



Reconstruction of a bahareque wall in Ambalema, Tolima  
(source: Eduardo Peñaloza Kairuz).

## Technique as function of memory: heritage values and revaluation of habitat and the landscape in Ambalema, Colombia

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### ABSTRACT

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The present work is framed in two notions: 1) that in the habitat all scales are interdependent, and 2) that it is necessary to integrate knowledge from various disciplinary origins, for a better understanding of the current world and for the achievement of more responsible actions. This approach is particularly applied to the field of conservation and restoration of natural and cultural heritage. Recent exercises are brought to explain the specific case of Ambalema, Tolima, Colombia, with emphasis on specific actions carried out by the University of Ibagué through its North Tolima Architecture Lab, Ambalema headquarters.

Since the declaration of the historic center of Ambalema, as a national monument in 1980, and mainly in the course of the twenty first century, both from the academy and from civil society, efforts have been carried out to maintain and enhance the cultural heritage values of this place of recognized historical importance in Colombia. In this case, the historical review exceptionally transcends the usual assessment of the colonial, or postcolonial, by going back in time to find the true material and technical roots in pre-Hispanic practices.

The consequent deterioration of the passage of time calls for interventions, which, if not careful and attentive to the patrimonial importance of the context, may become a reason for the gradual deterioration of the historical Ambalema related value. Simultaneously, it is crucial to combat disinterest on the part of the population, by motivating and inviting them to participate in the practical exercises that are being carried out in that municipality. This approach has been successfully applied in the actions mentioned. The physical works carried out on site by the aforementioned architectural lab are detailed here, as well as the participation achieved by groups of local inhabitants in the activities accomplished. The full coherence of this material work is taken advantage of, as a point of convergence of the concepts indicated above, to obtain applicable lessons and new theoretical-practical perspectives on: technique as function of memory.

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### KEYWORDS

*natural context, cultural landscape, heritage, sustainability, social imagery, appropriation, pre-Hispanic building technics, bahareque (earth braided wood wall)*

## 1. INTRODUCTION

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From the landscape point of view, foundation of this work, the first variable to any approach to habitat is nature. It is appropriate then to go to Geo-history and its intention to interweave knowledge, one of the purposes already mentioned here. According to several authors, geo-history goes beyond the study of the relationship between geography and history, since geography is part of the historical process and needs history to be socially explained. The specific object of geo-history is generally defined as the study of the relationship between a society and the geography in which it developed; which enhances the interdependence between society and geography, which makes them affect each other.

In the field of geography, a prominent category is space, or a descriptive and qualitative system of reciprocal relations between society and its environment. Consequently, analyzing space implies studying multiple elements, categories or factors that explain the interrelationships and territorial practices typical of social dynamics. That is, the manifestations, processes, new techniques and articulations of social systems are linked, from which a mosaic of subspaces is created, which covers the entire earth's surface and whose design is provided by the course of the history (Santos, 2000).

A pertinent look, from the social field, shows that the inhabitants of the different member municipalities of the northern province of Tolima (Colombia), recognize their territory as a cultural space, which results from their perceptions of affection and recognition as valuable assets, understanding that are part of their cultural identity. The cultural heritage of northern Tolima is linked to historical events, evoked by nostalgia and the memory of a lost past; therefore, said heritage appears associated with the identity and collective memory of its inhabitants. (Nieto, 2016).

## 2. BACKGROUND

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A source of knowledge little explored and valued, that relates geo-history, society and technique, are the interventions or practices of adaptation of the environment, carried out by the pre-Columbian indigenous groups that inhabited the same places where populations were later established on the banks of the Magdalena River, particularly the town of Ambalema. As Clara Eugenia Sánchez expresses it, with the arrival of the Spanish and during the colonial period, indigenous techniques were adapted to the technological innovations introduced and then in the late nineteenth and early twentieth centuries the bahareque is rediscovered and is positioned as a constructive alternative. Although the tread wall and adobe are part of this material culture, it is the bahareque that par excellence corresponds to works located on the banks of the Magdalena and Cauca rivers (Sánchez, 2007).

Heritage implies the assignment of values to certain goods, either by a human group that projects its identity on them, by institutions (political, academic or civil) who attribute artistic, symbolic, commemorative or technical qualities to them. Heritage is not so much the element itself as the value attributed to it. Its new purpose of understanding, protection and management must take into account the premise that rethinks the concept of heritage, because in addition to materiality, it highlights the heritage value in the dual identity character that is given to some cultural expressions and natural re-creations (Agudo, 1997). The cultural heritage is not homogeneous and unique, it is built on the basis of a large set of histories and particular sociocultural developments, which have a symbolic character and represent the identity of its inhabitants. Symbolic references are based on intangible sources, such as traditional knowledge, which come from understanding nature, collective work through history and the interpretation of the world or cosmogony, which are part of the identity and therefore part of heritage.

Frequently, Ambalema's patrimonial and cultural wealth goes unnoticed by its inhabitants, as evidenced by the deterioration and abandonment of historical buildings and high levels of poverty in some

sectors of the population. For this reason, a team of professors and researchers from the Rastro Urbano Group of the University of Ibagué has been working in this direction since approximately 2013. This group has been particularly interested in finding ways for heritage to be a local development option. During the first few years, the work focused on the restoration of the historic centre and on the intention of establishing a development plan with a focus on cultural tourism. It was also proposed that the participants examine their environment and discover its potential, from its history and architecture; which, tangentially recognized, are linked to the Magdalena River and other natural conditions that characterize the local context, both geographical and historical.

A relevant aspect, with regard to the relationship of people with the local cultural heritage, is the identification of the affective and ethical ties that relate the population with their environment, their ancestors, their traditions and in synthesis with their past. Here we must distinguish two categories: historical spaces and imagined spaces, through which both cognitive and affective relationships with the environment are experienced. In this regard, as part of an investigation into Ambalema, Orfa K. Vanegas reports, "Disaffection and complex relationships of today's infants and adolescents with the cultural past (...) where the transcendental sense of the historical place is reduced to immediate experience" (Vanegas, 2014).

The electronic book entitled *Memories and Inquiries of the Cultural Symbols of the History of Ambalema* (2013) describes the process and the result of an investigation, expressed in literary productions, photos, drawings, videos, didactic units and pedagogical reflections, all of which was left as input to continue with new work on this route. In the conclusions of such work, it is highlighted that the appreciation of the historical past of Ambalema, by the new generations, is fundamental for the preservation of cultural values and tradition. Recognizing the past gives meaning to the question 'Who are we?' as well as locating ourselves in time and space to know what services we can provide. The critical awareness of the place that is lived and the reunion with what is 'lost' allows the past to inhabit, in the responsibility of the present (De Certeau, 1996).

Additionally, Vanegas affirms that historical spaces stop being abstract sites when they go through personal experience; that an emotional relationship is established with them, conserving themselves in the memory as an individual 'memory place,' and she concludes by saying, "In this sense, the aesthetic representation of the historical sites of Ambalema recovers an ontological value, which goes beyond the topological character."

Despite the fact that there is no considerable constructive dynamics in the urban area of the municipality of Ambalema, the daily life of its inhabitants constantly leads to small interventions in their buildings, be it for rehabilitation, or perhaps better, for the empowerment of spaces, restoration, total or partial reconstruction of buildings. However, there is a moderate but invasive urban growth of expansion, mainly on the banks of the Magdalena River, where new buildings are evident in which a certain constructive eclecticism is perceived, guided more by the generalized supply of materials on the market, than by an analytical and comprehensive logic on what is appropriate in the face of climate and threatening climate change. Lessons on this can be learned from the oldest structures that still conserve the building technique based on the transformation of the local resources, adapting to the ways of living in a place with character and tradition. The current attitude negatively bursts into identity harmony, built through time, and definitely affects the overall landscape.

Consequently, with the above, to undertake an answer to the problems described, the following question was asked: "What are the appropriate strategies to implement, in place, in society and in a heritage context, the small-scale reconstruction or adaptation works being carried out in the municipality of Ambalema, Tolima?"

The spectrum of the matter is broad, since it is intended to address it starting from the natural field, with the purpose of understanding from the place, just as nature built it to house the human species, up to contemporary actions with projection to the near future. The development of technology has led to the interpretation of the territory as a whole; a fact that affects the coherent link between places and society and implies the substitution of an increasingly

artificial environment for a natural environment, where contemporary technical changes are ignoring manifestations of the local past and the preservation of its traditions (Santos, 2000).

Although the ecosystem particularities can be traced to understand the character of the place, the beginnings of original human intervention in dialogue with that character or the milestones that have been marked in the course of history, it is also necessary to be attentive to some modern realities in an increasingly globalized context.

The work carried out will mainly contribute to two purposes: 1) to satisfy methodologically the necessary relationship of the parts with the whole, in spatial, landscape, cultural, social, constructive and identity terms in relation to the habitat, and 2) to demonstrate the importance and relevance of offering to the service of civil society and public authorities, the results of the work in course from the North Tolima Architecture Lab, Ambalema headquarters of the University of Ibagué.

### **3. GEOHISTORICAL CONTEXT**

In the documentary tracking to support the proposal that is shared here, numerous interesting and pertinent investigations were found, but not an exact literature that links all the aspects of this work. For this reason, the development is structured in the items outlined in the introduction, starting with the geohistorical aspect.

The selection of the place for a settlement on the banks of a river is always linked to the convenience of having the water resource in general and the other benefits associated with it, such as food and transportation. This establishes a relationship of dependency of the settlement with the geography of the place; a relationship that turns out to be dynamic and changes in intensity, or priority, over time. In relation to the above, it is worth remembering that Ambalema, as a populated centre in the western manner, has been located twice on the left bank of the Magdalena River. For the first opportunity, in 1627, it only had to locate

itself in the place that the original inhabitants had already selected and occupied with their few houses. In 1825, due to a great fire, the election of a new town of indigenous people was necessary, like the many founded with the purpose of gathering indigenous labour, for the relocation of the town, always on the banks of the river which had facilitated and supported fishing activity.

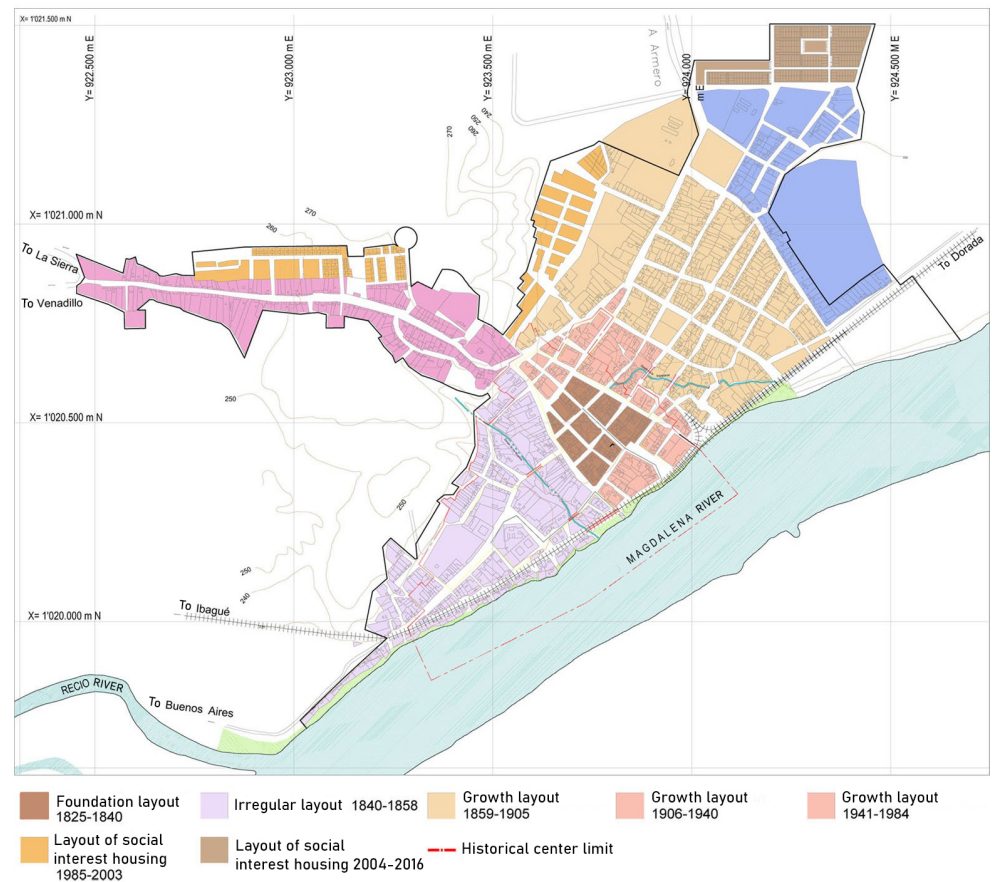
Since then, as seen in Figure 1, Ambalema, initially constituted as a small settlement, from the mid-eighteenth century to the 1860s, consolidated and grew parallel to the river and the railway because of the abundant tobacco exploitation. Thus, the urban riverine edge is constituted fundamental for the cultural and commercial exchange of both regional and imported products. The different moments in the urban evolution of Ambalema are registered in sequential maps, where it is recognized that the form of irregular urban growth corresponds to economic aspects, but also to the topographical, hydrographic determinants and the layout of the communication routes.

Ambalema became a port on the Magdalena River (1760-1933) and its urban development has been represented in homogeneous-looking buildings that have consolidated a type of architecture, related to the colonial style. It was then known as "the city of a thousand and one columns". In Ambalema, the complementarity between steam navigation and the railway was present, thus a significant dynamism began for the population that had its splendour until the early 1930s, when steam navigation in Alto Magdalena declined. Once the rail traffic disappeared definitively in 1975 (Niglio, 2010), economic activity decreased markedly as the train complemented steam navigation for tobacco exports.

The course of the river, that of its tributaries and the dynamics of that water system, initially marked the layout of the settlement. It is possible that these traces will remain, but depending on the aggressiveness of human action, it is also possible that they will disappear or be adversely affected by the urbanization process, particularly when partial and unhealthy interests prevail.

In 1783, the Mariquita based Spanish doctor, José Celestino Mutis, started the Botanical Expedition,

**Figure 1.**  
*Historical growth of the  
municipality of Ambalema  
(source: prepared by the  
author from Google Earth  
and Ministerio de Cultura,  
2016).*



which included Bogotá, La Mesa, Guaduas, Honda, Mariquita, Falan, Ambalema, Ibagué and the San Juan Valley, making up the so-called Mutis Route. Within this, Ambalema, Mariquita and Honda make up what is now called the Orange Triangle, in coordination with the 'orange economy' proposed by the current national government, enhancing the historical values of each of the three municipalities, which together make part of a memorial structure with immense tourist cultural potential. The location constraints of Ambalema are complex, as its accessibility is limited,

but for the region and the country it is key to reactivate Ambalema, since it is a fundamental part of the Mutis Route and now, since March 2019, the Orange Triangle of northern Tolima. Ambalema, Mariquita and Honda each have separate special management and protection plans (PEMP) for the management of their heritage assets. Also, a good digital development and, in each of the three municipalities, a dynamic historic centre works. The natural place, the location, the literature, the arts, culture and tourism sustain their heritage.

#### 4. CULTURAL HERITAGE CONTEXT

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As of the culture law (1185 of 2008), heritage conservation work has focused specifically on historical buildings that have been disconnected from the community and its appropriation processes and has left aside the necessary relationship of urban-architectural interventions with the natural and social place where they have developed. This has weakened local identity ties by wasting material, and immaterial, resources of the natural and cultural heritage values and has decreased the motivation and commitment of the locals to appropriate the values of their habitat. Given that culture is one of the engines of reconciliation, from which it is possible to articulate post-conflict processes, at present, the development of new processes in cultural matters is very pertinent to promote the appropriation and cohesion of social tissues, in the context of the institutional mission of the program called 'Peace and Region' of the University of Ibagué.

On the other hand, the search for a restoration of stagnant economic dynamics, within which various commercial alternatives can be promoted, among which alternative and/or community tourism stands out. This line, planned and evaluated, may account for the future of the improvement of the quality-of-life indicators for the inhabitants of this region of Tolima. The aforementioned PEMP represents a road map with its own agenda of prioritized projects, within the following areas:

- Institutional strengthening
- Heritage pedagogy
- Patrimonial strengthening
- Productive dynamics and job training
- Infrastructure

In these fields, work patterns are defined for the articulation of preventive and/or corrective protection actions, mechanisms and strategies for knowledge and for the appropriation of the heritage set for its sustainability and potential development.

According to the Ministry of Culture (2011, p.15), "Cultural heritage represents the accumulated heritage of a community or a social group, a

capital that passes from generation to generation and, therefore, intrinsically has a connotation of preservation, defence, vigilance and, above all, the incorporation and transmission of this inherited value." In Law 1185 of 2008, the necessary actions are established to guarantee the protection, conservation and sustainability of the Assets of Cultural Interest (BIC). In this context, the PEMP is consolidated as the instrument par excellence, not only for protection, but for the execution of the necessary actions for the comprehensive recovery of BICs and their sustainability over time, transforming them into an added value for developmental socio-economic of the communities.

#### 5. MATERIAL CULTURE

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The pre-Hispanic construction tradition in some territories of Colombia was not highly valued by the conquerors, who considered it technically irrelevant as they did not find large-scale monolithic constructions, similar to those found in other American territories, such as Mexico or Peru. As Silvia Arango affirms, in the period of conquest, the technical position was characterized more by a rupture of the material culture, than by the continuity of the existing processes.

The advances in settlements were generally sensible given their harmony with nature, and in our case study as well, from the perishable and synchronous material conception, set of walls and shed. Communities settled in warm climates in the territory of Tolima, such as the Panche ethnic group, and used the constructive logic of Caribbean heritage based on the variety of available wood, palm straw and mud extracted from the place, as fundamental elements of construction.

These architectures were generally characterized by circular or oval plan typologies, with conical geometry roofs as logic to the climatic conditions of the tropical dry forest (bs-T). Its riverside proximity to the Magdalena River was vital in the connectivity between the populated centres and in the material culture of the communities, sharing knowledge and applications. Also, this dynamic constructive synergy contributed to the aesthetic identity of the bahareque. Good buildings with mud and wooden walls almost

Figure 2.  
New Kingdom of Granada  
in 1630, map by Williem  
JanszBlaeu (source: Lic.  
German Ramirez (2017).  
The political and territorial  
dynamics Panches in  
the face of the Hispanic  
presence: dialogues  
between documentary and  
archaeological records).



Figure 3.  
Map of the Indian dictionary  
of Greater Tolima  
(source: Pedro Ramirez  
Sendoya  
Retrieved from [http://  
investigacionpijao.  
blogspot.com/2019/02/  
el-antiguo-territorio-pijao-y-  
panche.html](http://investigacionpijao.blogspot.com/2019/02/el-antiguo-territorio-pijao-y-panche.html)).





the width of a wall of ours, tall and whitewashed with very white clay... His 'carpentry' handling has given this material manifestation a relational versatility within which the *Bambusa guadua* had and continues to have a place. It is worth noting that, even when there are no specific data on the use of *guadua* as a material for mixed enclosures in local use, as happened with the mat for plastering with earth carried out by pre-Hispanic communities, new studies aim to demonstrate that this practice of building 'earth and reeds' could be a constant in communities around the world, and in some American communities, from their sedentary lifestyle.

In this way, *guadua* is a material typical of the pre-Montane humid forest (bh-PM) and not of the life zone of the study area, where Ambalema is located. However, the definition of two spaces because of the watershed, and the settlement of two different communities, such as Quimbaya and Panche, did not prevent the exchange of knowledge between them and the transit of material culture. This exchange could favour the insertion of *guadua* as structuring material for the bahareque in Ambalema and in its area of influence.

"The ancient settlers of the Andean region diversified the use of *guadua* for generations, initially implementing the 'rustic bahareque,' made of *guadua* and *guadua* 'mat' for a formwork made of various materials, compacted by blows with a 'rammer' and thatched roofs, previously discarded local techniques emerging, around 1880, as a result of the bahareque de tierra y cagajón (cattle excrement)."

With the arrival of Europeans to Ambalema, the *guadua* material would have influenced the construction of the colonial architecture as a component. With the introduction of new construction systems, such as tread earth and adobe clay, local processes were enriched, and based on *guadua* they gave shape to buildings of Hispanic style.

Through these construction systems, which in many cases have been solved utilizing a hybrid, such as the tread earth with adobe, and/or some bahareque walls that connect with adobe walls or tread earth, attest to the processes that can be referred to as 'technical crossbreeding' have advanced the architectures of

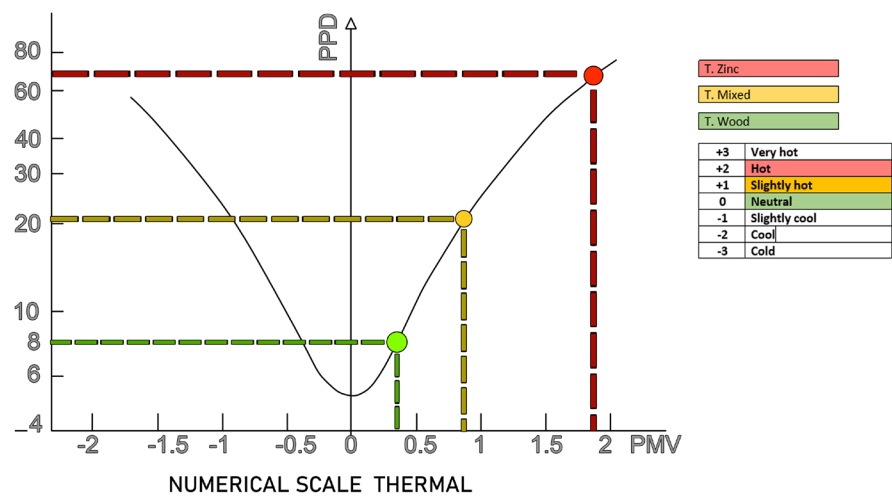
**Figure 4.**  
*House of Bahareque.*  
*Luis Angel Arango library.*  
*Guillermo Hernandez de*  
*Alba Archive.*



**Figure 5.**  
*A flying trip to the tropics.*  
*1892. Colombia, la historia*  
*contada desde las regiones.*  
*Semana Magazine.*



**Figure 6.**  
*Evaluation of the cover against the static model a according to the materiality (source: Argüelles J.M. (2019). Taken from ASHRAE 55).*



these warm and tropical areas, such as Ambalema. Likewise, these methods are an example of the assimilation, understanding and adaptation to thermal impacts produced by an altitude of around 200 meters above sea level, where minimum and maximum temperatures are in a range of 27° C to 33° C and relative humidity between 59% and 75%.

In Ambalema, the decisions on the thickness of the walls, the projection of the eaves, the height of the spaces, the transition paths between the exterior and interior and its continuous urban corridors are a reflection of an integral adaptation to the climate. The efficiency of the bahareque system is due to its complementarity between the wall volume and the shed envelope, taking into account contemplating construction variables such as: shape, volume, materiality and spans/wall ratio.

The soil of the Ambalema area, as a construction material, provides sandy content as it comes from alluvial deposits, an optimal characteristic for this type of construction technique that allows ease of work, labour and moulding, as well as resistance to compression. On the other hand, it also represents economic advantages, due to its immediate availability, and environmental advantages due to its favourable thermal inertia, allowing natural regulation of the temperature of the interior compared to the

**Table 1.**  
*Ministry of the Environment and housing and territorial development (retrieved from: [https://www.culturarecreacionydeporte.gov.co/sites/default/files/reglamento\\_construccion\\_sismo\\_resistente.pdf](https://www.culturarecreacionydeporte.gov.co/sites/default/files/reglamento_construccion_sismo_resistente.pdf)).*

Municipality	Municipality Code	Sysmic threat level
Ibagué	73001	Intermediate
Ambalema	73030	Intermediate
Armero	73055	Intermediate
Ataco	73067	High
Carmen de Apicalá	73148	High
Espinal	73268	High
Falan	73270	Intermediate
Honda	73349	Intermediate

external environment. According to recent statistics, a third of the world population lives in houses built using earth techniques, distributed throughout the planet, with different topographies and different climatic conditions.

An additional value that the bahareque structures organized in Bambusa guadua provide, is the capacity of earthquake resistant response. In other words, guadua provides the capacity for absorbing and dissipating the energy transmitted in earthquakes, and is suitable for Ambalema, a population in a

zone of medium seismic threat. In the latest version of the Colombian regulation of earthquake resistant construction NSR-10, the country has included a chapter highlighting the requirements for the design and construction of guadua or bamboo structures, and for which progress and research made in the country have been consulted.

## 6. TWO PARTICIPATORY INTERVENTION PROJECTS

The intervention, as part of a historical research process, takes into account specific knowledge, involves documentation on the styles, materials and trends that were presented at the time in this type of buildings and spaces. Consequently, the intervention, as a restoration of the initial work, must have conditions that allow it to consolidate proposals as close as possible to the original. Its purpose is to contribute to the conservation of a cultural asset and maintain a historical site or monument in optimal conditions, according to its historical, constructive and aesthetic characteristics, to act as a testimony of an era.

Due to the aforementioned premises, in the projects that it prioritizes for its implementation, the PEMP of Ambalema emphasizes resorting to the University of Ibagué as a companion in the technical support processes, for cases of intervention on heritage. Therefore, the University of Ibagué, in the face of this synergy of actions and projects, in 2018 concretes the conformation of the North Tolima Architecture Lab, which progressively establishes, and is fulfilling short, medium and long-term objectives. Among its short-term objectives, a critical one is to advise and support the Ambalema community in spatial and technical aspects of the infrastructure emanating from the PEMP for the historic centre.

In response to the aforementioned objectives, the lab makes an active and continuous presence at the meetings of the Ambalema Heritage Board, which is part of the requirements prioritized by the PEMP in the line of institutional strengthening. In accordance with technical advice, the lab participates with the collegiate body of the Ambalema town hall in visiting

properties in a vulnerable and dilapidated state of the historic centre. Given that homes and equipment with various types and degrees of alteration have been identified, through administrative mechanisms, tools have been activated to determine minimum interventions, which do not require prior authorization from the Ministry of Culture and guarantee the possibility of having corrective actions expeditiously. Through this collegiate exercise, an articulation with the course of the international summer school of the University of Ibagué, *Constructions in minor infrastructures and home adaptations in rural context* (2019), applied to a practical exercise in Ambalema, was specified. The adaptation of the façade of a house in the historic centre was specified, a context in which apart from expanding the construction skills of the participants, regarding the rescue of traditional construction techniques such as the bahareque, the social factor was worked on, by promoting to a family of scarce resources, for the conservation and maintenance of their home. This activity incorporated students of civil engineering and architecture, local professors and building engineers and Luis Palmero Iglesias from the Polytechnic University of Valencia, Spain.

**Figure 7.**  
*Bahareque facade, Ambalema historic center (source: Eduardo Peñaloza Kairuz).*





**Filling**  
( mud, stone and water)

**Column**  
( wood )

**Framework**  
( Bamboo poles )

**Plastering**  
( Dung with natural fibers,  
mud and water)

**Lime finish**

**Figure 8.**  
*Composition of a  
bahareque wall in  
Ambalema (source:  
Eduardo Peñaloza Kairuz).*

The course bets on a dialogue between equals, which, although with different curricular approaches, ends up meeting construction in the territory. Therefore, this experience encourages sensitivity in students and future professionals, about the use and respect of traditional techniques, as a method of recognizing pre-Hispanic material culture and its colonial miscegenation. It also reflects on how, from its possibilities and contributions to current construction, constructive reinterpretations can be developed that respond to the commitment to sustainability and environmental responsibility.

In accordance with the current environmental challenges, a second project was proposed, in order to benefit vulnerable communities such as the Ambalema fishermen, who live in risky conditions on the banks of the Magdalena River. For this

occasion, an exterior space was designed to favour the operative management of the fishing activity, rest and contemplation. Through alternative construction strategies, a retaining wall was executed as mitigation and structural support for the new space. For its execution, the reuse of versatile and flexible industrial material, such as used tires, was arranged. These, together with river materials such as stone, sand and cement harmoniously joined the relief of the place. This exercise is a sample of the exploration on alternative methods as opposed to other infrastructure projects carried out on the riverbanks, such as the one planned for the possible expansion of the boardwalk, which highlights the abundance of reinforced concrete, rigid pavements and imposed geometries alien to geography and the natural dynamics specific to that location.

Finally, the project was carried out thanks to the synergy established between the representatives of the local government, Ambaviva Foundation, the private company Sucampo-Sullanta, who donated the used tires, the academy through Peace and Region Program, the Office of Integral Social Responsibility, the North Tolima Architecture Lab, the group of students of the seedbed of Cultural Heritage of Tolima, of the University of Ibagué, and the unconditional support of the fishing community of Ambalema.

## 7. CONCLUSIONS

- The projects presented as a case study, and initially called 'small actions,' represent interventions that like a drop of water form the river, and therefore must be careful, oriented, harmonious, valued and appropriate. This approach is led by the North Tolima Heritage Office at the University of Ibagué.
- Any intervention, no matter how small, whether it be repairing a wall or reinforcing a slope, has an impact on the consolidation of the 'cultural landscape' of the place, and this depends on the natural environment.
- The social and historical imagery of heritage and the cultural landscape is essential to signify the memory and the sense of identity of a people.
- From an environmental point of view, recycling should be promoted. With due analysis, contemporary materials seemingly out of context can be integrated into the cultural and heritage landscape
- The condition of a riverbank demands a careful and harmonious approach as well as environmentally and technically responsible interventions, in front of the hydric logic (controlled permeability, slow movement of sub-surface waters) avoiding separating, fragmenting and dividing, which is foreign to the border of the Colombian main river.
- As a pedagogical action with the revaluation and restoration of ancestral techniques, the training of local labour is encouraged as a factor of economic activation.

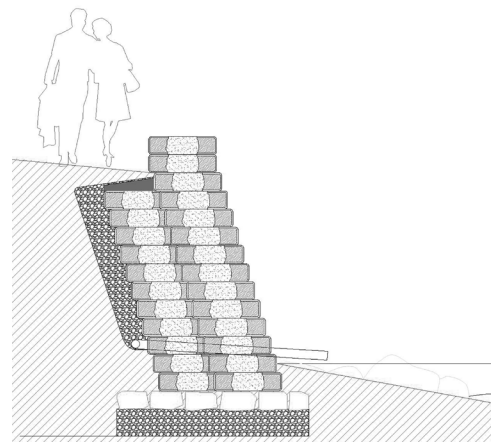


**Figure 9.**  
Previous state and result of adequacy of  
the bahareque façade in ambalema (2109)  
(source: Eduardo Peñaloza Kairuz).

- The second exposed project closes the circle, since it returns to the natural morphology of the landscape of the place in a contemporary situation, and contributes to the evolution of the concept of "conservation," but with a lot of sense, sensitivity, respect, creativity and of course constructive technique that ensure smooth operation and moderate duration over time.



**Figure 10.**  
*Retaining wall in used tires and construction section (2019)*  
(source: Eduardo Peñaloza Kairuz and Brandon Ponce).



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