

STILT-HOUSE VILLAGES IN PORTUGAL: PLANNING THE UNPLANNED

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Abstract

The promotion of urban heritage development by accepting, protecting and enhancing its special features as opposed to using a process of homogenization became a challenge in planning domain. The cultural and social diversities of the territories no longer constitute an obstacle to development and have become an opportunity for the promotion of local identity and site authenticity and a prerequisite for social development.

All over the world, several factors still justify the existence of settlements near the rivers. An urban morphology is often inherited from the fluvial landscape. The stilt-house built by the waterside is an ancient typology of vernacular architecture, whose origin and permanency are understood by a journey across the world and time. This legacy resulted in new forms of urban morphology and in new forms of fluvial settlements. Small rural villages by the riverside are characterized by the binomial river-ecological diversity /urban-cultural diversity. They have witnessed the long history of common geographies and the intersection of origins between rivers and urban settlements.

The attractiveness of large cities has tended to leave behind the small village such as the stilt-house villages in Portugal by the Tagus River. These territories with a particular architecture of wooden stilt-houses call for the establishment of planning strategies suited to situations of emergency. These natural spaces are useful and attractive precisely because of the difference that they mark from others. They are old and dysfunctional areas and are a precious legacy of a unique heritage that needs urgent preservation.

The original stilt-house settlements of Tagus River were built by the fishing community arriving from the Atlantic coast. Their urban morphology features are of either one or two parallel rows of houses with variations in terms of dimensions of the settlement and of localization by the river. Access to them is by one or more wooden pontoons which vary in size.

In terms of planning instruments, these stilt-house villages are unplanned places because of several factors:

- They are in flood area, and in a *non aedificandi* area;
- They are not included in urban perimeters, despite the Portuguese planning system which theoretically includes rural settlements;

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- They are in protected land area for agriculture and ecological purposes, where touristic activities, agriculture activities and infrastructures are allowed but not housing;
- The owners of the buildings are not the owners of the land where the buildings are, which technically means that all the buildings in terms of planning law are not legal.

In summary, the existent planning instruments for the stilt-house villages of the Tagus River currently regard these sites as unplanned places, despite their significance as the only urban settlement legacy of the vernacular architecture of fluvial landscape in Europe. This presents a great challenge and need for urgent rethinking. These stilt-house villages could be an endless resource of emotions and unforgettable experiences. In a word the great challenges of Portuguese stilt-house villages, is planning with the river in mind.

1. Introduction: The Origins of Portuguese Stilt Villages

Each territory has its own particular character and landmarks which create a sense of place and identity perceived as being positive perception by the citizens. This identity depends on the continuity between the memory of the past, contemporary enjoyment and future aspirations. It is the result of factors such as citizens' self-esteem, awareness of the distinction based on positive features of territory or the balance between the citizens' needs and capabilities of the territory to provide for this need. It is vital, in order to preserve territorial identity in the face of globalization, a multidisciplinary research to examine the complexity and diversity through partnerships between local, regional and national.

Several factors explain the existence of urban settlements near rivers, with an urban morphology marked by the fluvial landscape. The stilt over the water is one of the oldest types of vernacular architecture, whose origin and permanence is understood through a journey in time and over the world, by reflecting on the common building strategies, materials and methods of construction used.

The Tagus stilt villages in Portugal express a diversity (ecological, cultural and territorial), which results from a history of common geographies among urban settlements and the river, being the only European fluvial stilt heritage of vernacular architecture. These villages were erected by the fishing community of 'Avieiros' coming from the Atlantic coastline, in a migration process dates back to the mid-nineteenth century, part of the phenomenon of human reaction under adverse conditions of survival, demonstrating a strong spirit of perseverance by creating links with the river.

The Tagus is the largest navigable river in the Iberian Peninsula, with the 3rd largest European estuary. This stilt architecture was adapted from the dunes of the Atlantic shores to the Tagus, and proved itself to be an effective response to constant flooding. Gradually, the living conditions required a more stable,

comfortable and durable construction, using local materials which were sustainable and renewable (rods, branches and wood). The stilts are adapted to the daily improvisations of the fisheries that could be transported, if necessary, to another place. They are simply, irregular and small in size, supported by wooden stakes driven into the mud and painted in bright colours. The floor area, elevated over the soil, adapts to the site in an empirical way, responding to the inevitable risk of flooding. Access to the interior is effected by a wooden staircase on the outside, leading to the balcony. As a rule, the interior features four compartments (kitchen, living room and two rooms separated by wooden boards that do not touch the ceiling which is covered with wood thus creating an attic). The urban morphology of these villages consists of one or two parallel rows of houses, with variations in the size of each urban settlement, with a location facing the river and deployment of the building. Access to the village is by a wooden pontoon (one or more) with different sizes. This article aims to provide information for future actions, legitimate strategies that consider the consolidation and expansion of Tagus stilt villages on the scale of urban design, together with regional measures, idiosyncrasies, complementarities and specificities of each village along the 'Avieiros' way.

2. The Tagus Stilt-Houses: One Case of Vernacular Architecture in Portugal

The stilt-house built by the waterside is one of the most ancient typologies of vernacular architecture connected with the rivers and it reflects a common building strategy, with common materials and methods perfectly matched with nature.

In Portugal, the stilt-houses emerged and became the most common type of housing in the sands of the western sea coast among Douro River and the Beach of Vieira de Leiria, between the end of the 18th century and the 19th century. These constructions, temporary houses of the fishermen during the fishing season, responded efficiently against the movement of the sands, particularly strong in that windy part of the coast (see Figure 1). The wood came from the forest planted in the dunes to prevent its movements.



Figure 1. Stilt-houses in the sand near the Atlantic shore in Portugal (1).

Nowadays, a large proportion of these houses in the sea coast, have disappeared or have been transformed by the emergent materials like concrete and brick. There are rare examples of stilt-houses in wood that have become the exception, isolated among the cluster of the dominant houses of hard materials (see Figure 2).



Figure 2. Stilt-houses in the Portuguese Atlantic shore (2).

However there are examples in Tagus River where these houses continue to be the domain type of house in villages where the population is still having a type of life in straight relation with the river. These examples can be found in the 'Avieiros' stilt-house villages.

The migration and fixation of the fishermen from Vieira de Leiria to the Tagus River led to the emergence of stilt-houses villages, which were implanted on the waterline edge of the river. 'Avieiros', as they were called, led one of the most important seasonal migration movements that happened in Portugal in the early twentieth century (see Figures 3 and 4).

These stilt-houses represent one of the last testimonials of this type of occupation still existing in Western Europe. The essence of this vernacular architecture is in the fact that they were built by their occupants or members of the community in which they operate. These members – fishermen - arrived from Atlantic coast and brought a construction process deeply rooted in tradition. Also, these houses assume a direct correspondence with the natural and cultural environment in which they operate.

The identity of these villages is inseparable from the river. The fishing tradition which marks them out bears witness to their locality, construction methods, the material and the techniques used for the building, the architecture and urban morphology.

Among the uniqueness of these villages are their location in straight relation with Tagus River and the picturesque characteristics of their vernacular architecture which gives them a strong potential for tourism and leisure.

3. State of Conservation of Tagus Stilt-House Villages

Despite all variations from core to core and sometimes within the same urban area, it is possible to define a matrix in the original common architecture of these vernacular stilt-houses (see Figure 5):

- Firstly built on wooden piles or tree trunks lately substituted by concrete pillars;
- Exterior coating in wood boards arranged vertically and painted in bright colours with a predominance of green, red, blue and orange;
- External access balcony leading to the entrance door;
- Interior consisting of four divisions; kitchen, living room and two bedrooms; whose communications are blocked by curtains and the walls are painted or lined with paper coloured patterns;
- Rooms are symmetrical with a tiny window and different colour (blue for boys and pink for girls).

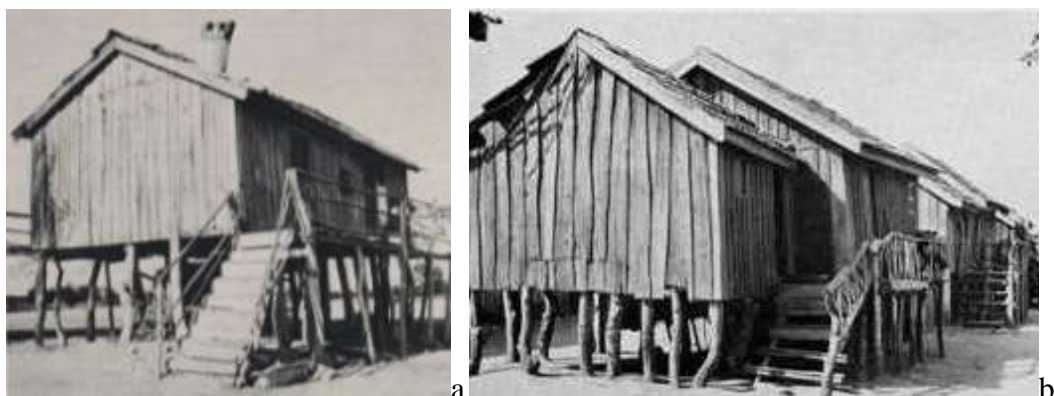


Figure 5. The stilt-houses of Tagus villages in the decade of 1950. a. Tagus stilt village of Quinta do Alqueidão, b. Tagus stilt village of Caneiras (5).

Nowadays, these houses are in very different states of conservation according to the evolution of the Tagus stilt villages.

The inhabited villages are currently the objects of both constructive and destructive effects which demonstrate that identity develops in time and space and is a result of the constant dialogue between the inhabitants and the surrounding landscape.

The abandoned villages are in a very bad state of conservation, but these are the ones closer to the original characteristics of vernacular architecture of 'Avieiras' stilt-houses. In these villages, some houses are better preserved, such as the cases of Palhota and Escaroupim stilt villages (see Figures 6 and 7).



Figure 6. Aerial photo of Escaroupim stilt village of Tagus river (6).



Figure 7. Stilt-houses in Escaroupim Tagus village.

In Palhota stilt village (see Figures 8 and 9) the buildings are implanted along one street parallel to the river. In the Escaroupim and Caneiras stilt villages, the urban mesh has two main roads: one parallel to the river, where the oldest buildings are implanted in a street parallel to the river; and the other perpendicular to the Tagus river where the most recent examples of buildings are implanted, in an expansion area of the urban settlement.



Figure 8. Aerial photo of Palhota stilt village of Tagus river (7).



Figure 9. Stilt-houses in Palhota village.

These villages which lie abandoned and their stilt-houses are consequently in a very bad state of conservation, forgotten and in decline, such as the case of Patacão stilt village (see Figures 10 and 11).



Figure 10. Aerial photo of Patacão, an abandoned Tagus stilt village (8).



Figure 11. Stilt-houses in Patacão village, an abandoned Tagus river settlement.

4. Tagus Stilt Villages: The Experience of Planning the Unplanned

Although reports from the decade 1940 have identified 80 Tagus stilt villages, much of this heritage is unknown or has almost disappeared due to the following aspects:

- 1) Change of attitude of the inhabitants in their relationship with the river, due to declining fisheries and the progressive exodus to cities in search of work in industry and services;
- 2) Degradation of stilts due to the aggressive natural environment where they are localized;
- 3) Loss of architectural identity due to the replacement of traditional building materials (concrete and ceramic being applied as coating for walls and roofs in the search for durability and comfort), leading to the gradual replacement of wooden stakes by concrete or the complete replacement of the house.

In addition to the factors described above, there is another reason that hinders the preservation and development of these villages. This factor is the absence of measures and proposals in the content of the planning instruments in force, highlighting the urban morphology, architecture and landscape of the villages in their close relationship with the river. Some planning instruments are classifying them as being not suited to be built-up and urbanized, denying the existing reality. In this case it is appropriate to say that the planning instruments are dealing with the Tagus stilt villages as unplanned territories.

These factors have made the stilts less adaptable to the territory, further aggravating their weakness against the floods and the villages becoming more forgotten and unable to compete against the attraction for the cities. There is a need of promoting studies about the Tagus stilt villages applying principles and models of spatial organization in order to register this heritage of high landscape value and functional diversity on the multicultural European map.

The 'Avieiras' stilt-house villages express the ecological diversity and the urban culture of the Tagus River. They are the testimony of a long history of common geographies along the river and represent a unique inheritance of vernacular stilt-house architecture of the river in Europe.

This vernacular architecture and this unique territory require an urbanism of exception for special situations like these. Unique vernacular features originated the urban space of 'Avieiras' villages (see Figure 12).



Figure 12. Stilt-houses in Caneiras village.

In the urban space, invocative of the cultural diversity, memory and tradition are forces which, when considered by architects and planners in intervention and rehabilitation plans, enables them to change a place in line with the identity of the

community. The absence of these elements may contribute to the loss of the sense of belonging of its inhabitants. However, since the 'Avieiras' stilt-house villages grow not only in space but also in time, preserving the memory and tradition should not be a too conservative, static and closed principle. In that case, architects and planners run in the risk of nullifying the essence of the cultural forces and create obstacles to the deployment and dissemination of the culture of Tagus stilt-house villages. Instead, memory and tradition should be used as fundamental bases for innovation and create something reflective of local identity, at the same time both original and creative (Warren, Worthington & Taylor, 1998).

6. Conclusions

With regards to the buildings, the Tagus stilt villages meet the requirements inherent to physical inactivity, using local, sustainable and renewable materials. This aspect must be taken in account in the various proposals for rehabilitation that may be targeted. Often, the devaluation of vernacular architecture comes from its association with the past and underdevelopment. However, at present, it appears that we have much to gain from the study of vernacular architecture when we witness the construction of buildings called 'modern' but which are completely dysfunctional from the natural and cultural environment in which they operate. Rather, the vernacular architecture points out in many various ways how to build a passive technology, culturally acceptable and symbolically significant - a built-up environment compatible with the landscape. Therefore, finding ways to integrate the knowledge and experience accumulated in construction by the 'Avieiros' should be one of the main objectives of the stilt-houses of the Tagus village's rehabilitation.

In the river environment, invocative of the ecological diversity, intervention measures for the rehabilitation of 'Avieiras' stilt-house villages should aim to contribute to the achievement of an alive and functional ecosystem and to the adequate and efficient exploitation of the riches of the presence of water (see Figure 13). These measures should always consider the changes to the ways of life and their consequences on the territory.



Figure 13. The presence of water in Tagus stilt villages (Palhota and Lezirão).

Figure 13. The view of the Tagus river in Caneiras stilt village.

It is now necessary to find ways to qualify and quantify the desirable characteristics of each stilt village, which will help to mark each place and its identity on the cultural map of the territory. The marked identity of each urban settlement depends on its nature and the elements that create a striking sense of place and identity depending on the continuity between the past memory, the present and future aspirations. In the case of Tagus stilt villages, their identity is inseparable from the river. The sustainable future of the 'Avieiras' stilt villages lies in addressing both facets, ecological diversity (river environment) and the cultural diversity (urban space), which characterize and influence this community, by measures derived from an interdisciplinary, systematic and comprehensive study.

This is about giving back these pieces of history, the memory, identity and poetics to the contemporary society, alive which are the stilt-house villages of the Tagus water edge. Adding to that, there is the tourism potential associated with the idea that "there is usually attached to the rivers an important sense of the poetic to the identity of the sites and the psychological well-being of people seeking a peaceful state of mind" (COSTA LOBO, 2010) of a "unique value that matters to save and benefit from" (COSTA LOBO, 2010).

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8. Acknowledgements

This work is part of an ongoing research financed by Portuguese National Funds of FCT - Fundação para a Ciência e Tecnologia in the context of Project-OE/EAT/UI4041/2011.

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