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Between Formal Design and Informal Reality in Social Housing in Equatorial Guinea: The Case of Malabo

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Abstract

In many sub-Saharan countries, the response to the housing shortage has led governments to implement social housing programs. In Malabo, the programs implemented by the government since the colonial period with the aim of reducing the housing deficit are undergoing a process of informalization that compromises the initial objectives of planning and sustainability. The purpose of this study is to analyze the causes, forms, and consequences of this informalization of social housing in this city. To this end, a mixed methodology combining documentary analysis, household surveys, field observations, architectural surveys, and cartographic analysis was used. Three (3) representative cities were studied, namely Los Ángeles, Buena Esperanza I, and Vigatana B. The results show a discrepancy between the regulatory framework and actual practices. Similarly, informalization is dominated by structural and institutional causes (41.45%), followed by physical causes (30.29%). Informalization manifests itself spatially through unauthorized extensions, the privatization of common spaces, and the establishment of informal economic activities. This study highlights the need to rethink social housing policies through inclusive and participatory approaches involving local communities.

Keywords: *Design, Public Housing, Degradation, Informalization, Malabo.*

Introduction

Access to decent housing is a fundamental need and an indicator of a population's living conditions and the level of development of cities [1]. This issue remains a major concern, particularly in Africa, where rapid urbanization and population growth are exacerbating difficulties in accessing housing [2]. In fact, as early as 1976, the first United Nations Conference on Human Settlements, Habitat I, held in Vancouver, had already placed decent housing at the heart of international priorities (UN-Habitat, 1976). Twenty years later, Habitat II, held in Istanbul in 1996, reaffirmed this urgency, and Habitat III, organized in Quito in 2016, led to the adoption of the New Urban Agenda, which emphasizes sustainable urban development and the provision of decent and affordable housing for every household [3].

Despite international commitments, the situation remains worrying. According to UN-Habitat estimates [4], more than 2 billion people worldwide do not have adequate housing, and this figure could exceed 3 billion by 2030 if current trends continue. In sub-Saharan Africa, the problem is particularly critical: more than half of the urban population lives in inadequate housing, and the deficit is estimated at least 160 millions units, with projections exceeding 230 million by 2030 [4]. This situation is exacerbated by sustained population growth, rapid urbanization, and the limited capacity of public authorities to mobilize the land, financial, and technical resources needed to meet ever-increasing demand.

To address the housing shortage, many countries have implemented social housing programs. These homes, marketed as affordable, were designed within a formal framework, in accordance with

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urban planning and architectural standards, and came with a title deed [5]. Such initiatives have been observed in Latin America, particularly in Venezuela, where the government has attempted to regulate access to housing while limiting informal expansion [6]. In Africa, similar programs have been developed in several countries in Central and West Africa [5, 7]. However, these buildings, which were initially intended to increase the housing supply, quickly showed signs of premature deterioration, both physically and socially. This led the authorities to undertake rehabilitation and redevelopment operations [8].

This situation can be explained in large part by the acquisition method based on home ownership, which transfers responsibility for maintenance to the occupants and limits the authorities' control over these housing complexes. Several studies highlight that physical deterioration has led to the abandonment of certain dwellings [9], while others highlight the appropriation of spaces by residents to meet their needs and preferences [10, 11]. Finally, Guzmán-Ramírez and Bravo-Patiño [12] point out that this dynamic also includes the introduction of economic activities within homes, a process often described as informal.

Informalization in social housing estates results in the physical, economic, and institutional encroachment of informal practices on formal projects [13]. According to Smolka and Biderman [14], informality can be defined as the combination of physical deficiencies and non-compliance with urban standards. This approach highlights several dimensions : land use security, access to public services (water and sanitation), compliance with urban planning standards and regulations (plot size, street width, and creation of public spaces), and the physical quality of housing, particularly in terms of building materials. It is both a strategy for improving the living environment and a revelation of the limitations of public policy, demonstrating the ability of urban populations to resist regulatory and economic constraints.

Many authors have conducted research on the practices and actions observed in social housing estates. However, these studies have mainly focused on the physical and economic dimensions of social housing. On the one hand, they analyzed the transformations carried out by residents, the factors that motivate them, and the spaces created to meet their needs [15, 16, 17]. They also focused on establishing income-generating activities within these cities [18]. However, these studies pay relatively little attention to social and institutional dimensions, as well as to the impacts of these practices on the urban environment and resident communities.

In Equatorial Guinea, social housing is no exception to the process of informalization observed in many cities in sub-Saharan Africa. Since the 1960s, a housing crisis has emerged, forcing the government to initiate several housing production programs, structured around three main development plans. The first was the five-year plan (1963-1967) developed during the colonial period, which aimed to produce around 1,000 housing units. The second concerns a program to build more than 200 homes in the country's two main cities, Malabo and Bata, in the aftermath of independence in the 1970s, a period often referred to as el periodo de Autonomia, or “the period of autonomy.” Finally, the third is associated with the Ten-Year Plan, which is part of the National Economic and Social Development Plan “Horizon 2020” (PNDS H2020), which provides for the construction of 20,000 housing units over the period 2010-2020, and extended until 2035 under the name “Guinea Meilleure” (Better Guinea).

These different developments are distinguished by the type of design, the periods of construction, and the methods of acquiring the housing units. Housing complexes built during the colonial period and in the aftermath of independence were generally acquired through the alquiler-venta “rent-to-own” scheme, while more recent programs are based mainly on direct home ownership. Before the 2000s, the government had begun to transfer ownership rights for the first programs. This new strategy contributed to the process of informality currently facing social housing estates in Equatorial Guinea, particularly in Malabo, the country's administrative capital.

Once delivered, these residential complexes undergo various interventions by residents before and during occupancy, reflecting a lack of participation by beneficiaries in the design and construction of their housing, as well as in the development of their immediate environment. In Malabo, there are approximately 32 social housing estates exhibiting profound informalization at several levels. Physically, this manifests itself in the occupation of public spaces, the unregulated transformation of housing, and the appropriation of backyards in individual social housing, compromising the comfort and quality of life of residents. Economically, this translates into the proliferation of income-generating activities within cities, altering their spatial and functional organization. On a social level, residents organize themselves to access essential services, particularly informal water supply and unregulated

waste collection, in the absence of appropriate formal structures. At the institutional level, through failure to comply with applicable architectural or urban planning standards and failure to enforce housing purchase agreements, both by residents and by the relevant authorities.

These various factors highlight the lack of a structured post-occupancy evaluation mechanism to assess the current state of the housing estates and measure the degree of satisfaction among beneficiaries. To curb this informalization, the government has undertaken initiatives such as rehabilitation operations on the one hand [19]. On the other hand, a statement has prohibited the use of social housing for commercial purposes such as food shops, schools, clinics, churches, or catering kitchens. A period of fifteen (15) days was granted to the offending owners to comply with the rule [20].

However, these measures have focused on eliminating informal activities without offering alternatives to improve the living conditions of resident communities. However, although these informal practices have disadvantages, it is better to understand informality as a response to systemic shortcomings that can contribute to the daily functioning of cities and the well-being of the resident community [21]. It is in this context that this study proposes to analyze the processes of computerization of social housing in Malabo, identify the main causes and consequences, and measure residents' satisfaction with their housing complex.

Materials and Methods

Presentation of the Study Area

- The city of Malabo, the economic capital of Equatorial Guinea, serves a dual function as both the provincial capital and a municipality with full powers. Located at 3° 45′ 07″ north latitude and 8° 46′ 25″ east longitude, it is approximately 17 km from Baney, the second largest municipality in the region. Malabo enjoys an average annual temperature of 25°C and 2,183 mm of rainfall per year [22]. Its maximum altitude reaches 3,011 meters above sea level. Thanks to its island location and strategic position, it is an attractive and dynamic hub for the country's trade and industry. Originally organized into five administrative units called distritos urbanos (“urban districts”) (1990), the city underwent a major territorial reform in 2017. In accordance with Law No. 3/2017 of June 20, 2017, three rural localities were incorporated into the municipality, bringing the number of urban districts to eight. The municipality covered an area of 60 km² according to the 2007 Local Urban Development Plan. Today, the urban area covers nearly 118 km2. Furthermore, according to Equatorial Guinea's first national census of population and housing in 1983, Malabo's population was estimated at 31,000 inhabitants. At the last census in 2015, it had a population of approximately 271,008 (RGPH, 2015). Finally, in 2024, the city's population is estimated at 366,157. Map 1 shows the location of the municipality of Malabo.

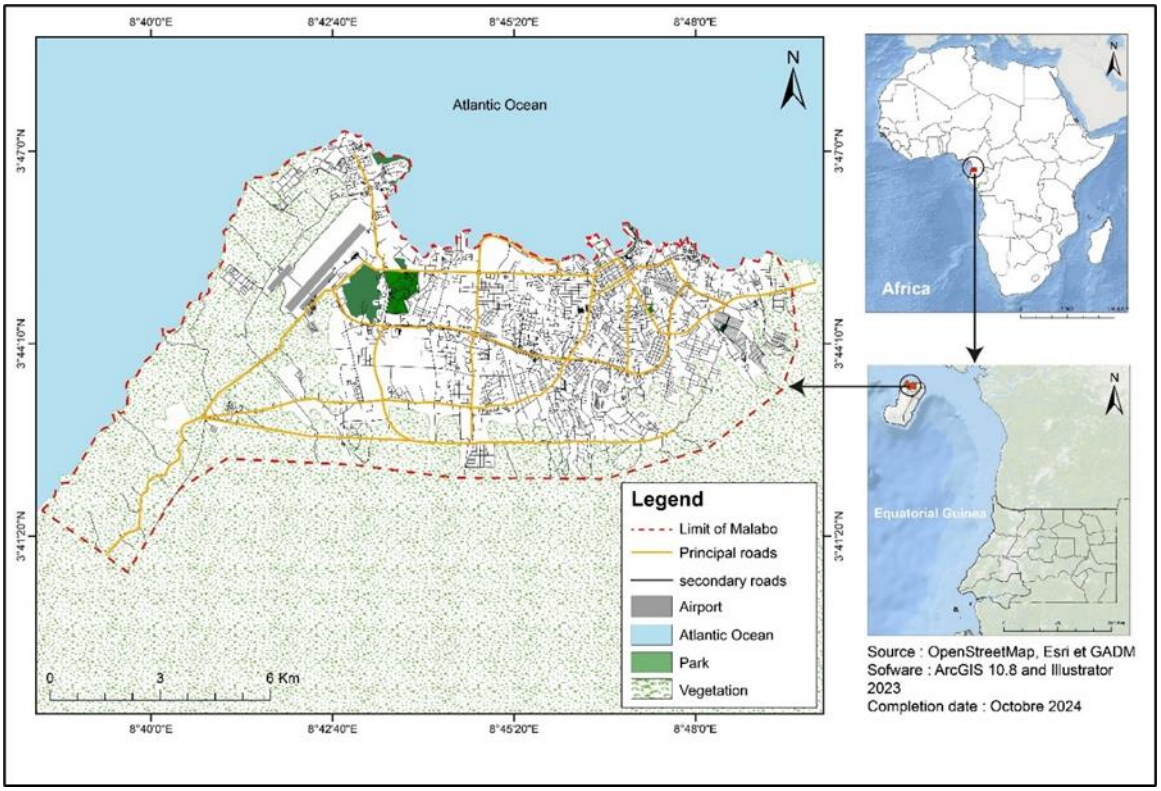

Figure 1 : Perimeter and Location of the Study Area

Data Collection and Processing

This study was conducted using a complementary methodological approach that includes documentary research, household surveys, field observations, and architectural surveys. Documentary research has made it possible to establish a state-of-the-art overview of the informalization process and to analyze social housing policies implemented in African and international contexts. Household surveys have made it possible to assess the level of satisfaction among residents of different housing projects. The simple random sampling method with no replacement was used to select the populations to be interviewed. The sample size was determined using Schwartz's formula. This formula is illustrated as follows :

$$n_q = \frac{[(z_a)^2 \, x \, P(1-P)]}{d^2}$$

With Za : Fixed deviation or deviation reduced to a risk of 5% (1.96), which corresponds to a 95% confidence interval ; d : the margin of error set at 8% and P the proportion of households per district. Table (1) shows the number of respondents per city.

Table 1 : Distribution of Residents Surveyed By City

City	Number of inhabitants	Number surveyed
Los Ángeles	4096	110
Buena Esperanza I	11 752	128
Vigatana B	1152	38
Total	17 000	276

Field observations and architectural surveys, supplemented by systematic photographic documentation, helped identify the uses, appropriation practices, and informal activities developing within the neighborhoods studied. Three (3) different types of housing estates (individual housing estates, semi-collective housing estates, and collective housing estates) belonging to two periods (the colonial era and the post-colonial era) were the subject of this study. These are the semi-collective

settlement of Los Ángeles from the colonial era, and the post-colonial settlements of Buena Esperanza I (individual settlement) and Vigatana C (collective settlement).

Table 2 : Typology of The Cities Studied According To Period

Types of cities	Period - noun, (Year)
Individual city	Postcolonial - Buena Esperanza I (2008-2019)
Semi-collective housing	Colonial, Los Ángeles (1963-1967)
Collective housing	Postcolonial - Vigatana B (2013-2015)

The selection of these three (3) types of settlements is based on specific criteria such as their location on the ground, their period of construction, the types of housing they comprise, and their representativeness in the informalization process. In addition, the selected cities share common characteristics such as the development of economic activities in their immediate environment, the spatial transformations they are undergoing, and their state of deterioration. In addition, a cartographic analysis of the cities was carried out. It is based on the identification and use of available spatial data (satellite images from Google Earth, available maps, OpenStreetMap data). This stage is supplemented by architectural observations and surveys from fieldwork. The data was processed using AutoCAD 2021, ArcGIS 10.8, and Adobe Illustrator 2023 software to produce thematic maps. This made it possible to trace the evolution of the informalization process in Malabo's social housing estates. At the same time, analysis sheets were developed to illustrate the main forms of informalization within the social housing estates studied. These tools enabled a visual and analytical reading of the ways in which residents appropriate and transform their built environment in response to the mismatch between the initial residential offering and their actual needs. A diachronic cartographic analysis was conducted to illustrate the spatial and temporal dynamics of the spread of informalization over three periods. The photographs taken on site were pre-processed in Adobe Photoshop to improve their clarity, then assembled and laid out in ArchiCAD 27.

Results

Regulatory Framework

Articles 11, 12, 14, and 15 of the contract for the transfer of social housing in Malabo express a normative desire to regulate the use, management, and conversion of social housing after it has been allocated. Article 11 establishes the responsibilities of the seller, who must take care of the landscaping and maintenance of outdoor spaces and common areas, which emphasizes their role in maintaining the quality of the urban environment. At the same time, Article 12 imposes a set of restrictions on the purchaser regarding modifications to the dwelling, with the aim of preserving the architectural and functional integrity of the original construction. Article 14 broadens this perspective by incorporating social and urban dimensions, stipulating the obligation to respect good neighborliness standards and protect collective spaces, which highlights the close link between residents' behavior and the sustainability of the built environment. In conclusion, Article 15 refers to legal sanctions designed to ensure compliance with contractual obligations, although the actual effectiveness of these measures depends largely on control, monitoring, and enforcement mechanisms, which are often considered insufficient in practice.

Causes of the Informalization of Social Housing in Malabo

Figure 2 shows the various causes of the informalization of social housing in the city of Malabo. These include structural and institutional causes, which account for 41.45%, physical causes, which account for 30.29%, economic causes, which account for 13.10%, and finally socio-cultural causes, which account for 15.16%.

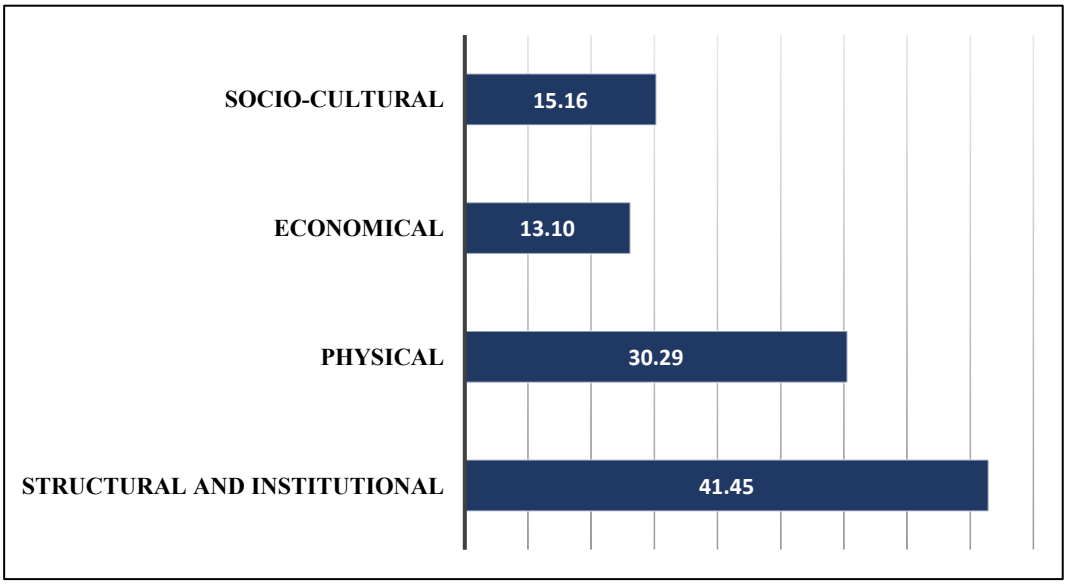

Figure 2 : Causes of Informalization In Social Housing In Malabo

Structural and institutional causes are the main causes of informal housing in the city of Malabo, accounting for 41.45% of the causes identified, as they highlight, on the one hand, the absence of a regulated housing allocation mechanism and, on the other hand, the lack of monitoring with regard to the management and use of post-occupancy housing. Institutional shortcomings also result in an increase in informal transactions related to the resale and rental or subletting of housing units. These situations can be explained by regulatory loopholes in housing sales contracts regarding the rights and obligations of beneficiaries. This weakens program management and creates an environment conducive to informal transformations and practices.

Physical causes include factors related to spatial organization and architectural characteristics of housing that influence residents' informal practices. In terms of spatial organization, housing located on the outskirts or in areas poorly served by infrastructure and public services is more likely to be adapted informally to meet the daily needs of households. In terms of architecture, inadequate housing design is a major factor contributing to informalization. Cramped spaces, rigid floor plans, and inflexible room layouts push residents to make informal extensions and alterations once they move in. Similarly, the limited functionality and adaptability of these devices explain the improvised adjustments made to meet the specific needs of families.

As for economic causes, they are a significant factor in the informality of social housing in Malabo. In this regard, respondents cite in particular income-generating practices that are developing within social housing. These dynamics manifest themselves in the partial occupation of dwellings or semi-public spaces, such as courtyards or green spaces, for economic activities. This interaction between housing and informal activity often creates a cycle of vulnerability, which manifests itself in increased exposure of residents to health risks due to non-compliance, overuse, and accelerated deterioration of infrastructure.

Finally, socio-cultural causes encompass the practices and representations of residents that influence how they occupy and modify their homes and immediate environment. These socio-cultural factors include social aspirations and local traditions that guide the use of domestic space, resulting in the informal transformation of housing regardless of technical or regulatory constraints.

Signs of Informalization Within Social Housing Estates

The results highlight significant dynamics in the transformation of housing within the neighborhoods studied, at both the housing and plot levels, revealing forms of informalization linked to household practices and architectural and institutional constraints. We will present a few of these below.

- **Los Ángeles**

The results highlight the growth of informal practices in one of the sectors of the Los Ángeles neighborhood. Out of a total of 32 blocks, only one block shows no visible signs of physical

informalization, representing approximately 3% of the sector. Conversely, 31 blocks, or 97%, have undergone at least one form of informal transformation.

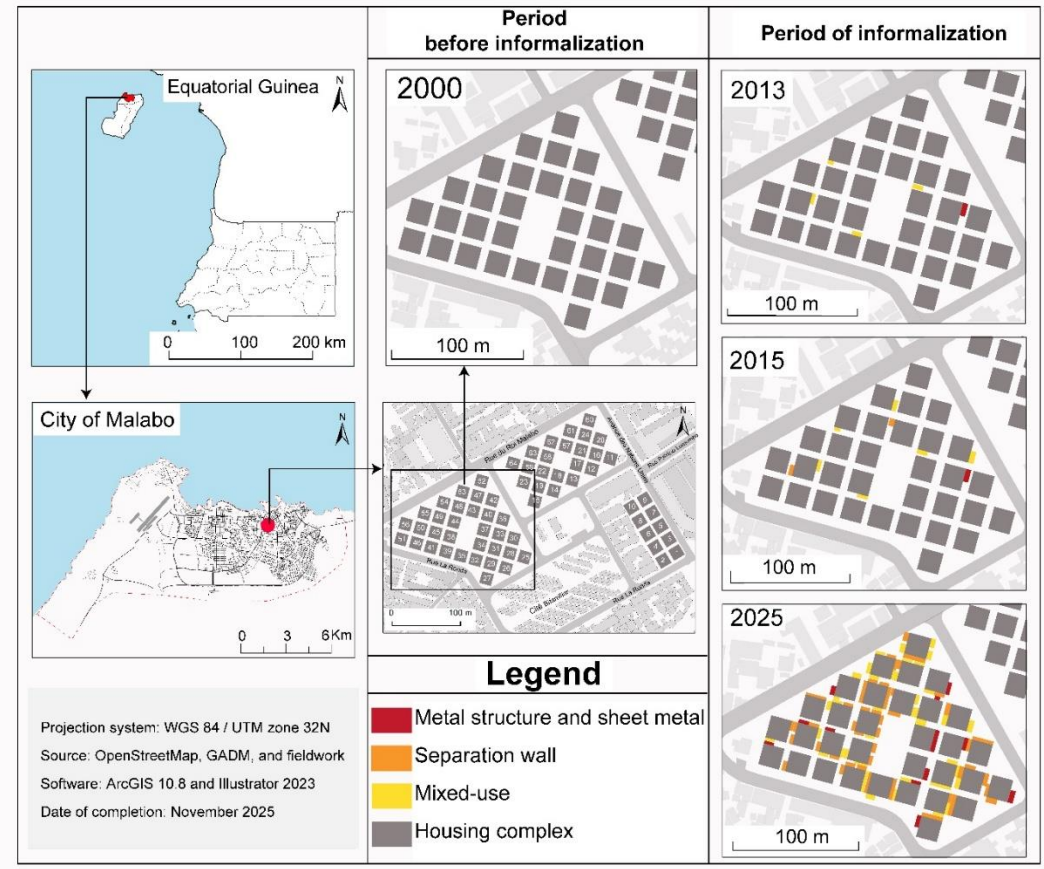

Figure 3 : Spatial and Temporal Dynamics of the Spread Of Informalization In Los Ángeles

At the level of housing and surrounding areas, an analysis sheet was used to illustrate the phenomenon (Figure 4). The results reveal a strong trend toward informalization, reflecting households' strategies for adapting to the limitations of the initial built environment. Security bars have been installed in 42.50% of homes, mainly to address security concerns. However, replacing the original windows reflects a desire for comfort and aesthetic enhancement. The inadequacies that characterize domestic space lead to the gradual privatization of public spaces, which are used as extensions of the home. Although these practices improve residents' living conditions, they cause urban problems, particularly in terms of stormwater management and pedestrian traffic. Furthermore, the establishment of informal commercial activities within housing complexes highlights the need to introduce such activities into collective residential complexes in order to bring them to life, so that they are not just dormitory towns. This shows how planning mechanisms are inadequate for local socioeconomic realities.

<table>
<tr><th colspan="4">IN TERMS OF HOUSING</th></tr>
<tr><td>Block plan and housing unit</td><td>Replacement of windows, installation of security grilles and air conditioning</td><td>Room extensions</td><td>Change in usage</td></tr>
<tr><td>35%</td><td>42,50%</td><td>5%</td><td>17,50 %</td></tr>
<tr>
<td> 

Legend
01 Staying
02 stairwell
03 Kitchen
05 Toilet
04 Patio</td>
<td>Security grille and Window replaced
 
Original windows</td>
<td> 
Extension of the shower area
 
Extension of the master bedroom</td>
<td> 
General food shop
 
hairdressing salon</td>
</tr>
<tr><th colspan="4">OUTSIDE THE HOUSING</th></tr>
<tr><td>Housing unit plan without external intervention</td><td>Metal structure and sheet metal</td><td>Partition wall</td><td>Mixed</td></tr>
<tr><td>56,25%</td><td>21,48%</td><td>5,08%</td><td>17,19%</td></tr>
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</tr>
<tr><td colspan="4">Legend 01 Staying 02 stairwell 03 Kitchen 04 Patio 05 Toilet</td></tr>
</table>

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Figure 4 : Forms of Informalization Cited in Los Ángeles

- **Buena Esperanza I**

In the Buena Esperanza I housing development, plots of approximately 225 m² were offered, with a floor area ratio (FAR) of approximately 0.32, meaning that approximately 32% of the plot was occupied by buildings. Figure 5 presents the cartographic analysis conducted on the evolution of the transformations carried out at different periods. In an area identified for spatiotemporal analysis. The results of this work reveal a significant increase in informal practices, leading to urban densification. This dynamic, driven by a shortage of habitable space, reduces undeveloped areas and increases mineralized surfaces, with potential impacts on the urban microclimate, including the risk of heat island formation in the long term.

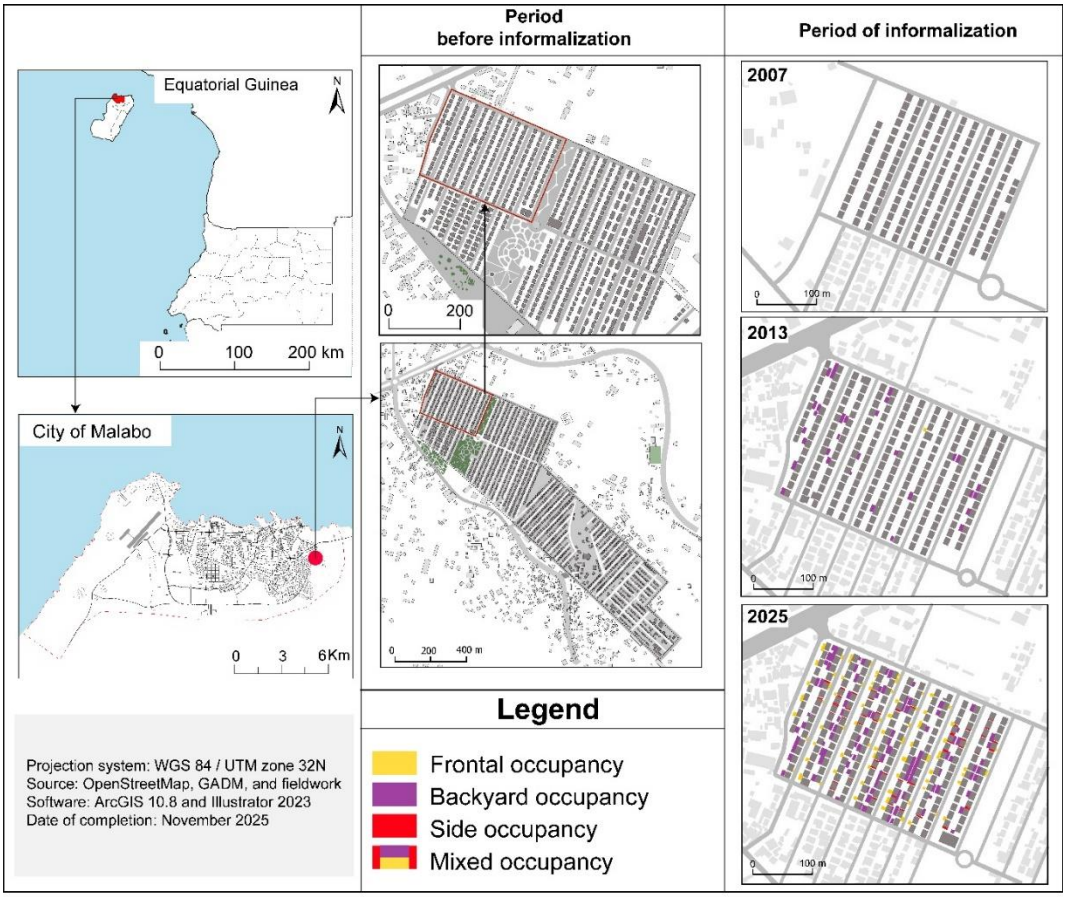

Figure 5 : Spatial and temporal dynamics of the spread of informalization in the Buena Esperanza I neighborhood.

According to data collected in the field, only 10.65% of households retained the original layout of the dwelling and the original configuration of the plot. On the other hand, more than 80% of households have engaged in informal practices in various forms, both in terms of housing and surrounding areas, particularly within plots and public spaces in the city. In terms of housing and land area, these practices involve an increase in living space to more than double the original floor area ratio, resulting in densification of the land (Figure 6).

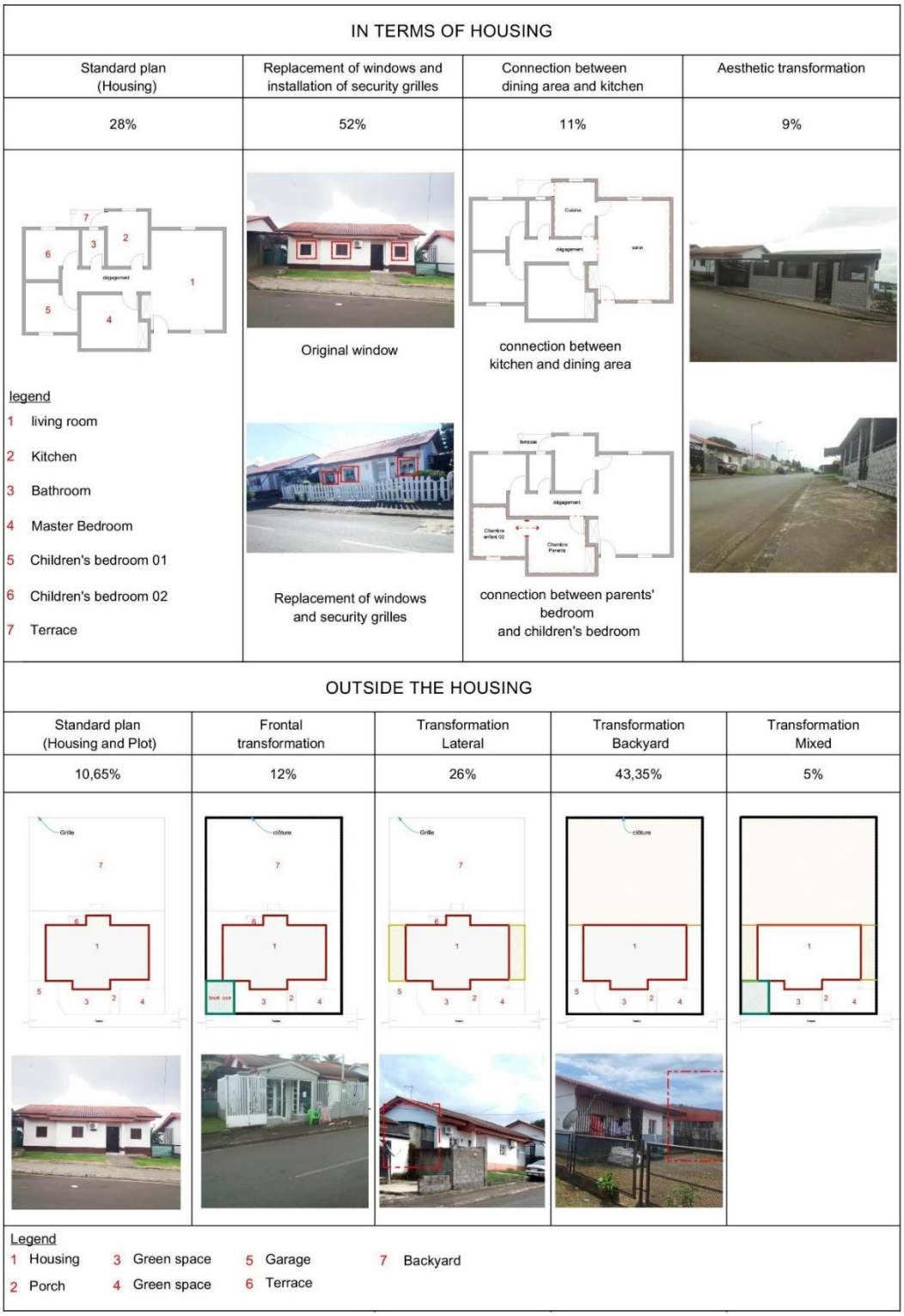

Figure 6 : Forms of Informalization in the Buena Esperanza I Neighborhood

- **Vigatana B**

In the Vigatana B neighborhood, the entire neighborhood was analyzed to assess the progression of the informalization phenomenon. Figure 7 shows the spatial and temporal dynamics of the spread of this informalization. Analysis of this residential complex shows that, in order to solve the problem of proximity to services, certain commercial activities have been set up in the open spaces intended to accommodate local amenities. This informalization has taken place on approximately 7% of the vacant

land, without any defined development. The observation is that, over time, these practices have intensified.

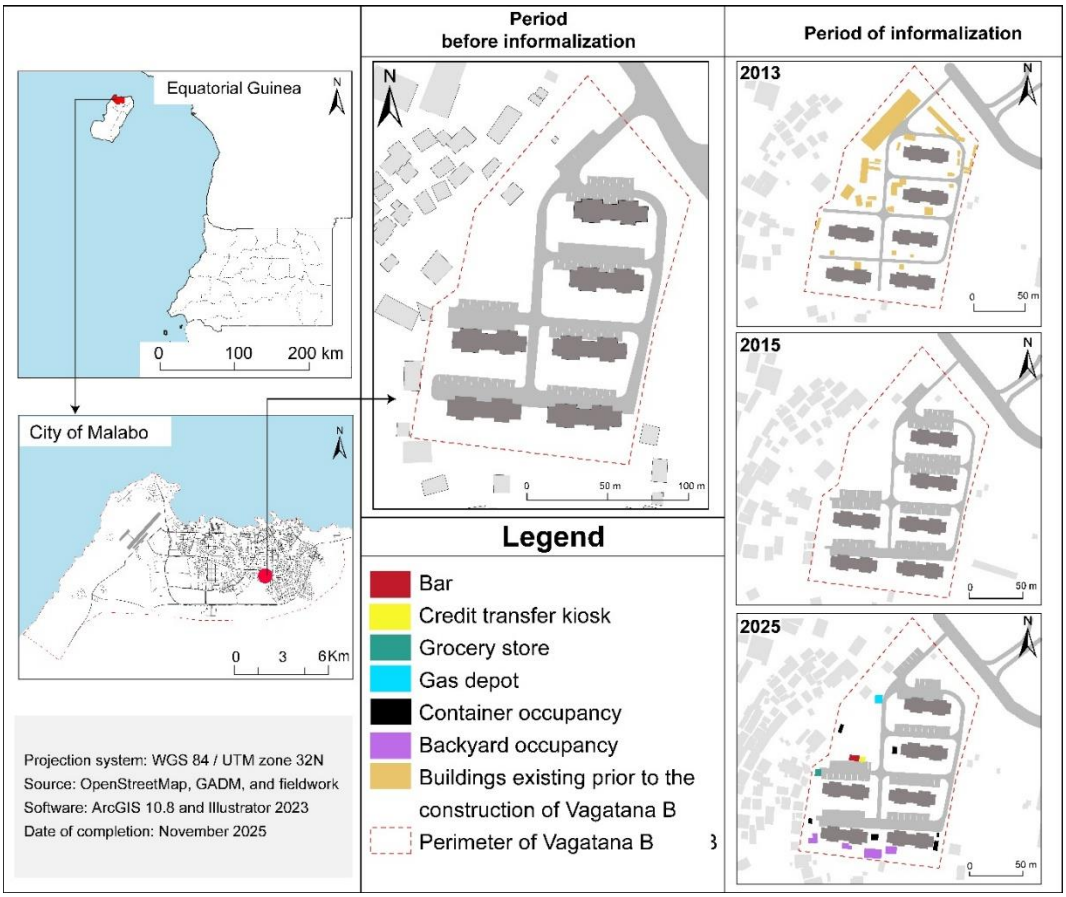

Figure 7 : Spatial and temporal dynamics of the spread of informalization in Vigatana B

In terms of housing (Figure 8), the results reveal other forms of appropriation of space; most often, these are loggias created after the fact, which are integrated into the domestic space to provide a solution to the lack of rooms needed for household needs. This transformation takes three forms: cement blocks, glazing, and security grilles. To provide solutions to the malfunctioning of the sewerage system, one of the common informal practices within this city is to connect the water valve network to the rainwater network.

Figure 8 : Formes d'informalisation de la cité Vigatana B

Analysis of Satisfaction Levels Based on Cities

The results show that residents of the Buena Esperanza I housing project have a relatively higher level of satisfaction than those of the other housing projects studied. In fact, more than 40.17% of households report being satisfied with their living environment. This situation can be explained by the type of individual housing, which offers a certain amount of spatial flexibility, particularly thanks to the presence of free space allowing for gradual extensions and adaptation of the home to the changing needs of households. Conversely, the Los Ángeles neighborhood, characterized by semi-collective

housing, has a low level of residential satisfaction. In fact, approximately 24.53% of households surveyed report being satisfied. The main factors cited are lack of privacy, insufficient domestic space, unsanitary conditions, and irregular basic services, particularly drinking water supply. In the Vigatana B collective housing complex, 38% of households say they are satisfied with their living environment. However, despite these differences linked to housing types, a general trend toward dissatisfaction emerges across all of the housing complexes studied. Households reporting low satisfaction represent approximately 59.83% in Buena Esperanza I, 75.47% in Los Ángeles, and 62% in Vigatana B. This dissatisfaction is mainly linked to insufficient living space, inadequate basic facilities, and housing that is unsuited to current socio-demographic realities.

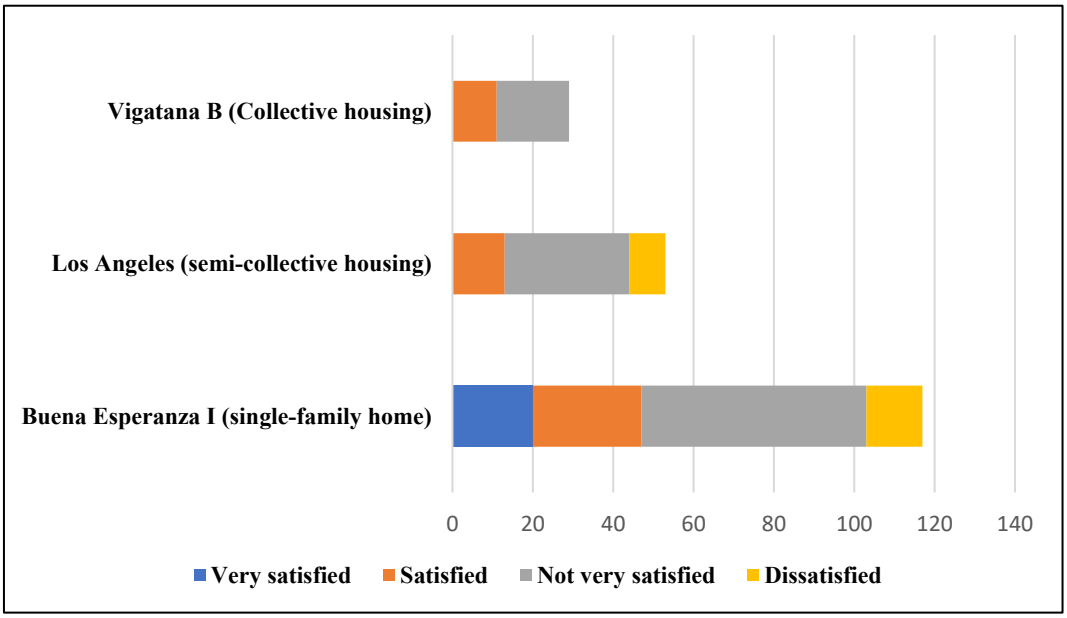

Figure 9 : Typology of Cities and Satisfaction With the Living Environment

It should be noted that all of the social housing developments studied were initially designed for a typical household of six people (two parents and four children). The results show that this model no longer corresponds to current configurations, which are characterized by extended households. Indeed, field data indicate that the proportion of households with more than six members reaches 42% in Buena Esperanza I, 53% in Los Ángeles, and 47% in Vigatana B. This demographic pressure is exacerbated by significant economic constraints: 61% of households in Buena Esperanza I, 66% in Los Ángeles, and 52% in Vigatana B have a monthly income of less than 350,000 CFA francs. These factors combined explain the widespread use of informal appropriation practices by residents in the absence of institutional support, regulation, or technical assistance mechanisms. In Vigatana B, for example, around 32% of housing units are still in their original condition, while 68% have already undergone informal alterations. In addition, nearly 10% of the space initially reserved for community facilities is currently occupied informally by commercial activities. Without corrective measures, this trend could intensify, leading to the gradual saturation of these spaces and increased deterioration of the living environment.

Discussion

The results of the study show that social housing in Malabo is gradually evolving towards informal forms of land use, despite the regulatory measures put in place by the government. Numerous studies conducted on cities in sub-Saharan Africa have shown that forms of informalization are increasingly observed in social housing estates [13, 14]. The study showed that 41.45% of the causes of informalization are structural and institutional in nature. According to Mouton [5] and Monte-Nguba [7], social housing programs initiated in many African countries are not accompanied by effective monitoring mechanisms. The discrepancy between contractual requirements and practices on the ground in Malabo confirms that standards are rarely applied in the field by stakeholders. For Château [8], the lack of oversight leads to premature deterioration of the numerous social housing projects initiated in Central Africa.

An analysis of the legal and regulatory framework for social housing in Equatorial Guinea, based on a study of sales contracts and the current technical building code, reveals a significant gap between official requirements and the reality observed in the field. In many social housing estates in Malabo, unauthorized alterations have been carried out, such as the construction of fences, extensions onto adjoining plots, or the informal occupation of green spaces. These interventions are often accompanied by unregulated rentals. The sales contract concluded between the National Real Estate Management Entity of Equatorial Guinea (ENPIGE), representing the State, and the purchasers defines specific obligations concerning the use, maintenance, and preservation of the housing, prohibiting any structural modifications without prior authorization.

Similarly, the Technical Building Code sets minimum standards for quality and comfort, particularly for living spaces. However, the discrepancies observed, such as in Buena Esperanza where some rooms measure less than 9m² instead of 12m², reflect a lack of control and strict supervision of the quality of social housing and poor enforcement of established rules. This situation highlights the weakness of the institutional framework responsible for monitoring and controlling housing estates, as well as governance that is insufficiently equipped to ensure the effective enforcement of standards. The gap between legislation and practice encourages the informalization of social housing estates and accelerates their deterioration, highlighting the need to strengthen the regulatory framework and improve coordination between stakeholders involved in the production and management of social housing in Malabo.

Physical causes related to spatial organization and architectural characteristics of housing account for 30.29% of factors contributing to informalization. The narrowness of the spaces, the rigidity of the floor plans, and the lack of flexibility in the layout of the rooms have led to informal extensions and the integration of loggias in the housing projects studied. The work of Mouaziz-Bouchentouf [10] and Elizondo [11] has shown that residents initiate renovation work on social housing to meet their specific needs and preferences. Furthermore, Guzmán-Ramírez and Bravo-Patiño [12] point out that some residents, in addition to renovation work, are introducing informal economic activities into these dwellings. The type of housing estate is an important factor in residents' comfort and offers considerable scope for adaptation. The individual housing estate Buena Esperanza 1 offers a higher level of satisfaction than other semi-collective and collective housing estates. This analysis corroborates the work of Marengo et al. [17], according to which changes in housing are a factor in residential satisfaction.

The introduction of informal economic activities in the cities studied is important because it contributes to the survival of low-income households. According to Coulibaly et al. [18], housing should be considered both as a place for income-generating activities and as a residential space. Many commercial activities carried out in most social housing estates are prohibited in those in Malabo. However, no alternatives have been proposed to address the socioeconomic realities of the residents concerned. For Mrani [21], these informal activities certainly have disadvantages, but they should not be eliminated, as this would risk increasing the vulnerability of households. The author also emphasizes that informality is best understood as a response to systemic shortcomings that can contribute to the daily functioning of cities and the well-being of the resident community.

The study revealed a general trend of dissatisfaction among residents of all the housing projects studied. Dissatisfied residents represent 48% in Buena Esperanza I, 58% in Los Ángeles, and 62% in Vigatana B. This dissatisfaction is linked to the mismatch between the housing designed and the socio-demographic realities of households. According to Asa [15] and Abed [16], failure to take into account the socio-cultural realities of residents in the design of social housing leads to its depreciation. It is therefore necessary to rethink social housing policies in sub-Saharan African countries in general, and particularly in Equatorial Guinea, through inclusive and participatory approaches advocated by the New Urban Agenda, which emphasizes sustainable urban development and providing every household with decent and affordable housing [3].

Conclusion

This study on the informalization of social housing in Malabo shows that, regardless of the type of social housing (individual, semi-collective, or collective), the forms and patterns of informalization observed in the various housing projects studied show strong similarities. This reveals the existence of a quasi-common pattern of informalization, characterized mainly by the gradual expansion of domestic space. This trend is observed regardless of household income level, reflecting a structural need to adapt housing to local socio-demographic realities. The changing residential needs in Malabo highlight the

mismatch between the social housing models on offer and actual usage requirements. This highlights the urgent need to define and implement more inclusive housing production and management strategies that are capable of responding to the spatial, social, and economic priorities of the populations concerned in sub-Saharan cities.

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