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Wattle-and-daub: historical-cultural reconstruction of afro-descendant building tradition in Salinas, Imbabura

O bahareque: reconstrução histórica e cultural da tradição construtiva afro-descendente em Salinas, Imbabura

El bahareque: reconstrucción histórica y cultural de la tradición constructiva afrodescendiente en Salinas, Imbabura

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Resumo: Este artigo apresenta os achados preliminares de uma pesquisa sobre a arquitetura vernácula em *bahareque* na localidade de Salinas, Imbabura – Ecuador, uma paróquia cuja população é majoritariamente afrodescendente e cuja tradição construtiva ancestral enfrenta um acelerado processo de declínio. O objetivo é identificar os valores de sustentabilidade dessas edificações por meio de

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sua caracterização construtiva e do registro da memória oral. Através de uma metodologia exploratória com abordagem qualitativa, foram combinadas revisão bibliográfica, coleta de dados em campo por meio de observação direta e entrevisitas, além da análise de conteúdo para reconstruir o processo construtivo e identificar os materiais e tipologias tradicionalmente utilizados nas edificações em bahareque da região. Os resultados revelam a perda quase total das construções originais, cujos vestígios permanecem apenas no discurso oral. Foram identificados valores de sustentabilidade relacionados às dimensões ambiental e social. Conclui-se que as edificações vernáculas em bahareque não apenas se adaptavam ao entorno, como também seu processo construtivo constituía um eixo de coesão social. Propõe-se a possibilidade de revitalizar esse sistema construtivo, adaptando-o ao contexto atual e integrando as dinâmicas sociais como estratégia para impulsionar o desenvolvimento local e a conservação do patrimônio cultural.

Palavras-chave: Tradição construtiva; Sustentabilidade social; Construção em pau a pique; História oral.

Abstract: This article presents the preliminary findings of an investigation into the vernacular wattle-and-daub (bahareque) architecture in Salinas, Imbabura – Ecuador, a parish with a majority afro-descendant population where the ancestral building tradition faces accelerated decline. The study aims to identify the sustainability values of these buildings through their construction characterization and the recording of oral memory. Using exploratory methodology with a qualitative approach, the research combined bibliographic review, field data collection through direct observation and interviews, and content analysis to reconstruct the constructive process and identify the materials and typologies traditionally used in wattle-and-daub buildings in the locality. The results reveal the almost total loss of the original constructions, with their vestiges preserved solely in oral discourse. Sustainability values related to the environmental and social spheres were identified. It is concluded that the vernacular wattle-and-daub buildings were adapted to the environment, and moreover, their constructive process was a core element of social cohesion. The possibility of revitalizing this constructive system is proposed, adapting it to the current context and integrating social dynamics as a strategy to enhance local development and the conservation of cultural heritage.

Keywords: Constructive tradition; Social sustainability; Wattle-and-daub; Oral memory.

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Resumen: Este artículo presenta los hallazgos preliminares de una investigación sobre la arquitectura vernácula de bahareque en Salinas, Imbabura – Ecuador, una parroquia con la mayoría de su población afrodescendiente y cuya tradición constructiva ancestral enfrenta un acelerado declive. Se busca identificar los valores de sostenibilidad de estas edificaciones a través de su caracterización constructiva y el registro de la memoria oral. A través de una metodología exploratoria de enfoque cualitativo, se combinó la revisión bibliográfica, el levantamiento de datos en campo a través de observación directa y entrevistas, con el análisis de contenido para reconstruir el proceso constructivo, identificar los materiales y tipologías utilizados tradicionalmente en edificaciones de bahareque en la localidad. Los resultados revelan la pérdida casi total de las construcciones originales, conservándose sus vestigios únicamente en el discurso oral. Se identificaron valores de sostenibilidad relacionados a las esferas ambiental y social. Se concluye que las edificaciones vernáculas de bahareque se adaptaban al entorno, sino que su proceso constructivo era un eje de cohesión social. Se plantea la posibilidad de revitalizar este sistema constructivo, adaptándolo al contexto actual e integrando las dinámicas sociales como estrategia para potenciar el desarrollo local y la conservación del patrimonio cultural.

Palabras clave: Tradición constructiva; Sostenibilidad social; Bahareque; Memoria oral.

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1 INTRODUCTION

This article presents the initial findings of the research project “Revitalization and revaluation of cultural heritage: research and preservation of wattle-and-daub construction techniques in Salinas, Imbabura, Ecuador”, which is currently in progress.

Salinas is a rural parish located in the country’s northern highlands. It is composed of five neighborhoods and two communities, with a population of 2 374 inhabitants, who predominantly self-identify as afro-descendant, an ethnic group that has been historically excluded in the country, despite their historical contributions and great cultural richness (Otero, 2024).

There is scarce information on the subject and the loss, accompanied by modification, of the construction tradition (Naranjo-toro, 2018). Losing construction techniques also implies forgetting the knowledge and skills transmitted from generation to generation, as well as disregarding the social dynamics involved in the planning and collective construction of these buildings .

There are no qualitative and evaluative records of the characteristics of the vernacular wattle-and-daub (*bahareque*) architecture of Salinas. This has contributed to its lack of appreciation in its historical, social, economic and surrounding habitat conservation context. In parallel, the massive introduction of industrialized materials such as concrete, steel, glass, plastic, among others, has caused the visual perception of the space and the construction tradition to be modified.

From the question: What does the vernacular architecture of the Salinas parish contribute from the perspective of sustainability? the aim is to identify sustainability values of the vernacular wattle-and-daub buildings of Salinas through their construction characterization, based on a literature review and the memory of the parish’s oldest residents.

2 LITERATURE REVIEW

Vernacular architecture originates from the cultural adaptation of people to the natural environment to develop their construction practices, which are transmitted from generation to generation. It is present worldwide and preserves ancestral heritage by showing how people adapt their constructions to different contexts with the resources the environment offers. Thus, even when similar construction techniques exist, multiple variations occur depending on the geographical location and the population executing them.

The way vernacular architecture is configured is a response to the manifestations of the common habitat; this is how human settlements on the planet began: when the materials used for construction were only those found in the territory (Lora, 2023). Since they were natural materials without major transformations that would alter them, they returned to nature at the end of the buildings’ useful life without causing significant environmental impacts.

The main characteristics of vernacular architecture are: a) adaptation to the environment, linked to

the geographical, social, and economic context; b) use of local materials, readily available in the immediate surroundings; c) transmission of knowledge: techniques and knowledge are passed down through generations via orality and construction practice; d) it is functional and sustainable because it is governed by environmental, cultural, and economic constraints; and d) it is local and collective in nature, as most of the protagonists of vernacular architecture are communities that self-build with materials and knowledge from their surroundings, without professional advice. (Acevedo; Carrillo; Broughton, 2019); (Rodríguez-martínez, 2020), (Rotondaro; Aranda-jiménez; González, 2024); (Lozano-guamán; Jaramillo-benavides; Lozano-guamán, 2025).

2.1 Wattle-and-daub and sustainability

Among vernacular construction systems is wattle-and-daub, a mixed system composed of a structure, usually of wood or bamboo, which is then filled with mud, often combined with vegetable fibers (Garay-monsalve; Monsalve-lizcano *et al.*, 2021); (Mandrini; Dona; Kairuz, 2022). It is a construction system present throughout South America and other parts of the world, featuring construction adaptations according to the locality.

Wattle-and-daub has two main elements that, when modified, allow for some variations (Lora, 2023) :

- **Composition:** - wattle-and-daub consists of a main structure, a secondary structure, the infill, the mud plastering, and the final finish or rendering;
- **Configuration:** - wattle-and-daub can be solid or hollow, *quincha*-type, wattle-and-daub according to the material exposed to view, among others.

The variations of wattle-and-daub can evolve in response to available resources and the rise of new technologies.

Wattle-and-daub construction system has some advantages —in relation to other construction systems—such as energy saving in construction processes by using local mud, thermal comfort in climatic zones with wide temperature differences, the possibility of regulating environmental humidity when using mud in buildings, and that mud is a material that is not harmful to the skin in direct contact. This last point allows anyone to participate in a wattle-and-daub construction process (Minke, 2015) . Also, wattle-and-daub is a construction technique that can promote community participation for its execution (Lozano-guamán; Jaramillo-benavides; Lozano-guamán, 2025) .

Other characteristics of the wattle-and-daub construction system are its great earthquake resistance, the possibility of being executed or intervened without the need for large machinery or equipment, thus facilitating maintenance, and the possibility of adapting the technique to each place.

Consequently, due to its characteristics, wattle-and-daub is an alternative for reconstruction in natural disaster areas, such as earthquakes. (Cevallos-salas; Villacís; Ayarza, 2018).

However, in recent years in rural areas, this construction system has been associated with poverty, leading to its decline, while the use of industrialized materials such as cement and iron increases (Cevallos-salas;

Villacís; Ayarza, 2018); (Marrone; Ortolani; Picilli, 2018). This situation, on the one hand, alters the cultural landscape, and on the other, has negative environmental impacts (Lozano-guamán; Jaramillo-benavides; Lozano-guamán, 2025) .

2.2 Geographical context of the study

The Salinas parish owes its name to the natural salt mines present in its territory. It is located 140 Km from Quito and 26.9 km from Ibarra, within the area called Chota valley, bathed by the river of the same name and situated in the northern highlands of Ecuador (figure 1). It is a predominantly agricultural territory characterized by desert ravines, large plains and fertile slopes. Currently, there are crops of sugar cane, fruit trees, wheat, beans, tomatoes, corn, cassava, onions, avocados, among others (Otero, 2024) .

Figura 1 – Location of Salinas in the province of Imbabura, Ecuador



Source: Prepared by the authors with Google maps and d-maps, 2025.

In recent years, a complementary economic activity for this parish has been tourism development, based on the promotion of the rich afro-choteña culture, which, in the historical process of salt production, local gastronomy, among other activities, was boosted at one time by the activation of the train station. In this context, some studies highlight the importance of promoting community tourism as an alternative for historical-cultural rescue and socioeconomic development for the region (Benítez-bastidas; Albuja-león; Tapia-gonzález, 2015) .

2.3 Background of wattle-and-daub in Salinas, Ecuador

In the case of Ecuador, wattle-and-daub is a very ancient construction technique used for housing construction, with records dating back to the pre-Columbian era (500 to 1500 AD) (Pino, 1981);(Cevallos-salas; Villacís; Ayarza, 2018).

In Chota Valley, the first records of wattle-and-daub buildings date back to the indigenous settlements of the pre-Hispanic era.

The first vestiges of architecture in the northern highlands are owed to the Indians. They lived in round *bohios* covered with straw with walls of thick interwoven sticks plastered with mud inside and out. Some houses were larger, with a rectangular plan and a gable roof (NARANJO-TORO, 2018)

This statement initially coincides with the findings of another author, which indicate that one of the formal characteristics of the homes of the indigenous aborigines in much of the Ecuadorian highlands was their circular or oval-shaped plan. The orthogonal typology prevailed in coastal region settlements (Pino, 1981).

Indigenous settlements in Chota Valley were small concentrations of houses surrounded by farmlands or geographical features. The houses consisted of a single, large space that served multiple uses and had no windows; the floor was dirt, sometimes covered with straw (Naranjo-toro, 2018).

The same authors report that the Jesuits entered the region in the 17th century and established large sugar cane plantations, initially employing indigenous labor. However, in the following century, workers began to become scarce, and it was then that enslaved people of African descent were brought to the region.

After the liberation of the enslaved people, the houses they built were small and rectangular in plan, their walls were wattle-and-daub, and their cane leaf roof was resolved with a hipped roof. These were houses built with the resources the environment offered. By the middle of the last century.

The house of the Afro-Ecuadorians of the Chota Valley was distinguished by its rectangular plan, wattle-and-daub walls, with gravel and mud without plaster, a cane leaf roof, and a dirt floor (Naranjo-toro, 2018) .

Over time, and as families improved their economic situation, wattle-and-daub buildings were replaced by others made of adobe with tile roofs, and currently, most of the buildings in the parish are made of bricks or blocks, cement, reinforced concrete, steel, and other industrialized materials (Naranjo-toro, 2018) .

3 METHODOLOGICAL PROCEDURES

This research is exploratory and has a qualitative approach. It began with a literature review to identify information related to the sustainability of wattle-and-daub, the historical background of wattle-and-daub construction in Salinas, Imbabura, and the characteristics of the locality.

Data collection on the vernacular wattle-and-daub constructions in Salinas was carried out through: a) site visits to gather information directly from the buildings and b) semi-structured interviews with open-ended questions.

For the interviews, older adults in the parish were sought who, during the last century, had been part of the wattle-and-daub housing construction processes or had known them and could describe their characteristics, as well as the construction process or ways of inhabiting them.

Three elderly residents of the community were interviewed; one of them was dedicated to constructing this type of building, while the other two inhabited them. The interviews lasted about an hour each and were audio and video recorded, in addition to photographic records being made.

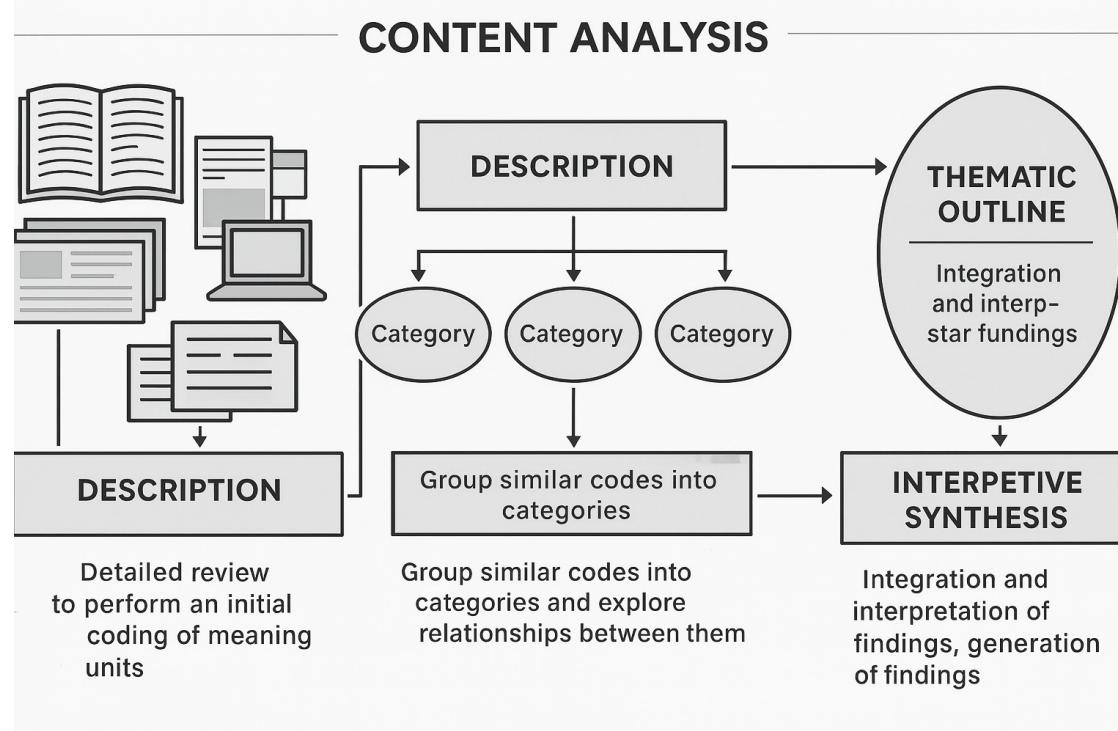
During the interview with the person dedicated to the construction of these buildings, with their guidance, it was possible to elaborate a model of the assembly of the wattle-and-daub's main structure.

Subsequently, a qualitative analysis of the data was performed using the content analysis technique. This technique allows for the analysis of communications through systematic procedures for describing the content of messages, to infer knowledge related to the social context of these messages (Bardin, 1991).

The content analysis technique is used in studies that explore social meanings, perceptions, discourses, or experiences from various data sources (interviews, documents, media, among others), helping to recognize symbolic behaviors or cultural patterns.

Qualitative content analysis is carried out in three phases, which allow for the rigorous systematization of information (Anaya, 2024), (figure 2).

Figura 2 – Content analysis technique



Source: Prepared by the authors based in Viramontes Anaya, 2024.

- **Description:** Detailed reading of the collected data to code units of meaning (representative words, phrases, or fragments). The goal of this stage is to capture the relevant content without losing context or details. Perform initial coding;
- **Cross-sectional Analysis:** Similar codes are grouped into larger categories that reflect common themes or patterns in the data. A deeper interpretation is made by establishing relationships between categories, allowing for the construction of a clear thematic structure;
- **Interpretative Synthesis:** Findings are integrated and synthesized through a global interpretation that answers the initial research questions. Categories are linked to theoretical frameworks and the specific context of the study. Conclusions are generated based on the emerging meanings of the analyzed content.

Finally, the results were synthesized, highlighting the sustainability values identified in the wattle-and-daub buildings.

4 RESULTS

This research sought to identify the sustainability values of the vernacular wattle-and-daub buildings in the Salinas parish, Imbabura – Ecuador. With a qualitative focus using the content analysis technique, thematic categories were identified that emerged from the participants' discourse and the information gathered from the literature review, to deeply understand the meanings associated with the study topic.

The first section of the results presents what was observed in the site visits to search for wattle-and-daub buildings in Salinas; the following sections correspond to the analysis categories with the respective detailed interpretation of the predominant themes and patterns identified in the analyzed data.

4.1 Current wattle-and-daub buildings in Salinas

After the initial visits to the Salinas parish to identify ancient traditional wattle-and-daub vernacular constructions in the territory, no old constructions of this type were found standing. Only one building with similar characteristics—main and secondary wattle-and-daub structure—was identified, but it had not been plastered, instead covered on the outside with boards, metal sheets, and plastics. It is in poor condition, meaning it only contained the main skeleton, and although the roof is tile, it serves as a warehouse, and there are no signs of concern for the maintenance or conservation of the building's integrity, demonstrating its provisional nature (figure 3).

On the other hand, when visiting the *Museo de la Sal*, an important touristic place in the parish, two contemporary constructions were observed where the traditional wattle-and-daub technique of the sector has been adapted for use in spaces where demonstrative tourist activities about salt extraction are developed (figure 4).

Figura 3 – Building with a construction technique similar to wattle and daub observed in Salinas



Source: Authors, 2025.

Several elements built with cement, glass, electrical installations, waterproofing elements, etc., can be observed.

4.2 Materiality

The materials used for the construction of traditional wattle-and-daub houses in the Salinas parish were:

- **Wooden forks (*horquetas*):** Trunks of local hardwood trees, mainly *palo bobo*. Normally "Y-shaped or forked, they were mainly used as reinforcements in the corners as columns;
- **Cane reed (*carrizo*):** Abundant near water bodies in the Chota Valley, used as wall framing (*chaglleadó*), commonly coated or confined with mud;

Figura 4 – Wattle-and-daub adapted buildings of the *Museo de la Sal* in Salinas



Source: Authors, 2025.

- **Earth (*tierra*):** Simply excavated from the ground, without modifications. Only water was added, and it was used for the walls' mud plastering. Additionally, the floor was also of tamped earth;
- **Chilpe:** Can be made of agave fibers (dry and shredded) or cowhide. Used for ties;
- **Wild cane (*caña brava*):** Some species of bamboo (or cane) available in the area, with a larger diameter and greater resistance than cane reed. Found near riverbanks and water bodies;
- **Cane straw (*paja de la caña*):** Sugar cane leaves from nearby plantations, bundled together (*shingas* or *guangos*) and then placed on the roof.

4.3 Characteristics of traditional wattle-and-daub buildings in Salinas

In general, the interviewees describe the wattle-and-daub building as a fresh dwelling, suitable for the hot and dry climate characteristic of the region. Generally, the buildings were a single room where one family lived; in a few cases, longer constructions were made, where one space was next to another in a linear fashion up to 12m (with three intermediate walls). None had sanitary facilities.

The enclosure partitions had no windows, and the floor finish was the same tamped earth of the plot; in some cases, agave fiber was placed on top. The perimeter walls were approximately 1.50 m high above the floor and had no foundations; a sill plate or perimeter beam rested on these, receiving the roof structure (which was resolved with a gable roof), normally formed by wooden trusses. Furthermore, the walls did not have a rendering, meaning the finish was the exposed cane reed and earth.

An element mentioned in the interviews is the soberado, a kind of loft inside the house, accessed by a ladder. The space was located above the main roof beams. Tools, merchandise, or food were stored in these spaces, often obtained through *cambeo* or barter: corn, peas, cheese, salt, among others. Barter was a common activity among neighboring communities.

There was no functional typological difference between the constructions; all were built the same,

although their uses could later be designated as necessary.

The internal furniture was made with the same materials as the house. For example, beds were made of cane reed, with four small forks in the corners, and wooden strips were crossed lengthwise at the head and foot (sometimes a third in the middle), serving as small beams, to then cover with cane reed, creating a resistant framework. One or more mats were placed on these frameworks.

In relation to the grouping of the buildings, *zaguanes* (passageways) were mentioned, used as circulation between the houses and towards common areas such as roads or access to the river. They were also used for ventilation, and in some cases, food was dried there during the day, for example, when animals were slaughtered.

The neighborhoods were distinguished by these narrow paths or *zaguanes* separating the houses, that the divisions were very irregular and had no paved or cobbled streets, only dirt spaces. He also notes that the *zaguanes* were built in this labyrinthine way to hinder the hunting process of the population who had fled the slavery they were subjected to on the *haciendas* (Carabali-mendez, 2015) .

4.4 Construction process

Knowledge about construction techniques was transmitted orally and practically from one generation to another, in a dynamic of learning by watching and doing. One of the interviewees mentioned that, from childhood, they paid attention to their elders during play and learned from what they had done. There are no manuals, blueprints, or historical records of all this vernacular knowledge.

At that time, they did not have some technical facilities; for example, there was no access to tape measures or flexometers; everything was measured by varas (each equivalent to approximately 90 cm), using a bridle or a rope.

The first thing done was the layout of the buildings, and once the perimeter was defined, the floor was leveled with bars, picks, and other manual tools.

The next step was to bury and secure the forks at each corner to proceed with the excavation or trench (*zanjón*) of approximately 20 cm deep, which served to place the wooden uprights (*parantes*), where the cane reed (*chaglleado*) was subsequently tied. The wooden uprights were placed every 20 to 50 cm, some at 1m as indicated by the owner; once all were standing, the trench was refilled with earth. No type of stone was used at the base of the walls; they started directly on the ground.

Figure 5 shows a schematic 3D model of the structure that was made during one of the interviews under the guidance of the interviewee, who was a builder of wattle-and-daub houses in the locality.

The cane reed placement was done with a separation of two *cuartas* (approximately 30 cm), creating the first guide row - or *maestra* (master), bordering the four forks. The assembly direction was from top to bottom, starting at the upper part of the fork. To secure the row of cane reeds, they were tied with *cabuya* (wet agave fiber) every 20 cm.

Once the cane reed weaving was completed, the *minga de embarrado* (mud plastering communal work)

Figura 5 – Schematic 3D model of the construction of a wattle-and-daub structure of a traditional building in Salinas



Source: Authors.

was carried out: first, the earth from inside the rooms was excavated, as this was where the material was obtained to make the earth mixture to place inside the cane reed armature.

The earth was mixed with water to make a mud of adequate consistency for good adherence. The mud was mixed collectively with the neighbors present, and it was done with bare feet. A time of 15 days was considered for the mud to dry and "settle" on the wooden and cane reed structure.

Once the walls were dry, the wooden roof structure was placed, in some cases with the main timbers of *chaguarquero* or *palo bobo* uprights. To fix the wooden trusses, ties were made approximately every meter parallel to the edge of the walls, forming two or four-sloped roofs, depending on the design. Finally, between 4 and 6 people climbed up for the placement and weaving of the cane straw, from bottom to top.

Repairs and maintenance were the responsibility of each owner. It was necessary to consider that the useful life of the agave fiber ties was 3 to 4 years, after which they could rot due to humidity, which could affect the integrity of the cane reed. Maintenance was a simple procedure, considering that the physical integrity of the elements was already established. Normally, the cane reeds and agave fiber were replaced from the lowest part of the affected area, making a braid upwards until the repair was completed.

4.5 Community participation

The community participated in the construction process through the *minga* (communal work), mainly to prepare the mud for the walls. Work started at 6:30 am and, depending on the size of the house, lasted until 10 or 11 am.

An average of 20 people were involved in the construction, always with the understanding of "lending a hand" (*prestar la mano*), meaning if you built a house now, the next week it would be your turn.

Work was divided by roles: men performed the excavation and mixing, and also carried the materials to the construction site; women made the *shingas* (bundles) with the straw, which were then thrown (*zumbaban*) or brought closer to the roofers with the forks. In addition to this, the women were in charge of preparing food for all participants. In the end, everyone who worked on the project shared the meal. Participation also included the community's children, who did not have much physical strength for the mixture, but their agility and lightness allowed them to arrange the earth that the adults placed with the *palancón* (crowbar) inside the walls; generally, there were around 5 to 7 children gathered at a construction site.

When the last task, which was straw-thatching the house, was finished, the builders and the owner sometimes played jokes, and there was always a dance and festivities with all the helpers invited to the housewarming, with everyone participating.

5 ANALYSIS OF RESULTS

The vernacular wattle-and-daub constructions were lost in the Salinas parish. The vestiges are conserved only in the memory of the oldest inhabitants of the place, who either lived in them or built them. Thanks to their testimonies, however, a reconstruction of the construction process, as well as a record of the materials used and how community participation unfolded, could be made.

Over time, wattle-and-daub houses were replaced by others made of adobe and tiles, and subsequently by more modern ones, which are currently predominant in the parish, as observed. Wattle-and-daub was completely relegated. The fact that the building that more or less preserves this construction system is a practically abandoned warehouse denotes the lack of interest of the population in maintaining this construction system, at least as it was done previously.

Considering the advantages of the wattle-and-daub construction system, it would be important to identify, beyond the economic aspect, what the population of Salinas seeks in the new buildings, whether functional, aesthetic, safety, or comfort aspects, among others. This would offer a valid basis, with a vision of social sustainability, to allow the revitalization of vernacular construction techniques, in this case, wattle-and-daub, but adapting it to the contemporary and considering the particularities of a specific context; similar to the experience presented by Guamán; Benavides and Guamán (2025).

In Salinas, wattle-and-daub has only been made visible in the *Museo de la Sal* buildings, which are

related to tourism. In this sense, there is a potential for revitalizing the construction technique by using it in this functional typology for new buildings.

The descriptions of the vernacular wattle-and-daub dwelling in the region present in the literature analyzed in the theoretical framework coincide with the descriptions given by the interviewees: simple and austere constructions, generally of a single space built with few locally available materials, without finishes. They show the basics and the essence of the construction system in the place, with the local materials available at the time, a starting point for possible future proposals.

But beyond the construction technique itself, the community ties woven around the construction of wattle-and-daub buildings are observed: the organization, collaboration through mingas, preparation and sharing of food, jokes among community members, and festivities. Each of these moments strengthened the social fabric of the parish population.

While the same social dynamics as in that era cannot be reproduced, there is the possibility of seeking others that can be triggered around new, updated construction proposals based on the same technique or construction processes that consider the participation and interaction of the community.

6 FINAL CONSIDERATIONS

So far, this research has identified that the sustainability values of the vernacular wattle-and-daub buildings of Salinas are primarily related to environmental aspects, as, characteristic of vernacular architecture, the use of local materials for their construction was prioritized, and these materials were adapted according to their availability in the environment.

Secondly, the sustainability of wattle-and-daub in Salinas was related to the processes of community participation during the construction phase of the buildings, but also to the knowledge transmitted across generations, learning from older people the correct way to execute a construction technique and adapt it to environmental changes; keeping a local construction tradition alive.

In the case of new wattle-and-daub construction proposals, a survey of the housing or general building needs of the population should be carried out on one hand, and of the materials and resources currently available in the region on the other, to be able to revitalize the construction technique in the current context, considering sustainability in an integral way.

Finally, for the future phases of the research, to motivate community participation in these processes of revitalizing the wattle-and-daub construction system in Salinas, one can begin with participatory design spaces, to incorporate the current needs and preferences of the population into the new buildings. Then, bio-construction workshops can be held open not only to the community but also to the tourists who visit the parish. This would be a way to promote another type of experience and expand the offer to visitors while keeping the collective memory alive, linked to an important economic activity in the locality.

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