

Social housing - between design and social practices: The case of the 670 social housing units in Oran

Bachir Benyamina^{1,2*} 

Sidi Mohammed el Habib

Benkoula^{1,2} 

^{1,2} University of Sciences and Technology
 Mohamed Boudiaf, Faculty of Architecture
 and Civil Engineering, Laboratory Métropole
 Architecture Urbanisme Société LAMAUS,
 Oran, Algeria

***Corresponding author**

E-mail: bachir.benyamina@univ-usto.dz,
benyamina.bachir06@gmail.com

Article information

Sent: Apr 9, 2024

Accepted: Jun 11, 2024

Abstract: Housing represents the initial place where each individual has the opportunity to reconnect with their identity. It should offer every family the opportunity to live according to their lifestyle. Most people aspire to a living space that reflects both their aspirations and their way of life, while also taking into account the demands of everyday life. Since independence, Algeria has shown a remarkable commitment to promoting social housing, mobilising significant efforts in this area. However, what has been observed is that professionals design housing that occupants adapt to their daily needs. Despite the in-depth analyses by numerous researchers revealing the significance of these transformations, professionals persist in reproducing the same spatial patterns, thus demonstrating a certain indifference towards the work of academic research. Residents have tried to adapt to these housing units by making modifications to gain more space both inside and out. Inside, these transformations were appreciated by the occupants. From the outside, these remodellings have had a negative impact on the overall image of the city. The balance between quantity and quality was not taken into account, even though the aim of rapid construction was to alleviate pressure on the housing market. This article aims to question occupants' practices to establish a link between the housing designed and built, and occupants' expectations. The analytical approach used is post occupancy evaluation (POE) - a multi-method approach to data collection that includes direct observation, plan analysis and questionnaire. The housing units studied were not selected according to any particular method but rather chosen on the basis of the residents who agreed to answer the questions and share their lifestyle and expectations regarding their housing. Data processing, through a comparison between the initial plan drawn up by the designer and the current plan modified by the inhabitant, enabled us to deduce the discrepancies that exist between the two plans and to understand the modes of appropriation of the housing's interior space.

Keywords: social housing, occupants, needs, housing designed, occupant expectations

INTRODUCTION

In developing countries and in times of crisis, social housing has become a vital necessity for the most disadvantaged individuals and families. However, despite the targets set by the public authorities, the allocation of social housing has not always been sufficient to meet the urgent demand of those most in need; social housing has become an important issue, as it is seen as the only way for these populations to integrate into society. For the homeless, it offers a means of avoiding social exclusion. The link between supply and demand is a decisive criterion for measuring the severity of the crisis, given that demand often exceeds available supply (Kara, 2019). Faced with a pressing demand for housing in Algeria, the government created a new built environment from the 1970s onwards, by Ordinance 74/26 of 20 February 1974. This type of housing, known as ZHUN (zone d'habitat urbain nouvelle—new urban housing zone in Algeria, designed to create new residential areas to meet the urgent housing crisis and offer modern infrastructure), was built on the outskirts of cities. By analogy, it is reminiscent of the ZUP (zone à urbaniser par priorité). European housing production in the 1950s influenced how housing was built in Algeria. In the latter's case, foreign design offices reproduced a similar model without

considering the Algerian family's characteristics. However, the dominant model of urbanisation in Algerian cities is based on the standardisation of repeated parallelepiped-shaped constructions according to a programmatic approach, known as collective social housing (ZHUN), and has evolved to include financing formulas such as evolving social housing, participative and public rental housing (Adimi, Bellal, 2012).

The aim of this article is to explore residents' practices in order to establish a connection between the housing designed and built on the one hand, and residents' expectations on the other. Indeed, the question that concerns us is this: how do Algerian households approach redeveloping housing that was initially designed without taking their needs and preferences into account? According to the common assumption in Algeria, the differences between the space conceived and the space realised result from the variety of procedures, skills, and public and private partners involved: *"It's impossible to refute the passionate and sometimes impassioned nature of debates on questions of appropriation and use of space. Through the appropriation and use of space, man exists, expresses himself, imposes himself, distinguishes himself, builds and reproduces"* (Mebirouk et al., 2005). This means that the appropriation and use of space are important concerns for

practitioners, decision-makers, and researchers. But above all, they remain topical. Finally, this article presents preliminary results from a study of social rental housing (LPL—Logement Public Locatif: a program established by the government in Algeria to provide housing for low- and moderate-income households on a long-term rental basis) in Oran, which has benefited from extensive social housing programs since the 1970s. In 1980, *"it was definitively recognized that resources had to be reallocated to provide housing for low-income groups. At the meeting of the Central Committee of the Front de Libération Nationale (December 1979), obvious resolutions were taken on housing, in preparation for the new national development plan"* (Benmatti, 1982, p. 195).

Data is collected on the housing, and interviews are conducted with residents to compare the housing in its delivered state with its future state. The aim is to evaluate users' ability to redesign their housing to suit their lifestyles and personalise it to improve their quality of life. The object of study is the 670 housing estate (LPL) at Hai El Sabah. The methods used in this research were direct observation, analysis of plans, and a questionnaire sent to residents. The housing units studied were not selected according to any particular method, but rather based on the residents' willingness to answer questions and share their lifestyles and expectations regarding their housing.

STANDARDISATION OF COLLECTIVE HOUSING

During the modern movement, the integration of standardisation into the collective housing design process became increasingly common. Several German architects developed standardised methods in this context to facilitate the mass production of buildings. According to Le Corbusier, standardisation (normalisation) is indispensable for the human habitat, given that human beings have comparable organisms with identical functions and vital needs. Consequently, a streamlined approach is required to produce standardised housing (Adimi, Bellal, 2012). In their study, Foufou (2013) examines another key element of standardisation in the design of minimal housing, namely the "Modulor". This measure, invented by Le Corbusier, enables harmonious proportions between the various constituent elements of a construction. There are two aspects to consider: the first concerns the notion of universal standardisation in keeping with the architectural environment, while the second emphasises the preponderant use of square geometry in the design of housing plans.

Similarly, Le Corbusier attempted to create a link between the human body and space using his idea of the Modulor. He argued that the layout of architectural space should be based on the measurement of a human being's raised arm. Le Corbusier set out his vision of the functional city at the Fourth International Conference of Modern Architecture (CIAM—Congrès International d'Architecture Moderne; international organisation founded in 1928 that brought together architects and planners of the modern movement, it aimed to consolidate the doctrines of modern architecture through international collaboration), held in Athens in 1933. Each space is specifically intended for a precise function such as living, moving, working, and leisure, with the main aim of encouraging the circulation of air, light, sun, and greenery throughout the urban space (Foufou, 2013). This means *"orienting buildings so that they can benefit as much as possible from sunlight, spacing the built environment to let in air, light, and vegetation"* (Le Gall, 2013, p. 24).

During the industrialisation era, the modern movement built many social collective housing units, using modern construction techniques such as post-and-beam structures and innovative materials like concrete (Foura, 2007). Standardisation focuses on

the production and use requirements of social collective housing. It considers that the dwelling must be functional for its occupants, and the designer must therefore be able to determine the space required for furniture in domestic spaces through efficient distribution that avoids wasting space. The minimum and maximum dimensions of the parts have been determined by the standards that govern them. Coordination and dimensional modulation are based on two sets of dimensions. The first set is based on the standard measurements of human beings, derived from their everyday movements at a person's height of 1.75 metres. The second set is based on furniture dimensions, which are determined according to their utility and mode of operation. The geometry of the rooms is regulated by the layout of the proposed theoretical furnishings, which serve as a reference for judging the habitability of a cell. Take the kitchen, for example, where size is influenced by the number of objects to be integrated, including the sink, stove, food preparation area, refrigerator, and similar equipment. Similarly, bathrooms and toilets are also subject to the same principles. Regulatory standards have been established to facilitate the circulation of people and allow for optimal furniture layout. By way of example, passageways must be 0.74 m wide for wet spaces such as bathrooms and toilets, 0.84 m for bedrooms and kitchens, and 0.94 m for the housing entrance door (Hendel, 2016).

RESIDENTS' ACTIONS ON BUILDINGS

In the 1970s, ZHUNs played a key role in stimulating large-scale collective housing construction in post-independence Algeria. Initially, a sufficient number of vacant dwellings in 1962 led to a relaxation of attention to the housing issue. However, by the end of the 1960s, the problems associated with housing shortages began to be felt in earnest, although their impact varied from city to city (Boutabba et al., 2019). The buildings erected during the Constantine Plan were chosen as the model for housing construction in independent Algeria, favouring the use of "matchbox" shaped buildings and squared-off structures, neglecting local architectural references. Emphasis was placed primarily on site organisational technique and speed of completion, to the detriment of architectural and constructive quality (Mouaziz-Bouchentouf, 2014).

The mass adoption of the apartment block was not just a technical solution but revealed the character and principles underpinning the newly independent state (Filali et al., 2023). Moreover, this approach allowed the authorities to consolidate its image as a benefactor. The move away from the traditional house can be seen as a move by the powers that be to promote an image of modernity and development. The authorities took an approach similar to that of the technocrats of the Constantine plan, invoking urgency and economy to justify the imposition of their ZHUN model, whereas *"Housing construction is one of the most important factors in the composition of the human environment, and especially the urban environment"* (Moley, 1979, p. 41).

From the 1970s onwards, collective housing in Algeria did not meet the demands and daily living habits of the Algerian domestic group. The narrowness of the cells and the large number of occupants were the main reasons behind this problem. Up to the present day, the European plan type has become a model for application in the field, without any real change (Lakjaa, 1998). With all the modifications made by users, domestic distribution has always remained unchanged. Although the economic situation in Algeria has undergone major changes, such as the various major transformations in the housing and construction sector, the imported housing model has remained inadequate. Those responsible for the production of social housing refer mainly to the knowledge acquired during the

construction of the large-scale housing estates of the Constantine Plan, which were discussed in depth by researchers, practitioners, and civil society. To meet the evolving aspirations of each individual in the family, improve their appropriation of the cell's interior space, and guarantee a certain degree of privacy, users were forced to implement transformations both inside and outside their housing (Goubaa, 2018).

The unsuitability of the designed space for the different social-spatial practices of the inhabitants is justified by their instantaneous actions on public space (creation of a delineated space on the ground floor that serves as a courtyard or parking space for a car, creation of areas specifically dedicated to playing, etc.) and on private interior space (inclusion of balconies in living areas and bedrooms to enlarge the living space and have more square metres inside, a transformation of loggias into a kitchen or even a bathroom if the original kitchen is converted into a bedroom or dining area, installation of a metal grille for safety reasons on windows overlooking the outside, etc.). There is no denying that the façade undergoes a series of transformations, from obstruction to perforation. In most cases, this space is integrated into the interior to serve as an extension of the private part of the housing. The obstruction of this space can take different forms: in some cases, lightweight materials such as smoked glass are used, ensuring a certain degree of transparency while preserving interior privacy. In other situations, partitions are installed using heavier materials, with an opening to allow air and light to circulate. In this particular context, Bernard (2010) argues that inhabited space can only be truly appropriate if the people who live there can reshape it according to their needs and preferences.

METHODOLOGY

The Post occupancy evaluation (POE) - analytical tool to decipher the relationship between the individuals and their housing has been employed. As early as the 1960s–1970s, countries such as the United States, Great Britain, Canada, and France began to collect information on POE through questionnaires, interviews, analyses and in-depth observations, which they made available to researchers to study users' impressions of their homes (Federal Facilities Council, 2002). However, Post Occupancy Evaluation was not considered a discipline in its own right until the 1980s. Since then, theory in this field has undergone a remarkable evolution in analytic procedures, and techniques, including in terms of applications (Mazouz, Mezrag, 2014). While architectural criticism is generally concerned with aesthetics and construction evaluation, POE aims to integrate the design process of the built environment into the scientific research cycle. Occupants replace any architectural aspects of the building that do not correspond to their needs. This feedback is taken into account by specialists when making improvements or designing future architectural projects (Zimmerman, Martin, 2001).

This being said, in our case study, the POE approach is carefully adopted in a social housing context; to evaluate the ability of users to completely rethink the layout of their homes, adapting them to their individual needs and personalising them to create an environment that fosters a better quality of life. The study was carried out in January 2023 in a social rental housing estate in Oran, Algeria. The target population was the residents of the 670-unit collective housing estate in Oran. The techniques used in this study were direct observation, analysis of plans and a questionnaire sent to residents. The housing units visited were not selected according to any particular method, but rather chosen on the basis of the residents' willingness to answer questions and share their lifestyles and expectations regarding their housing. Data processing involved a comparison between the initial plan drawn up by the designer and the current plan

modified by the resident, taking into account the residents' responses.

CASE STUDY: 670 SOCIAL HOUSING ESTATE

The 670 housing estate is located in the commune of Hai El Sabah, in the eastern part of the city of Oran, Algeria (Fig. 1). Initially designed to provide social rental housing, it is part of a project that was to build 1,000 housing units of this type. The project's design was done by the ICAR engineering firm. The housing estate comprises 19 collective housing blocks, including 4 angular blocks and 15 linear blocks, each with a differently designed main and rear façades (Fig. 2, 3). The blocks were designed to provide four housing units per level, with living areas ranging from 45.25 m² to 72.4 m² (Tab. 1). Construction work began in 2003 and was supervised by the project owner OPGI (Office de Promotion et de Gestion Immobilière), a public body responsible for promoting and managing real estate projects, particularly public housing. The first housing units were completed in 2009 and have since been occupied by tenants. The buildings of the 670 housing estate were constructed using a self-stabilising reinforced concrete structural system, based on post-and-beam and sail-wall construction. This construction technique ensures maximum strength and stability for all the blocks.

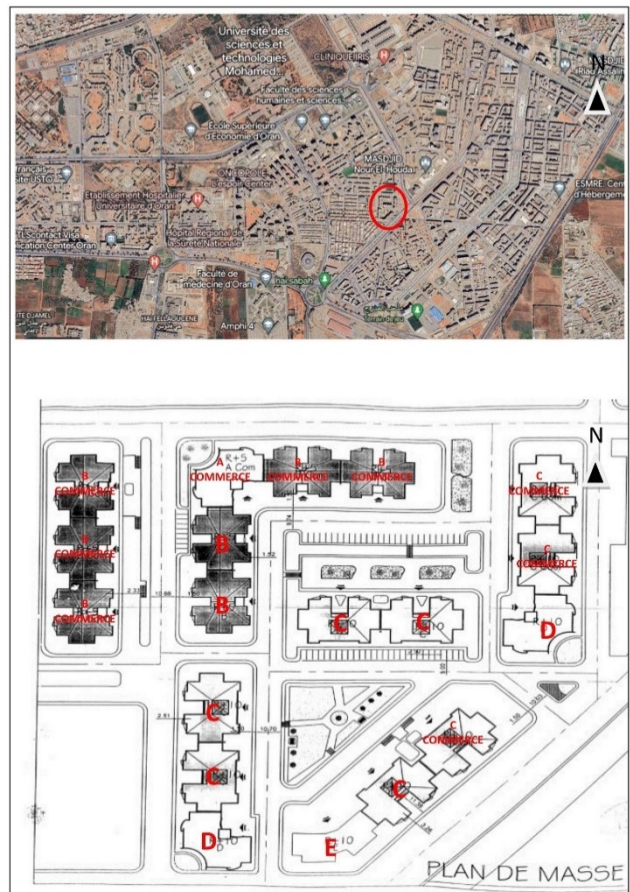


Fig. 1. Site plan and mass plan, 670 LPL housing estate, Oran. (Source: OPGI, 2022)



Fig. 2. View of the main façade. (Source: Authors, 2023)



Fig. 3. View of the rear façade. (Source: Authors, 2023)

Tab.1. Type of buildings. (Source: Authors, 2023)

No.	Categories	Building type						Total	
		B	B trade	C	C trade	D	E		A trade
01	Type								
02	Number of blocks	2	5	5	3	2	1	1	19
03	Number of levels	Six-storey building, with ground floor	Six-storey building, with ground floor	Eleven-storey building, with ground floor	Eleven-storey building, with ground floor	Eleven-storey building, with ground floor	Eleven-storey building, with ground floor	Six-storey building, with ground floor	
04	Form of blocks	Bar	Bar	Bar	Bar	Angular	Angular	Angular	
04	Number of housing units per level	4	4	4	4	4	4	4	28
05	Number of housing units per ground floor	4	4	4	2	4	4	4	26
06	Number of housing units per block	24	24	44	42	44	44	24	246
07	Total number of housing units	48	120	220	126	88	44	24	670
08	Average living area F2	45.25	45.25	45.25	45.25	55.04	49.85	55.04	
09	Average living area F3	60.05	60.05	60.05	60.05	70.91	72.40	70.91	
10	Number of commercial premises per block	0	5	0	5 6 7	0	0	4	27
11	Number of commercial premises	0	25	0	18	0	0	4	47

In our case study, F2 and F3 housing includes a horizontal circulation space (such as a corridor or hallway), a living room, one or two bedrooms, a kitchen, a bathroom, a toilet and intermediate spaces such as a loggia or balcony (Fig. 4, 5). Initially, plans are designed to place the living area near the entrance, while the sleeping area is located at the back of the housing. Most kitchens are judiciously positioned on the day side, often opposite the living room, but in the F2s of the linear blocks, the kitchen is positioned at the back. Bedrooms in F3 housing are side-by-side and vary in surface area from 10 m² to 12 m². Bathrooms and toilets are well positioned and separated in the linear blocks, but in the angular blocks, their proximity to the front door and lack of separation pose a problem for residents (Fig. 6, 7). The façades of the 670-unit housing estate, built in a post-and-beam system, are rather ordinary in style, characterised by pure, regular openings, balconies and loggias (Fig. 8).

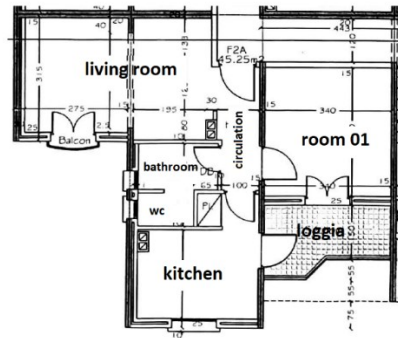


Fig. 6. F2 housing in a linear block. (Source: OPGI, 2023)

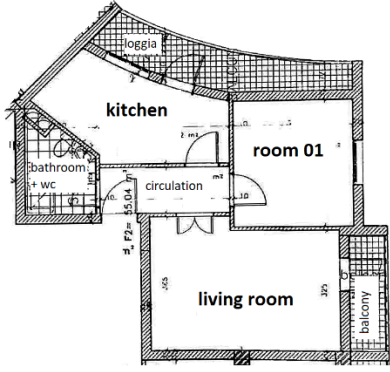


Fig. 7. F2 housing in an angular block. (Source: OPGI, 2023)

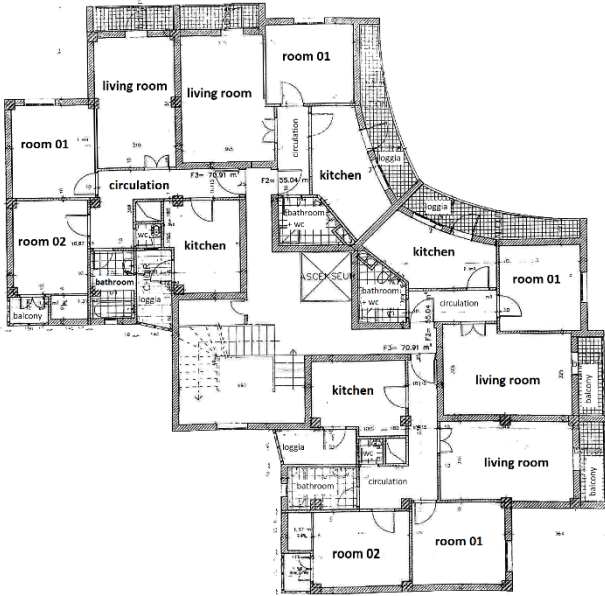


Fig. 4. Floor plan F3 and F2—angular block. (Source: OPGI, 2023)

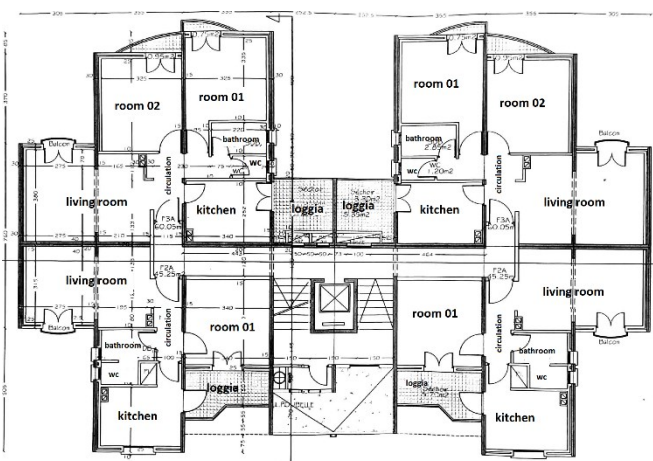


Fig. 5. Floor plan F3 and F2—linear block (Source: OPGI, 2023)



Fig. 8. View of the façade. (Source: Authors, 2023)

Social housing is facing a new reality that requires it to adapt to the lives of its occupants. Tight spaces have created major constraints within housing, leading residents to seek multi-functionality in a single space. This approach has led to a certain versatility in the various components of the housing. However, these modifications are different for each housing, as there is often a contradiction between the design made by the professionals and the real needs of the occupants, which is reflected in a comparison between the initial plan and the lived plan. In our case study, many families opted for living room conversions, of which two configurations are particularly common. The first configuration (Fig. 9, 10) removes the balcony and replaces it with a bay window, giving the living room a larger surface area and freeing up space for some much-needed furniture. In the second configuration (Fig. 11, 12), a dining room and a cupboard have been added to the living room, transforming it into a multi-purpose space much appreciated by residents, as it allows them to enjoy this spacious area while freeing up some space in the kitchen.

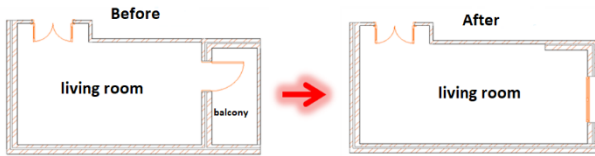


Fig. 9. First configuration: removing the balcony and installing a bay window. (Source: Authors, 2023)



Fig. 10. Views of the living room (Source: Authors, 2023)



Fig. 12. Views of the living room (Source: Authors, 2023)

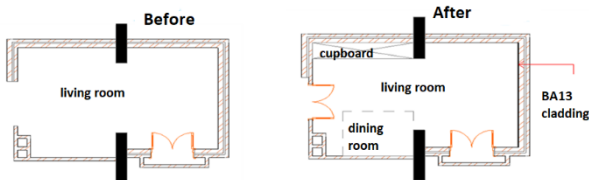


Fig. 11. Second configuration: cupboard and dining room layout. (Source: Authors, 2023)

The F2 housing units were cleverly redesigned, transforming the loggia into a modern, practical kitchen (Fig. 13). By removing the space reserved for the kitchen counter and rearranging it in the loggia, an additional room has been created. This multi-purpose room metamorphoses into a welcoming dining room during the day, then transforms into a comfortable bedroom for the night. This reconfiguration has enabled households to benefit from

more generous living space, with some even using the room for professional purposes. However, for the F3 housing, residents were creative in raising the loggia wall (Fig. 14), expressing their preference for elegant bay windows rather than traditional lattice panels, to avoid dust infiltration. Unfortunately, this modification led to a reduction in the level of ventilation inside the kitchen, which elicited mixed reactions from users, particularly women who spend a large part of their day in this room.

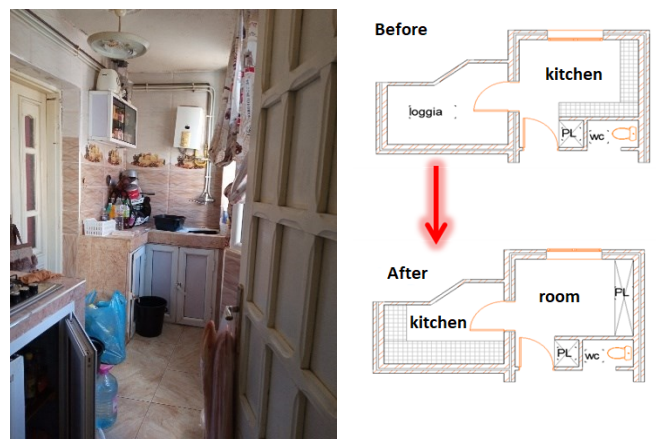


Fig. 13. Transforming the loggia into a kitchen. (Source: Authors, 2023)

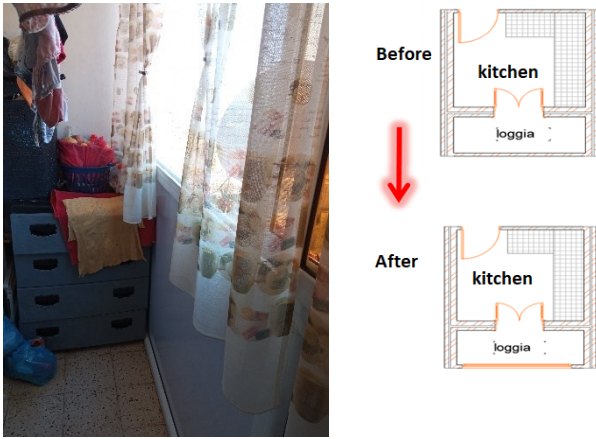


Fig. 14. Replacement of the loggia lattice panels with a bay window. (Source: Authors, 2023)



Fig. 15. Installing a cupboard. (Source: Authors, 2023)

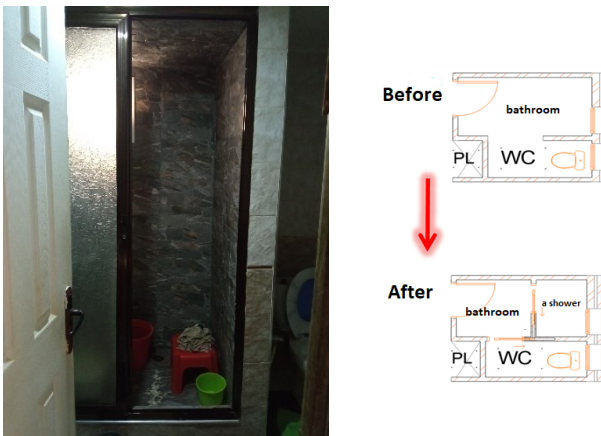


Fig. 16. Separating the toilet (WC) by a door. (Source: Authors, 2023)

Bedrooms have undergone only a few transformations, with the exception of the installation of a cupboard to provide storage space in some housing (Fig. 15). As far as the bathroom and toilet are concerned, the separation by a door between the two has become commonplace among users. This proved to be very practical, particularly in terms of hygiene during the health crisis (Fig. 16). A second transformation took place due to the unfavourable location of the toilets, prompting households to move the door to gain privacy and reduce unpleasant odours. At the entrance, a door was added to the vestibule. Previously, this space was used as a storeroom for unnecessary items, but during confinement, this change provided an additional space used as a sterilisation area before entering the housing. A small washbasin

was even installed, along with a wall-mounted box containing disinfectant. In this way, residents wash and disinfect their hands before touching the front door handle (Fig. 17).

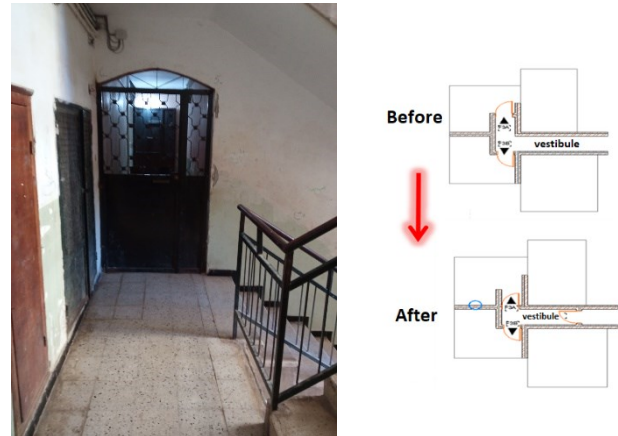


Fig. 17. Door layout in the entrance vestibule. (Source: Authors, 2023)

ANALYSIS OF SPECIFICATION

In an interview with a liberal Algerian architect, head of the ACAD design firm, who has designed several collective housing projects in Algeria, with the OPGI as the project owner, it was pointed out that state contractors are the main designers of housing, while architects focus mainly on adapting spaces to a given site. The specifications for collective housing, drawn up by Oran's OPGI (Office Public de Gestion Immobilière), describe the evaluation stages for collective housing, based on five key criteria: architectural appearance, functionality, urban planning, construction system, and compliance with the program. Each criterion must meet the following requirements and conditions: from an architectural point of view, it is essential to take into account harmony with the environment and the spatial distribution of the housing plans. Regarding functionality and compliance with the program, the layout of the various rooms must be studied in the light of the available surface areas, while taking into account the economic aspect of the project. The construction system must be adapted to the project and be in line with the estimated budget. As for the urban planning aspect, the evaluation is based on elements such as compliance with urban planning instruments (limits and dimensions of the plot, harmonious integration into the site, spatial composition, and easements).

The average living area of an F3 housing unit is 67 m² (Fig. 18). When designing the rooms, certain requirements need to be taken into account. The living room, for example, needs to be positioned close to the entrance, so that visitors can access it directly without crossing the other spaces while maintaining a certain degree of privacy from the other rooms. A rectangular shape is preferred, with an average surface area of between 18 and 21 m². As for the kitchen, it should include a space dedicated to meals, with an average surface area of around 10 m². Bedrooms should be rectangular, with a surface area of around 12 m². The bathroom should be approximately 3.5 m² and equipped with a bathtub. The toilet should be separate from the bathroom and occupy a surface area of around 1 m². Shower rooms should have good natural light and adequate ventilation. Circulation space should not exceed 12% of the cell's living area. This space should be laid out as a hallway, serving as a central point to link the various rooms. The loggia, which is an extension of the kitchen, should be around 1.40 m wide for optimum layout (Tab. 2).

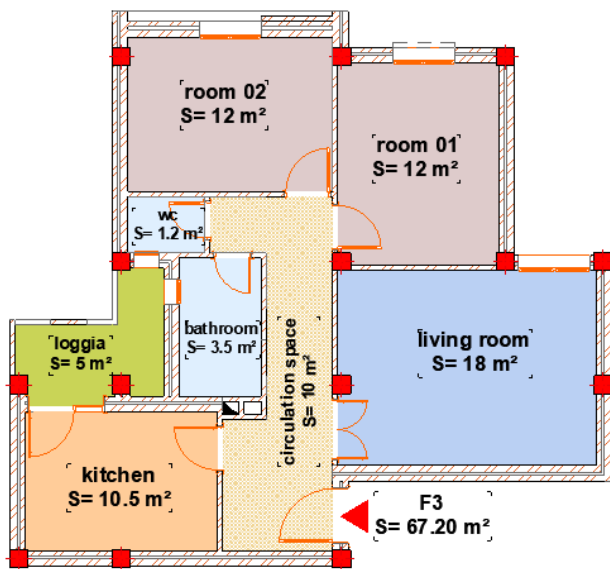


Fig. 18. Typical floor plan of a collective social housing project (LPL). (Source: ACAD design firm, 2023)

Tab. 2. The living area of an F3 housing, as adopted in the specification. (Source: OPGI, 2023)

Spaces	F3 housing (m ²)
living room	20
Kitchen	11
Room 01	12
Room 02	12
Bathroom	3.5
Toilets	1.5
Storage	1
Circulation space	6
Total	67
Balcony	4
Loggia	4

As far as the construction system is concerned, the designer is free to choose the structure best suited to the project, the site and its location. The structure must harmonise with the local architecture, while the materials used should guarantee safety, stability, acoustic and thermal comfort. The ground plan must provide a clear understanding of the overall organisation of the project, and the building must be consistent with the external spaces, while creating an appropriate hierarchy between public, semi-public, and private spaces. After comparing the requirements in specifications with what was designed and built, we found numerous contradictions:

The rooms are too small, creating a feeling of confined space in which the inhabitants feel constrained to live without being able to personalise it. The initial design limits their freedom, leaving no room for the concepts of flexibility and "open design" of housing (Boudon, 1977), which are completely neglected. If, on the other hand, the design incorporates volumetry and compositional principles that offer the possibility of modification, then users can intervene and remodel their space according to their desires, without altering the architectural appearance of the building. Thus, it is through a well-established design model that occupants can truly make their housing their own. A large number of builders see the housing space solely as a shelter, a solution to the housing crisis. They give too much importance to this issue, whereas a minority of developers recognise that housing represents the culture of its occupants through its spatial composition and can make a real difference in people's lives.

DISCUSSION

Modifications to the built space generally precede the action of adaptation, so it is through the use of space that users become aware of the unsuitability of their cells for their lifestyles, and processes of appropriation or re-appropriation have been carried out to adjust the living environment to their ways of life (Mezrag et al., 2018). The appropriation of interior spaces has a strong relationship with the different ways in which inhabitants appropriate these spaces, and this becomes apparent through their socio-cultural behaviours, practices and activities, which sometimes leave physical traces; traces that contribute to changing the morphology of the space either totally or partially, or conversely, that leave no physical marks at all, implying the possibility of several modes of appropriation (Mezrag, 2015). In our case study, the appropriation of space shows us the reaction of residents to the housing imposed on them, and reveals the mechanisms used by users to create a certain adaptability between their housing and their daily practices.

The living room, the main reception area for guests, is often transformed into a bedroom at night, and can also be used as a workspace, dining room and TV entertainment area, depending on the number of people in the household. The kitchen, generally managed by women in Algerian society (Mili et al., 2015), has undergone appropriations due to its small size. It is designed for meal preparation, while the adjacent loggia offers continuity with the kitchen area and can be used for baking bread using a gas stove. "I spend more time in the kitchen and living room because these are the two spaces where I carry out the majority of my activities. For me, these two rooms are of considerable importance for our socio-spatial practices" (a resident of the 670 housing estate).

In families with children, mothers often take their meals with their little ones in the kitchen. In some cases of cramped housing for large families, non-habitable spaces are transformed into habitable ones, such as loggias that become kitchens. The parental bedroom, an intimate space in the housing, is analysed from the point of view of its appropriation. Not only is it seen as a place to sleep, but residents also want it to be a well-organised living space. According to the survey, this room is used during the day as a living space for young children, and sometimes as a place for infants to sleep. Modifications to this room often focus on creating storage space for children's belongings, such as installing a cupboard. As for the children's bedroom, in the 670 housing estate, it is intended for children's sleep at night, but during the day it can accommodate a variety of domestic activities thanks to its flexible layout including sofas, offering greater freedom to practice other activities apart from the children's sleep.

CONCLUSION

This study highlights a crucial new line of thinking: exploring effective mechanisms for encouraging resident participation. To implement this approach, it is imperative to integrate a new dimension i.e. that of the user, into decision making and housing management processes, to ensure optimal housing performance. The analysis carried out in this article enabled us to understand how the users integrate their daily and personal habits into the context established by the designer. The aim was to highlight any differences between the functional system of the housing designed by the designer and the actual use by the occupant. The results revealed an urgent need on the part of occupants in terms of surface area and spatial layout inside and outside the housing, to be able to carry out their socio-spatial activities adequately and under standardised conditions. The availability of space dictates its layout. When space is limited, daytime and night-time

activities are “separated” only by the time of the day. On the other hand, when space is generous, the two activity categories separate and each develops in a suitable area. It is clear, then, that availability reduces the risk of polyvalence of space. Analysis of the organisation of living space reveals an inconsistency between the layout planned by designers and the practices of users. It should be emphasised that the layout of space is a significant indicator of household lifestyles. Residents aspire to make their housing their own, which reflects their habits, culture and practices. The changes they make reflect their dissatisfaction with the spatial distribution of certain rooms. Restricted spaces limit the freedom to arrange furniture, forcing users to make modifications to make their lifestyle more suited to the space available.

The uncontrolled alterations performed by residents have resulted in several disadvantages for the building façades. A noticeable lack of finish quality is observed in the majority of interventions made by residents. This situation stems from a lack of consideration for the exterior appearance. In addition, the multi-functional use of loggias and balconies has led to uncontrolled drainage of wastewater along the façade. In addition, the drying of laundry at the windows accentuated the deterioration of the walls and the colour of the façade. In this case, the designers could have initially provided suitable spaces for users. This underlines the crucial importance of an in-depth analysis of the relationship between the inhabitants and their housing before any design approach. Researcher Belbacha-Merouche (2009) stresses the need to improve the quality of social housing to prevent constant modifications that hurt buildings and the urban environment. To ensure a better match between layout and needs, it is essential to carry out an analysis of users' desires and expectations. These surveys provide designers with the tools they need to identify gaps in existing layouts, opportunities for improvement and use, as well as fundamental principles that can guide the design of future housing. Involving users in the planning of housing projects facilitates the effective management of project complexity and the implementation of appropriate solutions. Communication is the minimum threshold for any participatory process. Fostering dialogue between project owners on the one hand, and residents on the other, is key to addressing the housing issue in line with current policy. Designers must then put this vision into practice in spatial layout.

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