HERITAGE 2025 | International Conference on Earthen and Vernacular Heritage: Conservation, Adaptive Reuse and Urban Regeneration
September 10th – 12th, 2025, Valencia (Spain)
https://doi.org/10.4995/HERITAGE2025.2025.19222

Inventory and Cataloguing of Traditional Houses in the Province of Veraguas, Panama

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Topic: T2.1. Study and cataloguing of earthen architecture

How to cite: Aponte, Carlos (2025). Inventory and Cataloguing of Traditional Houses in the Province of Veraguas, Panama. In C. Mileto, F. Vegas, A. Hueto-Escobar & S. Manzano-Fernández (Eds.) *Earthen and Vernacular Heritage: Conservation, Adaptive Reuse and Urban Regeneration.* September 10th – 12th, 2025, Valencia (Spain). edUPV. https://doi.org/10.4995/HERITAGE2025.2025.19222

Abstract

The Republic of Panama possesses a valuable architectural heritage that has evolved over time, shaping a unique identity in each region. In Veraguas, one of the provinces with the richest history and cultural significance, vernacular architecture has been a fundamental pillar in defining lifestyles and community organization. However, in recent decades, globalization has driven the replacement of traditional materials and construction techniques with industrial methods and standardized foreign designs, accelerating the disappearance of traditional typologies. This research aimed to identify, analyse, and document traditional housing in the province of Veraguas during the years 2021 and 2022, with the objective of contributing to the preservation of Panama's architectural heritage through a detailed record of its characteristics and current state. To achieve this, rural communities where these dwellings were still present were identified, followed by in situ visits to analyse and document their construction methods, state of conservation, materials, legal status, and spatial organization. Interviews were conducted with homeowners and local builders, enabling the collection of information on construction techniques, historical context, and the evolution of these dwellings over time. This approach integrated direct observation with local knowledge, allowing for a comparative analysis of architectural patterns and their relationship with the socio-cultural environment. As a result, the inventory documented a total of 30 dwellings located in five districts of the province of Veraguas. Understanding the key characteristics of these typologies, the social factors that influenced their construction, and the way they responded to their immediate environment provides valuable insights for assessing their advantages over contemporary housing models, opening new possibilities for the improvement of architectural practices.

Keywords: *tradition; sustainability; cultural heritage; construction; rural population*

1. Introduction

Over time, technological advancements and globalization have transformed social, economic, and cultural dynamics. While these changes have facilitated access to technology and information, they have also contributed to the erosion of local traditions. The Republic of Panama has developed a rich and diverse architectural heritage that spans the entire national territory. This architecture varies across regions, adapting to the specific characteristics of the locations in which it was built.

One example is the province of Veraguas, which, with more than 500 years of history, has become one of the most culturally significant regions in the country.

This cultural identity has been expressed in various forms, including art, music, and architecture. However, today this heritage is increasingly threatened by globalization and is now largely confined to rural areas, where it persists in a weakened form. In the architectural realm, this phenomenon has led to the displacement of traditional typologies — originally adapted to their environment— by new, foreign models that lack such contextual responsiveness.

The objective of this research was precisely to document the physical and social characteristics that define these architectural and urban models, in order to provide a comprehensive understanding of their evolution and current relevance. Through this process, the study aims to promote the integration of traditional architectural elements into contemporary projects, encouraging the recovery and adaptation of key aspects of local architecture.

Moreover, the findings seek to be a resource for researchers, architects, and professionals in the field, fostering greater awareness of the region's architectural heritage and encouraging its conservation, revitalization, and application in the design of new constructions that respect both the traditions and the cultural context of the area.

2. General study information

2.1. Problem statement

Traditional architecture in the province of Veraguas reached its peak between 1860 and 1945, a period during which most of these typologies were built. However, their decline began shortly thereafter, largely due to the increasing proliferation of housing models introduced by the United States during the construction of the Panama Canal—typologies that had already started to gain ground following the Canal's completion in 1914. The 1981 thesis "El Hábitat Rural de Panamá" provides early statistical evidence of this phenomenon, documenting the replacement of traditional housing typologies:

> "The housing designs provided by the State to rural communities, in addition to disregarding local materials and resources, present the problem of being based on patterns adopted from urban areas. These designs do not align with economic realities of rural communities, but are instead determined by the preferences of the users. This creates dependency among rural dwellers and diminishes their appreciation for the materials offered by their own environment" (Arias & Martínez, 1981, p. 357).

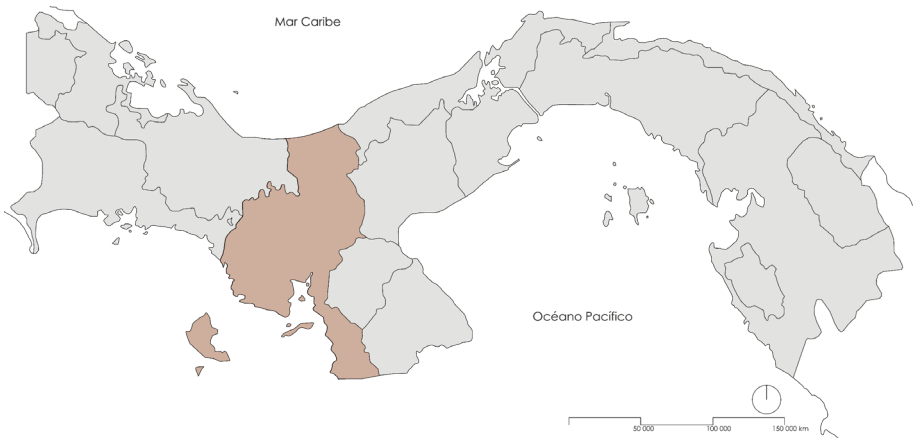

Fig. 1 – *Location of Veraguas Province in the Republic of Panama (Carlos Aponte, 2022).*

This issue is also addressed in the Report on the Characterization of Rural Spaces developed by ECLAC, which supports the claim that traditional housing typologies—built with locally sourced materials—were gradually replaced by today's standardized construction models, which feature concrete block walls, reinforced concrete structures, and corrugated zinc roofs. These new structures, designed primarily for urban and highly globalized contexts, have been extended into rural areas of the country, contributing to the erosion of local culture and identity. Vernacular typologies, by contrast, are characterized by easy access to materials, minimal need for specialized labor, and their role in fostering community cohesion, as construction was traditionally a collective, social activity. These qualities translate into significant reductions in housing construction costs.

2.2. Relevant information

In the Veraguas region, rural settlements exhibit a defined structure and organization, shaped by physical conditions, economic factors, and traditions passed down through generations. For the purposes of this study, the representative dwellings of Veraguas will be those identified in the Report on the Characterization of Rural Spaces, published in 2015 by the Economic Commission for Latin America and the Caribbean (ECLAC); namely, the following:

- ***Quicnha*:** is a traditional technique for building walls, consisting of a wooden framework filled with plastic earth (mud) mixed with plant fibers. Given the presence of different materials, it is classified as a mixed construction system (Jorquera, 2015, p. 10). The *quincha* house can be considered the most widespread throughout the region, as evidence of its development can be found in all districts.
- **Adobe Brick:** emerged after *quincha* homes. However, according to local testimonies, they did not replace *quincha* construction but rather offered an additional option at the time. The bricks were made from a mixture of mud and straw (sometimes sand in coastal or river areas). These bricks were molded and dried in the sun for several days or weeks. In some communities, artisanal kilns were built to fire the bricks, a process that increased their durability and resistance to moisture. While less common than sundrying, this method was particularly useful in regions with higher rainfall or where greater structural longevity was desired.
- **Vegetal Housing:** as its name suggests, is constructed entirely from materials sourced from the endemic vegetation of the region. The first type, which could be considered the most widespread, was the "penca" house, characterized by a roof made of dry palm leaves and walls made from bamboo or wood. The second type developed in more specific areas, such as the Santa Fe region, where "caña blanca" houses are found, easily recognizable by their yellowish cane walls

2.3. Scope information

The study was conducted in five districts of the province of Veraguas (Calobre, Cañazas, La Mesa, Santa Fe, and Santiago), as well as in the Ñürün region of the Ngäbe Buglé Comarca, with the aim of collecting verifiable data to build a robust inventory. A total of 30 structures that met the research criteria were analysed and included in the catalog.

These structures were selected based on their state of conservation, physical characteristics, and application of traditional construction techniques and typologies. From them, valuable information was gathered regarding the history of the dwellings, year of construction, information about the builders, ownership, alterations to traditional systems, organizational layout, and basic dimensions of the structures. This information ultimately served as the backbone of the research.

2.4. Collection tools

The data collected in the inventory were initially organized in form-type tables, with an individual sheet assigned to each documented dwelling. These tables contained detailed information about architectural characteristics, construction materials, state of conservation, and other relevant aspects (Tables 1–5).

Subsequently, the data were transferred to the QGIS software, where a digital table linked to a georeferenced map was created.

This structure allowed for the correlation of the location of each dwelling with the inventory information, facilitating the interpretation of architectural distribution patterns in the study area.

Table 1 – *Calobre Distric* (Aponte, 2022).

Number	District	Subdistrict	Current Use	Previous Use	Date	Status	Typology
V-C-0001	Calobre	La Raya	Storage	Dwelling	1932	Fair	Quincha
V-C-0002	Calobre	La Raya	Dwelling	Dwelling	1947	Good	Quincha
V-C-0003	Calobre	La Raya	None	Dwelling	1940	Poor	Quincha
V-C-0004	Calobre	La Raya	Storage	Dwelling	1972	Good	Quincha
V-C-0005	Calobre	La Raya	Storage	Dwelling	1970	Poor	Quincha
V-C-0006	Calobre	La Raya	Storage	Dwelling	1892	Good	Quincha

Table 2 – *Cañazas District* (Aponte, 2022).

Number	District	Subdistrict	Current Use	Previous Use	Date	Status	Typology
VCZ0001	Cañazas	San Marcelo	None	Dwelling	1987	Poor	Quincha
VCZ0002	Cañazas	San Marcelo	Kitchen	Kitchen	1970	Good	Quincha
VCZ0003	Cañazas	San Marcelo	Dwelling	Dwelling	2002	Poor	Wood
VCZ0004	Cañazas	San Marcelo	Dwelling	Dwelling	1980	Fair	Adobe Bricks
VCZ0005	Cañazas	San Marcelo	Kitchen	Dwelling	2012	Good	Quincha
VCZ0006	Cañazas	San Marcelo	Dwelling	Kitchen	1955	Excellent	Adobe Bricks
VCZ0007	Cañazas	San Marcelo	Dwelling	Dwelling	1963	Excellent	Adobe Bricks

Table 3 – *La Mesa District* (Aponte, 2022).

Number	District	Subdistrict	Current Use	Previous Use	Date	Status	Typology
V-LM-0001	La Mesa	Bisvalle	Dwelling	Dwelling	1944	Good	Quincha
V-LM-0002	La Mesa	Bisvalle	Dwelling	Dwelling	2018	Good	Vegetal
V-LM-0003	La Mesa	La Mesa	Storage	Dwelling	1939	Fair	Quincha
V-LM-0004	La Mesa	La Mesa	Dwelling	Dwelling	1967	Fair	Adobe Bricks
V-LM-0005	La Mesa	La Mesa	Dwelling	Dwelling	1971	Good	Quincha
V-LM-0006	La Mesa	La Mesa	Storage	Dwelling	1970	Poor	Plastered Quincha
V-LM-0007	La Mesa	La Mesa	Dwelling	Dwelling	1942	Good	Adobe Bricks
V-LM-0008	La Mesa	La Mesa	Rental	Dwelling	1987	Fair	Plastered Quincha
V-LM-0009	La Mesa	La Mesa	Dwelling	Dwelling	1992	Good	Plastered Quincha
V-LM-0010	La Mesa	La Mesa	Dwelling	Dwelling	1987	Excellent	Quincha
V-LM-0011	La Mesa	San Bartolo	Storage	Dwelling	1982	Excellent	Quincha

Table 4 – *Santa Fe District* (Aponte, 2022).

Number	District	Subdistrict	Current Use	Previous Use	Date	Status	Typology
V-SF-0001	Santa Fe	Santa Fe	Vacation	Dwelling	1992	Excellent	White Cane and Wood
V-SF-0002	Santa Fe	Santa Fe	Dwelling	Dwelling	1970	Poor	White Cane and Wood
V-SF-0003	Santa Fe	Santa Fe	Dwelling	Dwelling	1990	Excellent	White Cane and Wood
V-SF-0004	Santa Fe	Santa Fe	Hostel	Dwelling	1982	Excellent	White Cane and Wood

Table 5 – *Santiago District* (Aponte, 2022).

Number	District	Subdistrict	Current Use	Previous Use	Date	Status	Typology
V-S-0001	Santiago	Santiago	Dwelling	Dwelling	1907	Poor	Quincha and Blocks

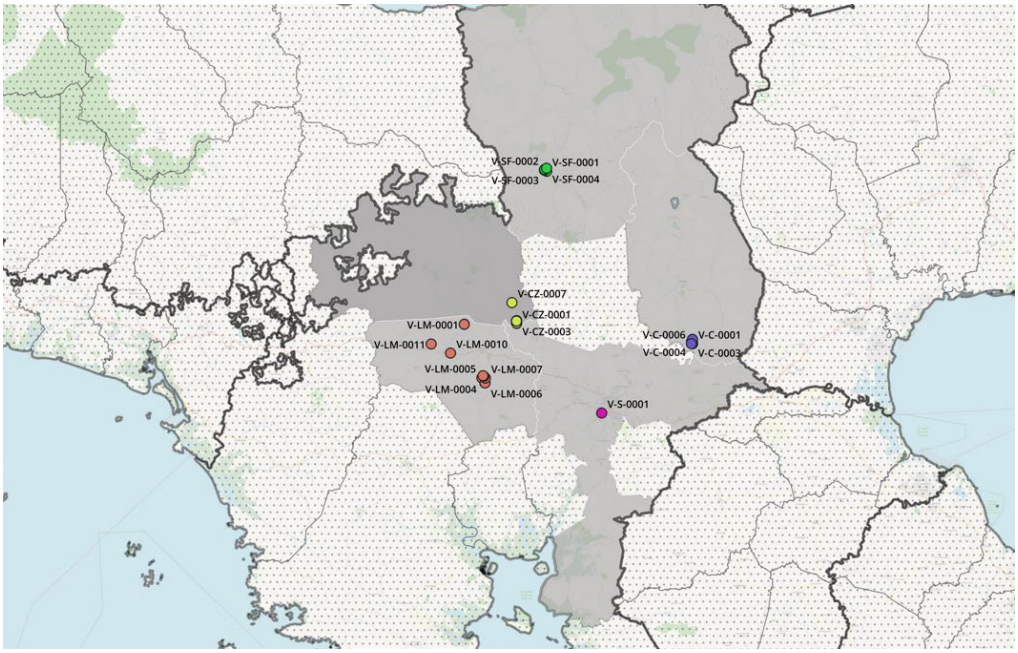

Fig. 2 – *General Location of the Inventoried Dwellings* (Aponte, 2022).

3. Inventory results

3.1. Calobre district

As part of the study conducted in the Calobre district, located in the northeastern part of the Veraguas province, a technical visit was carried out to the "La Raya" Subdistrict on March 12, 2022. During this inspection, 6 buildings were identified that met the criteria.

The following sheet summarizes some of the data collected (Table 1).

- All are built using *quincha*, are over 50 years old, and were originally residential buildings. Now, due to lack of maintenance, they are used as storage.
- Only one remains a dwelling thanks to constant maintenance. The others are used sporadically.

- Some structures are well preserved, showcasing original techniques. The front columns are wooden trunks spaced 3.40 meters apart with a height of 2.60 meters.

Fig. 3 – *Map Enlargement 1: "La Raya" Subdistrict* (Aponte, 2022).

Fig. 4 – *Dwellings V-C-0006 and V-C-0005* (Aponte, 2022).

3.2. Cañaza district

The Cañaza district is located in the northwestern region of the Veraguas province. During the fieldwork, a visit was made to the “San Marcelo” Subdistrict, where 7 buildings were identified that met the necessary technical and heritage criteria to be included in the inventory. These structures displayed relevant construction characteristics, making them subjects of study and documentation within the context of the built heritage of the area.

Fig. 5 – *Map Enlargement 3: "San Marcelo" Subdistrict* (Aponte, 2022).

Fig. 6 – *Dwelling V-CZ-0004 and V-CZ-0005* (Aponte, 2022).

The following sheet summarizes some of the data collected (Table 2).

- Adobe brick construction is the most common in the area. The buildings range from 10 to 52 years old.
- Most of the structures remain in use and are in very good condition.
- Traces of the earth ovens used in the past to make bricks are still preserved in the ravines.
- The adobe bricks have a standard size of 0.30 x 0.10 meters and are made with earth, horse manure, and straw.
- Dwellings have small porches that cover half the width of the building and do not protrude from it.
- The average height of the buildings is approximately 2.50 meters.

3.3. La Mesa district

The La Mesa district, located in the center of the Veraguas province, included the Subdistrict of “La Mesa Cabecera”, “San Bartolo”, and “Bisvalle” in the study. In these areas, a total of 11 buildings were identified that met the necessary criteria to be included in the inventory, providing relevant data for the research.

The following sheet summarizes some of the data collected (Table 3).

- Adobe construction is the most common in the area, with buildings ranging from 10 to 52 years old.

- Most of the buildings are still in use and in good condition, demonstrating the durability of these structures.
- Traces of earth ovens used to make bricks are preserved, along with knowledge of this construction technique.
- Some dwellings, plastered with cement, have remained standing for over 35 years.
- Height of the dwellings: 2.74 meters.
- Average portal width: 2.30 meters, with a length equivalent to half the size of the dwelling.

Fig. 7 – *Map Enlargement 4: "La Mesa" Subdistrict* (Aponte, 2022).

Fig. 8– *Map Enlargement 3: "Bisvalle" Subdistrict* (Aponte, 2022).

Fig. 9 – *Dwelling V-LM-0009 and V-LM-0008* (Aponte, 2022).

3.4. Santa Fe district

In the Santa Fe district, located to the north of the Veraguas province, 4 buildings were identified that met the necessary criteria to be included in the inventory, providing relevant data for the inventory.

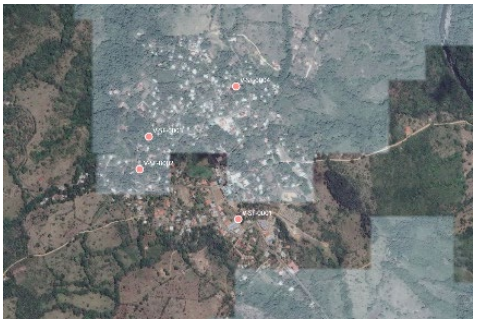

Fig. 10 – Map Enlargement 5: "Santa Fe" Subdistrict (Aponte, 2022).

Fig. 11 – Dwelling V-SF-0001 and V-SF-0002 (Aponte, 2022).

The following sheet summarizes some of the data collected (Table 4).

- The buildings are primarily constructed with white cane and wood, with over 37 years of age.
- They remain in good condition, especially those that have been varnished. It is common to replace the white cane every 20 years, which explains the presence of recent renovations.
- Their height is 2.40 meters, with two story dwellings and sloped roofs reaching 8.00 meters.
- Portal width ranges from 2.00 to 1.90 meters.

3.5. Santiago district

The Santiago district, located in the center of Veraguas, included the study of the "Santiago Cabecera" Subdistrict. In this area, only one building was identified that survived and met the necessary criteria for inclusion in the inventory.

Fig. 12 – *Map Enlargement 6: "Santiago" Subdistrict* (Aponte, 2022).

Fig. 13 – *Dwelling V-S-0001* (Aponte, 2022).

The following sheet summarizes some of the data collected (Table 5).

- The dwelling partially preserved its original roof and facade, although most of it was replaced with conventional construction (concrete blocks and metal beams).
- Some original tiles from the roof were still in place.
- Width: 1.20 meters, with a length equal to that of the dwelling.
- The dwelling was in poor condition, with a risk of collapse. Although a recovery plan was made, it was not executed, and the house was demolished at the beginning of 2023.

4. Conclusions

The data collected in this inventory were fundamental for the research, serving as the foundation for the arguments presented and the design proposal. Additionally, this information will be used in the VIP-01-03-04-2017-05 project, "Urbanism and Traditional Architecture of Panama," which aims to highlight and disseminate the values of traditional Panamanian architecture through an updated study.

The inventory documented 30 dwellings: 1 in the Ngäbe-Buglé comarca and 29 in Veraguas. Of these, 17 were of *quincha* construction, 6 of vegetal type (white cane and palm), and 6 of adobe bricks. This work contributes to the preservation and promotion of traditional architectural heritage.

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