

# The Search for *Tabique Pampango* in the Philippines<sup>1</sup>

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**Abstract:** Encountered in archival documents and historical accounts, the part of a building curiously known as *tabique pampango* is virtually unknown today. In general terms, *tabique pampango* refers to a thin wall of interwoven wooden or bamboo stakes and finished with a coating of lime plaster. *Tabique* is Spanish for any thin or partition wall. The descriptive *pampango* refers to the people of Pampanga, many of whom served in the colonial military. As we shall see, this type of construction was widely practiced throughout the Spanish colonial Philippines. The procedure for this type of wall, practiced by peoples around the world since ancient times, is the local version of what is referred to in architectural parlance as ‘wattle and daub.’ The earliest known reference to the technique dates from the early years of the 18th century. The earliest available mention of *tabique pampango* is from 1799. It was banned by the so-called Manila Earthquake Ordinances of 1880, though its construction continued elsewhere after that date.

**Keywords:** church architecture, earth architecture, earthquake ordinances, Pampangos, wattle and daub.

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## Introduction

Encountered in archival documents and historical accounts, the part of a building curiously known as *tabique pampango* is virtually unknown today. In general terms, *tabique pampango* refers to a thin wall of interwoven bamboo or wooden stakes and finished with a coating of lime plaster. *Tabique* is Spanish for any thin or partition wall; it derives from Arabic *xarbiq*, wall of brick. The descriptive *pampango* refers to the province of Pampanga, for reasons that shall be proposed later in this article. As we shall see, this type of construction was widely practiced throughout the Spanish colonial Philippines. The earliest available mention of *tabique pampango* is from 1799, but the earliest known reference to the technique dates from the early 1700s. It was banned by the so-called Manila Earthquake Ordinances of 1880, though its construction continued elsewhere after that date.



Fig. 1. Basic technique of wattle and daub.

Source: <https://www.permies.com/t/71744/Wattle-daub-mold-Mortar-mix>

The procedure for this type of wall, practiced by peoples around the world since ancient times, is the local version of what is referred to in architectural parlance as ‘wattle and daub.’ The wattle refers to a basketry-like matrix of wooden pieces; the daub is the layer of earthen material applied over the wattle (Fig. 1).

## Making a wattle and daub wall<sup>2</sup>

In medieval Europe, a wattle was a portable section of wicker fencing, set up to enclose livestock wherever they grazed. This component was incorporated

<sup>2</sup> This section is largely consolidated from the following online sources, all accessed in October 2021: Brian Kaller “Wattle and Daub,” <https://www.resilience.org/stories/2017-02-10/wattle-and-daub/>; Ian Pritchett, “Wattle and Daub,” <https://www.buildingconservation.com/articles/wattleanddaub/wattleanddaub.htm>; “Wattle and daub,” [https://www.appropedia.org/Wattle\\_and\\_daub](https://www.appropedia.org/Wattle_and_daub); and “Wattle and daub,” <https://www.lowimpact.org/lowimpact-topic/wattle-daub/>.

into architecture. A wall of wattle and daub in a building was often erected a meter or so above the ground, preferably on a low stone wall, so that it would be less exposed to dampness. The open areas within the load-bearing timber frame of the wall were affixed with interwoven vertical and horizontal parts (staves and withies respectively), then closed with infill whose materials varied according to availability or to the status, function, or location of the building. Both staves and withies were usually fashioned from wood, bamboo, or cane. These had to be cut during the dry season when sap content was at its lowest, and therefore less attractive to insects. The inner edge of the upper frame was drilled with holes to accommodate the upper ends of the staves; the lower ends of the staves were slid into place in a groove hewn on the bottom frame. The staves had to be slender enough and properly spaced so that the withies could be interwoven horizontally through them. The withies had to be woven in alternate directions, to further strengthen the wattle panel. Because they had to be pliant, the withies were drawn from such materials as vines, branches, bamboo slats or battens, or cane.

With the wattle properly assembled, the daub could now be prepared. The daub was composed of three basic materials: binders, aggregates, and reinforcement. The binders could be clay, lime, chalk dust, or limestone dust. The aggregates could be earth, sand, crushed chalk, or crushed stone. Sometimes, local sources yielded materials already containing more than one ingredient: the subsoil could contain clay, sand, and earth. Where the earth had more clay or had more cohesive qualities than usual, reinforcements such as straw, hair, flax, hay, or grass were mixed in to reduce the cohesion. Additives depended on local tradition: dung, blood, or urine. Old straw in animal sheds was already enriched with dung and thus was preferred to fresh straw. The daub mix had to be treaded by animals; or the neighbors could be called in for the job, which provided an occasion for bonding (in more ways than one).

Fistfuls of daub were slapped onto the wattle. It was preferable to have people working simultaneously on both sides of the wattle: this facilitated a better union of the mixture. Sometimes a second layer of more sandy earth (to reduce the daub's cohesion) was added on the underlay, which had been previously incised or scratched for this purpose. Since lime was historically more expensive than daub, it was often not included in the mix but reserved as a protective layer over the earthen mixture. The hardened daub surface was moistened to receive the lime. The lime plaster was extended over the timber frames, since this reduced the entry of moisture into the joints. The slightly caustic properties of lime "disinfected" the wall against insects and other pests. The final treatment of the plaster was varied. Its lumps and undulating surfaces could be accepted as is. Or it could be smoothed, creating an

expanse of whiteness, or even painted with earthen dyes. The wattle and daub wall provided insulation to the room. Additionally, the hygroscopic daub dispersed the moisture by the high rate of evaporation from its surface.

The resulting wattle and daub wall, if properly maintained, could last for many lifetimes. Some are known to be 700 years old. However, recent interventions in exposing the timbers for esthetic purposes have caused the intrusion of moisture. Likewise, the inappropriate use of impervious concrete or modern paints to repair gaps in the daub has aggravated the damage and even hampered its “breathing.”

Wattle and daub architecture, itself part of the greater world of earth architecture, is experiencing a revival in many countries. It doesn’t require machines, and it doesn’t generate pollution. It relies on locally available materials (it is literally “dirt cheap”). Old daub can be reused when mixed with a little water. It is community-based, and it is not too complicated in execution (although it needs some trial-and-error). Its lightness makes it especially acceptable in earthquake-prone countries such as Peru, where it has been used for centuries.

### **Brief history of wattle and daub**

The wattle and daub technique has been in use since the Neolithic, or at least 6,000 years ago. Archaeological evidence has been found in Egyptian and Turkish sites dating from the 5<sup>th</sup> millennium B.C., even predating the use of mud brick.<sup>3</sup> It was known in 5<sup>th</sup>-4<sup>th</sup> millennium B.C. sites near Xi’an in northern China.<sup>4</sup> In the 1<sup>st</sup> century B.C. the Roman architecture theoretician Vitruvius warned against its use. It easily caught fire, and its absorption of moisture caused the stucco layer to crack. If it had to be built at all (especially by those who were saving time and money), Vitruvius counseled that the wall be constructed over a high foundation so as avoid contact with the floor.<sup>5</sup>

Vitruvius’ term for wattle and daub, *craticius*, was translated as *zarzo* in the Spanish edition of 1649.<sup>6</sup> Although this kind of construction did not gain popularity in Spain, Portugal, and Italy, it proved to be of much use in the Spanish and Portuguese territories in Latin America. In fact, evidence of this technique has been found in

<sup>3</sup> “Wattle and daub,” [https://en.wikipedia.org/wiki/Wattle\\_and\\_daub](https://en.wikipedia.org/wiki/Wattle_and_daub).

<sup>4</sup> “Chinese architecture-Stylistic and historical development to 220 ce,” <https://www.britannica.com/art/Chinese-architecture/Stylistic-and-historical-development-to-220-ce>.

<sup>5</sup> Vitruvius, *The Ten Books of Architecture*, Translated by Morris Hicky Morgan (Cambridge: Harvard University, 1914) Book II, Chapter VIII, Section 20. <https://www.gutenberg.org/files/20239/20239-h/20239-h.htm>, accessed on October 9, 2021.

<sup>6</sup> [https://www.academia.edu/36157054/Tratado\\_de\\_arquitectura\\_Marco\\_Vitruvio](https://www.academia.edu/36157054/Tratado_de_arquitectura_Marco_Vitruvio), accessed on November 23, 2021.

pre-Columbian sites such as in Caral, Peru, dating from about 2,500 B.C., or in ETLA, Oaxaca, Mexico, from about 1,250 B.C.<sup>7</sup> In Mexico, Central America, and parts of northern South America, wattle and daub construction is known as *bajareque*. A variation is to have a matting of cane strips on the inner and outer sides of the wall,



Fig. 2. An inner wall of pau-a-pique in the Monastery of the Immaculate Conception of Light, built in 1774. São Paulo, Brazil.

Photo: Regalado Trota Jose 2012

with a mixture of earth and vines, hair, etc. poured in as filling; both sides are then plastered. In Peru, Chile, and other parts of South America, the wattle and daub technique is known as *quincha*, derived from a Quechua word meaning enclosure.<sup>8</sup> In Brazil, the same procedure is known as *pau-a-pique*<sup>9</sup> (Fig. 2).

The experience of Peru is helpful for our study. After the earthquake of 1687, churches in Lima began to construct vaults of wood, cane, and lime.<sup>10</sup> Building roofs of brick and cut stone was discontinued. After the disastrous temblor of 1746, the Spanish authorities in Peru decreed that floors above the ground level had to be built of *quincha*. In the 1930s, this technique was gradually replaced by concrete and brick. However, another earthquake in 1970 renewed interest in the seismic resistance of

<sup>7</sup> Luis Fernando Guerrero Baca, “Pasado y porvenir de la construcción con bajareque,” 2017 <https://editorialrestauro.com.mx/pasado-y-porvenir-de-la-construccion-con-bajareque/>, accessed on October 9, 2021.

<sup>8</sup> Andrés Aninat, “¿Es la quincha una alternativa posible para atender la demanda mundial por vivienda?” Fundación Altiplano, 2020, <https://www.fundacionaltiplano.cl/post/es-la-quincha-una-alternativa-posible-para-atender-la-demanda-mundial-por-vivienda>, accessed October 9, 2021.

<sup>9</sup> Cíntia Mariza do Amaral Moreira, “Técnicas de Construção Vernácula: em Portugal, taipa de pilão; e no Brasil, pau-a-pique,” <http://revistas.icesp.br/index.php/LRI/article/download/1497/1083>, accessed November 22, 2021.

<sup>10</sup> The incorporation of *quincha* construction in colonial Lima has been traditionally attributed to the reforms on the church of San Francisco between 1669 and 1674. Humberto Rodríguez Camilloni, “Quincha architecture: The development of an antiseismic structural system in seventeenth century Lima,” 2003, [http://www.sedhc.es/biblioteca/actas/CIHC1\\_163\\_Rodriguez%20H.pdf](http://www.sedhc.es/biblioteca/actas/CIHC1_163_Rodriguez%20H.pdf), accessed October 9, 2021. However, recent scholarship has showed that the reforms in question were actually of lime and brick, and the *quincha* renovations of San Francisco were only adapted in the first third of the 18<sup>th</sup> century. Antonio San Cristóbal Sebastián, “Epílogo. La nueva visión del conjunto franciscano,” Institut français d’études andines, 2006, <https://books.openedition.org/ifea/1157>, accessed October 9, 2021.

traditional building methods. It was noted that in a tremor, the earth layer over the *quincha* wall would burst, but the walls would still stand. In an especially strong seismic event, the walls would move from their axes, but they could be easily moved back into place and then replastered.<sup>11</sup>

### A survey of *tabique pampango* in the Philippines: late 17<sup>th</sup> to mid-19<sup>th</sup> century

The Philippines abounds in good examples of wattle construction in vernacular architecture (Fig. 3). Lime plaster for a sturdier wall was introduced in the Spanish colonial period. One of the first documentary sources for the wattle and daub technique in the Philippines is a report on the Ilocos, dating from 1709-1710.<sup>12</sup> The churches of Bangar, Candon, Bantay, and Cabugao consisted of low walls of stone topped by molave frames interwoven with bamboo and covered with lime. Most of these were begun 10 years earlier, in other words, in the late 1690s. This early, we see the difference of Philippine wattle and daub—what was later called *tabique pampango*—from the technique in Europe, America and Africa. Whereas mud was used in these lands, the rainy climate in the Philippines caused the replacement of earth with a mixture of sand, lime and water.<sup>13</sup>



Fig. 3. A wattle of bamboo, seen in a house near the parish church, Oslob, Cebu.

Photo: Regalado Trota Jose 2003

The first known author to use the term, *tabique pampango*, was the Augustinian friar Joaquín Martínez de Zúñiga, who visited the provisional church of Santa Rosa, Laguna in 1799.<sup>14</sup> (The English translation of Fray Martínez de Zúñiga's account in 1973 seems to be the first resurrection in modern 20<sup>th</sup> century Philippine literature.)

<sup>11</sup> Fabio Carbajal, Gaby Ruiz, and Cliff J. Schexnayder, "Quincha Construction in Perú," *Practice Periodical on Structural Design and Construction*, ASCE, February 1, 2005, [https://www.researchgate.net/publication/245492445\\_Quincha\\_Construction\\_in\\_Peru/link/02e7e52aa288d896f7000000/download](https://www.researchgate.net/publication/245492445_Quincha_Construction_in_Peru/link/02e7e52aa288d896f7000000/download), accessed October 9, 2021.

<sup>12</sup> "Informe sobre el estado de varias iglesias de Ilocos en los años 1709 y 1710," *Archivo Histórico Hispano Agustiniiano XIII* (1923): 200-213.

<sup>13</sup> René B. Javellana, S.J., *Wood & Stone for God's Greater Glory. Jesuit Art and Architecture in the Philippines* (Quezon City: Ateneo de Manila University Press, 1991), 54.

<sup>14</sup> Joaquín Martínez de Zúñiga, O.S.A., *Estadismo de las Islas Filipinas*, ed. by W. E. Retana, (Madrid, 1893), I, 48-49. English version in *Status of the Philippines in 1800*, trans. by Vicente del Carmen, (Manila: Filipiniana Book Guild, 1973), 64-65.

*El pueblo de Santa Rosa ... tiene... una iglesia provisional de tabique pampango. Este tabique se hace levantando maderos y enlazandolos unos con otros; en los huecos que quedan se entretejen pedazos de caña, sobre los que se da una paletada de mezcla de cal con arena, y queda la obra bastante fuerte, si las cañas que se pusieron estaban bien curadas, pues en este caso duran muchos años sin pudrirse, y la paletada no se cae interin las cañas se conservan bien.*

The town of Santa Rosa has a temporary church of *tabique pampango*. This thin wall is made by raising pieces of wood and linking them with each other. Strips of bamboo are woven in between the spaces. Over this is applied a layer of a mixture of lime and sand. The work will last for some time if the bamboo pieces were cured well, because in this case the bamboo lasts without deteriorating, and the lime plaster does not crumble as long as the bamboo is firm.

We find *tabique pampango* tucked in various accounts throughout the first half of the 19<sup>th</sup> century, mostly referring to places in Luzon:

1. about 1804: the church in Paniqui, Tarlac, was noted to have two upper levels of *dindin pampango* over the first level of brick.<sup>15</sup>
2. 1806: a *camarin* or chapel of *tabique pampango* was mentioned in Lubao, Pampanga (the only reference found in its eponymous source).<sup>16</sup>
3. 1809: a church was begun in Aguilar, Pangasinan, with walls of *tabique pampango* over a meter high stone and lime wall.<sup>17</sup>
4. 1818: a report on fortifications described a chain of watch towers and forts of *tabique pampango* in the Antique towns of Belison, Colasi, Patnongon, and Tubigon.<sup>18</sup>
5. between 1834 and 1838: a provisional church and convento of *tabique pampango* were erected in Santa Catalina, the second site of the present town of Binalonan, Pangasinan.<sup>19</sup>

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<sup>15</sup> José Ma. González, O.P., *Labor evangélica y civilizadora de los Religiosos Dominicos en Pangasinan* (Manila: U.S.T. Press, 1946), 121.

<sup>16</sup> Regalado Trota José, “*Palitada: Skin of the Church*,” in *Zero In 2003. Skin Surface Essence* (Manila: Ayala Museum, Lopez Memorial Museum, Ateneo Art Gallery, and Museo Pambata), 48.

<sup>17</sup> González, *Pangasinan*, 94.

<sup>18</sup> Servicio Histórico Militar and Servicio Geográfico del Ejército, *Cartografía y Relaciones Históricas de Ultramar. Tomo X. Filipinas*, 2 vols. (Madrid: Ministerio de Defensa, 1996), plates no. 50 and 51.

<sup>19</sup> González, *Pangasinan*, 103.



6. late 1830s: the first church of Mangatarem, Pangasinan, was built of *tabique pampango*. It burned down in 1842 and was replaced by the present large church of stone.<sup>20</sup>
7. between 1845-1849. The tribunal and school in Camiling, Tarlac, were built of *tabique pampango* under the direction of the Dominican parish priest.<sup>21</sup>
8. 1847-1848. The first church of Sual, Pangasinan, was built of *tabique pampango* and concluded in these years (it was begun in 1837).<sup>22</sup>
9. 1849. The convento of Tayug, Pangasinan, was finished, with walls of *tabique pampango*.<sup>23</sup>

### Varieties of *tabique pampango*

Comparison of photographs taken of *tabique pampango* enables a preliminary classification of the technique into two easily distinguishable types based on materials used. In the first type, bamboo slats (Visayan *salâsâ* or *sâsâ*, or Tagalog *patpat*) corresponding to the withies, are interwoven horizontally among the stakes or staves to form a basket-like screen. Examples can still be seen in the churches or conventos of places like Albuquerque (Figs. 4, 5, 6) and Baclayon (Figs. 7, 8), Bohol; Badian (Fig. 9) and Nueva Cáceres (Fig. 10), Cebu; Maria (Fig. 11) and Siquijor (Figs. 12, 13), Siquijor; Matalom, (Fig. 14), Leyte; Dapitan, (Fig. 15), Zamboanga del Norte; Jasaan (Figs. 16, 17), Misamis Oriental. In Zamboanga and Surigao, branches of the mangrove tree (*baras-baras* or *talibugsak*) were interwoven in the same way as bamboo.



Fig. 4. View of wall, where the lime plaster has been stripped off sections of the wattle. The intact sections are painted white and indigo.

<sup>20</sup> González, *Pangasinan*, 97.

<sup>21</sup> Ocio, Hilario, O.P., Gregorio Arnaiz, O.P., and Eladio Neira, O.P. 2000. *Misioneros Dominicanos en el Extremo Oriente 1836-1940* (Manila: [Life Today Publications]): 50.

<sup>22</sup> González, *Pangasinan*, 101.

<sup>23</sup> Ocio-Arnaiz-Neira, *Misioneros*, 62.





Fig. 5. Back view of unplastered wall.



Fig. 6. Detail of plaster peeling over wattle.

Figs. 4, 5, 6. *Tabique pampango* walls in convento, Alburquerque, Bohol. Photo: Regalado Trota José 2015



Fig. 7. *Tabique pampango* partition wall in convento, Baclayon, Bohol.

Photo: Regalado Trota José 1995

Fig. 8. Exterior wall of convento, Baclayon, Bohol.

Photo: Regalado Trota José 1995



Fig. 9. View of a wall in the convento of Badian, Cebu. The bamboo wattle can be discerned under the daub.

Photo: Regalado Trota José 2003

Fig. 10. Close view of the *tabique pampango* linking the church with the convento, Nueva Caceres, Cebu.

Photo: Regalado Trota José 2003





Fig. 11. Exterior wall of unidentified building in the church compound of Maria, Siquijor.

Photo: Regalado Trota José 2017



Figs. 12, 13. *Tabique pampango* wall above baptismal font of church and detail, Siquijor, Siquijor.

Photo: Regalado Trota José 2017



Fig. 14. *Tabique pampango* on upper section of the convento, Matalom, Leyte.

Photo: Regalado Trota Jose 2023



Fig. 15. Portion of half-wall of *tabique pampango* in the convento of Dapitan, Zamboanga del Norte.

Photo: Regalado Trota José 2000



Figs. 16, 17. *Tabique pampango* in the upper section of the nave of the church, Jasaan, Misamis Oriental.

Fig. 16. Wall facing the nave, with indigo and white paint.



Fig. 17. Rear of unplastered wall. Photo: Luis Faustino, 1982

In the second type, instead of bamboo slats, short lengths of lumber are used. These are laid horizontally, and lightly hacked with an axe or hatchet to provide a rough surface for the lime plaster to adhere to. Examples can still be seen in Dauis (Figs. 18, 19), Bohol; and Argao (Fig. 20), Boljoon (Fig. 21), and Dalaguete (Fig. 22), in Cebu. One has to consult early photographs to see how a complete wall of this kind would look like, as in Oslob, Cebu, before it burned down (Fig. 23). This second type has more versions, perhaps developed according to the availability of materials and skills. A similar technique was used for churches in Mindanao like Jabonga (Figs. 24, 25), Agusan del Norte; and Balingasag, Misamis Oriental, except that all the pieces had been painstakingly wound around with durable *cabo negro* rope.



Fig. 18. Detail of tabique pampango wall in ground floor of convento, Dauis, Bohol.

Photo: Regalado Trota José 2001



Fig. 19. Detail of tabique pampango wall in main hall in upper level of convento, Dauis, Bohol.

Photo: Regalado Trota José 2013

Fig. 20. Board-type of tabique pampango in junction between convento and church, Argao, Cebu.

Photo: Regalado Trota José 2003





Fig. 21. Board-type of *tabique pampango* at one of the convento, Boljoon, Cebu. Sections of the plaster are still extant.

Photo: Regalado Trota José 1999



Fig. 22. Board-type of *tabique pampango* in convento, Dalaguete, Cebu.

Photo: Regalado Trota José 2019



Fig. 23. Convento of Oslob, Cebu. Most of the plaster is still intact, concealing the board-type of *tabique pampango*.

Photo: Richard G. Ahlborn, c. 1960



Figs. 24, 25. Remains of wood boards from discarded *tabique pampango* wall in the apse of the church of Jabonga, Agusan del Norte, with remnants of cabo negro and lime plaster.

Photo: Regalado Trota José 2000





A pleasant surprise in 2013 was the discovery of a variation of the second type, some 700 kilometers north of the *tabique pampango* “heartland” in the Visayas. In the convento of the cathedral of Urdaneta, Pangasinan, partition walls were made of slim boards of wood laid one above the other, with some space in between to accommodate a rough lime mixture with stones. The boards were inserted like louvers into slanted grooves chiseled out of the vertical frame posts. Both sides of the walls were fitted with these “louver” frameworks. Lengths of thin rope were tied all over the wooden pieces, forming parallel rows or x’s, to enable the adhesion of the lime plaster (Figs. 26, 27, 28, 29). As noted above, this convento, which is now abandoned, was built in the late 1870s or early 1880s. It is a unique, if labor-intensive, evolution of *tabique pampango*, and nothing else is known about how it was developed or where it came from.



Fig. 26. Central hall in the convento.



Fig. 27. One of the main doors flanked by *tabique pampango* walls.



Fig. 28. Closer view of the upright frame post with diagonal slots for the horizontal boards.



Fig. 29. Close-up of the boards wound with rope, and with clumps of lime plaster.

Figs. 26 to 29. *Tabique pampango* in the abandoned convento of Urdaneta, Pangasinan Photo: Sabino Mejia, 2013

Further research must be undertaken to find out which technique is the earlier one. Additionally, it is not possible at the moment to ascertain where each of the techniques originated. Both techniques have been found in towns or provinces proximate to each other and, in the case of Loboc, Bohol, even in the same convento (Figs. 30, 31, 32). *Tabique pampango* was also combined with other building methods. In Valencia, Bohol, the exterior of the church was of *tabique pampango*, while the interior was sheathed with wooden planks; in Lila, two towns away, the opposite was carried out.



Fig. 30. General view of the convento. The bamboo *tabique pampango* is used for the arcaded gallery fronting the road. The board-type *tabique pampango* is used for the sides of the same gallery and the junction with the rear of the church.

Photo: Regalado Trota José 1995



Fig. 31. Bamboo wattle showing through the plaster of the arcaded gallery.

Photo: Regalado Trota José 1995

Fig. 32. Unplastered rear of bamboo *tabique pampango* in the third level of the convento.

Photo: Regalado Trota José 1998



Figs. 30, 31, 32. Two types of *tabique pampango* in convento of Loboc, Bohol (before the 2013 earthquake).

## The “golden age” of *tabique pampango*: 1870s to the end of the 19<sup>th</sup> century

Though *tabique pampango* gained popularity in the new churches of the Visayas and Mindanao, there is a handful of references to the technique in Luzon.

1. 1874: For a church in Bailen (now General Aguinaldo), Cavite it was recommended that:

*[La iglesia] ha de tener pared de piedra hasta una vara y media fuera de la tierra o cimienta, y las cinco y media restantes han de ser pilaretes [vertical studs, the staves] y travesaños [horizontal members, the withies] de madera con caña y cal o sea, segun se acostumbre llamar, de tabique pampango.*

The church has to have a stone wall up to one and a half *vara* above the ground or foundation. The rest of the five and half *varas* will be of vertical and horizontal studs of wood with bamboo and lime, or as this is customarily called, of *tabique pampango*.<sup>24</sup>

2. A section of wall below a window in the convento of Naic, Cavite, still had traces of hemp over a wooden framework, as observed by this author in the 1980s. Adjoining it, the church in neo-gothic style was built in the last quarter of the 19<sup>th</sup> century.
3. between 1877-1886. The convento of Urdaneta, Pangasinan, was begun, with partition walls of *tabique pampango* (Figs. 26, 27, 28, 29). The church was begun in 1884, with walls of *tabique pampango* over a meter-high stone foundation.<sup>25</sup> As of 2014, this was one of the largest buildings with many sections of its *tabique pampango* intact, albeit much of it in a decrepit state. We shall return to this structure in the latter part of this article.

With the decrease of the Moro Wars beginning in the middle of the 19<sup>th</sup> century, there was a corresponding increase in the establishment of parishes and mission stations in the Visayas and Mindanao. Due to its economic and time-saving advantages, *tabique pampango* was used extensively for provisional churches (raised on foundations of masonry) and partition walls in conventos. To give an idea of the extent of its use, we summarize in the following tables the data provided by the diocesan priest Felipe Redondo y Sendino in his *Brief Survey* of the diocese of Cebu

<sup>24</sup> José, “*Palitada*.” 49.

<sup>25</sup> Ocio-Arnaiz-Neira, *Misioneros*, 139. González, *Pangasinan*, 111.



in 1886.<sup>26</sup> We find that 17 out of 33 churches in Bohol had walls of *tabique pampango*. The summary notes that many *tabique pampango* walls were erected on bases of cut stone or rubblework, and were supported by hardwood posts.

### References to *tabique pampango* in churches in the Diocese of Cebu in the 1880s, and their particular locations:

Table 1. District of Cebu: City and Southern Vicariate (Redondo, *Survey*, pp. 119-129)

Locality	Church	Convento	Others
Cebu Cathedral	--	upper level and partitions	--
Cebu Southern Vicariate			
Talamban	on a stone base	--	--
Cordoba	upper half of the walls on a <i>cota</i> base	upper part	--
El Pardo	upper half of the walls on a stone base	mezzanine, with wooden planks	--
Naga	--	inner divisions	--
Sibonga	walls combined with hardwood posts new church being constructed	--	--
Nueva Caceres	upper third of walls on stone base	-- [Fig. 10; possibly this part was built after 1886]	upper part of belltower, on stone base
Oslob	--	upper level (Fig. 23)	Chapel in Santander; on a <i>cota</i> base

Table 2. Cebu: Vicariate of Northern Cebu (Redondo, *Survey*, pp. 130-134)

Locality	Church	Convento	Others
Consolacion	with hardwood posts	upper part	--
Liloan	--	upper part	--
Carmen	--	upper parts	upper parts of the belltower
Poros	--	on <i>cota</i>	--

<sup>26</sup> Felipe Redondo y Sendino, *A Brief Survey of What Was and What is The Diocese of Cebu in the Philippine Islands*. English Trans. by Azucena L. Pace of *Breve Reseña de lo que fue y de lo que es la Diócesis de Cebú en las Islas Filipinas*, published originally in 1886 by the Establecimiento Tipográfico del Colegio de Santo Tomás, Manila (Cebu: The University of San Carlos Press, 2014).

San Francisco	with hardwood posts on 1 meter of cut coral stone	on 1 meter coral stone base and hardwood	chapels and conventos in Canhiog and Pagambacan on a <i>cota</i> base.
Pilar	--	with hardwood posts	chapels in Dapdap, Lanao, and Cautit, 1 meter thick and about 7 meters high.
Catmon	--	inner walls	--
Sogod	--	upper part	--
Borbon	with hardwood posts, on a stone base	--	the upper part of the cemetery chapel on a <i>cota</i> base

Table 3. Cebu: Vicariate of Western Cebu (Redondo, *Survey*, pp. 135-145)

Locality	Church	Convento	Others
Bogo	walls	upper level	belltower; chapel in Nailon
Daan-Bantayan	on a base of <i>tabicon</i> (thick partition walls)	older part	--
Bantayan	--	inner divisions	--
Santa Fe	walls	---	--
Tuburan	on stone foundations	on stone foundations	--
Asturias	on a stone base	---	--
Toledo	combined with hardwood posts	--	--
Pinamungajan	combined with hardwood	--	chapel in Aloguinsan
Barili	--	--	chapel in Gilotog
Dumanjug	--	walls	--
Ronda	walls	walls	--
Moalboal	--	walls	chapel in Alcantara
Badian	--	walls ( <i>Fig. 9</i> )	chapel and convento of Matutinao
Alegria	walls	walls	chapel in Guianon, on a stone base
Malabuyoc	--	walls	small chapels in the barrios of Inamlang, Looc, and Santiago, for praying the rosary on Sundays and holidays.

Ginatilan	--	upper portion	--
Sambuan	--	upper part and partitions	--
San Sebastian	on a masonry base	walls	--

Table 4. Bohol: Northern Vicariate (Redondo, *Survey*, pp. 145-151)

Locality	Church	Convento	Others
Tagbilaran	---	combined with stone	--
Dauis	walls of the old church	-- ( <i>Figs. 18, 19</i> )	--
Panglao	temporary church	temporary convento	--
Baclayon	--	with cut coral stone and lime mortar masonry ( <i>Figs. 7, 8</i> )	--
Corella	with cut coral stone	with cut coral stone	
Alburquerque	temporary church	upper part, combined with planks ( <i>Figs. 4, 5, 6</i> )	--
Balilijan	with hardwood posts	with hardwood posts	--
Catigbian	new church, on 1 ½ <i>vara</i> <sup>27</sup> of stone base	walls	--
Paminguitan	walls	walls	--
Antequera	temporary church	temporary convento	--
Calape	on a stone base 1 <i>vara</i> high	lower part, on a stone base	--
Inabanga	walls beyond the façade and middle of the building, which were of masonry	walls	--
Getafe	on masonry base of 2 <i>varas</i> , combined with double paneling	--	--
Talibong	--	combined with planks	chapel in barrio Tabigue

<sup>27</sup> 1 vara is equivalent to 0.84 meters.

Table 5. Bohol: Southern Vicariate (Redondo, *Survey*, pp. 152-157)

Locality	Church	Convento	Others
Candijay	walls	--	--
Anda	walls	walls	materials were being gathered for a sturdier structure
Guindulman	walls, beyond the façade and nave until the pulpit, on a rubble foundation	--	--
Duero	--	inner divisions	--
Garcia Hernandez	walls	--	--
Valencia	exterior walls; while the interior is of planks, on masonry base; has double paneling	--	--
Lila	with hardwood posts	interior; exterior of planks	--
Sevilla	provisional church, with 42 hardwood posts	provisional convento, with 30 hardwood posts	--

Table 6. Siquijor Vicariate (Redondo, *Survey*, pp. 158-160)

Locality	Church	Convento	Others
Canoan	walls	--	--
San Juan	walls	walls	--
Maria	walls	-- ( <i>Fig. 11</i> )	--
Siquijor	--( <i>Figs. 12, 13, possibly after 1886</i> )		

Table 7. Leyte: Eastern coast Vicariate (Redondo, *Survey*, pp. 162-166)

Locality	Church	Convento	Others
Biliran	with posts	--	--
Naval	on cut coral stone	--	--
Leyte	with posts	of posts and <i>dindines</i> of planks	--

Jaro	--	walls and divisions, combined with planks	--
Tanauan	--	sections of walls	--

Table 8. Leyte: Western coast Vicariate (Redondo, *Survey*, pp. 170-176)

Locality	Church	Convento	Others
Macrohon	on a stone base, one fathom high	with posts	--
Matalom	--	with posts ( <i>Fig. 14</i> )	chapel and convento in Bato
Hilongos	--	divisions in between the columns	--
Hindang	on a masonry base of 2 meters	walls	--
Inopacan	--	walls	--
Ormoc	--	--	chapel in Merida
Quiot	with posts	--	--

Table 9. District of Samar: Vicariate of the Western Coast (Redondo, *Survey*, pp. 177-183)

Locality	Church	Convento	Others
Calbayog	--	walls	--
Santa Rita	walls	--	--
Most other churches were of stone and planks; no <i>tabique pampang</i> mentioned in the Eastern Coast and Northern Coast Vicariates of Samar.			

Table 9. 2<sup>nd</sup> District of Mindanao. Misamis (Redondo, *Survey*, pp. 194-198)

Locality	Church	Convento	Others
Lubungan	--	--	chapel in San Isidro
Dipolog	walls	--	--
Dapitan -- walls ( <i>Fig. 15</i> ) chapels and conventos in San Lorenzo de Ilaya, La Conquista, and Baliangao			

Oroquieta	walls	--	--
Misamis	--	walls	--
Alubijid	--	walls	--
El Salvador	walls	walls	--
Iponan	--	--	cemetery chapel
Jasaan	-- (Figs. 16, 17, after 1886)	--	--

Table 10. Island of Camiguin (Redondo, *Survey*, pp. 201)

Locality	Church	Convento	Others
Sagay	--	walls	--
Guinsiliban	--	walls	--
Majinog	walls	walls	--
Mambajao	combined with concrete	--	--

Table 11. 3<sup>rd</sup> District of Mindanao. Surigao (Redondo, *Survey*, pp. 202-206)

Locality	Church	Convento	Others
Butuan	on a masonry base 2 meters high	--	--
Jabonga	walls [Figs. 24, 25]	--	--
Taganaan	on a stone base 6 <i>palmos</i> <sup>28</sup> high and 5 ½ thick	--	--
Placer	on a stone base 6 <i>palmos</i> high and 5 ½ thick	--	--
Dinagat	on stone base, 2 <i>varas</i> high and 1 <i>vara</i> wide.	--	--

Table 11. Comandancia de Bislig (Redondo, *Survey*, pp. 209-210)

Locality	Church	Convento	Others
Liangá	on a masonry base	--	--
Bislig	walls	walls	--
Caraga	on a masonry base	--	--

<sup>28</sup> 1 *palm*o is equivalent to a palm span, about 8 inches.

It must be realized that a great many of these structures were put up as a transition from a *visita* or chapel of light materials and wood to such a time when the community could save enough resources and build a grander one of stone. Several of the edifices listed above were rebuilt of cut coral stone after 1884. In the 20<sup>th</sup> century many churches, although retaining the stone foundation walls, replaced their *tabique pampango* sections with concrete hollow blocks.

The diocese of Cebu in Redondo's time consisted of Cebu, Bohol, eastern Negros, northern and eastern Mindanao, and the Marianas Islands. In Marianas and Saipan, no *tabique pampango* or similar construction was reported; all their structures were of wood and stone. No account similar to that of Redondo's was published in the later 19<sup>th</sup> century for the archdiocese of Manila or the dioceses of Nueva Segovia (northern Luzon), Nueva Cáceres (southeastern Luzon), or Jaro (western Visayas and much of western and southern Mindanao). It would have been interesting to see how much *tabique pampango* was utilized in these regions.

### The prohibition of *tabique pampango* in 1880

In 1880, the Spanish authorities prohibited *tabique pampango* ironically at the height of its popularity. On July 18 and 20 of that year Manila experienced a destructive earthquake, and the government released a series of directives known as the Earthquake Ordinances<sup>29</sup> the next month, on August 18.

*26. Los tabiques interiores o abrigados por galerías, serán de plancha metálica o tablilla, prohibiéndose en absoluto los tabiques de ladrillo o llamados "pampangos" en el país. Los entramados de todos estos tabiques deberán ser fuertes, bien enlazados con los pié-derechos a que correspondan y perfectamente triangulados.*<sup>30</sup>

26. Interior dividers or those sheltered by galleries should be made of iron sheets or boards, and should never be made of bricks or what is locally known as *pampangos*. The frame of all these *tabiques* should be strong, well attached to the corresponding posts and perfectly angled.<sup>31</sup>

<sup>29</sup> Fernando N. Zialcita and Martin I. Tinio, Jr., *Philippine Ancestral Houses (1810-1930)* (Quezon City: GCF Books, 1980), 68-69.

<sup>30</sup> Luis Merino, O.S.A., *Arquitectura y Urbanismo en el Siglo XIX: Introducción General y Monografías. Estudios Sobre el Municipio de Manila. Volumen II* (Manila: Centro Cultural de España and The Intramuros Administration, 1987), 166.

<sup>31</sup> Gerard Lico and Lorelei D.C. de Viana, *Regulating Colonial Spaces (1565-1944)* (Manila: National Commission for Culture and the Arts, 2017), 92.



The Ordinances did not point out what was the *tabique pampango*'s sin. From the context of the clause, we may infer that this type of wall did not meet the government's standards of sturdiness. Among the recommendations given by the Consultative Council of Public Works presented to the governor general earlier on July 30, was the proscription against partition walls that were too thick:

*deben proscribirse los tabiques de mampostería, aunque sean con entramado de madera y los de guarnecido de gran espesor, como son los llamados "pampangos" en el país.*<sup>32</sup>

*Tabique* walls of rough masonry, although they may be wooden frameworks or those embellished with much thickness, such as those called 'pampangos' in the country, should be forbidden.

Could it be, then, that by this time the *tabique pampango* walls had grown thicker with applications not only of lime plaster but of other materials as well? The walls in the convento of Urdaneta, Pangasinan, as will be seen later, may be an example of such a development (Figs. 26, 27, 28, 29). However, despite the prohibition, the adjoining church utilized *tabique pampango* in its 1884 construction. Possibly, as a nod to the restrictions, only one side of the wall was plastered. This may explain why only the side facing the nave in Jasaan, Misamis Oriental was plastered (Fig. 17), or in the conventos of Alburquerque (Fig. 4) and Loboc, Bohol (Fig. 32). It would not even have been necessary, as the opposite or inner side was hidden from view: but ironically, leaving one side unplastered rendered it unprotected against insect pests.

It seems that wattle and daub construction continued in much of the Visayas and Mindanao up to the end of Spanish rule. With the arrival of Portland Cement in the later years of the 19<sup>th</sup> century, and the fast-paced building programs of the succeeding American regime, the tedious lime-making industry came to a gradual halt. And with it, the end of the *tabique pampango* technique.

### **Why could it have been called *tabique pampango*?**

We come now to theorize the origin of the descriptive "pampango." In accounts throughout the Spanish period, the Pampangos, natives of the province of Pampanga to the north of Manila, are those most often singled out as the laborers in construction projects. (Apart from the present-day eponymous province, old Pampanga comprised much of today's provinces of Nueva Ecija, Tarlac, Bulacan, and Bataan.) The 1739 report of Governor Fernando Valdés Tamón to the King describes the Pampangos as "spirited and strong, and of all, are the most loyal to the Spanish,

<sup>32</sup> Merino, *Arquitectura*, 176.

being the only native people used to form infantry companies in Manila and other fortresses on the islands.<sup>33</sup> These Pampanga infantry companies were composed of soldiers (*soldados pampangos*), each led by its own captain (*capitán pampango*) and officers. Depending on the size of the regiment, they would have their own *paje* (armor-bearer), *abanderado* (standard-bearer), *pifano* (fifer), and *atambor* (drummer). They could even include *aventajados* or mercenaries. Among their number were *carpenteros* (carpenters), *aserradores* (sawyers), and *herrerros* (smiths).<sup>34</sup> The following table documents their places of assignment, numbers, as gleaned from the 1739 report:<sup>35</sup>

COMPAÑÍAS DE INFANTERÍA PAMPANGA (COMPANIES OF PAMPANGO INFANTRY) IN 1739		
<u>Place</u>	<u>Officers</u>	<u>Number of soldados (soldiers)</u>
Manila [Intramuros]	<i>capitán</i> (captain), <i>alférez</i> (second lieutenant), <i>sargento</i> (sergeant)	243 soldiers “more or less,” including some <i>aventajados</i> (mercenaries), and an <i>abanderado</i> (standard-bearer)
Castillo de Santiago [now Fort Santiago]	<i>capitán</i> (captain), <i>alférez</i> (second lieutenant), <i>sargento</i> (sergeant)	90 soldiers including 3 mercenaries: <i>abanderado</i> (standard-bearer), <i>pifano</i> (fifer), and <i>atambor</i> (drummer)
Puerto de Cavite	<i>maestre de campo</i> (field master), <i>sargento mayor</i> (sergeant major), <i>alférez</i> (second lieutenant), <i>sargento</i> (sergeant)	220 soldiers, including 120 <i>aventajados</i> (mercenaries) who are <i>aserradores</i> (sawyers)

<sup>33</sup> The data are taken from Fernando Valdés Tamón, *Report in which, by Order of his Catholic Majesty (may God protect him), the Strongholds, Castles, Forts and Garrisons of the Provinces under his Royal Dominion in the Philippine Islands are Listed* [1739-1742]. Prologue and transcription by Mariano Cuesta and Violeta Infante; translated by Susan Meredith, Catherine Lawrence and Jennifer McDonald [Translation of Biblioteca Nacional Ms. 19217]. [Santander:] Santander Investment, S.A., 1995.

<sup>34</sup> For the new *almacenes* (warehouses) project in Intramuros which began in 1696 and continued intermittently for the next two decades, those assigned to demolish the old warehouses, set aside those materials that could be reused, dig the foundations, and raise the walls of the new ones, were the Pampango infantry soldiers housed in nearby Fort Santiago. Among them were “many stonecutters, masons, and carpenters” which further reduced costs. The soldiers provided for the transport of stone and lime from Meycauayan and Parañaque on their boats, undertook the cutting and hauling of trees from the island of Mariveles (Corregidor), and fashioned bricks and roof tiles in Cavite. María Lourdes Díaz-Trechuelo Spínola, *Arquitectura española en Filipinas (1565-1800)* (Sevilla: Escuela de Estudios Hispano-Americanos de Sevilla, 1959), 178.

<sup>35</sup> Valdés Tamón, *Report*, 156.

Playa Honda, Zambales	--	16 soldiers, including 4 <i>merdicas</i> [from Ternate, Indonesia]
Fuerza de San Francisco, Nueva Segovia [Lallo], Cagayan	<i>cabo</i> (corporal)	20 soldiers and 8 soldiers working as <i>herrerros</i> (metalsmiths)
Fuerza de Santiago, Ytugud [later moved to Ilagan, Isabela]	--	9 soldiers
Fuerza de San Jose de Cabicungan [now Sanchez Mira], Cagayan	--	3 soldiers
Fuerza de San Pablo de Tuao, Cagayan	--	7 soldiers
Fuerza de San Jose de Capinatan [now in Pudtol, Apayao province]	--	5 soldiers
Fuerza de Santa Isabel, Taytay, Palawan	<i>capitán</i> (captain), <i>alférez</i> (second lieutenant), <i>sargento</i> (sergeant)	25 soldiers, another 3 for <i>paje</i> (armor-bearer), <i>abanderado</i> (standardbearer), and <i>atambor</i> (drummer)
Fuerza de Capis [now Roxas City, in the province of Capiz]	--	4 soldiers
Fuerza Nuestra Señora del Rosario, Yloylo [now fort San Pedro, Iloilo City]	<i>capitán</i> (captain), <i>alférez</i> (second lieutenant), <i>sargento</i> (sergeant)	36 soldiers, another 3 for <i>paje</i> (armor-bearer), <i>abanderado</i> (standardbearer), and <i>atambor</i> (drummer)
Fuerza San Pedro, Cebu City	<i>capitán</i> (captain), <i>alférez</i> (second lieutenant), <i>sargento</i> (sergeant)	22 soldiers, another 3 for <i>paje</i> (armor-bearer), <i>abanderado</i> (standard-bearer), and <i>atambor</i> (drummer)
Fuerza San Jose, Cagayan [now Cagayan de Oro City]	--	4 soldiers
Fuerza San Francisco Javier, Iligan [Lanao del Norte]	--	8 soldiers
Fuerza San Jose, Tandag [Surigao del Sur]	<i>capitán</i> (captain), <i>alférez</i> (second lieutenant), <i>sargento</i> (sergeant)	30 soldiers, another 3 for <i>paje</i> (armor-bearer), <i>abanderado</i> (standardbearer), and <i>atambor</i> (drummer)
Fuerza Nuestra Señora del Pilar, Zamboanga [City]	<i>capitán</i> (captain), <i>alférez</i> (second lieutenant), <i>sargento</i> (sergeant)	100 soldiers, another 2 for <i>paje</i> (armor-bearer) and <i>abanderado</i> (standardbearer)

The fact that the Pampangos (in their capacity as infantry militiamen) were the only native group dispatched by the government for any mission all over the islands, very probably explains why the wattle-and-daub technique known as *tabique pampango* was named after them. Though this type of wall may have been known previous to the arrival of the Pampango infantry, it can be imagined that the moniker evolved from the Pampango workers' utilization of this technique for light constructions wherever they were assigned.

### **Modern-day rediscovery and recognition of *tabique pampango***

*Tabique pampango* remained hidden from the local architectural scene for most of the 20<sup>th</sup> century. Its first re-appearance seems to have been in the publication of the English translation of Martínez de Zúñiga's *Estadismo* in 1973, as mentioned earlier. In 1980, the classic *Philippine Ancestral Houses* by Fernando N. Zialcita and Martin I. Tinio mentioned *tabique pampango* with a definition, "bamboo slats pressed and bound together then plastered over with lime," and included its prohibition in 1880.<sup>36</sup> Subsequent scholarly works by René B. Javellana, S.J. (1991)<sup>37</sup> and Regalado Trota José (1992 and 2003)<sup>38</sup> slowly brought this forgotten Filipino building technique out of the shadows. *Tabique pampango* was included in discussions on construction methods in the *Cultural Center of the Philippines Encyclopedia of Philippine Art* (1<sup>st</sup> edition, 1994,<sup>39</sup> 2<sup>nd</sup> edition, 2017<sup>40</sup>). Although it has appeared in one major history of Philippine Architecture (Lico, 2008),<sup>41</sup> it is still terra incognita in most Philippine architecture classes. *Tabique pampango* has so far escaped the attention of Spanish and other foreign scholars.

In 2001, the National Museum of the Philippines declared 26 churches as National Cultural Treasures. Two these were the parish churches of the Immaculate Conception in Jasaan, Misamis Oriental, and of St. John the Baptist in Jimenez, Misamis Occidental. Apart from possessing a well conserved historic church, convento, and compound, a major asset in their nomination was the *tabique*

<sup>36</sup> Zialcita and Tinio, Jr., *Philippine Ancestral Houses*, 67-68.

<sup>37</sup> Javellana, *Wood & Stone*, 49, 54.

<sup>38</sup> Regalado Trota José, *Simbahan. Church Art in Colonial Philippines 1565-1898* (Makati: Ayala Museum, 1991), 36-37; *Arkitektura. Spanish Influence on Philippine Architecture* [Video script and monograph for the Tuklas Sining series.] (Manila: Cultural Center of the Philippines, 1992); and "Palitada:" 34-36.

<sup>39</sup> Nicanor G. Tiongson, ed., *CCP Encyclopedia of Philippine Art* (Manila: Cultural Center of the Philippines, 1994) Vol. III: Philippine Architecture, 44.

<sup>40</sup> *Cultural Center of the Philippines Encyclopedia of Philippine Art*, 2<sup>nd</sup> Edition (Manila: Cultural Center of the Philippines, 2017) Vol. 4: Architecture, 34.

<sup>41</sup> Gerard Lico, *Arkitekturang Filipino. A History of Architecture and Urbanism in the Philippines* (Diliman, Quezon City: The University of the Philippines Press, 2008), 135.

*pampango* walling in various parts of the buildings. Ironically in Jasaan, the *tabique pampango* in the upper reaches of the nave, corresponding to its clerestory (Figs. 16, 17), was taken down a few decades ago and only a few elder citizens remember that it was ever there (they recount the plaster dust falling on their heads). However, in the past couple of years a strong parroquial movement is bringing back the wattle on the upper walls, and the lime will be daubed when everything is in place (Figs. 33, 34). The community decided to revive the *tabique pampango* upon completion of a Conservation Management Plan prepared by the University of Santo Tomás Graduate School Center for Conservation of Cultural Property and Environment in the Tropics (CCCPET), in coordination with the parish of the Immaculate Conception and the Archdiocese of Cagayan de Oro.



Fig. 33. Re-installation of *tabique pampango* in Jasaan.

Photo: Parish of the Immaculate Conception, Jasaan 2022



Fig. 34. Most of the wattle was installed by Christmas, 2023.

Photo: Vinny Veloso 2023

### **A future for *tabique pampango*?**

Universities and scholars in Latin America and other regions are actively promoting the study and revival of wattle and daub. It is earth friendly, promotes

community bonding, and requires little technology. It is being utilized as a vital component for residences in earthquake-prone countries like El Salvador.<sup>42</sup> Contemporary architects are studying innovations on the traditional technique to address the lack of homes in the rural areas, such as in Chile.<sup>43</sup>

Today, there are many informative websites on “do-it-yourself” wattle and daub projects. One helpful manual is *Wattle and Daub. Anti-seismic construction handbook* by Wilfredo Arazas Aedo and Alba Rivero Olmos, a project financed by Misereor.<sup>44</sup> There are tips on the use of bamboo, which is recommended as a vertical element due to its higher tensile strength. The most suitable time for cutting bamboo is during the dry season, the waning moon. After cutting, the poles must be dried vertically, avoiding contact with the ground, for up to 60 days. To remove any starches or sugars that attract insects, the poles can be immersed in a preservative solution such as salt, lime, or hot asphalt for 5 hours, or simply in clean water for a month, changing the water daily.

In the Philippines, perhaps a university or consortium of learning can initiate studies on *tabique pampango* (or other traditional building methods as well) with the view to rehabilitating it as a viable and sustainable technique. This would entail, among others:

- studies on the construction of *tabique pampango*, its adaptability to various conditions, and its maintenance;
- studies on the best types of bamboo or mangroves for this type of construction;
- sustainability of bamboo and mangrove resources;

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<sup>42</sup> Manuel López, Julian Bommer, and Patricia Méndez, “The Seismic Performance of Bahareque Dwellings in El Salvador,” 2004, [https://www.iitk.ac.in/nicee/wcee/article/13\\_2646.pdf](https://www.iitk.ac.in/nicee/wcee/article/13_2646.pdf); and Dominik Lang, Roberto Merlos, Lisa Holliday, and Manuel A. Lopez M., “Housing Report. Vivienda de Bahareque,” 2007, <http://www.world-housing.net/WHEReports/wh100159.pdf>, both accessed October 9, 2021.

<sup>43</sup> Natalia Jorquera S., “Aprendiendo del Patrimonio Vernáculo: tradición e innovación en el uso de de la quincha en la Arquitectura Chilena,” *Revista de Arquitectura* 2014, 28/29, [https://r.search.yahoo.com/\\_ylt=AwrxyxRt951h5G4A7xezRwx.;\\_ylu=Y29sbwNzZzMEcG9zAzIEdnRpZAMEc2VjA3Ny/RV=2/RE=1637771245/RO=10/RU=https%3a%2f%2frevistaestudio.tributarios.uchile.cl%2findex.php%2fRA%2farticle%2fview%2f37087/RK=2/RS=8FbqVq\\_uYI02Qc1BxOXsPsHyeY-](https://r.search.yahoo.com/_ylt=AwrxyxRt951h5G4A7xezRwx.;_ylu=Y29sbwNzZzMEcG9zAzIEdnRpZAMEc2VjA3Ny/RV=2/RE=1637771245/RO=10/RU=https%3a%2f%2frevistaestudio.tributarios.uchile.cl%2findex.php%2fRA%2farticle%2fview%2f37087/RK=2/RS=8FbqVq_uYI02Qc1BxOXsPsHyeY-), accessed October 9, 2021.

<sup>44</sup> Arch. Wilfredo Carazas Aedo and Arch. Alba Rivero Olmos, *Wattle & Daub : Paraseismic Construction Handbook*, Scientific coordination: CRATerre-EAG Team, Document financed by MISEREOR, Editions CRATerre, Villefontaine Cedex, France, <https://web.archive.org/web/20160527121418/http://www.misereor.org/fileadmin/redaktion/Wattledaub%20handbook%20anti-seismic%20construction.pdf>, accessed October 9, 2021.

- carbon-free ways to generate lime from all the clams and seashells thrown away from restaurants every day; and

-propagation of this knowledge in schools and places where it is most needed.

With so many blessings from the sea, the shore, and the forests, perhaps a Filipino contribution to world earth architecture would be the revival of *tabique pampango*.<sup>PS</sup>

## References

- Díaz-Trechuelo Spínola, María Lourdes. 1959. *Arquitectura española en Filipinas (1565- 1800)*. Sevilla: Escuela de Estudios Hispano-Americanos de Sevilla.
- González, José Ma., O.P. 1946. *Labor evangélica y civilizadora de los Religiosos Dominicanos en Pangasinan*. Manila: U.S.T. Press.
- “Informe sobre el estado de varias iglesias de Ilocos en los años 1709 y 1710.” 1923. *Archivo Histórico Hispano Agustiniiano*, XIII: 200-213.
- Javellana, René B., S.J. 1991. *Wood & Stone for God’s Greater Glory. Jesuit Art and Architecture in the Philippines*. Quezon City: Ateneo de Manila University Press.
- José, Regalado Trota. 1991. *Simbahan. Church Art in Colonial Philippines 1565-1898*. Makati: Ayala Museum.
- \_\_\_\_\_. 1992. *Arkitektura. Spanish Influence on Philippine Architecture* [Video script and monograph for the Tuklas Sining series]. Manila: Cultural Center of the Philippines.
- \_\_\_\_\_. 1994. “Construction Methods and Materials: The Spanish Colonial Tradition”, *CCP Encyclopedia of Philippine Art*. Manila: Cultural Center of the Philippines. pp.191-194.
- \_\_\_\_\_. 2003. “Palitada: Skin of the Church”. In *Zero In 2003. Skin Surface Essence*, pp. 6-53. Manila: Ayala Museum, Lopez Memorial Museum, Ateneo Art Gallery, and Museo Pambata.
- Lico, Gerard. 2008. *Arkitekturang Filipino. A History of Architecture and Urbanism in the Philippines*. Diliman, Quezon City: The University of the Philippines Press.



- \_\_\_\_\_, and Lorelei D.C. de Viana. 2017. *Regulating Colonial Spaces (1565-1944)*. Manila: National Commission for Culture and the Arts.
- Magsalay, Remedios Gil. 1995. "Daklit nga kasaysayan sa Katulismo sa Balingasag." In *The Local Historical Sources of Northern Mindanao*, Vol. II, 1069-1081. Ed. by Francisco R. Demetrio, S.J. Cagayan de Oro City: Xavier University.
- Martínez de Zúñiga, Joaquín, O.S.A. 1973. *Status of the Philippines in 1800*, trans. by Vicente del Carmen of *Estadismo de las Islas Filipinas* (ed. by W. E. Retana, Madrid, 1893, I). Manila: Filipiniana Book Guild.
- Merino, Luis, O.S.A. 1987. *Arquitectura y Urbanismo en el Siglo XIX: Introducción General y Monografías. Estudios Sobre el Municipio de Manila. Volumen II*. Manila: Centro Cultural de España and The Intramuros Administration.
- Ocio, Hilario, O.P., Gregorio Arnaiz, O.P., and Eladio Neira, O.P. 2000. *Misioneros Dominicanos en el Extremo Oriente 1836-1940* (Manila: [Life Today Publications]).
- Redondo y Sendino, Felipe. 2014. *A Brief Survey of What Was and What is The Diocese of Cebu in the Philippine Islands*. English Trans. by Azucena L. Pace of *Breve Reseña de lo que fue y de lo que es la Diócesis de Cebú en las Islas Filipinas*. (Published originally in 1886 by the Establecimiento Tipográfico del Colegio de Santo Tomás, Manila.) Cebu: The University of San Carlos Press.
- Servicio Histórico Militar and Servicio Geográfico del Ejército. 1996. *Cartografía y Relaciones Históricas de Ultramar. Tomo X. Filipinas*, 2 vols. Madrid: Ministerio de Defensa.
- Tiongson, Nicanor G., ed. 1994. *CCP Encyclopedia of Philippine Art*. Manila: Cultural Center of the Philippines.
- \_\_\_\_\_. 2017. *Cultural Center of the Philippines Encyclopedia of Philippine Art*, 2<sup>nd</sup> Edition. Manila: Cultural Center of the Philippines.
- Valdés Tamón, Fernando. 1995 [1739-1742]. *Report in which, by Order of his Catholic Majesty (may God protect him), the Strongholds, Castles, Forts and Garrisons of the Provinces under his Royal Dominion in the Philippine Islands are Listed*. Prologue and transcription by Mariano Cuesta and Violeta Infante; translated by Susan Meredith, Catherine Lawrence and Jennifer McDonald. [Santander:] Santander Investment, S.A. [Translation of Biblioteca Nacional Ms. 19217].

Zialcita, Fernando N., and Martin I. Tinio, Jr. 1980. *Philippine Ancestral Houses (1810-1930)*. Quezon City: GCF Books.

*Online sources:*

Amaral Moreira, Cíntia Mariza do. “Técnicas de Construção Vernácula: em Portugal, taipa de pilão; e no Brasil, pau-a-pique.” <http://revistas.icesp.br/index.php/LRI/article/download/1497/1083>, accessed November 22, 2021.

Aninat, Andrés. “¿Es la quincha una alternativa posible para atender la demanda mundial por vivienda?” Fundación Altiplano, 2020. <https://www.fundacionaltiplano.cl/post/es-la-quincha-una-alternativa-posible-para-atender-la-demanda-mundial-por-vivienda>, accessed October 9, 2021.

Carazas Aedo, Arch. Wilfredo and Arch. Alba Rivero Olmos. *Wattle & Daub : Paraseismic Construction Handbook*, Scientific coordination: CRATerre-EAG Team, Document financed by MISEREOR, Editions CRATerre, Villefontaine Cedex, France. <https://web.archive.org/web/20160527121418/http://www.misereor.org/fileadmin/redaktion/Wattledaub%20handbook%20anti-seismic%20construction.pdf>. accessed October 9, 2021.

Carbajal, Fabio, Gaby Ruiz, and Cliff J. Schexnayder, “Quincha Construction in Perú,” *Practice Periodical on Structural Design and Construction*, ASCE, February 1, 2005. [https://www.researchgate.net/publication/245492445\\_Quincha\\_Construction\\_in\\_Peru/link/02e7e52aa288d896f7000000/download](https://www.researchgate.net/publication/245492445_Quincha_Construction_in_Peru/link/02e7e52aa288d896f7000000/download), accessed October 9, 2021.

“Chinese architecture- Stylistic and historical development to 220 ce.” <https://www.britannica.com/art/Chinese-architecture/Stylistic-and-historical-development-to-220-ce>.

Guerrero Baca, Luis Fernando. “Pasado y porvenir de la construcción con bajareque,” 2017. <https://editorialrestauro.com.mx/pasado-y-porvenir-de-la-construccion-con-bajareque/>, accessed on October 9, 2021.

Jorquera S., Natalia. “Aprendiendo del Patrimonio Vernáculo: tradición e innovación en el uso de de la quincha en la Arquitectura Chilena,” *Revista de Arquitectura* 2014, 28/29. [https://r.search.yahoo.com/\\_ylt=AwrxyxRt951h5G4A7xezRwx.;\\_ylu=Y29sbwNzZzMEcG9zAzIEdnRpZAMEc2VjA3Ny/RV=2/RE=1637771245/RO=10/RU=https%3a%2f%2frevistaestudiotributarios.uchile.cl%2findex.php%2fRA%2farticle%2f](https://r.search.yahoo.com/_ylt=AwrxyxRt951h5G4A7xezRwx.;_ylu=Y29sbwNzZzMEcG9zAzIEdnRpZAMEc2VjA3Ny/RV=2/RE=1637771245/RO=10/RU=https%3a%2f%2frevistaestudiotributarios.uchile.cl%2findex.php%2fRA%2farticle%2f)

view%2f37087/RK=2/RS=8FbqVq\_uIYI02Qc1BxOXsPsHyeY-, accessed October 9, 2021.

Kaller, Brian. “Wattle and Daub.” <https://www.resilience.org/stories/2017-02-10/wattle-and-daub/>. accessed October 9, 2021.

Lang, Dominik, Roberto Merlos, Lisa Holliday, and Manuel A. Lopez M. “Housing Report. Vivienda de Bahareque,” 2007. <http://www.world-housing.net/WHEReports/wh100159.pdf>, accessed October 9, 2021.

López, Manuel, Julian Bommer, and Patricia Méndez. “The Seismic Performance of Bahareque Dwellings in El Salvador,” 2004. [https://www.iitk.ac.in/nicee/wcee/article/13\\_2646.pdf](https://www.iitk.ac.in/nicee/wcee/article/13_2646.pdf) accessed October 9, 2021.

Pritchett, Ian. “Wattle and Daub.” <https://www.buildingconservation.com/articles/wattleanddaub/wattleanddaub.htm>.

Rodríguez Camilloni, Humberto. “Quincha architecture: The development of an antiseismic structural system in seventeenth century Lima,” 2003. [http://www.sedhc.es/biblioteca/actas/CIHC1\\_163\\_Rodriguez%20H.pdf](http://www.sedhc.es/biblioteca/actas/CIHC1_163_Rodriguez%20H.pdf), accessed October 9, 2021.

San Cristóbal Sebastián, Antonio. “Epílogo. La nueva visión del conjunto franciscano,” Institut français d’études andines, 2006. <https://books.openedition.org/ifea/1157>, accessed October 9, 2021.

Vitruvio. *Tratado de Arquitectura*. [https://www.academia.edu/36157054/Tratado\\_de\\_arquitectura\\_Marco\\_Vitruvio](https://www.academia.edu/36157054/Tratado_de_arquitectura_Marco_Vitruvio), accessed on November 23, 2021.

Vitruvius. *The Ten Books of Architecture*, Translated by Morris Hicky Morgan (Cambridge: Harvard University, 1914) Book II, Chapter VIII, Section 20. <https://www.gutenberg.org/files/20239/20239-h/20239-h.htm>, accessed on October 9, 2021.

“Wattle and daub,” [https://www.appropedia.org/Wattle\\_and\\_daub](https://www.appropedia.org/Wattle_and_daub).

“Wattle and daub,” [https://en.wikipedia.org/wiki/Wattle\\_and\\_daub](https://en.wikipedia.org/wiki/Wattle_and_daub).

“Wattle and daub,” <https://www.lowimpact.org/lowimpact-topic/wattle-daub/>.

