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## "An Analysis and Evaluation of The Quality of Participatory Social Housing in Constantine: A Case Study of The Commune El Khroub" (Algeria).

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### Abstract

*All aspects of housing nowadays meet a higher standard of quality that is more technologically advanced and current. There are a number of significant environmental, social, and economic difficulties with housing improvement. Analyzing a number of conventional standards, based on practical indicators like healthiness, stability, security, comfort, durability, and adaptability as well as attractive looks, is necessary when discussing the quality of participatory communal housing. Housing is dissociated from the living environment in which it must fit. By examining the satisfaction of the residents of the commune of El Khroub, this study intends to evaluate the quality of participatory social housing objectively. We have built our study on an experimental and other phenomenal approach as well as observation and analysis on the field and investigation. It attempts to tackle research problems as well as presents itself on a particular epistemological basis and methodological choice.*

**Keywords:** *housing, housing quality, participatory social housing, quality analysis and evaluation.*

### Introduction:

The number of people living in cities is increasing almost everywhere in the world. The stakes are enormous when dealing with this phenomenon, they include maintaining public safety because this universal exhibition is a unique opportunity, as well as access to decent housing, the fight against poverty, the eradication of substandard housing, the prevention of natural disasters, and the eradication of social evils.

Due to the significance of the housing and public equipment initiatives that have been implemented, Algeria's urban framework has experienced an extraordinary increase during the previous 10 years. After the struggle of quantity, the stage of quality has now started. The difficulty lies in ensuring that citizens live better lives in better cities (Heraou.A,2011).

In this context, the public authorities' desire to raise the caliber of town planning and building necessitates the start of many reform programs that concentrate on the technical, organizational, and legal facets.

It must be emphasized here that the development of the study phase is a crucial step in accomplishing the quality aim (Heraou.A,2011). The legislator now makes it a prerequisite for the commitment of public expenditure. Executive Decree No. 09-148 of May 2, 2009, relating to State equipment expenditure, specifies in this respect that "cannot be proposed for

registration in production, under the equipment budget of the 'State that the centralized equipment programs and projects have reached a sufficient maturity, allowing to know a beginning of realization in the year'.

The idea of habitat quality takes evolutionary biology into account. It has expanded to include all aspects of housing and has grown more complex and stylish. There are a number of significant environmental, social, and economic difficulties with housing improvement.

The consideration of numerous conventional criteria, based on practical indicators like safety, stability, security, comfort, durability, and adaptability as well as excellent looks, is necessary when discussing the quality of the habitat. The living environment in which housing must fit is separable.

The issue of quality, which has always taken a back seat in the various policies in our nation as the battle of quantity appears to have been won, has now come to light. For example, the illustrious city of Constantinople transformed quickly from a small urban town to one that is an economic, industrial, and cultural megalopolis.

It has a sizable housing stock of all varieties and a very diverse typology. The city has also seen the emergence of numerous reform sites in addition to a variety of housing production and construction methods.

By adopting the commune of El Khroub as a site of sampling and analysis for the city of Constantine, we shall approach the issue of the quality of participatory social housing within the context of our subsequent study.

This prompts us to ponder the following:

- How can we identify the quality standards of participatory social housing through the satisfaction of the inhabitants in the municipality of El Khroub?

We will implement the issue, or change the research question into a hypothesis, in order to make the research question observable. Our study question has the following hypotheses:

- The quality of habitat has remained limited in traditional criteria, based on convenient indicators such as healthiness, stability, security, comfort, durability, and flexibility as well as good appearance.

In order to accomplish the above, our study entails:

- This research aims at the objective evaluation of the quality of participatory social housing in the municipality of El Khroub.
- Continuous quality improvement, and quality quantification testing.
- Knowing and defining a set of criteria influencing urban and architectural quality in order to be able to check them on the mode of production studied.

In order to address the research questions at hand, the entirety of the research work is predicated upon a designated object of study. This object of study operates within a specific epistemological framework and methodological paradigm, and for the present study, an experimental and phenomenological approach has been employed, alongside on-site observation and investigation, in order to yield a thorough analysis.

This study suggests a scientific approach to assessing the architectural and urban quality of participatory social housing. It corresponds to the relativist vision of observation and enjoyment from the perspectives of the performers and residents.

### **The Quality of the understudied Housing**

Despite the fact that habitat suitability models are occasionally questioned (Marianne.C, Christian.D,2013) they are still often used to profile and make management decisions. It is not surprising that several schools of thought exist in order to be able to recognize progress or improvements in terms of improving housing quality.

Beginning with Marcel Mauss in 1947 chose a basic definition that specifies that housing is like an industry of protection and comfort. It protects man, in the first place, from various attacks against which he feels the need to protect himself, but once this essential need for protection is assured, the next requirement is that of having comfort and well-being (Daniel.P, 2003).

According to Merlin and Choay, housing must conform to societal and historical standards. However, the dimension, form, internal organization, and level of equipment of the home are all tied to its structure as well as its economic and social level (Merlin. Choay, 2000).

In 2002, Jacques Pillemont said that "Several themes structure writings and speeches. That of discursive confusion between the terms quality (which generally refers to the idea of the product or to do well) and Quality Approach - quality management, quality assurance - which refers to a strategic, tooled, rational, and methodological approach to implementation of collective action: building" (Jacques.P, 2002).

In fact, Véronique BIAU, and François LAUTIER stated that "the Quality Approach is an attempt to impose a managerial logic opposing or colliding with the practical logic of the dominant system in construction" (Véronique.B, François.L, 2004).

The most formalized methods are those that come under quality procedures implemented either by the contracting authorities or by the project managers, whether or not they are ISO 9001 certified. Indeed, the quality procedures entered the reflections of the construction sector in the 80s (1982: Spinetta law concerning new provisions on construction insurance and creation of the Construction Quality Agency), late compared to many other production sectors (Ibid).

Fillod-Barbarino summarizes the quality difficulties in issues of stock evolution and requalification of existing stock in 2010. Commitment to the quality of new builds is thus insufficient to ensure that the maximum number of people have access to a housing stock that meets the criteria of comfort, accessibility, and environmental stewardship (Natalia.F.B, 2010).

In Quebec, three types of models are used to assess habitat quality for wildlife species: habitat quality indices (IQH), habitat potential assessment keys, and habitat quality ratings. the habitat. They used the term "**habitat quality model**" (HQM) for these three types of models without distinction. Here, "habitat" means the environment in which a given species finds, in sufficient quantity, the biological and physical elements necessary for its survival and reproduction (Marianne.C,Christian.D, 2013).

Furthermore, some researchers have established certain requirements that limit the quality of housing, such as Mazrag Hada, 2015, who concludes that the quality problem results in the unsuitability of social housing in Algeria to the needs of users given the socio-spatial transformations that appear inside the housing and, of course, a mutation of it would not be done without entailing consequences on the external appearance. The latter depends, on the one hand, on its immediate environment and, on the other hand, on the interior organization of the accommodation (Mazrag.H, 2015).

The quality of the living environment includes not only housing, its size, equipment, evolution, and adaptability, but also its social and urban surroundings, as well as local services. Housing that is larger and more adaptable for a better quality of life (Ibid).

In fact, a home is deemed pleasant if it contains minimal sanitary amenities and is defect-free in the eyes of the occupying household. If there are one or two defects, the lodging is of ordinary comfort; if there are three or more, it is of insufficient comfort. The shortcomings considered are the absence of running hot water, the absence of indoor toilets, the absence of a bath or shower, the inability to maintain an adequate temperature, and the presence of infiltration or humidity problems, the insufficient clarity of housing. This information is obtained from statistical surveys on resources and living conditions (SRCV system) available since 2005 (General Commission for Sustainable Development, State of Housing 2010, 2012).

Daniel Pinson contends that the following features should be included in house designs to meet user comfort:

- in the social field: an organization, the importance of the interior volumes of the apartment, and an articulation of the building to the public space responding to the practices and to the individual and collective representations of the household.
- in the technical field: a material envelope and technical equipment facilitating the bodily accomplishment of domestic practices, satisfying the expectations of protection and safety of individuals.
- in the aesthetic field: a set of qualities in terms of volumes, supply of light, materials, equipment, "finishes", the potential for appropriation, transposing comfort into "well-being", and pleasure of living.

Undoubtedly, this idea of comfort focuses more on the homes inside than on how it interacts with the surrounding area (Daniel.P, 2013).

As opposed to Isabelle Roudil, who believes that housing should also be understood through its qualitative developments, such as comfort, space, an urban or rural setting, environmental characteristics, or even its role in gaining access to jobs and advancing one's career. As a result, housing requirements and locations vary depending on the type of household: Families, children, and seniors (Isabelle.R, 2017).

## **LSP as urban production**

### 1/ Public social housing in Algeria

Any housing that is totally funded by resources from the public coffers or the state budget are regarded as social housing. Social housing is designed for segments of the population who live in extremely difficult circumstances and lack the capacity to pay a high rent, let alone qualify for housing. Regarding the living area, it adheres to a specific typology (60 m<sup>2</sup> for F3). Since 1993, this type of housing's rents have been distinguished by administered prices (Boulkeroua.S, 2013).

#### Legal Texts

□ Executive Decree No. 98-42 of February 1, 1998, relating to the terms and conditions for the allocation of public rental housing of a social nature.

□ Executive Decree No. 76-2000 of April 16, 2000, completes Executive Decree No. 99-42 of February 11, 1998.

□ Order No. 07/SPM of 02/21/98 setting the criteria and rating scale for access to public social housing

In accordance with the report from the Ministry of Housing and Urban Planning in Algeria, which was completed in 2007, the contracting authority must find the best solutions to respond qualitatively to the production of housing and the sense of identification that any neighborhood must provide must be affirmed so that the occupant can no longer identify with a number but rather with an aspect, a reflection, or just with a particular treatment (The report of the Ministry of Housing and Urban Planning carried out, 2007).

### 2/ Standards for the construction of public social housing

The legislative assembly in Algeria has clearly outlined the many standards for better house production through specifications for all forms of housing. The standards listed in the official journal include.

#### 2.1. The common areas

The handling of shared areas requires special consideration, which results in

- The realization of a building entrance with dimensions in harmony with the scale and the treatment of the facade.
- The implementation, at the level of the halls and stairwells, of appropriate and quality coverings.
- The installation of mailboxes in the appropriate location.
- The installation of quality stair railings restored the charm of this part of the building.
- The development of accessible terraces where possible.

DESIGNATION	DISTANCE IN M
Entrance hall width	3
stair step or at the arrival of the access ramp	4
Building access door width	1.5

Table 1. Minimum dimensions to be respected for common traffic  
Source: Ministry of Housing and Urbanism, October 2007

## 2.2. Orientation

The preferred orientations of the living rooms and kitchens must be respected by the way the homes are oriented. In order to benefit from the comfortable conditions provided by the natural elements, considerations other than the desired sunshine must be made for the microclimate, the layout of the land, the vistas, and the predominant winds.

## 2.3. Spatial Organization Of Housing

The average size of an F3-type accommodation corresponds to a living area of around 67m<sup>2</sup> with a tolerance of (+) or (-) 3%.

Each accommodation will consist of

- 1- A living room
- 2- Two bedrooms
- 3- A kitchen
- 4- A bathroom
- 5- A toilet
- 6- A clearance space
- 7- Storage volumes

The net internal dimensions of these elements (1 to 7) constitute the living area housing.

- 8- A dryer

## 2.4. Living room

It must be situated near the front door so that guests may enter directly without having to go through areas designated for private family activities. Depending on the size of the lodging, its average surface ranges from 19 to 21 meters.

## 2.5. Bedroom

Its surface should range from 11 to 13 m<sup>2</sup>. A maximum occupancy rate must be possible given the ratio of these dimensions and the positioning of the openings.

## 2.6. Kitchen

In addition to its usual functions, it must allow meals to be taken; its surface is of the order of 10m<sup>2</sup>.

## 2.7. Bathroom

It has a 3.5m<sup>2</sup> average area. A regular-sized bathtub is a need. For a washing machine with dimensions between 60x70 and 70x70, a space must be set aside. If required, a place in the dryer can be made available.

## 2.8. Toilet

Its minimal surface is 1 m<sup>2</sup>, and it is constructed so as not to obstruct its use, particularly when opening and using the door. Toilets ought to be built with ventilation and natural light.

## 2.9. Clearance

A maximum of 12% of the accommodation's living space may be taken up by clearances (internal circulation, halls, and corridors). They must also guarantee the distribution of power and contribute as much as they can to the internal animation of housing through its design and architecture.

## 2.10. Storage

The surface areas of the storage to be provided (not including the kitchen storage) vary from 1 to 2m<sup>2</sup>.

## 2.11. Dryer

It widens the kitchen; it must be at least 1.40 meters wide. The extended laundry should be as unnoticeable as possible from the outside while still receiving enough sunlight. This area could be utilized as a useful room attached to the kitchen.

## 2.12. Housing equipment

### 2.12.A. Sanitary equipment

Each of the places listed below must have sanitary facilities that are developed and implemented in compliance with DTR E.8.1.

#### ➤ Kitchen

The volume under the vegetable garden will be made up of a bench measuring 2.50 x 0.60 m<sup>2</sup> and 0.90 m in height that will be transformed into a cabinet with an outward-opening door, a sink built into the work surface, a mixer tap, and a heating installation for the bath. The kitchen bench may be constructed from masonry, prefabricated components, or assembled from kits that have already been assembled.

#### ➤ Bathroom

A bathtub with mixer tap and hand shower and a washbasin with mixer tap.

#### ➤ Toilet

A seat with an English or Turkish bowl according to the request of the client, equipped with a flush.

#### ➤ Clearance

A pre-installation for gas heating

#### ➤ Dryer

A one shut-off valve and a drain with a siphon are included in the washing machine pre-installation. Per house, a subdivisional water meter must be installed.

### 2.12.B. Electrical equipment

The electrical installation must be completed in accordance with industry standards and using materials of a reputable quality. Electrical work must comply with:

- civil protection regulations, recommendations, and requirements;
- SONELGAZ regulations, recommendations, and requirements;
- the recommendations in force.

Each space must receive the following equipment:

- Living room
    - 1 or 2 light points (1 DA + 1SA) or 1 DA
    - 2 or 3 socket outlets with earth (P+T)
    - 1 collective TV aerial socket.
  - Bedroom
    - 1 light point SA.
    - 1 socket
    - 1 collective antenna socket in the 2nd bedroom (parents' room)
  - Kitchen
    - 1 SA light point on the ceiling
    - 1 strip of 0.60 with socket + T above the vegetable garden
    - 2 socket outlets with earth (P+T) at 1.60m from the ground.
  - Bathroom
    - A light point SA
    - A shelf and mirror above the sink
    - 1 wall strip with socket
  - Toilet
    - 1 light point SA
  - Clearance
    - 1 or 2 light points SA or VV
  - Dryer
    - 1 light point with a waterproof porthole.
- Thus other Norms and criteria are not within the scope of our study.

### 3-/ Social housing in Massinissa

The city of El Khroub occupies a 24465 ha region not far from the city of Constantine, roughly twenty kilometers to the southeast of Constantine (DUAC, POS, 2016). The municipality of El Khroub has experienced an extension along the axis of the expressway (RN03) and the creation of the new city of Massinissa (See Figure N° 01).

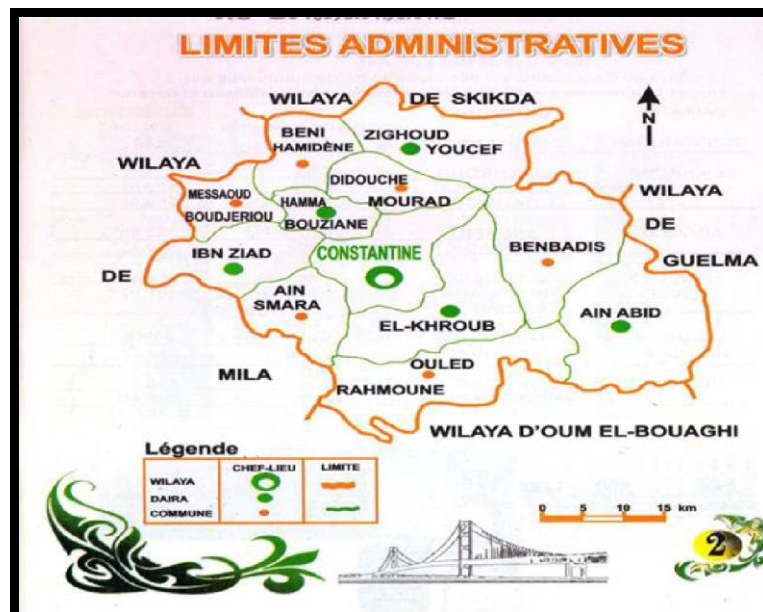




Figure N°01: Administrative boundaries of the wilaya of Constantine  
Source: National Agency for Intermediation and Land Regulation, July 2011.

Our research area is located in the Massinissa new city. It is characterized by its location on the RN20 and RN 03 expressways, two important thoroughfares, and it takes the shape of a diverse urban fabric (individual, communal, and green space housing) (URBACO, *Pos Massinissa*, 2016) (See Figure N° 02).

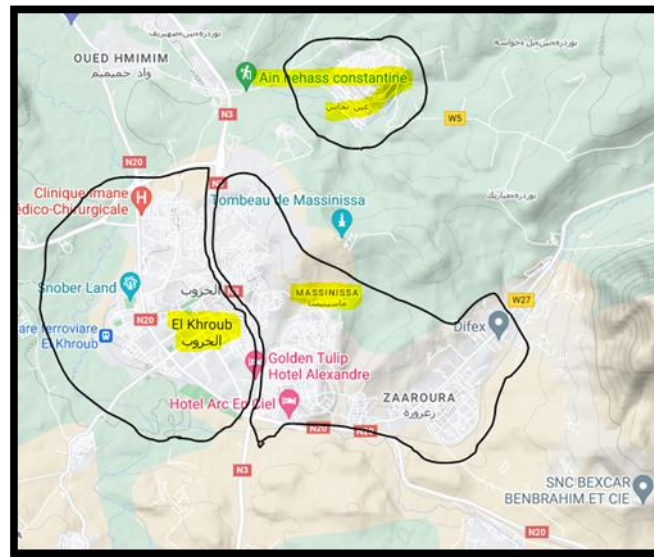


Figure N 02: the extension of the municipality of El Khroub  
Source: Google Maps

We conducted an analysis and diagnosis of the social housing compared to basic criteria inside the housing with a total of 145 social housing in the city N 01 in the new city Massinissa and worked on a sample of 10%. Our objective is rather the analysis of the quality of social housing in relation to the level of satisfaction of the residents.

We were able to pinpoint several issues that exist in public social housing since our study is grounded in fieldwork and direct investigation with inhabitants and housing.

The study area is in building F3 of the 2004-built R+4 complex on Massinissa's main axis. The commune of EL KHROUB is not just the result of the rural exodus; rather, it is mostly the result of a delay in the mother city's surpluses due to the fact that the people's primary domicile is in the cities of Constantine, Brachma, Menia, and Hatabia.

#### 4. Results and interpretation

##### 4.1. The acquisition price of the LSP:

The cost of housing acquisition, which was reasonable (1850 Da per month) given that the residents are pensioners with monthly incomes that do not exceed 25000 Da, according to the locals, makes the LSP formula fascinating.

##### 4.2. Sunlight:

Sunlight is one of the factors to consider when deciding how to position the house. The homes in the city under study have two facades that are well exposed to the sun throughout the day.

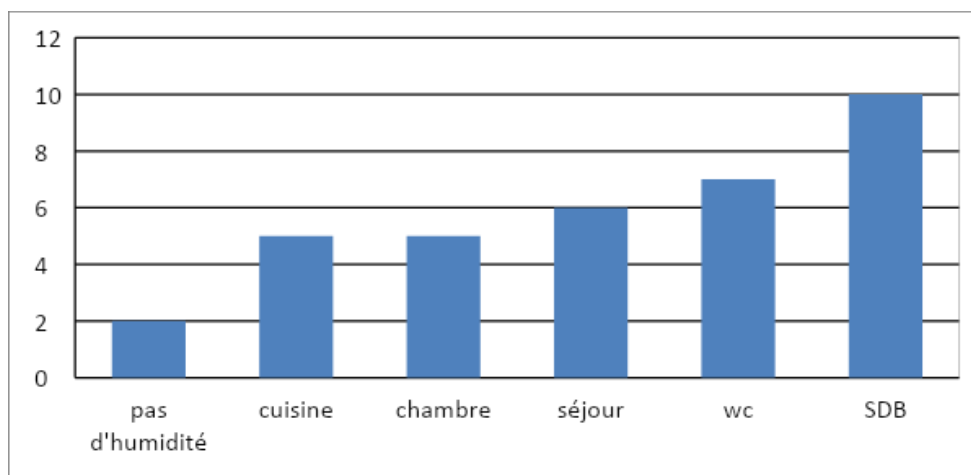
##### 4.3. Comfort and safety:

Undoubtedly, a number of variables are necessary for comfort and well-being, among them the availability of daily drinking water, gas, power, and a phone line. In actuality, the occupants feel secure within their homes.

##### 4.5. Sanitation:

A home's indoor air quality is crucial for comfort and well-being. Additionally, the right humidity level is needed for this. If the humidity is too high, condensation could occur. The air could be overly dry if the humidity is too low (Juliette.S, 2023).

After processing the results of the questionnaire, more than 85% of homes suffer from the problem of humidity in different rooms of the home (See Graph N 01).



Graph N°01 The rooms most exposed to humidity  
Source: Author 2023

The condition is typically caused by a number of factors, including the materials porosity, the amount of water under the structure, and capillary rise, which can result in the appearance of a number of annoyances on the walls, including mold or white spots as well as

cooking, taking showers, bathing, and drying clothes (Juliette.S, 2023) (See Figure N° 03 and 04).



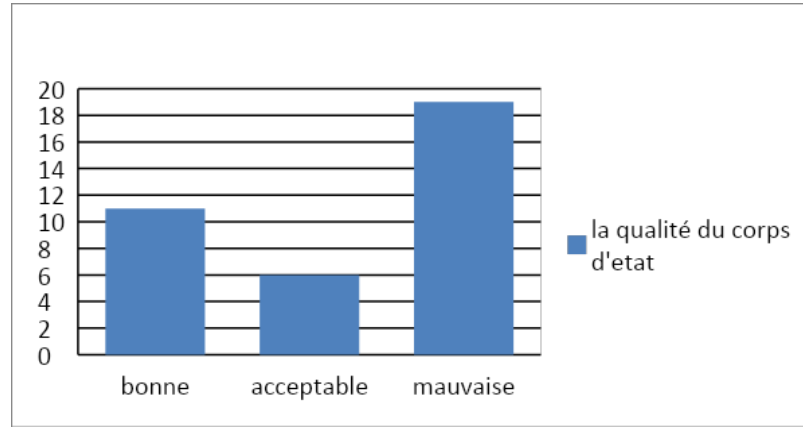
Figure N° 03: Humidity in the bathroom  
Source: Author 2023



Figure N° 04: Humidity in the Kitchen  
Source: Author 2023

#### 4.6. The quality of secondary trades:

The following elements are represented by the architectural or secondary trades: masonry, insulation, plastering, painting, hard and flexible coatings, plumbing, heating, electrical, and lighting (See *Graph N° 02*).



Graph N° 02: The quality of trades at the LSP  
Source: Author 2023

In this respect, it is clear that the vast majority of the populace is unhappy with the caliber of the tools and labor utilized by the various governmental agencies, such as earthenware and tiling.

#### 4.7. The area of the rooms

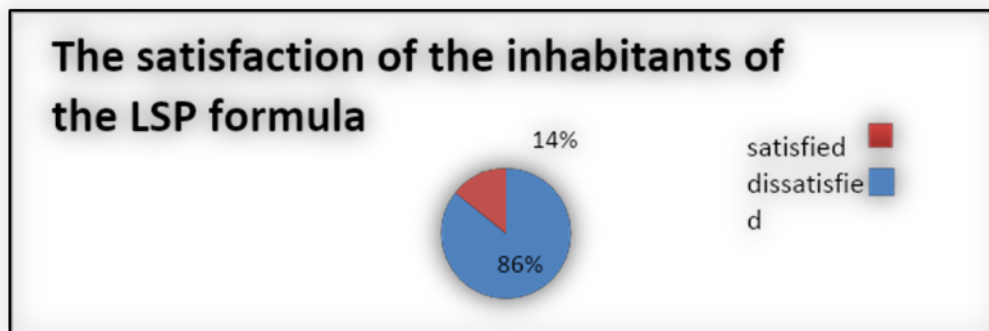
It is commonly believed that larger rooms provide greater comfort, but this is untrue for LSP rooms, which typically have square or rectangular dimensions and insufficient space for furniture and other amenities for occupants.

#### 4.8. Duration and procedure for acquiring housing: from 1985 to 2004

The length of time it takes to acquire a home is one of the factors that determine its quality. Unfortunately, in Algeria, the LSP formulae take a long time; for the example study, this time period is from 1988 to 2003, or a total of 15 years.

#### Interpretation

They must ensure that users take ownership and are satisfied with what has been achieved (Cabanieu.J,al, 1999). Despite the previously mentioned problems of healthiness, the quality of the materials of the secondary buildings, and the poor quality of the materials used, more than 80% of the inhabitants are satisfied with their homes (see graph N°03), because the LSP formula is the best thing they had compared to what they had before.



Graph N° 03: The satisfaction of the inhabitants of the LSP formula  
Source: Author 2023

LSP housing is first and foremost accommodation for low-income individuals; it is for seniors whose monthly salaries do not exceed 25,000 da. We observe that residents are not demanding, despite the fact that the LSP formula is entirely funded by the government. This does not preclude you from owning a high-quality home. It also seems, and secondly, that the quality of housing cannot be reduced to the definition of an ordinary "quality/price" ratio. Third, it is unacceptable to wait more than 15 years to peruse a house.

## Conclusion

The quality of housing cannot be reduced to the measurement of a simple "quality/price" ratio, commencing with the costs, architectural, urban, as well as environmental quality, reliability, acquisition times, along with citizen participation in housing construction. Despite the fact that social housing is a solution to help people out of their crises, it does not preclude more extensive studies, large, multidimensional, complex, and more technical research.

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