

A dialogue between housing designers and low-income habitants

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Abstract

This paper discusses the relation between the ways of thinking for the two major participants in creating a healthy residential environment suitable for low-income groups in Egypt: The architect and the user.

To induce the architects' way of thinking, a practical experiment is designed in order to compare common visions among designers to those of users.

This experiment clarifies the relation between the ways of thinking of designers and how they deal with spatial elements of the house and how they provide the essential needs for its inhabitants on one hand, and how the residents deal with their home spaces to perform the needed activities according to their lifestyles and socio-cultural characteristics on the other hand.

The results of the experiment demonstrate a lack in understanding of the nature of the design elements of low-income houses and their vocabulary which have been applied in previous housing projects. They also illustrate the need to investigate the lifestyle of low-income habitants in order to meet their inevitable needs in accordance with their socio-cultural characteristics.

Keywords

Low-income housing – lifestyle – housing design

Introduction

Specialists in the field of housing have been trying to reduce the cost of houses by reducing the surface area of houses, but they usually ignore many of the spatial relations, and how low-income habitants actually live.

As a result of overlooking the lifestyle of low-income habitants and their socio-cultural needs, extension in the dwelling has become a common phenomenon in Egypt in the last decades.

The most important reason for extending in Egyptian public houses is the need for more space to house additional members of the household especially to meet the need of separating growing children under the privacy tenets of Islam. For this end, many householders are driven to add an extra room (1).



Figure 1: Two images for Ain Elsir district illustrate the extensions of the dwellings

The home is often imagined as a place for creating and displaying a characteristic lifestyle; a place where people construct and display a distinctive lifestyle and identity.(2)

To infer the relation between design conception and habitants' needs, it is necessary to study the way some families live in social housing. Therefore, an interview with three low-income families was undertaken by the researcher for this end. All three families were low-income households living in social housing units (government housing) that had the same space design. Some questions were asked to the three cases in order to determine the life style of these families.

Afterwards, a comparison was carried out between the design solutions proposed for that same plan by professional designers and the way of living of the habitants, in order to induce the differences between the two visions.

Experiment Methodology

The methodology of this experiment proceeded through the following steps:

- a. Selecting a three similar low-income families living in the same spatial condition (area – number of rooms – spatial relations)
- b. Carrying out an interview with each family to determine the lifestyle for its members and their essential needs.
- c. Carrying out an architectural survey to define the physical properties of the dwelling, and supporting it by illustrative images for all dwelling spaces.
- d. Drawing an accurate architectural plan for the selected dwelling with the three different furniture arrangements.
- e. Sending a draft of the unfurnished plan for the selected dwelling to a sample of professional Egyptian architects with medium experience (3:15 Years) asking them to redesign the interior space keeping in consideration the spatial and socio-cultural needs of low-income residents.
- f. Receiving design proposals from all participants and comparing the received proposals with the actual families' lifestyle, spatial needs and socio-cultural characteristics.

Monitoring residents' lifestyle

As mentioned above, certain criteria were predefined for the selection of the three case studies:

- Dwelling area: 60-65 m²
- Number of rooms: 3 habitable rooms (2 bedrooms)
- Number of family members: 4 or 5 persons.
- The socio-cultural class of the family is moderate
- The housing unit is one of a social housing project in Cairo.

2.1.2.1: Selected case studies:

The following table displays the three selected case studies and the spatial properties for each case. All three cases have similar spatial condition.

Case study (a):		
1	Dwelling area	63 m ²
2	No. of habitable rooms	3 rooms
3	No. of bedrooms	2 bedrooms
4	No. of family members	5 persons
5	No. of children	3 (2 boys + 1 girl)
6	Architectural plan	



Figure 2: Architectural plan for case (a)



Figure 3: living room



Figure 4: living room



Figure 5: bedroom

Case study (b):		
1	Dwelling area	63 m2
2	No. of habitable rooms	3 rooms
3	No. of bedrooms	2 bedrooms
4	No. of family members	4 persons
5	No. of children	3 (3 girls)
6	Architectural plan	

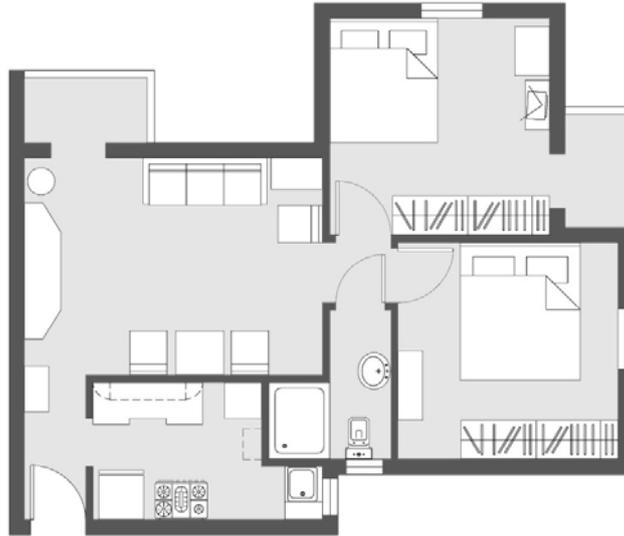


Figure 6: Architectural plan for case (b)



Figure 7: living room



Figure 8: living room



Figure 9: bedroom

Case study (c):		
1	Dwelling area	63 m2
2	No. of habitable rooms	3 rooms
3	No. of bedrooms	2 bedrooms
4	No. of family members	5 persons
5	No. of children	3 (2 boys + 1 girl)
6	Architectural plan	



Figure 10: Architectural plan for case (c)



Figure 11: living room

Figure 12: living room

Figure 13: bedroom

Designers' trials to solve the problem

After preparing a draft of the unfurnished plan for the selected dwelling (case a), a request for participation was sent via email with the draft attached, to a number of architects with different levels of experience (according to the number of years of practice).

The request included the following notes and constraints:

- a) The dwelling family consists of five members (father, mother and two sons and a daughter).
- b) The socio-cultural class of the family is moderate and the housing unit is one of a social housing project in Cairo.
- c) The area of the apartment and rooms should not be increased
- d) It is permissible to use any suitable furnishing units.
- e) The main objective of the study is to achieve the optimum use of the house spaces considering the essential needs for the habitants.

Sixteen different designs were proposed by the participants in attempt to furnish the plan, in order to achieve the essential functional needs for the habitants. The following table displays those design proposals as received from the architects.

Table 1: The furnishing proposals received from the participants architects

 <p>Figure 14: proposal from an architect with eight-year experience.</p>	 <p>Figure 15: proposal from an architect with eight-year experience.</p>	 <p>Figure 16: proposal from an architect with ten-year experience.</p>
 <p>Figure 17: proposal from an architect with two-year experience.</p>	 <p>Figure 18: proposal from an architect with ten-year experience.</p>	 <p>Figure 19: proposal from an architect with ten-year experience.</p>
 <p>Figure 20: proposal from an architect with eight-year experience.</p>	 <p>Figure 21: proposal from an architect with four-year experience.</p>	 <p>Figure 22: proposal from an architect with three-year experience.</p>
 <p>Figure 23: proposal from an architect with thirteen-year experience.</p>	 <p>Figure 24: proposal from an architect with four-year experience.</p>	 <p>Figure 25: proposal from an architect with three-year experience.</p>

 <p>Figure 26: proposal from an architect with fifteen - year experience.</p>	 <p>Figure 27: proposal from an architect with five- year experience.</p>	 <p>Figure 28: proposal from an architect with three- year experience.</p>
	 <p>Figure 29: proposal from an architect with two - year experience.</p>	

Results of the experiment

To determine whether or not current habitants are likely to be satisfied with those design proposals if they were offered to them, it is very important to understand their way of thinking in dealing with home spaces.

2.1.4.1 Performing home activities

The target of achieving the essential needs is accomplished in all sixteen proposals using the ordinary way of thinking in furnishing such a small unit. Thus, there are particular places designated for each activity such as eating, sleeping, and seating. Each place is determined by its characteristic furnishing units.

2.1.4.2 Socio-cultural characteristics

a) Living spaces

In most of the proposals, the dining area is determined by using the usual dining furniture units in different shapes. Dwellers, on the other hand, used movable and folded furniture units as temporary dining furniture in all three selected case studies, in order to obtain a free living space where residents do not feel “cramped”.

Table 2: dining spaces in the received proposals.

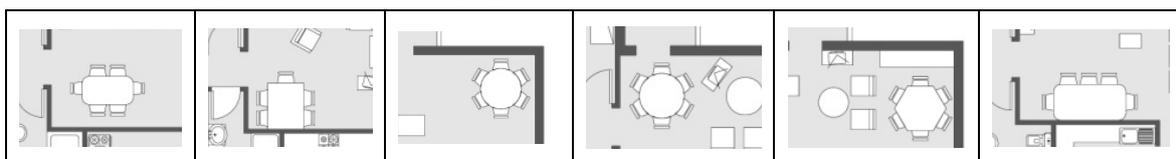




Figure 30: Using movable furniture as temporary dining furniture

b) Sleeping spaces

Segregation between boys and girls in sleeping spaces is a basic need for low – income families according to their religious beliefs.

Although, the family may need to come up with an additional sleeping space, especially when they decide to segregate boys from girls, only two participant designers tried to provide this additional space by dividing the second bedroom using a special piece of furniture or using partitions and adding the area of the balcony to the bedroom after enclosing it.



Figure 31: proposal from an architect with fifteen -year experience.



Figure 32: proposal from an architect with ten-year experience

2.1.4.3 Using non-traditional ideas to improve the functional performance

a) Using elevated furniture:

Using bunk beds is an easy method for the designer to provide more sleeping spaces without using more area from the dwelling.

There are ten proposals used bunk beds in order to achieve a maximum use of space in the bedroom and providing more sleeping spaces.

Even though this concept is commonly used by the designers in providing more sleeping spaces; it is not preferred by low-income habitants especially if the children are too young. Thus, when the three families were asked about this concept, only one family use bunk beds and the other two families do not prefer it.

Table 3: Using bunk bed as a space-saving strategy.



b) The concept of open kitchen:

Only one proposal used the concept of the open kitchen in order to achieve a maximum use of space in the living room area and to keep a suitable free area to avoid feeling cramped.

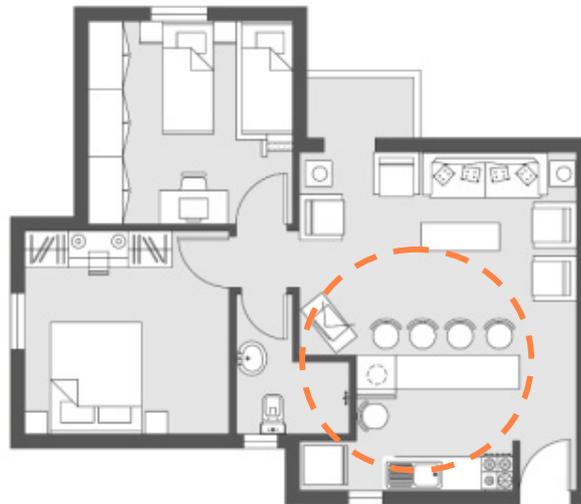


Figure 33: proposal from an architect with five-year experience.

Although, the concept of open kitchen is considered a good space-saving strategy, most low-income habitants refuse this concept. Thus, when the three families were asked about this concept, they refused it because of the Egyptian lifestyle and the local customs of cooking. Furthermore, the need for privacy in the cooking area is very essential. This can be explained by the fact that it is always connected to the living area, which is considered the only available space in the house to receive guests.

As an overall conclusion from this experiment, it can be inferred that there is an obvious discordance in priorities in providing functional needs of space between low-income habitants' vision and designers' vision. This proves to be the case even with architects that enjoy over ten years of experience in practice. The author believes that this discordance is the result of a serious lack of knowledge on the part of the local architect concerning social and behavioral aspects of low-income dwellers, and a prevailing trend of (Cut-and-paste) use of standard furnishing units in every given housing prototype with no significant depth or attempt to study the way those units would impact the lives of targeted people in real life, or the way they would relate to their current lifestyles, socio-cultural characteristics and actual needs.

References:

- 1) Graham Tipple. Extending themselves - user initiated transformations of government-built housing in developing countries. Oxford: LIVERPOOL UNIVERSITY PRESS, 2000.
- 2) Joanne Hollows. Domestic Culture . New York: McGraw-Hill, 2008.