Design for the urban poor in Egypt: satisfying user needs or achieving the aspirations of professionals?  
The case of the Mubarak National Housing Project for Youth

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Abstract

As a result of the criticism of the conventional Western-inspired prototypical designs for low-income public housing in Egypt, a new trend in design for this sort of housing, represented by the “Mubarak National Housing Project for Youth”, has been adopted by the professionals in recent years. If the main objective of any housing project is to meet user needs and preferences, has the design of the Mubarak housing project achieved this goal? and to what extent does this project differ from previous public housing schemes?. In an attempt to answer these questions, and speculate on an appropriate design approach for low-income people in Egypt, multi research methods have been adopted within the research discussed in this paper. The research reveals that the Mubarak project is, to a large extent, designed in the same rigid way as previous public housing schemes. The design process, in which any real changes should take place, remains intact. While it has been argued that users' needs could not be met without their active participation in the design process, this research indicates a wide gulf between this notion and the attitude of designers. Despite this, a considerable percentage of the users involved in the research believe that their participation in the design decision-making process is fundamental.
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Introduction

Egypt is one of the developing countries that suffers from an acute housing problem, especially for low-income people. To cope with this problem, since 1950s until the present, the Egyptian government has adopted a policy of building mass housing for low-income people. The conventional design of low-income public housing projects in Egypt is usually based on typical housing units consisting of one, two or three roomed apartments, [Fig. 1(a)], in five story blocks arranged in monotonous rows or round open spaces (Wilkinson and Tipple, 1987). These typical housing units were designed according to predetermined standards for the size of units, number of rooms, room size, plumbing fixtures with areas generally varied from 25 sq. m. to 85 sq. m. The public housing neighbourhood layout, in contrast to the tightness and lack of space inside the dwelling, normally has wide public open space between the blocks [Fig.1(b)]. (Wilkinson, Khattab, Majo and Kardash, 1991).
The design of these projects has been criticized because their designers seemed overly concerned with physical features, building standards, and economic factors, whereas the socio-cultural needs of the occupants were widely ignored (Salama, 1998). Greger and Steinberg (1988) believe that the static, behaviorist design of mass housing and neighbourhood planning were meant for the people but not intended to change with them. Additionally, most of public spaces between the blocks have been characterized as ‘no man’s land’. These spaces have obviously failed to attract the typical Egyptians' outdoor life. (Steinberg, 1991; Hyland, Tipple and Wilkinson, 1984).

These shortcomings have been blamed on Western-inspired designs based on high building standard and codes that usually do not coincide with the way of life which Egyptian people, particularly low-income stratum, normally lead (Wilkinson 1991). Choguill (1995: 406) maintains that “Whereas developed countries may well be able to afford high standards in construction and layout to achieve perfectly understandable aims, it does not necessarily follow that a Third World nation should adopt these Western standards which might be totally inappropriate to its own climatic, cultural, and economic circumstances”.

The dominance of economic aspects over other determinants in the design process was identified as another cause of the shortcomings of low-income public housing in Egypt. Tipple (1991), Mohd., Mahtab-uz-Zaman and Ganesan (1998) argue that low-income public housing has been handled through a dominant economic approach rather than a comprehensive perspective that takes into account the different aspects and needs of users. Thus, under the pressure of the need for mass housing to satisfy housing provision, little effort has been exerted in design process to produce user-responsive designs.

As a result of this criticism, a new approach to design for low-income housing, as represented in the “Mubarak National Housing Project for Youth”, has been adopted by the Egyptian government and its professionals since 1996.
The “Mubarak National Housing Project for Youth”: an alternative design approach for low-income housing in Egypt

The Mubarak national housing project is a mass low-income public housing project aimed at producing more than 70,000 housing units in more than 15 new and existing cities in Egypt. The beneficiaries of this project were to be the youth who belonged to disadvantaged, low-income groups in Egyptian society. The project, which was completed in December 2000, aimed at constructing housing units with areas of 100m² in its first phase and 70m² and 63m² in its second and third phases respectively (Ministry of Housing, Utilities and Urban Communities, 2001).

Named after the Egyptian President Mubarak, this national housing project received a significant degree of political support from the outset. In its reports about this project, the Egyptian ministry of housing (1997) frequently announced that it was a direct commission from the President for the ministry of housing to provide an appropriate and modern dwelling for low-income youth in Egypt. GOPP [General Organization for Physical Planning] (2000) claimed that the Mubarak housing project aimed at providing function, comfort and aesthetics as well as maintaining a balance among cost, economic efficiency and socio-cultural requirements in a civilised residential environment. President Mubarak announced his intention to continue this project so the Egyptian ministry of housing began to develop a fourth phase (The Executive Agency for The Mubarak Youth National Housing Project, 2000).

If the main objective of the design of any housing project is to meet its users' needs and preferences, has the design of the Mubarak Housing project achieved this goal? In an attempt to answer this question, and speculate on an appropriate design approach for low-income people in Egypt, multi research methods have been adopted. Firstly, documentary research that aimed at defining the process of the design of this project and defining its similarities and differences with previous designs applied to low-income public housing. Secondly, semi-structured interviews were undertaken with some of the key designers involved in the design of the Mubarak Housing Project. Also, structured interviews were conducted with a random sample of one hundred and twenty households selected from three case studies representing the three main prevailing patterns of low-income housing environments in Cairo, namely, public housing, transformed public housing and informal housing.

**Design of the Mubarak housing project**

The designs of the housing units and blocks for the Mubarak project were chosen through national architectural competitions held among Egyptian architects. The Ministry of Housing (2001) argues that the chosen designs fulfill the targeted requirements of gross residential density of 120 person/acre and a maximum height of five floors for the residential blocks to allow for ample green areas, parking spaces and various social services [Fig. 2]. In contrast to the ‘attached blocks’ type utilized previously in public housing projects, all residential blocks in Mubarak housing project are separated from each other to give more room for larger façades. Thus each housing unit has two or three façades. The building density in these cases does not exceed 50% and, in some cases, it could be as little as 30%.
The Executive Agency for the Mubarak Youth National Housing Project (2000) argues that the
typical housing units were designed in accordance with the social characteristics and behaviour
codes of the typical Egyptian family. But actually the areas of the housing units were significantly
affected by economic circumstances and not the users needs. The design of the housing units began
with the three bedrooms 100m$^2$ unit, which was envisaged as the most appropriate for the low-
income Egyptian family. Under changing economic circumstances the 100m$^2$ units were built only
in the first phase of the project. Then, in the second phase of the project the government decided to
reduce the unit's area to 70m$^2$ with only two bedrooms instead of three. To cope with this
significantly limited area and to achieve the ultimate use of internal living spaces the designers find
no way but to reduce the areas of corridors and lobbies inside the unit to a minimum. In an
interview with Dr. Hazem El-Queedi, who designed 9 of the 17 housing units prototypes in the
project [Fig.3], he stated that 'we began to look for ways of reducing the cost of public housing
units. There was no real choice but to reduce the housing unit area. The more the designer can
reduce the area of lobbies and corridors inside the housing unit the more he can enlarge the living
spaces. I managed to reduce the area of internal lobbies and corridors to be only 1 or 1.5 m$^2$. As a
result I managed to reduce the total housing unit area to 73m$^2$ without affecting the areas of living
spaces'.

President Mubarak asked the ministry of housing to decrease the housing unit area because not all
low-income people could pay 28 to 32 thousand pounds for the 73m$^2$ unit. The ministry of housing
asked the designers to reduce the unit area to 63m$^2$ in the third phase of the project. To achieve this
further reduction El-Queedi stated that 'this demand was a real challenge. Actually, we, as
designers, found that the only solution was to decrease the thickness of the external walls to 12cm
instead of 25cm. By doing so we saved about 10m² from the housing unit reducing its total area from 73m² to 63m². Thus we managed to keep the advantages of the external form and internal spatial organization of the 73m² units in these smaller units’.

"Figure 3: Plans of housing model unit 'C', the Mubarak housing project"

As a result for these significant reductions the housing units of the Mubarak project ended up with the same areas as the housing units in previous public housing schemes. As they are irresponsible to the users needs most of the public housing units built in the 1950s and 1960s have been transformed and changed by their users in order to increase their areas [Fig. 4]. With units of only 63m², the Mubarak housing project will inevitably face the same situation especially when the residents became the owners of their units. Users’ actions taken in order to meet changing needs will lead, unavoidably, to physical changes which would affect the interior and exterior of their housing units.
At the same time, in response to political demands more design thought has been given to forming architecturally distinguished façades for residential blocks. GOPP (2000) claimed that the Mubarak housing project is designed in a style inspired by authentic Arabic architectural traditions and at the same time reflecting contemporary urbanism and architecture. This has been achieved through the tailoring and adoption of a set of modern architectural elements and vocabularies, such as windows, balconies, cantilevers and solar shades, which are originally derived from the Egyptian architectural heritage and meant to express the tradition of Arab and Islamic architecture and urbanism. El-Queedi added that 'In my designs I used light and shadow to create visual character for the residential blocks. While the structural system of the residential blocks is constant I created this visual effect only by alteration of the slab forms'. [Fig. 5].
In order to maintain the architectural form of the residential blocks, residents are not legally allowed to change their housing units either internally or externally. El-Queedi mentioned that in many cases he avoided making balconies over one another, or to make their length similar to the width of the rooms behind them, in order to prevent the users from using them to enlarge the room space. He claimed that ‘the design therefore is not flexible for users’ changes. These housing units were, I believe, aesthetically successful. Therefore, through my designs I intended to provide the user with his needs while preventing him from affecting the aesthetic aspects of the residential blocks’.

Furthermore, no resident is allowed to change the function of the domestic unit to either a commercial or an administrative activity. Flexibility was only considered in the formation of the residential blocks where each housing unit was designed to provide orientation from more than one direction. This, it is claimed, permits the best climatic orientation for the blocks depending on where the housing project is to be developed. Additionally, this provides more variety in treatment of the blocks’ façades (The Executive Agency for the Mubarak Youth National Housing Project, 2000).

It appears that the intensive use of architectural features in the façades of the Mubarak project has produced a more rigid housing environment than those previously built. The residents of the public housing schemes of the 1950s and the 1960s managed to enlarge their units to accommodate their changing needs, whereas the residents in the Mubarak housing project will likely face resistance to any changes they may wish to undertake.

Providing shops on the ground floors is a new trend in the design of the public housing blocks in this project. Previously all shops were gathered in one central neighbourhood shopping center. The number, size, location and commercial activities of these shops were determined by the local authorities. According to the general conditions set out by The Authority of New Urban Communities (1998), the owners of these shops, or their successors, do not have the right to change the predetermined commercial activity.

Figure 5b: The Mubarak housing project; the design of the façades of residential blocks.
Source: Ministry of Housing, Utilities and Urban Communities 2001. p.5
As a result, this research suggests that the Mubarak housing project is, to a large extent, designed in the same rigid way as previous conventional public housing projects. The major changes are superficial and cosmetic. In its 'expert-based' design process all the power of design process is still in the hands of professionals. Ward (1987) believes that architects' ordinary self-esteem and the imperative to be socially useful, as well as their academic education and training for long years have convinced them that they have something unique and indispensable to offer to the advantage of housing design. This, according to Ward, was fine in the world of symbolic structures like town halls, opera houses, etc., but in the housing it has been disastrous. Hamdi (1991) quotes J. M. Richard's argument about architect’s persistent search for novelty, claiming that this has helped to prevent the growth of an informed body of public opinion – something on which a healthy profession depends. The result has been the architect’s habit of only looking to each other for approbation. Dayaratne (1991) maintains that when dwellings are designed in the conventional expert-based approach of architect-designed, contractor-built, and people-consumed situations, dwellings are perceived largely within the experiences of the architects themselves.

Design process for low-income housing in Egypt: the need for user involvement
It has been widely argued that users needs could not be met without their participation in the design process. Bhatt and Navarrete (1991:11) argue that "For a built environment to be socio-culturally appropriate it should have, as primary element, the contribution of its future residents." According to Wilkinson (1999) and Rice (1995), the involvement of users in the housing design process had the potential for producing environments which were not only safer and cared for but also tailored to the needs of users by the very fact that the residents were involved in making decisions relating to the house and the direct dwelling environment. The importance of involving the local community as a participant in housing decision-making process springs out not only from the short-term benefits for this community but, most of all, from the future need to develop, operate and maintain its settlement, such that it is fit for the new generation (Cockburn and Barakat, 1991). According to Towers (1995), user participation, frees up the design process producing more appropriate and sensitively designed housing. Housing that expresses a greater diversity of personal taste and cultural identity. Cooper and Rodman (1991:5) quoted John Short's argument that "Better cities can be created if all citizens are both empowered and engaged".

Designers’ attitudes towards user involvement in the design process of low-income housing
Chait and Siep (1999) believe that an increasing numbers of planners and designers are embracing participation as a means to assure and improve the outcomes of their work. In this research, the 'grounded theory' analysis method adopted for the semi-structured interviews conducted with the designers has revealed that there is a wide gulf between the notion of user participation in design processes and the attitude of the designers of the current low-income public housing in Egypt.

Regarding the interviewed designers' attitudes towards user participation in the urban design process of low-income housing schemes many of them argued that the urban design of residential neighbourhood should remain the task of the urban designers without direct involvement of residents. They believe that Low-income people and professionals are not able to work together and users' needs could be deduced from fieldwork research and by the analysis of relevant case studies. In their opinion, by doing so, researchers could provide designers with very important indicators concerning user needs. In justifying their opinion some professionals believe that low-income people should not be consulted in the urban design process because they do not have the required knowledge to be involved in this process. One of professionals claimed that “You can not gain helpful information through direct involvement as respondents will never give you clear responses. They are not able to express themselves effectively”. Some professionals argued that lay people
should only be asked about their opinions regarding the public utilities and services that need to be considered in urban design but not about the urban design itself.

Other designers interviewed seem to be in favor of seeking user opinions and comments only on their finished planning and urban designs. They mentioned that according to planning law in Egypt any planning scheme must be approved by the local council in the area in which the scheme is to be developed. Furthermore, the local council would not authorize any planning scheme before it had been presented publicly for a whole month. During this period, any citizen can object to, or comment on, anything in the considered scheme. Therefore, any citizen has the right to participate by expressing his or her opinion and comments on the planning scheme. One of the designers argued that, “In my opinion this is the best way to involve users in planning and urban design processes”.

Regarding the designers' attitudes towards user participation in the design process of their dwellings, professionals interviewed generally claim that they design what the users need so there is no need for their direct participation. One of the designers mentioned that “I am originally an ordinary citizen. I was not one of the elite. Therefore, when I design, I design for my neighbour, my sister and my father. I mean I am familiar with the real needs of low-income people because I am one of them”. Another added that “In general, low-income people ask for no more than two bedrooms housing units and this is what I design. We even made an assumption for the furniture of rooms and baths. By doing so we consider the appropriate cultural and design criteria. People participation would not enhance design. I believe that as long as we are not talking about luxury houses people can live in one housing model as they have no practical opportunity for choice”.

For other designers identifying user needs in the housing units designs should be through social research and case study analysis. One of them argued that “the best actions taken by the government in terms of the design of low-income housing projects were those which commissioned a research agency, such as our center, to design some housing 'models' for low-income people.” According to these designers, this is because lay people usually do not have sufficient knowledge or an appropriate educational background, which is essential for their productive involvement in the design process, or because they are unable to articulate their opinions and values. According to them, this has resulted from government adopted political and social systems. They added that user involvement in the design process is difficult practically. One of them asked “how can users be involved if you are designing for more than 70 thousand users. With whom can I sit down and discuss the design?”.

Users’ attitudes towards their involvement in the design process of their residential environment

As opposed to attitudes of the designers, a considerable percentage of the users interviewed in the research believe that their direct participation in the design process, particularly in the housing unit design, is essential. In terms of the design process of urban spaces, 40.8% of the respondents disagreed with the professional dominance of this process because they believe that designers had committed technical mistakes, which could have been avoided if they had participated. For example, one respondent said that “They [professionals] made very wide streets and open spaces while the open spaces between residential blocks are mostly narrow violating the privacy of residents”. Another resident added that, “it is essential to link technology and science with the real life experience. The planner or the architect has academic experience put lay people have the real life experience and feeling towards these issues. That is why their opinions should be considered”.
One the other hand, 59.2% of the respondents felt that the urban design process should be left totally to the professionals who are educationally and professionally qualified to carry out the design for urban spaces believing that residents have no particular knowledge that can contribute to this process. One of the residents argued that, “it is essential to have professional intervention in the determination of streets widths and locations. Government professionals do the right thing. They make wide streets that could accommodate vehicle traffic and people’s activities. Wide streets are also appropriate for ventilation”.

In terms of the design process of dwellings, a significant number of respondents prefer to be involved directly in the design process with professionals. 55% of respondents preferred to design their dwellings with help from professionals because they think that professionals will give them effective technical advice and support. Meanwhile 24.2% preferred to design their dwellings by themselves without help from professionals. Many residents think that design alternatives might not satisfy their preferences completely so that only 20.8% of the respondents preferred to choose from design alternatives designed by professionals.

Towards a genuine change in the design for low-income people in Egypt: a discussion

Many architects interviewed in the research argued that they could learn more about user needs through the methods of social science researches and case study analysis. For them, the study of man-environment relationship and the analysis of human behaviour in residential environments have been the tools to develop methods for putting users' considerations into the design process. In fact, it has been claimed that the outcomes of these trends were not as promising as had been envisaged. Social architecture has been criticized by scholars such as Roonrakwit (1999: 40) who argues that “It can be an interesting exercise for architects to study the housing needs of low-income communities, and to then produce ready-made house models designed to meet the needs and affordability of the poor, based on that research. But ‘standard’ designs produced in this way often end up being scrapped by the poor.”

According to Lawrence (1982), the socio-cultural values of users are implicit in nature, therefore, they are rarely revealed by traditional environmental psychological research methods. Lawrence criticizes deterministic design methods used to interpret the relation between the social and the physical worlds of people. He maintains that no series of ‘paper and pencil tests’, which have been adopted by social scientists and designers to generate checklists or recipes for design, can successfully define the diverse nature of physical cues, or the various social and personal roles which serve as codes in the definition and use of architectural space. He adds that it is obvious that there is no single design recipe, which can respond to the complex nature of the relationships between people and their built environment. Sanoff (1990) claims that people have different needs, hence, any attempt to create a single standard ‘ideal’ environment works to everyone’s disadvantage. Housing design programs, relied on such an idealised stereotype about the occupants’ needs and preferences, do not always produce satisfactory projects. Even when institutional clients rely on building committees to advocate the user’s point of view, unfortunately, these committees are often far removed from the actual needs of those who actively use the housing units.

Accordingly, the design of low-income housing projects should be considered as a process and not as an artistically rigid product. Such a process should give a real chance for the poor to participate and not only be merely impressed by architecturally superficial expressions. In Egypt, as in most developing countries, user needs have to be politically and professionally addressed as significant in developing a new paradigm in low-income housing design. It is envisaged that user participation could be achieved through a particular framework derived from the Egyptian socio-economic context and related to its cultural heritage. At the same time, it has to benefit from the contemporary
expertise. Antonio (1985: 45) argues that "Egypt is part of the world community and its intellectual resources argue that specific solutions should be found, compatible with both, its cultural traditions and contemporary issues."

**Conclusion**

The Mubarak housing project, which the professionals have claimed to be a significant design success, is, to a large extent, designed in the same rigid way as the previous conventional public housing projects. The major changes are superficial and cosmetic. The 'Expert-based' design process adopted in this project, in which any real changes should take place, remains intact. It is proposed that these changes have originated substantially from the ambitions of politicians, which architects have realized through their artistic expression, rather than as a reaction to real user needs. Although it is argued that users' needs cannot be met without their direct involvement in the design process, many designers of low-income housing in Egypt believe that user needs could, and should, be deduced from field work research and by the analysis of relevant case studies without the necessity of direct user involvement in the design process. In fact, the outcomes of social and environmental behavior studies were not as fruitful as it has been anticipated. On the other hand, a considerable percentage of the low-income residents involved in this research believe that their direct participation in the design decision-making process is fundamental to satisfy their real needs especially in the design of their dwellings.

As in the case of Egypt, most of the governments and design professionals in the developing countries have adopted similar top-down design processes for housing the urban poor. Thus it might be argued, not only in the case of Egypt but in most of the developing countries, that the results of this research reveal a crucial need for developing a low-income housing design paradigm that enables the poor to participate in decision making processes and not become mere recipients of a housing product, which reflects superficial architectural expressions.
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