

## Article

# The Amazonian Architecture and Challenges Faced in Socio-Spatial Transformation Processes—Shuar and Achuar, Ecuador

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**Abstract:** This article explores the ties between vernacular architecture, culture and identity in a context of sociocultural change in the Ecuadorian Amazon. The text addresses the loss of a collective cultural identity from a historical, socio-spatial and descriptive perspective. Beliefs and traditions act as a “social glue” uniting societies around common values, goals and norms, whose disappearance could cause this society to veer off course or to even become fragmented. Fieldwork carried out further supports these data, showcasing cultural changes which are worsened by globalization and contribute to the erosion of common beliefs. Although challenging, this also provides the opportunity to reassess values in search of new forms of local identity and significance. The article highlights the fragmentation between tradition and the beliefs concerning settlements which had been introduced by colonization through an understanding of construction processes and their spatial logic. The transformation of socio-spatial dynamics highlights the challenges faced by the Amazon, as well as attempts to strike a balance between tradition and progresses, without neglecting environmental culture or integrity due to the pressures of globalization. Therefore, understanding the different relationship systems found within a given ecosystem can provide clues on how to aid their preservation.

**Keywords:** Amazon; Ecuador; Aénts Chicham; Shuar; Achuar; settlements transformation; vernacular architecture; colonization; construction techniques



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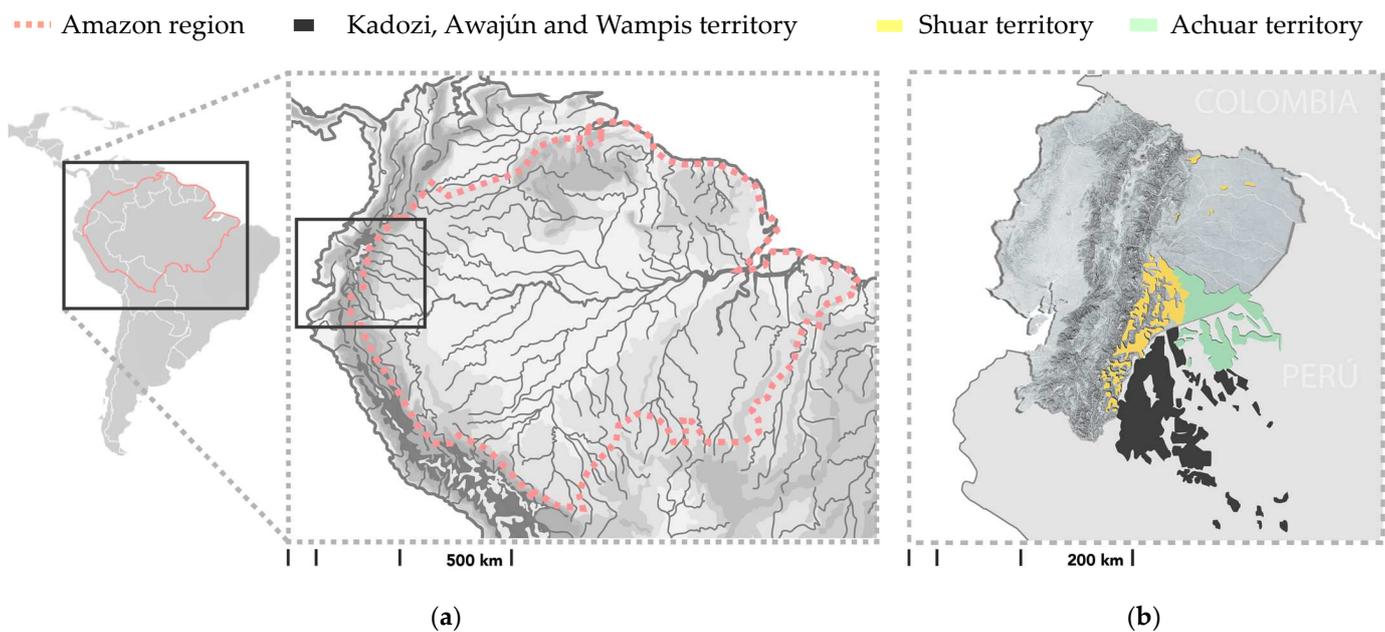
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## 1. Introduction

The Amazon River basin, covering 7.4 million km<sup>2</sup>, comprises the territories of Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Surinam and Venezuela [1] (p. 11). This territory has witnessed a complex series of changes, both natural and man-made, while also having been subject to transformation in recent decades [1] (pp. 13, 25), worsened by the processes for the extraction of natural resources, as in the case of the Ecuadorian Amazon [2] (p. 92). These changes, promoted by both colonization processes and evolution in how the territory is inhabited, have left a major imprint on the region. The expansion of agriculture—and subsequent replacement of primary forests—is one example of the many issues faced [3]. As well as being recognized as the lungs of the earth, as one of the main carbon reservoirs of the planet [1] (p. 12), the Amazon offers a naturally diverse and culturally rich landscape, irrigated by a wide network of rivers and natural landscapes (Figure 1a). At present, this wealth is under threat from extractivist movements which directly impact urban growth and the traditional ways of life of the inhabitants [3] (pp. 82–87).



**Figure 1.** Location in the territory. (a) Basin of the Amazon river in Latin America; (b) Ancestral territories of the case study as part of the *Aénst Chicham* linguistic group.

According to the definition set out in the Convention for the Safeguarding of the Intangible Cultural Heritage, intangible cultural heritage is the practices, representations, expressions, knowledge and techniques—including tools, objects, artefacts and associated cultural spaces—that communities, groups and occasionally individuals recognize as an essential part of their cultural heritage [4]. Therefore, when speaking of tangible heritage, the intangible values that define it are also implied. This legacy, passed down over generations, is continuously recreated by communities and groups, adapting to surroundings, interacting with nature and history. This provides them with a sense of identity and continuity and helps promote respect for cultural diversity and human creativity. Intangible cultural heritage can take the form of oral traditions and expressions; performing arts, social uses, rituals and festivities; knowledge and practices associated with nature and the universe; and traditional artisanal techniques [5].

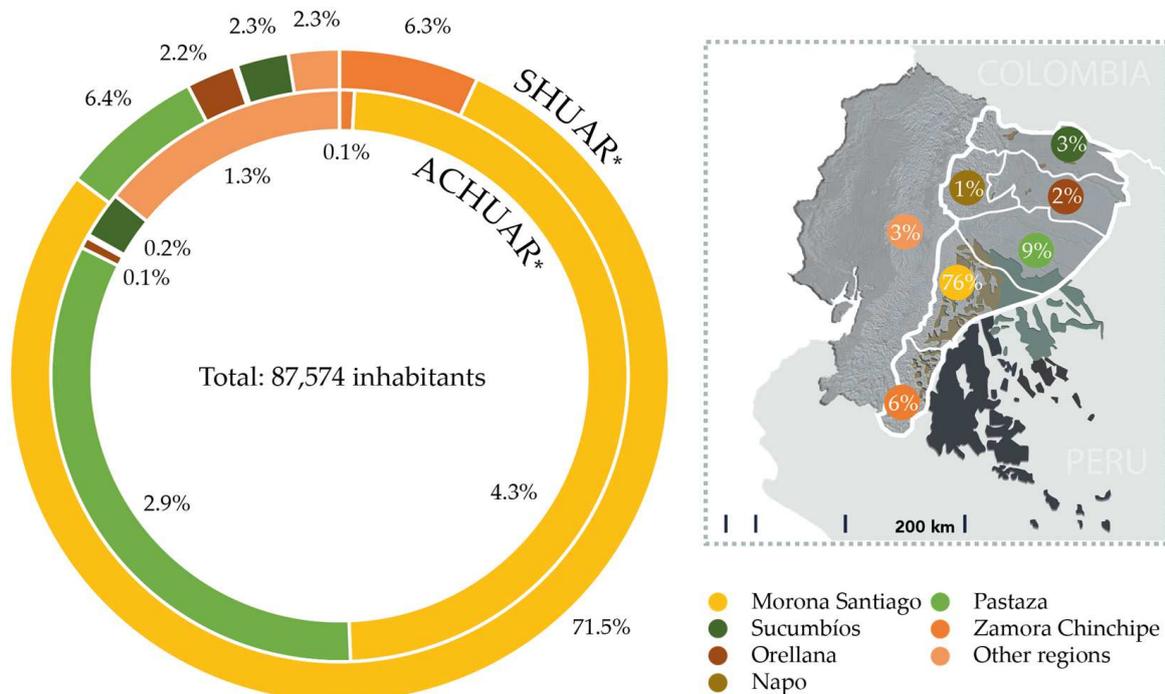
This article traces the roots of the latent process of deterioration of heritage back to the first missionaries who arrived in the region to evangelize it, in this case, the Jesuits who reached Mainas in the province of Morona Santiago in 1638 [6] (p. 7). Both the Inca and Spanish conquests failed to impose a new settlement model, as the ways of life of indigenous communities were determined by unique forms and cosmovisions that were difficult to eradicate. Their settlement was not linked to predefined urban structures but to a unique relationship to nature and specific way of understanding territoriality. Through acculturation methods, religious missions sought to change these ways of life, suppressing traditions and customs out of step with Christianity. However, it was not until 1965 that the Second Vatican Council promoted a vision of evangelization which respects the ways of life and culture of peoples in the missions [7,8].

Throughout history, resources in the Amazon have constantly been exploited. This included the sourcing of timber during the European conquest, the rubber fever which affected a large part of the region, and large-scale operations such as mining and the extraction of fossil fuels. In addition to these, cultural changes and external influences have shaped a complex reality in the territory occupied by the *Aénst Chicham* language group (made up of the Achuar and Shuar in Ecuador and another three ethnic groups in Peru: Wampis, Awajún and Kandozi) [9], as mentioned above. This theoretical framework is then used to define the architecture and construction techniques in order to understand their

synergies, ultimately leading to an interpretation of the challenges and issues faced by the case study and the Amazon at present (Figure 1b).

The expansion of extractive and agricultural borders in the region in the second half of the 20th century brought about the rapid deterioration of the natural landscape and cultural identity [10] (p. 503). As a result, the colonization and deforestation stemming from these territorial changes are considered major factors in the “environmental crisis” in the Amazon, prompting the international community and different global bodies and agents to vigorously call for its protection [11] (p. 125).

Construction with vernacular materials has been directly influenced by the historic changes observed in the region. According to the 2010 census [12] there was a noticeable drop by almost 25% in the number of dwellings built using vernacular materials compared to 2001. Dwellings built using modern materials account for 80% of the total area studied in the Shuar and Achuar territories. It should be noted that a large portion of the socio-spatial changes under study are located in the provinces of Morona Santiago, Sucumbíos and Zamora Chinchipe. Therefore, identifying their geographical locations aids understanding of the occurrence of these processes and how these affect the degree of conservation of the vernacular architecture (Figure 2).



**Figure 2.** Shuar and Achuar demographic indices and *Aénts Chicham* population indices by province in the Amazonian Region in Ecuador. \* The outer ring represents the Shuar people while the inner one corresponds to the Achuar people.

### Objectives and Hypotheses

Among the objectives of the Convention for the Safeguarding of the Intangible Cultural Heritage [4] are those of guaranteeing the respect for intangible cultural heritage, raising awareness on its importance and promoting international cooperation [5]. This heritage urgently needs measures to safeguard it so that its interpretation contributes to the understanding of its architecture and the risks faced.

The aim of this article is to understand socio-spatial transformation processes, paying particular attention to vernacular architecture. The Shuar and Achuar cultures after the colonization processes of the 20th and 21st centuries are used as representative case studies to illustrate common problems currently seen in the region, taking into account that both nationalities are part of a single linguistic group which, despite sharing the same cultural

baggage, displays vastly different panoramas in terms of conservation. Therefore, it is vital to further research the texts of Descola [13], Chiriap [14], Johnson [15], extensively describing the Achuar, while further information on the Shuar can be found in Bottasso [16], Gnerre [8], Karsten [17] and Harner [18]. It should be noted that—in the context of describing architecture—differences will only be highlighted when strictly necessary, as a joint consideration of both peoples aids the interpretation current synergies and helps to ascertain the risks faced by their architectural heritage. The task of data collection enriches the critical approach which focuses on the processes of socio-spatial change through the understanding of dynamics in relation to surroundings and culture. As no specific descriptions from architecture field view were found in the literature, the information collected and presented in this text aims to provide a current account of the loss of vernacular architecture in the Amazon.

Why is this architecture at risk? What aspects should be investigated in order to counter the loss of its associated values? This threat is tied to different influences, particularly from the colonial cities of the Andes closest to the Amazonian region and their uncontrolled expansion. Based on this, it can be assumed that the Shuar, more directly influenced by other types of architecture, have suffered greater losses and have seen both their traditional values and vernacular architecture diminished. On the other hand, as by comparison the Achuar territories are relatively untouched, it seems logical to find a greater presence of local materials and a greater degree of conservation of their traditional architecture.

## 2. Methodology

This study focuses on the analysis of the ancestral territories of the Amazonian region, particularly the provinces of Zamora Chinchipe, Morona Santiago and Pastaza, where the case study territory are mostly found. This is fertile ground for research given the different architectures introduced and the synergies between urban and rural resulting from the presence of roads, rivers and extractive zones, highlighting the main issues. The selection of these cases will provide a clear reflection of the influence of factors introduced on the traditional, particularly in a context of increasing globalization.

The first part aims to provide an overview of Amazonian architecture in acculturation processes in the 19th and 20th centuries in order to understand the changes undergone by indigenous peoples, until these overcame a major process of ethnocide. Attempts are then made to understand how the new model of colonizing settlement would directly affect the ways of life and forms of grouping. An examination is also carried out to see how this model allowed the integration with the rest of the country and the social advantages associated. The duality of traditional and modern is especially notable, as are the narratives resulting from the different types of 20th and 21st century settlement and the consequences for the surroundings and the use of vernacular materials in construction.

The second part of the research offers a description of traditional Shuar and Achuar architecture, analysed in terms of the spatial organization, cultural interpretation and traditional construction techniques still used as a result of colonial influence, including major architectural elements such as enclosures, roofs, finishes, furniture and means. These data are interpreted to understand current cases based on the sociocultural context, on the integration of symbolism in daily practices, and on the construction process. It can thus be observed that dwellings are not only functional artefacts but also cultural ones.

Finally, in terms of the modernization of Amazonian societies a description is offered of the consequences of the colonization processes, including successful attempts at public policy employing an ethnocentric approach. This final part opens up to the potential understanding of architecture from other fields such as intercultural studies and theories seeking new narratives and meanings.

The documentation compiled is contrasted and validated through reviews of primary sources and fieldwork. Data were validated in the fieldwork stage through the analyses carried out and their subsequent interpretation. In order to ensure a comprehensive overview of the construction processes and adaptations, contexts are sought which have

had the least possible impact from external factors (located further into the jungle and with poorer road connections) so that more vernacular architecture can be contrasted in the processes analysed (Table 1).

**Table 1.** Organization of the methods and forms of validation used in the research.

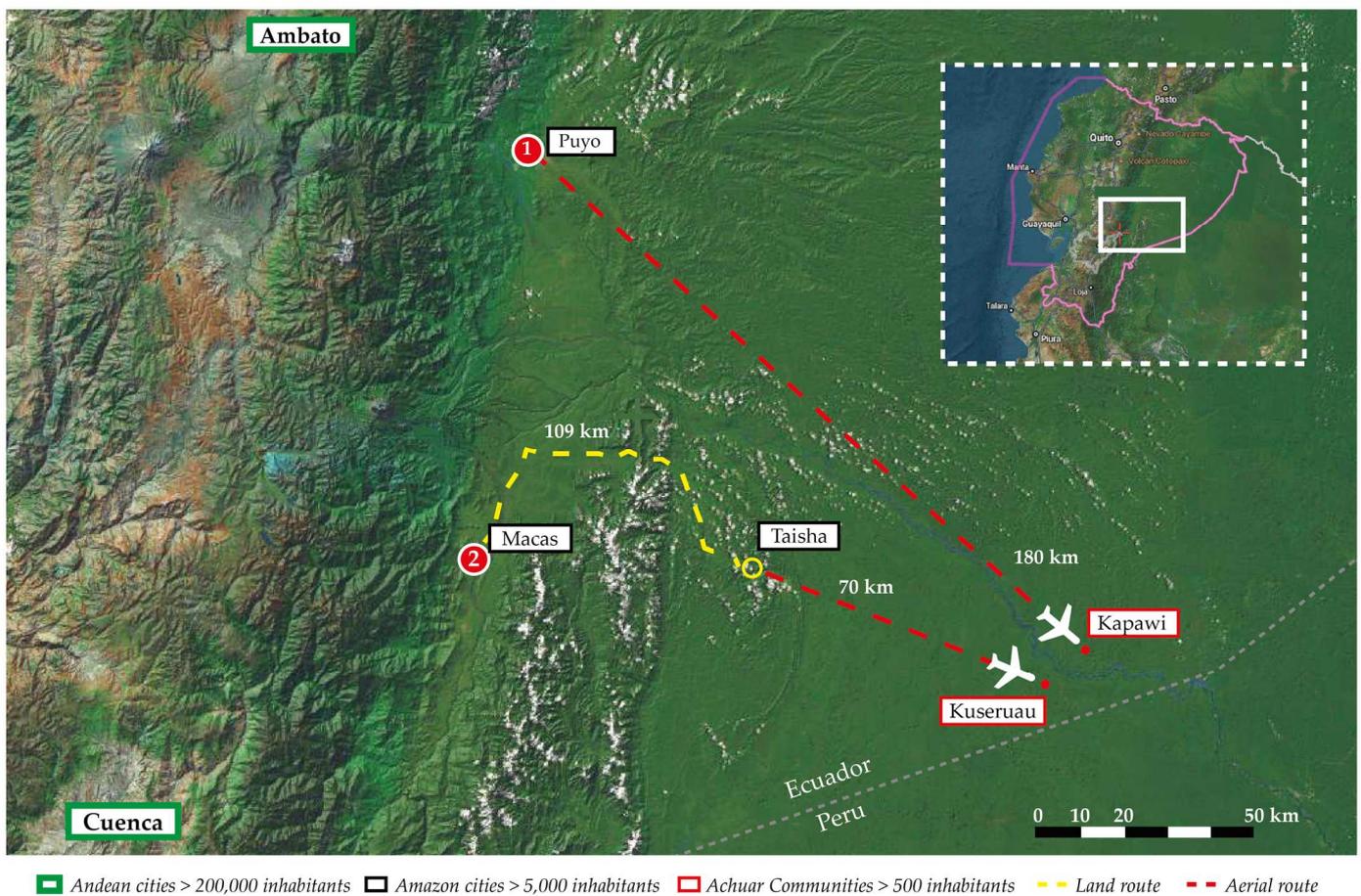
Method	Description	Objective	Validation
Historic context	Analysis of 19th and 20th century colonization processes (Section 3.1)	To understand the processes of acculturation and territorial alienation	RD *
Socio-spatial analysis	Contrasting socio-spatial transformations and impacts using drawings and diagrams (Section 3.2)	To explain the evolution of settlements	RD * and FW *
Architectural analysis	Cultural interpretation of most representative components (Section 3.3) and meanings (Section 3.3.1)	To understand the spatial organization and symbolisms highlighting differences between Ancestral and Western viewpoint	RD * and FW *
	Interpretation of the ways of inhabiting the space and its social relations through drawings outlining the construction process (Section 3.3.2)	To understand the construction cycle and tools used in the construction process of dwelling	RD * and FW *
	Description of architectural components: enclosures (Section 3.3.3), roof (Section 3.3.4), finishes and furniture (Section 3.3.5), means (Section 3.3.6)	To document current vernacular construction techniques	RD * and FW *
Interpretation of current context	Analysis of risk factors through population censuses (Section 3.4)	To discuss challenges and proposals for the future	RD *
	Cultural interpretation of the territory as a safeguarding tool (Section 3.5)	To understand cultural processes in socio-spatial conservation	RD *

\* RD (Review of Documentation), FW (fieldwork).

Data collection is conducted through observation and interviews with the occupants of the dwellings visited. These are documented using photographs, notes and drawings, all included in the article to aid the description of the construction process of traditional dwellings. The sample obtained during the data collection stage rules out dwellings built with materials that are not local or do not follow traditional typologies. Therefore, data collection is focused on research into a territory that has not been as gravely tainted by colonial influences as the Achuar. In contrast, Shuar territories were excluded from the sample, as no cases were found which could contribute to the approach of the research, given the differences in their constructions.

Nevertheless, the validity of the data collected cannot be ruled out for either nationality, as they both belong to the same linguistic group “*Aénts Chicham*” and share the same cosmovision. Therefore, the sample includes 50 cases which reflect construction and symbolic conditions in keeping with the heritage values exposed in previous research [19].

Fieldwork was developed thanks to contact made with a non-governmental organization which had already established links for cooperation between July and August of 2023. Initially, Achuar territory was accessed via the Kapawi Ecolodge [20], located north of the Pastaza river basin. This ecolodge organizes community tourism activities in collaboration with Foundation “*Pachamama*” [21]. And secondly, thanks to the volunteer offer of the Foundation “*Violín Rojo*” [22], which works to improve children’s education in Achuar communities, it was possible to access the territory to collect research data, with the authorization of the community (Figure 3).



**Figure 3.** Routes followed for data collection. Route 1: Kapawi with tourist offer, Route 2: Kuseruau thanks to volunteer resources (Edited by the author from Google Earth).

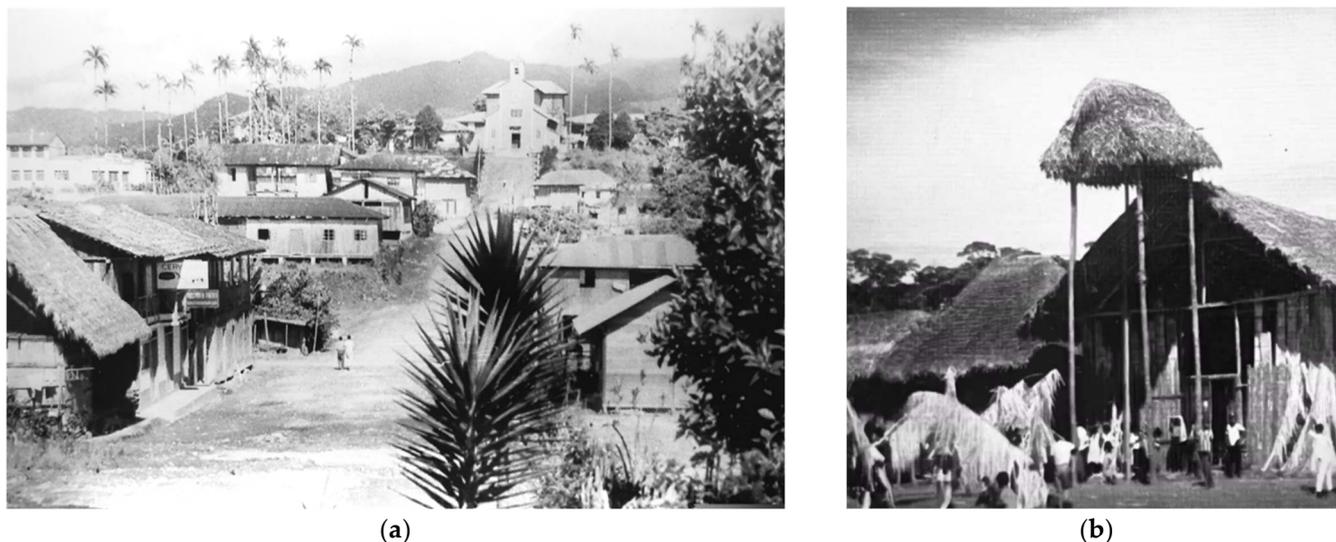
### 3. Results

The results are presented following the methodology in order to understand the spatial evolution of traditional settlements which continue to use vernacular materials in construction. Analysis and graphs are provided to aid the understanding of the most important features for its conservation, and current issues.

#### 3.1. Tracing Paths: The Evolution of the Missionary Task in the Ecuadorian Amazon and Its Impact on Indigenous Culture and Territory (19th–20th Century)

After the French Revolution and the troubles of Napoleonic times in the 19th century the French Church in Europe saw an increase in missionary activity which led to the foundation of numerous religious congregations dedicated solely to the missions. These missions were promoted by Jesuits, Franciscans and Salesians among others. In this specific case it was mostly the Salesians, led by Saint Juan Bosco, who promoted evangelization in communities who lived outside Western civilization and were viewed as savages [7] (p. 115). In Argentina, the Salesian mission already had a considerable presence required by the evangelization of migrants and communities considered “pagan”, especially in Patagonia and Tierra del Fuego rather than in the capital. However, this missionary dream was interrupted by the political conflicts of the time, as the Argentinian army was waging a conquering war which resulted in the extermination of the Mapuche peoples. The mission continued despite these events but it changed direction drastically, shifting its attention to the Amazon, particularly Shuar and Achuar territories. In 1893, the missionaries of the *Vicario Apostólico de Méndez y Gualaquiza* were assigned the task of evangelizing the Shuar people, and later the Achuar found farther east [7] (p. 116). The effects of the influences

of the time would become progressively apparent, as seen with the first churches built following local constraints in terms of materials, or the dwelling typology which gradually adopted contributions introduced by the religious missions in the course of their work (Figure 4).



**Figure 4.** Use of vernacular materials in the early 20th century, (a) Change of typology in Macas, (b) First church in Puyo (Archive of the Vicariato Apostólico de Canelos, 2023).

The missionary vision aimed to permanently change the beliefs considered erroneous by Christian ethics and morals. The vision of the bishops provided the guidelines for the work of the missionaries to focus on education as the main tool for evangelization. This boosted the establishment of educational centres, possibly the antecedents of what later became known as “*internados*” or boarding schools. These institutions were establishments devoted to children’s education around religious aspects and teaching through Spanish, as seen through a Western lens. This initiative led to the dismantling of relationships of kinship and power structures rooted in the ancestral culture, generating a reinterpretation of a world which adults were eager to access. This activity involved many people, including families, vendors and religious workers, so that construction began on roads to connect the Andean and the Amazonian region, favouring the exchange of goods and the arrival of new colonizers. As a result, social and cultural changes were consolidated and relationships of interest were established with the mestizo population [16] (p. 70) [8].

However, the missionaries themselves had questions: Is religion truly the most intimate and solid nucleus of a culture? And if this is eliminated, what happens to culture? The members of the clergy who set off on this mission received rather standardized training with philosophical and theological foundations in the framework of the congregation, but they were not given specific education on anthropology. However, sending young missionaries facilitated their immersion into a new culture [7]. As cohabitation went on, the missionaries became aware of reality and the risks faced by these peoples at risk of an imminent ethnocide. Upon observing this, their initial stances began to change, giving way to relationship dynamics oriented to the same objective: to protect culture and reclaim the right to ancestral land, given the circumstances of colonization and expropriation on the part of the government and the colonial community. Later, under the Second Vatican Council, religious missions focused their efforts on preserving culture, moving away from a period where indigenous culture and ethnocentrist discourse were less valued.

Those who achieved significant contributions in the field of ethnography, linguistics and ethnohistory were mostly self-taught, with initiatives that were personally driven and motivated, rather than prompted by the congregation, giving rise to important documentary work on culture and missionary work. Father Crespi, for instance, captured different

landscapes, ceremonies and daily activities, compiling them in a film with striking shots, now considered one of the earliest anthropological documents of Ecuador [23] (p. 190).

The literature compiled on missionary work reveals the cultural impact of the introduction of models from a perspective that was completely alien to the place. Nevertheless, these accounts are the most relevant to the investigation as they show the declining sustainability of these models over time, leading to a settlement model which developed without a backward glance.

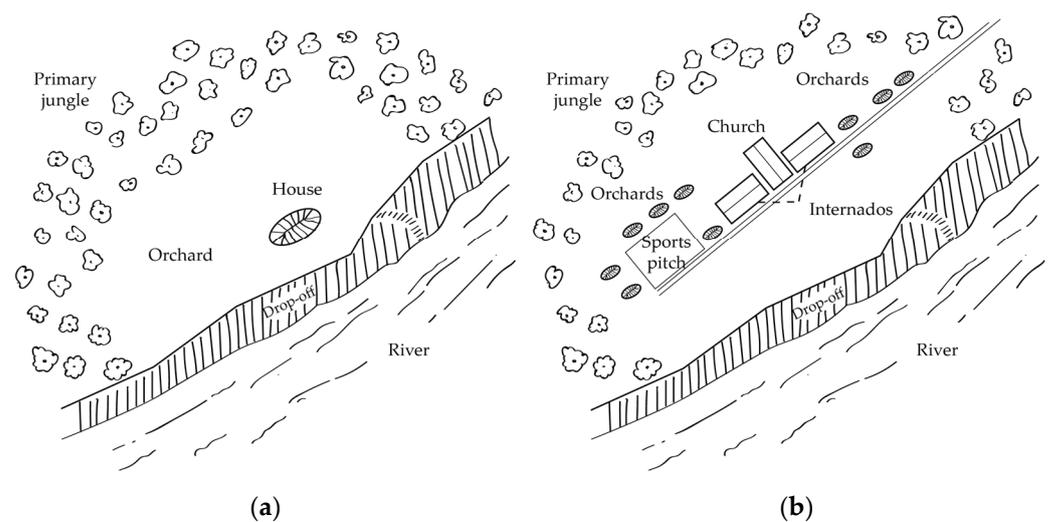
### 3.2. Transformations of the Traditional Settlement: From Family Dispersion to the Configuration of Communal Centres

Communities as a grouping of families were not configured in a single settlement prior to the early 20th century colonization [23] (p. 144). Anthropologists characterized these settlements as an extended family. According to Bottasso [16] (p. 23) the Amazonian ecosystem does not host an excessive demographic concentration so that the settlements were designed to favour and preserve the biological balance in the ecosystem, which they could inhabit without disturbance. In its social organization the population was scattered, as settlements were considered to require a specific extension (as in the case of the orchard “*huerta*” and land “*finca*”), generally covering many hectares. Some anthropologists suggest that the state of war may have once again been a means of controlling the population proportionally and taking into consideration the surroundings. These communities lived far apart from each other and in conflict, although they maintained a minimum of contact.

However, this was not always the case. This was established by Rostain, et al. following the recent discovery of urban centres with monumental platforms, squares and paths in a vast interconnecting network, in the Upano Valley in the Ecuadorian Amazon. These date from between 500 BC to 300–600 AD and bear similarity to the Mayan urban systems of Mexico and Guatemala [24].

Missionary work focused on establishing tasks in *internados*, as settlements were usually dotted throughout the jungle and this allowed them to establish an efficient evangelization method. However, these new centres were not only set up for the purposes of education, but also to distance children from their families and prevent the preservation of the customs of their elders [25] (p. 133), [8] (p. 590). Subsequently, priests encouraged the pupils to settle in these new centres upon completing their education there, and after some of them had married. This gradual process led to the formation of this new form of settlement known as *centro*, where families abandoned their isolation in search of fruitful exchanges with the missionaries and the colonial community. Thus, it became feasible for the new families to be monitored by the missionaries, who provided land for the construction of homes around the new village, ensuring the spiritual support which later transformed into for autonomy. However, missions did not limit their work to the merely religious but also took on responsibilities, managing infrastructures, healthcare and, above all, education [26].

In the mid 20th century, when government institutions were set up in the region, there was a radical transformation in the traditional life of Amazonian peoples. The *centro* model, initially established in Sevilla (province of Morona Santiago), was replicated in more rural locations, building chapels, schools and sports facilities [5,13] (p. 38). Although the traditional settlement typology was merely family-based, around a *maloca*, it was made up of a family chief and several wives with their respective children, as well as sons-in-law and new families which were annexed when it grew, creating single family units of up to 20 members. The orchard preceded the primary forest, with a variable size which depended on the number of wives in the family group in the case of polygamous families, or on the horticultural ability of the wife in the case of monogamous families [13] (p. 177) [Figure 5].



**Figure 5.** Change of settlement typology, (a) Traditional settlement, (b) Colonial settlement “Sevilla Don Bosco”, 1940 (Author based on [13] p. 233, [27] p. 56).

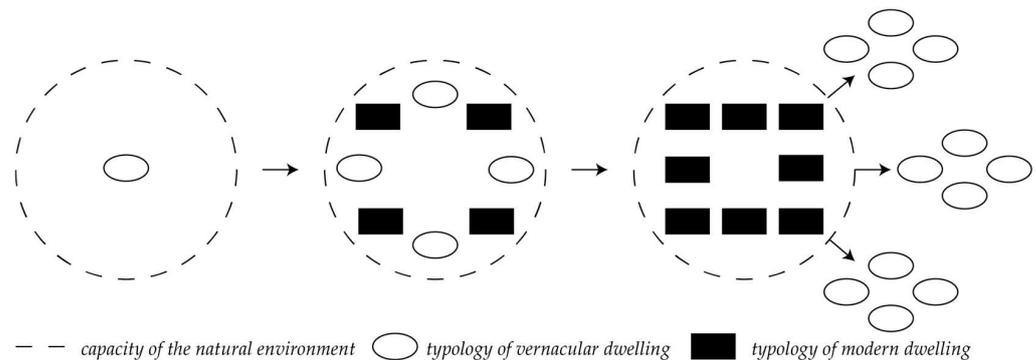
Missionary collaborators, usually former students of *internados*, later became “*síndicos*” with responsibilities stretching beyond the merely religious (tasks such as organizing the community or educational tasks in the first schools of the *centros*). In the 1960s, the Salesians reconsidered this settlement model when they realized that supplying these villages was becoming increasingly problematic as they grew further. Despite attempts to prevent urbanization, in the following decades it became apparent that it could no longer be controlled [28] (pp. 70–75).

“There is no such thing as a savage, there are no superior or inferior cultures, only different ones. They all have a lot to learn, but equally a lot to teach” [25]. The paradox of evangelizing and civilizing was present in missionary work, but those who lived through this change can describe it from their own perspectives. Although initially this was undoubtedly a drastic event, for many the methods used gradually evolved. Despite being hastily adapted to reality, in many cases they turned out to be irreversible. On the one hand, education of religious values and ethics was called into question while on the other, family education was preceded by daily cohabitation in homes, establishing patterns for interaction and adaptation to surroundings in keeping with culture, which was directly affected. These two different cosmovisions, indigenous and Western, were assimilated in different ways and brought with them imminent social conditions that were hard to assimilate. While missionary work may have been criticized for its lack of cultural sensitivity in its early stages, perhaps it lacked the tools needed to approach it in the most correct manner. Ultimately, this was not merely a social process, but a spatial one which would favour the exchange of goods and the entry of new colonizers who consolidated the changes expected [16] (p. 70).

Indigenous and mestizo individuals played a major role in national unity when defending the territorial borders in the War of 41 against Peru. To some extent, this guaranteed the State the occupation of land, thus preventing a further loss of territory after signing the 1998 peace treaty [29] (p. 160) [30] (p. 91). In addition, several international initiatives were implemented to promote the construction of roads in the jungle. This brought with it new colonization policies which made it possible to consolidate these areas, as well as tropical agriculture and the migration of new population which would doubtless affect traditional settlements and natural landscape in particular, as it was felt that this would be taken over in proportion to the new needs of inhabitants [31] (pp. 80–81).

This was a direct factor in the adoption of vernacular materials in construction, and with it the widespread replacement of vernacular dwelling typologies with others employing materials introduced by the colonizers, although more isolated settlements were preserved in varying degrees (depending on influence networks such as rivers or roads).

However, the concentration and growth of settlements led to an increase in consumption which endangered the balance of nature [8] (Figure 6).



**Figure 6.** Diagram showing the evolution of traditional settlements, following the colonial socio-spatial contribution, through to the replacement and shift in vernacular dwelling typologies (Source: Author).

For this reason, current settlements are made up of shared spaces within the group of domestic units, for example in communal houses where matters of local interest are discussed in an assembly and major feasts are celebrated. Equally, community facilities such as schools, health centres and churches are built mostly using modern materials, especially for roofs, replacing straw roofs with corrugated sheet metal.

This transition towards new modern materials is less evident in the settlements deeper in the jungle, where homes are still built with vernacular materials and there is limited contact with cities. This duality in the use of materials clearly shows the introduction of new concepts, meanings and uses, where tradition and modernity could be further blurred by economic and social status. Nevertheless, a community gives rise to new roles and dynamics compared to a scattered settlement. This constitutes the start of awarding greater importance to maintenance and durability in community buildings, so that these serve the new social organization. In the meantime, efforts are made to ensure the preservation in dwellings of any authenticity and symbolism found in its components, maintaining an almost intrinsic connection with cultural roots. As a result of this contrast between community and individual elements (where the dwelling itself was the space which housed the indispensable for the family group), new spaces will have their own dynamics. Therefore, no major adaptation is observed between traditional and modern, as this interaction leads to an important network of meanings and new narratives contributing to the community's identity and dynamics [10] (p. 503).

Following the interpretation of traditional settlements—from the colonial settlement to its dispersion creating other new ones—it appears that the Amazonian model requires a delicate coexistence with nature.

### 3.3. The Dwelling and Its Location

In the native language the house is known as “*jéa*”, and the construction of homes is traditionally linked the celebration of a new marriage, although the groom must initially spend time in the home of his parents-in-law before beginning the construction of his own home [32].

Traditional accounts explain how to develop the traditional construction techniques, detailing spatial distributions, the selection of materials and the cycle of construction. The house is considered the community nucleus in and of itself, as it is a built microcosm within the macrocosm of the jungle [14]. Originally, each dwelling represented an independent social unit, and the family chief was the governing figure [17]. However, the community model has been changing and there is currently an assembly headed by a “*síndico*” who presides the most important decisions. In traditional settlements, dwellings were abandoned once the land was no longer fertile, prompting the search for a new location to cover

subsistence needs. This does not happen in new settlements as the way of life has changed after the establishment of sedentarism, which put an end to these movements. Dwellings were strategically located near natural resources, carefully choosing territory suited to the dynamics necessary for daily life. These were initially found in the depths of the jungle, surrounded by large orchards and located high up with a wide view of surroundings, facilitating defence from possible invasions [18]. Defensive palisades were even built to protect the territory from potential threat [32].

Dwelling typology becomes more elliptical, built mostly using different types of wood, particularly palm. These dwellings have a hip roof with elliptical finishes at both ends which are lowered to the height of a man. The sloping roof allows rainwater to run off and is covered with palm leaves from the tree used for the structure and divisions. The floor is usually earth and a ditch is dug out around the dwelling perimeter for rainwater collection. At present, as there are fewer conflicts the new settlements seek fertile soil for food and construction, nearby rivers or lakes for water and fishing. They also seek strategic locations near routes facilitating communication with other communities with sufficient facilities, thus obtaining access to state services, especially healthcare, and considering the presence of landing strips in good condition to be essential [14].

### 3.3.1. Spatial Organization and Its Meanings

The comparison of Western views and indigenous cosmologies is a major concern in this article, which presents interesting views of possible approaches to the environmental crisis and the relationship between humanity and nature. Traditionally, Western interpretations have tended to separate nature, culture and power. This division has in turn shaped a perception of nature as something separate from and external to the human individual, facilitating environmental exploitation and degradation in the name of progress and economic development. This vision has also promoted the idea that humanity is more important than nature and is therefore entitled to dominate it. However, the views of indigenous cosmologies are very different as nature, culture and power are closely interconnected. Rather than seeing nature as something external or separate these cosmologies tend to view humans as yet another part of a single system in constant relation and interaction with its members and surroundings. This gives rise to profound spiritual and ethical connection with nature, and the land and the elements are considered sacred [7].

In the ancestral world, systems of thought are rooted in a more profound understanding of the being and ways of relating to other non-human beings. At the same time, the dominant naturalist approach found in the West objectifies nature for its own benefit, no longer viewing nature as the master and vessel of human beings. Here, non-human elements are not merely resources but rather vital elements which condition human existence, creating a system of co-existence from which both parties benefit. In contrast, in the capitalist system, encouraging individualism and promoting the accumulation of goods and wealth in society is reshaping human relations and, in turn, how we inhabit cities. Modernity is increasingly immersed in the search for economic and material “progress” as reflected in the growing importance of major cities and a fast-paced way of life. Despite concerns over global warming and care for the environment there is a lack of connection with other beings and their interaction with nature [33]. It is important to stress that dwellings are conceived from a unique way of viewing the world and its relationships, and the design of the living space is organized into two essential dimensions: horizontal and vertical. The horizontal axis defines the spatial distribution between masculine and feminine, while the central “*pau*” post is the main feature of the vertical axis. This symbolic element towers over the territory, acting as a connective link to this microcosm: the sky, the world and the underworld [32].

This spatial division becomes evident through elements which clearly mark out these distinctions. In the female zone, known as “*ekent*”, the central element is the “*untsuriri*”, a shelf resting on two central posts and used to hold kitchen utensils and anything linked to the care of the home. This space becomes a more intimate one for the family, a space

for daily activities such as rest, artisanal creation, and food and meal preparation. Each woman in the household is assigned her own space in the zone, including the “*peak*” bed and respective hearth, often separated through divisions with palm leaves or trunks. The female zone is always connected with the orchard, known as “*aja*”, which at times takes the form of a small hut used for storage or exclusive to women. In contrast, the male space, known as “*tankamash*”, revolves around the central post or “*pau*”, an element of great symbolic importance for the Shuar, although in Achuar dwellings it is not so explicitly linked to connotations of centrality [13] (p. 184). This is a space for social activities, such as family decision-making, the formation of alliances between communities or marriages, and major celebrations and rituals. It is also the space where male tasks are carried out, including the production of weapons or the weaving of artisanal baskets known as “*itip*”. Unlike the female zone, the male zone is in direct contact with the outdoors through its entrance, so that the dwelling becomes a symbolic connector with natural elements such as the forest, waterfalls and rivers.

The mythology of the *Aénts Chicham* people is steeped in natural elements, from rivers and forests to waterfalls and ravines, all linked to daily activities and rituals. The myths provide teachings on hunting, fishing, dwelling construction, agriculture and the purification of man, with the interpretation of the dwelling as a sacred microcosm that is complemented with symbolic aspects also playing a key role. Its cosmovision, closely linked to nature, transforms dwellings into temples where everyday life unfolds. “*Arutam*” is crucial to Shuar and Achuar life, as it attributes control to the forces of nature, considering that these spirits are found in the jungle.

The dwelling represents a sacred space [34], highlighting a territory from cosmic surroundings and creating an atmosphere connecting it with the sacred. The dwelling becomes a shelter which goes beyond comfort, taking on symbolic and cosmological significance which transcends its existence. The separation of profane and sacred is manifested in how indoor and outdoor spaces are conceived, as well as their form, floor plan and location. The establishment of a people in a territory is the equivalent of the foundation of a world, reflecting the unique reality of each individual and their position near the “*Axis mundi*” [22,28]. Common beliefs are steeped in natural elements, from rivers and forests to waterfalls and ravines, all linked to daily activities and rituals. The myths provide teachings on hunting, fishing, building construction, agriculture and the purification of man, with the interpretation of the dwelling as a sacred microcosm that is complemented with symbolic aspects also playing a key role. Its cosmovision, closely linked to nature, transforms dwellings into temples where everyday life unfolds.

According to reflections from a Western and ancestral perspective, the current changes in socio-spatial dynamics could have a direct destabilizing impact on how the Shuar and Achuar communities address change. While autonomy currently prioritizes the interests of the communities, it does not guarantee communal decision-making, so that major distinctions can be observed between nationalities given that stances adopted are determined by their organization regardless.

### 3.3.2. Construction Process

The Amazonian construction process follows the model of the “*minga*”, where the family chief expresses his skill and will to obtain a new dwelling. In this process, he gathers relatives and close friends to collaborate in the construction of the home. After construction they are rewarded with a generous meal as a sign of gratitude for their help. In addition to creating a new domestic unit, this dynamic also strengthens cohesion within the community. This process is led by the head of the family once he has decided on the construction of a new dwelling (either because the previous one reached the end of its lifespan or because a new home is needed for a growing family). Once the decision to build a new dwelling has been firmly made, the strength and social power that the family chief might have also becomes a factor, to be reflected in the size of the dwelling [13] (p. 177) (floorplans tend to be between 7.50 and 10.80 m wide and between 12 and 18 m long, while the roof reaches

a height of 7.50 m; depending on the materials locally available [14]). It is important to recognize that at this stage the dreams that the family chief might have had, a symbol of his will, are a significant influence, as are any projections which might have been made by the “*ikiam*” jungle.

The lifecycle of the dwellings is inherently linked to the natural lifecycle. Its concept of life is described as “*continual*”, where death is not a definitive end, but rather, the spirit is reborn in another human being after completing its lifecycle [14]. This is how the new cycle begins with the impost of the first pillar, after collecting the material, so that it is essential to understand the territory in relation to what it can offer. In order to confer the necessary rigidity and duration to the structure, mature pambil leaves are collected. For this the relevant trees must be found in the forest or requested from relatives growing them on their land. This generally involves walking for an hour or more in order to source and transport the appropriate material. The same applies to the leaves for the roof cover throughout the entire construction process, bearing in mind that the leaves must be fresh in order to be placed easily as, if they dry earlier, this might hinder the weaving process.

The process of laying foundations begins after cleaning the ground, marking the points to be excavated, whose measurements depend on the material collected (the traditional measurements were based on anthropometric proportions, most frequently *cuarta*-hand (20 cm) and *paso*-step (80 cm), then, the incorporation of new materials brought the metre [15,35]. Initially, excavations were manual, using a sharpened *chonta* stick that was placed 80 cm deep, and was followed by the manual extraction of disaggregated earth [14]. Posts are distributed according to the space they support. In the “*ekent*” female zone a second post is added 2 m into the house for use for the “*utsuriri*” vessel shelf. After placing the central posts at the ends of the ridge and taking away 80 cm either side to support the beam ends, “*mankui*” side posts are placed. These are carved with joints in the shape of a boar’s mouth on which the beams rest [14]. Finally, beams are fixed to side columns with *bejuco* vines and secured to the ridge with 70 cm spacing [35] (Figures 7 and 8).

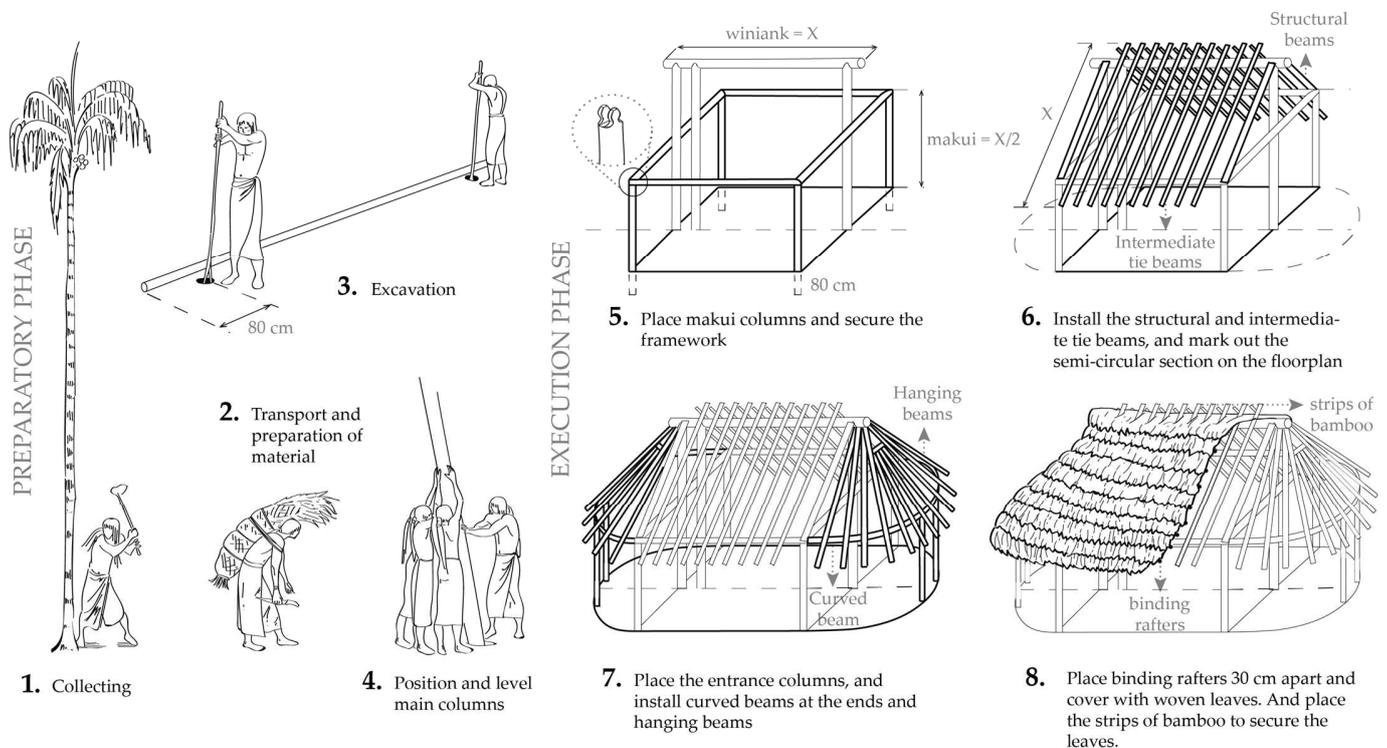


Figure 7. Construction process for the vernacular dwelling (Source: author).



(a)



(b)



(c)



(d)



(e)



(f)

**Figure 8.** Supplementary illustration relating to construction processes, (a) Weaving with *teren* leaves, (b) Roof finishing, (c) Detail of joint with vine ties, (d) Roof weaving, (e) Preparation of leaves for placing the ridge cap, (f) Ridge cap fastening with bamboo (Source: Author).

Data collection during the fieldwork process provided concrete information on the construction process, reflecting the values shaping the identity of the inhabitants. It also confirmed the importance of both the preparation phase as an initial contact with the territory, and the execution phase, which highlights the need not only for space, but also for the characteristic symbolism for those carrying out the construction work.

### 3.3.3. Enclosures

Dwelling enclosures are defined according to the needs and requirements of the surroundings. Generally, the house has no outer walls. However, if the family chief considers surroundings to be conflictive or unsafe he can close off the house with a wall of vertical palm leaves placed in succession and tied with bejuco vines at three heights. According to Descola, in situations requiring greater protection a second limit is built outside the house using palm leaves. This second wall is designed to provide cover and protection from possible enemies. Efforts are made to ensure that this wall is as thick as possible, and is about 3 m high to prevent attacks [13] (p. 176).

Dwelling follows a strict protocol for access and spatial segregation. Although the structure is open, it is always accessed through the “*tankamash*” male zone. When the house is closed, this is delimited with a flat rectangular door, usually made from the “*wampu*” tree [13] (p. 177). These doors often feature drawings representing figures to deter the evil spirits of the jungle and guarantee the family’s safety. Internal divisions such as those separating the *tankamash* from the *ekent* tend to be built using reed walls. Divisions are also built to section off the spaces for the wives. For the Shuar, exterior walls serve as a separation between the evil spirits and the sacred space of the dwelling [32]. Accesses to the dwelling are especially meaningful as they are considered a connection between both worlds. On some occasions anthropomorphic figures are painted on the entrances to ward off these spirits. However, unlike the Shuar, the Achuar do not usually close off their dwellings, perhaps due to being in a location that is less influenced by colonization conflicts. Therefore, the presence of enclosures may simply constitute a privacy system or a response to individual social aspects (Figure 9).



**Figure 9.** Vernacular dwelling, (a) without enclosure, (b) with enclosure (Source: Author).

The walls are mostly made of *chonta* palm wood but with smaller pieces than those used in the main structure. This wood, known for its durability and straight shape, is optimal for partitions and enclosures. Before it is placed, the wood is prepared by cutting strips approximately 8 cm wide before scraping the walls to prevent the appearance of large hard splinters in this type of wood [14,35]. In the installation, a strip with a diameter

of approximately 3 cm is initially placed using an orifice halfway up the “*makui*” side posts. A series of chonta strips 8 cm wide are then placed vertically on the outside and tied together using *bejuco* vines. The most rugged side is left facing outwards to prevent snagging indoors [35]. There are no windows on the walls and instead strips are placed 1 inch apart to create spaces that let light in and aid natural indoor ventilation. As the elliptical layout of the dwelling helps regulate air currents this is a major consideration for enclosure layouts.

#### 3.3.4. Roof

The roof of the dwelling rests on a central beam supported by the sacred posts mentioned earlier. Palm “*pambil*” beams are selected as they are rigid enough to withstand the weight of the roofing. The tie beams are placed on the ridge spaced 70 cm apart, while there is a spacing of 30 to 40 cm between binding rafter (depending on the type of weave used) [14].

During the installation of the leaves on the roof a timber structure is placed on the previously built structure, which serves as scaffolding to weave the leaves from the bottom up. For covering, two types of fabric are available, one that is quicker to install (with “*teren*” leaves) and another one (with “*kampanak*” leaves) [35] (Figure 8a,b). The first type of weave places the leaves horizontal or perpendicular to the structural tie beams, placing the leaves in rows of five by five. While the second type is placed parallel to the tie beams, placing the leaves one at a time, only separated by the break of the stalk, and onto which the straps are hooked; and although this process is slower and involves the collection of a greater amount of material for execution, it can be much more long-lasting and resistant to the elements (Figure 10).

Once a height 30 cm from the ridge is reached, a denser weave is installed to prevent water from entering into the dwelling. This space is first covered with “*ijiu*” leaves placed vertically and then reinforced with braided “*teren*” leaves, forming up to four superimposed layers. This is finished off with strips of bamboo to firmly secure the roof to the structure [14] (Figure 8e,f).



(a)

(b)

**Figure 10.** Types of structure and weaving, (a) Structure with single support in herringbone, with “*teren*” leaf weaving arranged horizontally, (b) Structure with two supports and hanging beams, with “*kampanak*” leaf weaving arranged vertically. (Source: Author).

Finally, when the roof is complete it is important to bear in mind that when leaves are very fresh they can attract a type of fly which nests and lays its eggs there, causing the material to deteriorate. In order to prevent this, the leaves are subjected to a curing

process after being assembled, and smoke from the hearth inside the dwelling is used to repel insects and increase the durability of the roof [35]. However, as palm leaves are the most vulnerable material in the dwelling they require suitable maintenance, replacing deteriorated areas in order to extend the dwelling's useful lifespan (Figure 8b).

### 3.3.5. Finishes and Furniture

Originally, there were only earth floors in traditional dwellings. However, this has changed due to the influence of colonizers seeking greater comfort or a different aesthetic for their homes, so that the use of reed (a construction system which involves reed or woven bamboo) or timber for a structure to raise the flooring from the ground became prevalent. These materials rest on timber beams held with *bejuco* vines, raising them from the ground with rocks to prolong the life of the timber. However, in many cases both options are chosen: a timber structure is used to provide more shelter and protection to rooms while that resting on the ground continues to be in use, particularly in spaces used during the day. When covering walls are in place, doors are made of a more lightweight material such as reed, avoiding the use of chonta due to its weight [35]. These doors are assembled with *bejuco* vines and fixed to one of the sides of the wall structure, with the vine acting as a hinge allowing the door to be opened. In some dwellings with greater colonial influence finishes are introduced using imported materials such as plywood, glass or metal sheeting.

Furniture facilitates everyday activities such as cooking, sleeping and socializing. In the female zone we find the "*untsuriri*" or shelf for holding vessels, traditional mandioca drinks, and kitchen utensils and elements [35]. In some cases this is placed near the walls and always near the hearth where food is prepared. In the social zone benches of varying quality of timber and manufacture are placed, with motifs with local fauna. The "*shimbi*" is a cedar seat reserved for the family chief with a handle to make it easy to carry and which may have carved details with animal motifs, symbolizing hierarchy [36] (Figure 10). In addition, the hearth is made up of three trunks with the same measurements and points converging at the centre. This is a fundamental element in everyday life and continues to be used for cooking, keeping warm at night, considerably reducing humidity during the day, repelling insects and constantly curing the roof leaves (Figure 11).



**Figure 11.** "*Shimbi*" furniture carved in wood with zoomorphic themes, (a) representation of the jaguar to represent an elevated hierarchy, (b) representation of the "*charapa*" turtle as a mythological figure which lives underwater "*Tsunki*" (Source: Author).

### 3.3.6. Means

When auxiliary means are mentioned in the context of construction, reference is made to the tools and equipment used to carry out this work efficiently. In the case of construction of dwellings in the Amazon, it becomes clear that auxiliary resources will be suited to the surroundings and that it is difficult to use artefacts that are alien to the setting. Therefore, it is vital to keep in mind that these auxiliary means will be manufactured in-situ, as they are in keeping with the rest of the construction. Given the large size of the roofs, which can reach a height of up to 7 m [13] (p. 177), the auxiliary means will mostly resolve the execution of the work by building up. A versatile scaffolding system of trees is set up, with shapes that can be used as support at different levels during the construction of the room. This auxiliary system requires continuous adaptation in different ways to reach increasingly greater heights (Figure 12).



**Figure 12.** Execution of a traditional Achuar dwelling in the Kuseruau community in province of Morona Santiago (Source: Author).

This project is experimental in nature, with no planning prior to execution. Traditional measurements and proportions are used as guides and the final result can only be completely seen once the work is finished. The family participates actively in the construction processes of dwellings. The men are in charge of collecting and assembling the structure, the women provide the chicha and food for those at work, and the children carry out smaller tasks such as the preparation of bejuco vines or helping adults with whatever they need in construction [35].

The tools most widely used in constructions are knives and *machetes*, with a harder *chonta* point, used to make the holes for the posts. The *nakant*, used to dig holes, is made of hardwood. This tool is used to hit the ground, and every time it penetrates the earth

it is rotated to make a perfect fit for the insertion of the post [15]. With the advent of colonization new tools were introduced and well-received, including the *barreta*, a sharp heavy tool which helps speed up excavations; shovel, which makes it easier to move the earth on the ground; adze; saw; and finally, the hammer, square and spirit level, which help ensure a more precise finish [35].

### 3.4. Tensions and Conflicts: Territorial and Development Challenges in the Amazon

The modernization of Amazonian societies has become a topic for debate following the recent colonization processes. Agreements were reached between the Ecuadorian Institute of Agrarian Reform and Colonization (IERAC) and the Inter-American Institute for Cooperation on Agriculture (IICA), promoted by the Organization of American States (OEA), to train civil servants in the execution of colonization processes to favour migrant agricultural workers, but this brought about the dismantling of the indigenous territories. It was only in the 1980s that this process began to cause considerable environmental concern. At that point, there was no control of any sort of this type of exploitation of resources, nor was there planning in place to address territorial concerns. Thus, the development observed was more a hasty response to the demographic and economic processes in the region in recent decades, which had led to the construction of new roads for the transport of raw materials to help sustain the new cities [31] (pp. 181, 189, 191).

Traditional dwellings are rooted in complex cultural, social and environmental dynamics, involving a cultural fabric in which strategic alliances and connection with the environment are the main driving forces for conservation. In addition to prompting division, nature and conflicts have increasingly shaped a single overall approach to external threats. This cohesion, which is rooted in the understanding of the jungle as an integral ecosystem, challenges the Western view of nature as something separate from humanity. According to the anthropologist Brown [37], the Achuar stand out for their individualism, where each individual person acquires spiritual power through their own efforts. The social hierarchy is built through alliances between members of a single community in order to strengthen a collective potential for the common good [38]. However, these associations are voluntary and relatively unstable in the event of conflicts of interest.

As with spatial and material transformations observed in architecture, other points of interest to be contrasted become apparent in other fields, as do local dietary habits which endure thanks to their deep cultural roots. An example of this is that large-scale agriculture was never implemented (at least in locations with no colonial influence nearby), but the people depended on a diet based on one or two main sources of carbohydrates and protein. The most traditional orchards are used to grow mandioca or yucca, used to prepare the fermented drink known as "*chicha*". This practice is not only an essential part of culture, but is also intrinsically linked to the values ruling daily life [37]. Although the main source of protein continues to be mostly hunting and fishing, availability is not always guaranteed as it is directly dependent on the wealth and breadth of the forests [39] (p. 47). Another example is that of the new technologies introduced, such as photovoltaic energy which has been well received in these communities with NGO cooperation. This shows a conscious adaptation to new technological demands and opportunities, not only due to current energy needs and Internet connectivity, but also as an adaptation seeking to reduce reliance on fossil fuel and to promote environmental sustainability [40].

With these different technologies and elements introduced into the region it is worth highlighting that the processes of change in the use of materials in constructions are reflected in the figures set out in the most recent population and housing census published by INEC [12]. These figures provide a quantitative estimation of how the introduction of new technologies and materials has influenced practices in construction. Considering that in the three provinces with the greatest Shuar and Achuar demographic presence, 20% of the total population live in rural areas, it can be inferred that less than half of this population uses vernacular materials on the roofs of their dwellings.

This indicator suggests that in spite of the large rural population, the adoption of traditional materials is dwindling although timber continues to be used predominantly on enclosures and flooring in the region. This in turn could mean that local resources are limited due to territorial changes (Table 2). López [39] (pp. 49–52) holds that the distances indicated by the paths are linked to two main areas. The first is used to connect homes with cultivation, and covers 2 km, while the area dedicated to hunting stretches up to 5 km from the centre of the village or landing strip [39]. As a result, it is believed that the area for the collection of materials is dependent on the size of the land managed by a domestic unit. This makes it important to maintain a reforestation area in an accessible perimeter as materials are transported on foot according to traditional construction procedures.

**Table 2.** Materials used in construction in the area with the greatest Shuar and Achuar demographic influence in the Ecuadorian Amazon (Zamora Chinchipe, Morona Santiago and Pastaza), considering total percentages in both rural and urban areas.

Ceiling or Roof Material							Total
Concrete	Asbestos	Zinc	Palm		Tile	Others	
15.6%	4.3%	60.3%	7.2%		12.3%	0.3%	73,238
Material of exterior walls							
Concrete	Brick or block	Adobe or rammed earth	Timber	Reed with cladding	Bare reed	Others	
10.9%	33.2%	1.3%	47.7%	2.6%	1.9%	2.4%	54,564
Flooring material							
Narrow planks, parquet, planks or floating floor	Untreated wood	Ceramic, tile, vinyl or marble	Earth	Reed	Brick or cement	Others	
8.2%	42.9%	20.1%	6.6%	0.6%	20.7%	0.9%	73,238

Data compiled from the 2010 population census published by INEC [12].

Although industrial processes promote uniformity, risks can arise quickly from ethno-centrism, changes of location and sociocultural processes. In this situation the traditional models are presented as guarantors of stability at times of uncertainty. Historic colonization processes have left a major imprint, a new awareness of others when challenging enduring traditional forms through contemporary economic influences [41]. Even education can become a tool for domination when it should be promoting critical thinking and autonomous judgement [42]. The delays of this historic legacy continue to influence social dynamics, highlighting the complexity of interaction between cultural diversity and globalization processes. What is truly called into question are the domination relationships in inequality and the socio-spatial conflicts introduced.

The decolonial discourse is based on the recognition of devices of power and their connection with capitalist logic, shining a light on the mechanisms feeding and legitimating colonialism as a model superior to local knowledge. The Amazon is home to numerous peoples and social groups, and is notable for the wealth of living practices found within, conferring diversity and complexity. In this context, recognition of these varied cultural expressions and ways of relating to surroundings becomes a guideline for the understanding and treatment of the territorial challenges of the region [2].

### 3.5. Indigenous Territoriality as a Tool for Conservation

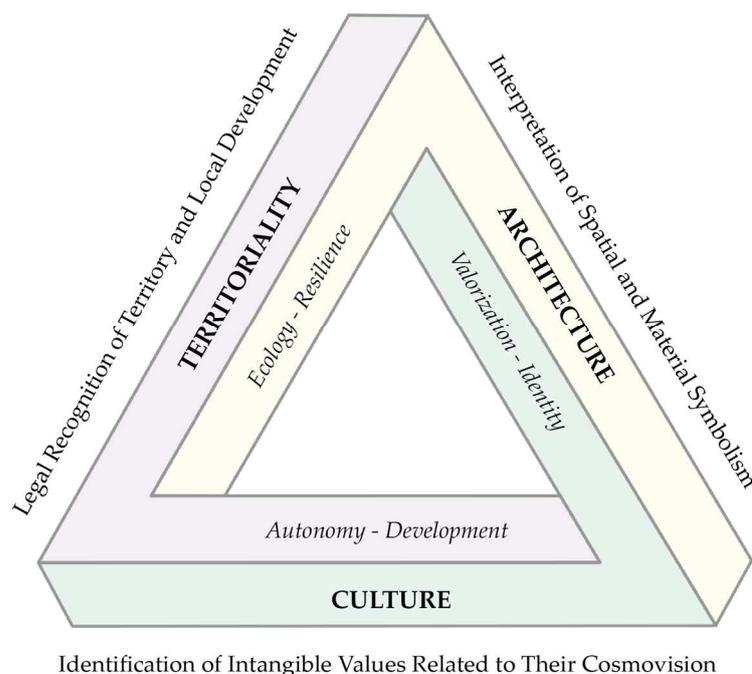
Recent decades have seen a surge in appreciation for ethnic-cultural diversity as a valuable asset and an opportunity to promote positive interactions between different cultural groups, and to build fairer societies. The incorporation of local knowledge is essential as it reduces social tension, promoting wide acceptance by the community in addressing problem issues [43] (pp. 26, 40). Although the 2008 Constitution of Ecuador sets out the State's obligation to include interculturalism and plurinationality, as well as

traditional knowledge in territorial management, these issues seem to have been addressed mostly by ethnographers and anthropologists. At the same time, public policies and development plans continue to enforce ethnocentrist decontextualized perspectives which do not serve the interests of the place [43] (p. 49).

Despite advances in the declaration of ownership deeds for ancestral territories to communities, it is questioned whether these have truly obtained full rights and at what expense. However, these offer the possibility of developing territorial autonomy, promoting development models under their own conditions. Indigenous territoriality goes beyond mere land ownership, where individual and collective bodies are understood to all be part of a single environment [44] (p. 34) so that the protection of the entire system is intrinsically linked to its cosmivision.

Legal recognition does not guarantee the protection of intangible values and the role of these territories is not just practical: they also help build a community identity. Therefore “*Life plans*” are created as a tool to establish a series of strategies and goals outlined by the Organization of Indigenous Peoples, aiming to address different aspects such as territorial self-management and updating cartography at base level with associations. It also focuses on strengthening local capacities, promoting sustainable production projects in the family economy and establishing strategic alliances to support the self-government of indigenous nationalities [43] (pp. 82–83). The interaction of territory and architecture shows an intrinsic connection: if one of these aspects is impacted, it affects the other. These elements are examined individually through specific definitions and tools to understand the overall scope of their dynamics (Figure 13).

Territorial autonomy does not only entail control over a given territory: it also grants the ability to develop and make decisions regarding fundamental aspects of community life such as society, politics, economy and culture. Defence of territorial autonomy is closely linked to a community’s ability to involve its inhabitants in all decisions, seeking general welfare based on their desires and aspirations. This also includes respecting and caring for nature, recognized as an intrinsic part of their life [40] (p. 40).



**Figure 13.** Conservation pyramid of the Amazonian Heritage in indigenous settlements for the preservation of natural, cultural and architectural heritage (Source: Author).

Extractive companies have implemented an urban development project which often ignores the living relationships in the setting, jeopardizing their control over territories.

This gives rise to an uncertain future for the territory and highlights the importance of the different interests at play. In a globalized world, interculturality is presented as a tool to understand synergies between communities and nature, facing the ravages of past conflicts. Nevertheless, many territorial achievements could work out in detriment of the local vision as they were interpreted by a logic outside their particular values, resulting in the dismantling of their characteristic social and territorial dynamics [45] (pp. 138–139).

#### 4. Discussion

Is there truly resistance to change while social and cultural dynamics progressively become more territorial? In keeping with other Amazonian groups and their mythology, symbolism plays a role, personifying individuals, animals or elements in the surroundings and carrying out a crucial role in the interpretation of the territory.

A comparison of the Western cosmovision and indigenous cosmologies reveals differing views on the environmental crisis and the relationship of humans and nature, where natural elements are considered part of a whole [46]. Following socio-spatial conflicts, the trend was to introduce systems alien to the dynamics of the place in capitalist terms. Thus, for example, livestock farming or felling forests in Shuar territories following extraction dynamics, cause natural equilibrium to deteriorate. This threatens to destructure culture, as well as ecosystems. The introduction of practices that are not in line with the cosmovision and traditional forms of life constitutes a major challenge to the preservation of their heritage [47].

Is cultural symbolism the narrative which transcends the concept of space? Descola compares the parts of the dwelling to parts of the body, translating them into architectural components and highlighting a spiritual distinction of the space in order to understand the design of the dwelling [13]. Beliefs and traditions occupy an important place in society. However, the introduction of modern typologies and rapid economic and demographic growth have resulted in both the expansion of colonial city models and controlling factors causing a devaluation of surroundings. The loss of a great common belief reflects the decrease in dynamics which used to provide identity and meaning to Amazonian societies.

Although a challenge, this loss can offer the opportunity to reassess values and the search for new responses to current synergies. Thus, resistance to change in traditional dwellings is due to a complex cultural framework which reflects the social relations between the setting, its residents and changes.

At the start of this research two questions were asked: why is this architecture truly at risk? What aspects harm its heritage values? The answer to both can be conditioned by the current dichotomy of nature and society, as put forward by Latour [48]. Here, logic affects our perceptions and how we relate to the world around us, while ancestral ideas remind us of the importance of recognizing that humans, other beings and the rest of nature are mutually dependent.

The hypothesis put forward in this research is further supported by the data collected, examining vernacular architecture built in the region in keeping with the conservation values detailed in previous studies [19], with clear material form, spatial organization, construction techniques and associated symbolic values. Therefore, the Achuar territory has served as the main sample for the definition of these values, contrasted with the proposed literature. The lack of connection to major rivers, roads, livestock and cultivation areas, and major cities has resulted in the greater presence of vernacular architecture in the region and less degradation in the environment.

Nevertheless, the data compiled in this research prompts new questions. Is conservation evidence of development in these communities? What are the characteristics of a good way of life? [39]. Although the conservation of vernacular heritage benefits local sustainability [10], conservation must be comprehensive, guaranteeing human rights such as accessibility, health, food safety, education, as well as the rights of nature [44] (p. 4). Awarding recognition to culture through its architecture can strengthen common values to build identity.

These Amazonian cultures show us the meaning of the coexistence of nature and society, leaving us with profound critical reflections on city-making beyond the solution of merely anthropocentric needs. We are also shown how the lines between built and non-built are blurred when these correlate within a single ecosystem.

Finally, it is important to mention that the study limitations focus on the cultural understanding of these places in terms of space, architectural components and setting, despite the geographical, linguistic and cultural limitations affecting data collection to varying degrees. Seeking confirmation for the theory other studies are consulted in order to obtain a better description of dynamics. It should be stressed that the research is also enriched by academic disciplines other than architecture, including anthropology, sociology, geography, archaeology, and used to contribute to the final arguments.

## 5. Conclusions

In conclusion, this article provides a comprehensive overview of the architecture, culture and identity of the Ecuadorian Amazon, particularly highlighting the importance of understanding the evolution of the settlements in order to overcome contemporary challenges. In view of the data obtained, the conclusions reached are as follows:

- The cultural impact of missionary work: The literature on the missionary work in the Ecuadorian Amazon shows a significant impact on the socio-spatial dynamics of the territory. The introduction of models from a perspective alien to local culture results in major changes. However, these models could not be sustained over time, leading in turn to the development of settlements which lacked suitable prior planning.
- Transformations in traditional settlements: From the establishment of the traditional settlement to the configuration of communal centres, an evolution is observed in Amazonian settlement models. These changes reflect the need for a delicate coexistence with nature. However, recent research has questioned the traditional Amazonian settlement by revealing pre-Columbian urban centres in the region, with a notably complex social and spatial organization in the past, potentially providing future lines of research.
- Spatial organization and cultural significance. Currently, spatial organization in the Shuar and Achuar communities is under threat from different factors, particularly the commercial frameworks of globalization. Despite autonomy being a major proposition, decisions may vary between communities, reflecting territorial and organizational differences. In order to effectively tackle contemporary challenges it is essential to understand socio-spatial dynamics.
- Construction process: The construction process in the Ecuadorian Amazon reflects the values and identities of its inhabitants. From the preparation to the execution phase, every stage is steeped in symbolic and cultural significance. Architectural elements such as roofs and enclosures represent identity and family structure, while the construction methods reflect traditional skills and practices rooted in the community.
- Tensions and conflicts: The territorial and development conflicts found in the Amazon are evident. The introduction of new technologies and construction materials has transformed construction practices, reflecting a more infrequent use of vernacular materials. However, traditional models continue to be important in guaranteeing stability in periods of uncertainty.
- Indigenous territoriality: The defence of indigenous territorial autonomy is crucial to environmental conservation and to the wellbeing of Amazonian communities. However, extractivist companies threaten their equilibrium, creating an uncertain future. Interculturalism can aid the understanding of the relationship between society and nature.

Amazonian vernacular dwellings provide an account of the intangible values and ways of life of society, with cosmological meanings reflected in the layout of spaces and symbolic uses of components. Despite the sociocultural changes brought about by the influence of religious missionaries and the pressure of globalization, the architecture and settlements

constitute a tangible response to the socio-spatial relationship to the surroundings. The introduction of the “centro” settlement model not only entails a change in how the territory is conceived, but also in social and cultural dynamics, affecting spatial logic. The transition from vernacular materials to modern ones provides evidence of complex tensions and power structures. Globalization and cultural changes result in continuous issues, eroding common beliefs and fragmenting local and external elements. The relationship between indigenous peoples and their territories goes beyond legal ownership, connecting nature and culture. Construction processes reveal challenges relating to environmental impact and an evident depletion of raw materials, threatening not only cultural identity, but also the ability of communities to face global environmental issues.

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