in the architecture of MC and SC Itawit, they can be considered as a "shared culture" instead of being completely isolated from each other since the geography and proximity of the groups are not too far.

Each of the subjects in this study can be discussed and elaborated on even further, since the richness of information included here has been extensive enough to show a general picture of "ethno-sustainable" practices of people in Cagayan, specifically herein pointed out in architecture and construction traditions. Future research can be done and needed to be done in situ, to identify extant structures and assemblages as shown in communities, ethnobotany, and so on. This further makes scientific studies in indigenous architecture more crucial and essential in understanding their culture and what can be done at present to be applied in future sustainable projects armed with an understanding on the dynamics of culture attached with language.

Disclosure of Conflict of Interest

The authors of this paper has no conflict of interest whatsoever including any relevant financial or non-financial competing interests to report.

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