Int. Journal for Housing Science, Vol.38, No.4 pp. 261-270, 2014
Published in the United States

THE DILEMMA OF RESIDENTIAL COMPOUNDS DESIGN IN EGYPT

N. Sherif
Department of Construction and Architectural Engineering
American University in Cairo, Cairo
Egpyt

ABSTRACT

This paper aims at identifying the socio-cultural factors that are behind users' preferences in new residential developments in Egypt. It addresses an important social and economic problem related to the large amount of investment in these developments. An exploratory study was conducted to investigate why most users make substantial changes in the design and finishes, resulting in a huge waste of resources. The reasons behind users choices and preferences in housing design in these developments are outlined and a comparative analysis between high-income class users and lower income class in other housing projects is performed in order to identify a trend based on cultural ideals. The hypothesis of the research states that 'Each socio-economic class has common requirements that form a trend in preferences of house components'.

A brief description of the housing problem in Egypt is presented along with the different solutions that the government in cooperation with the private sector sought. A description of the current income class categories of the society is reviewed in terms of origin and sociological ideals and cultural transformations. A field survey is conducted where characteristics and uses of different internal layout of house components in residential projects around Cairo area are discussed and identified in order to identify users preferences. Research results on lower income class groups showed that users prefer to maintain the same basic trend in the use of the household components in spite of their limited resources, in a similar way as upper income groups; which challenges the hypothesis posed by the research.

Key words: socio-cultural trends; users' needs; housing design; preferences

0146-6518/04/261-270 2014

Modalities of Participation and Goals

Previous research on housing design shows that economic variables such as income and equity in the house dominate housing preferences patterns [1]. However, it is argued in this paper that cultural trends, social ideals and users' needs, also have important influence on housing design. A house is not only an acquired physical space in which people live, but also a space where social interactions and rituals take place; a manifestation of cultural trends. Various sociological and historical studies on housing have asserted that the layout of a house expresses underlying cultural values and norms [2, 3, 4, 5]. Although such statements about the interrelations between culture and house form are widely accepted, specific applications have not been conclusive. It is observed that there is an on-going trend of remodeling in new housing developments in Egypt, along with the neglect of users socio-cultural needs when designing these projects [1, 6]. The consequence of this neglect has caused socio-economic problems since there is a large percentage of users change their new houses' layout, finishing, interior design prior to occupancy. Hence, the general research question was: 'Is there a trend in people's preferences to their household usage?'.

This paper aims at identifying the needs and preferences of the new housing communities' users in regards to the components of their houses. The research hypothesis states that 'Each socio-economic class has common requirements that form a trend in preferences of house component'. The scope of this research is limited to new communities' residential compounds and the target group is high socio-economic class users and their preferences in terms of residential components in comparison with lower income class users.

In order to test the validity of the hypothesis two objectives were defined:
1) Identify the importance of different house elements according to cultural trends and human needs in both social classes.
2) Conduct a comparative analysis to explore the similarities and differences between the two groups and deduce if there was a trend in people's preferences.
The results of two studies conducted on the two socio-economic classes and a comparative analysis are presented below in an attempt to suggest a trend in users preferences towards house design elements in Egypt.

Housing Problem in Egypt

Egypt is considered the most overcrowded country of the Arab world, with a total population until March 2013 reaching 84.04 million distributed on 1,002,000 km^2 [7]. Yet about 98.6% of the population lives around the Nile Valley leaving about 96% of the Egyptian land un-urbanized. Modern urbanization, characterized by massive and continuing rural-to-urban migration, is largely a post-World War II phenomenon.

Since 1947, urban growth rates have averaged about one percentage point higher than the rates for rural areas. Thus, for forty years, the urban population has been expanding at the rate of 4% annually. Cairo, the country's capital and largest city, has been affected the most by this urbanization phenomena, it has continued to grow rapidly [1]. Throughout the twentieth century, it has been the most populous city in Africa and the Arab world. Cairo's development has been most intense since World War II, and has resulted in a variety of problems. The city's population, growing about 300,000 per year in the 1980s, has strained urban services to the breaking point [1]. Housing was perhaps the most pressing problem, because of persistent shortage of skilled labor and construction materials hampered efforts to build residential units quickly enough to meet demand. The demand for moderately priced housing was especially high, whereas some people resorted to suppressed housing arrangements; as many as 200,000 wooden, cardboard, and metal huts were constructed on the roofs of apartment buildings and in vacant areas [6]. Provision of housing was one of the most important demands on the political and social level in Egypt. In the early 80's, the supply was increasing by 1-3% while demand was increasing by 8-10%, and this discrepancy in the supply/demand kept on increasing until today. In 2004, the available housing amounted to roughly quarter million units, but the demand continued greatly to exceed that supply [1, 9]. Although it was required to build from eight to ten housing units per 1000 persons annually to meet the Egyptian housing needs in the past thirty years, the average governmental Egyptian production was 3.7 housing units per 1000 persons annually [9] accordingly, the real accumulative demand for housing is estimated at 750,000 units per year [1, 7]. The great stress on the Egyptian economy decreased the ability of government to cover the amount of demand. The private sector thus played an important role in overcoming the gap between demand and supply in housing units. With increasing deterioration in urbanization status in residential areas, it was inevitable to adopt a new policy for rural development to be based on a comprehensive vision. In this context, the development of existing desert areas, and improving urban infrastructure were measures adopted by the Ministry of Housing, Utilities and Urban Communities. New Cities were established in desert areas to act as new urban centers and growth poles away from the narrow crowded valley, in an attempt to redistribute the population among the whole country. Along these lines, 17 new urban cities were established, to which half a million acres were allocated aiming to attract 6 million inhabitants, providing 200,000 job opportunities and contribute 20,000 million pound to the GDP in both industrial and agricultural sectors [10]. As the government was not capable of satisfying the demand for housing, the legislative rules were changed to facilitate the introduction of private investors in real estate development in order to play a vital role in the development of the New Urban Cities. Their presence became noticeable as during the period 1998-1999 the private sector's investment has grown by 63.2% [1, 10]. The private sector was fully responsible for the luxury housing catering higher income classes in the new communities, and was also encouraged by the government to provide housing projects for the lower income groups, through incentive like taxes redemption and the like.

Social Structure of the Egyptian Society

Individuals who share similar income brackets are usually grouped as status-structures social classes. Modern sociology defines 'class' or 'social class' by equal rankings. Western theorists had categorized societies according to three criteria: wealth, power and prestige. Status as a component of wealth reflects what is generally esteemed or desired in a society representing the scarce and most desired resources of society at our personal disposal, his or her wealth. What represents wealth may differ from one society to another, as to say, between an abundance of horses, cattle, material possessions, land, and money [1]. Usually, different social categories exist in one society, where each category has similar social characteristics and mingles together in terms of attitudes, lifestyle, and behavior [11]. There are distinct differences between classes in terms of manners, income, living patterns, education, etc.

According to Galal Amin in his book 'Whatever Happened to the Egyptian', one obviously cannot classify Egyptian society today into 'higher', 'middle', and 'lower' classes using the same criteria that were used forty years ago. But still, income and wealth continue to be important criteria for classifying the population into three social classes, the nature and the source of income and wealth have lost much of their relative importance as compared to earlier classification [12].

Lower Class usually involves very little or poor education and income levels, and is often known as the working class. They frequently lack steady jobs or one subject to the whims of the employer [13], these are service providers, skilled workers, and unskilled laborers. Unskilled laborers comprise the poorest stratum of urban society.

The Lower-middle class is individuals who work for others and may enjoy education and their income levels are no greater than those of blue-collars. This class refers to skilled workers who are usually employed in private or public factories. Although it is considered a worldwide phenomenon that this category frequently exhibits a very different life-style than the previous one, it is not the case in Egypt. The Egyptian lower middle class behavior is quite near to that of the lower class.

The upper middle class is more related to the upper category of life-styles, it is more organized, formal and well defined, it includes professionals, merchants, the higher and middle echelons of government officials, owners of middle-sized farms, and the owner of urban property [12].

Upper Class involves either or both of great personal wealth or aristocratic lineage either at present or within the family in the past; thus affording high levels of education, and ready access to positions of power and prestige. Egyptians who belong to this class have their own private house but the main difference between them and upper middle class is that their houses are more luxurious, they travel abroad on

regular basis to fulfill some of their recreational needs so they gain more exposure to the outer world in terms of lifestyle and appearance [1].

The new upper class does not consist mainly of the descendants of older upper classes, but rather of families of recently acquired wealth, whose fortunes were accumulated during the 1970s and 1980s with the launching of the open door economic policies [12].

The Upper and Lower Middle Class House Design

The upper classes residents, as defined earlier are characterized by being well educated and cultured in most case, their lifestyle has a great impact on the design of their house. They usually own large houses of approximately 350 to 450 m^2.

Lower income classes do not have the luxury of choosing the type and size of their household. They usually live in rented small apartments of 70 to 90 m^2, and strive to accommodate the available spaces to suit their lifestyle.

Life-style as defined by Michelson and Reed, is the result of choices about how to allocate resources, economic, temporal, symbolic, effort, involvement, and the like [6]. There is no doubt that choices and preferences in the household are based on life-style of its users, and both the social class and accordingly life-style influence the use and perception of the house. According to Altman, among others, cultural influences on architecture are based on beliefs and perceptions, values and norms, customs and behaviors of a group or society. Most of these perceptions are absorbed and taught through the surrounding physical and social environments [14]. The socioeconomic class, cultural trends, social values, and lifestyle of the people living in a certain space directly have an effect over their preferences especially in terms of the household components and its usage.

The Empirical Research

The empirical research methodology is designed to investigate the preferences of people concerning housing layout in the upper and lower middle classes leading to a comparative analysis to address the differences and similarities between the two social classes' preferences in the house layout. The aim is to explore the validity of the hypothesis stating that each 'socio-economic class has common requirements that form a trend in preferences of house components'. An exploratory study that was conducted to investigate and collect diverse information through interviews, observations and a market survey, helped in formulating the survey tools.

Survey Tools

The target population is high socioeconomic class households, in new developments constructed at the peripheries of Cairo. A sample of 150 buyers of new houses, in new developments around Cairo was approached [1]. The houses were composed of entrance lobby, guest reception area, dining room, a kitchen, a guest toilet, 3 bedrooms and their bathroom, a master bedroom with master bathroom and a family living room.

Another similar sample of lower income residents were approached according to previous description of characteristics of the low-middle income class (skilled workers who are usually employed in private or public factories, government clerks and employees) residing in mass apartment housing projects in New Cities around Cairo [16]. The apartments were composed of a small entrance, a family room, 2 bedrooms, a bathroom and a kitchen.

The contact information of the samples were obtained through several architectural and construction firms working in these projects. The selection of house design and the actual use of spaces, in addition to the most common patterns of use and preferences of house components were investigated through a questionnaire specifically designed to that purpose [1, 16]. The survey helped in identifying the trends and preferences of uses of spaces of house components in both cases, and accordingly to test the validity of the hypothesis and deduce a trend in the household usage for each income class group.

Data Analysis

Descriptive statistics was utilized to calculate frequencies, and percentages. The inferential statistics was used to identify relationships, show differences between groups of users, and differences within the same group. The chi-square test for independence test was used to indicate whether correlations exist and thus forming a trend between selected variables that were usually different types of data (e.g. nominal and interval) or not. Comparison of quantitative variables between different groups in the present study was done using Kruskal Wallis analysis of variance (ANOVA) test comparing more than 2 groups. Mann Whitney U test for independent samples was used in comparing 2 groups within one of the groups studied by the Kruskal Wallis analysis of variance (ANOVA) to test for further correlation. For comparing categorical data, Chi square ($\chi 2$) was performed. A probability value (p value) less than 0.05 was considered statistically significant. The final stage was the entry of data collected from the survey into the SPSS software package, and then the analysis of the results utilizing the appropriate statistical techniques [1, 16].

Analysis and Results

Nonparametric inferential statistic was used in the analysis of the results. Comparisons were made between common variables of the different categories. Investigations for correlations between selected variables are done aiming at testing its validity through relevant correlations [15].

To test the hypothesis, several actions were taken. Different socio-economic indicators; age group, average yearly income and educational background were tested against the different choices regarding the importance of each house element in both cases. This examination was done using the chi-square test to check for significance. In addition, personal and social status, which affect the style of living were tested for influence over the choices and preferences [1]. To test how the design of house components are affected, the percentage of indoor social visits per month, and the number of people in each visit were compared to the area of reception space chosen by the respondents. These examinations were done using the chi-square test to check for significance, and then the relation between the number of reception units and the number of people in each visit was rechecked using the Kruskal Wallis and Mann Whiteny tests. In order to test their importance to the different socio-economic classes of the sample respondents, two different analyses were done. They were compared to the different income groups, and age groups [1, 15].

- Lifestyle and Design Choices: The questionnaire investigated the number of in-house social visits per month in order to correlate that number with the importance of the reception area, and to define the lifestyle of the respondents and relate its effect over the design components preferences. The majority, in the high-income group respondents, had a social visits range of 5-6 per month. The highest frequency of the average number of people in one visit was 39.1%, which corresponded to 5 people [1]. The visits were performed mainly in the reception area. In most cases, if the reception was not large enough, it was remodeled and enlarged. The majority of lower income group had more frequent visits 8-9 per month, and higher number of visitors, 7-8 people [16]. In this latter case, the guest visits were performed in the living room which was remodeled and closed into a secluded guest reception room.
- House Elements Importance: The importance of the different house elements in each social class group, were checked, and compared to the characteristics of the users namely age, sex, educational background and profession, number of household members and children, etc. The results showed that the most important house elements for the high-income group are the entrance lobby, and the reception area, then the dining room, guest toilet, and then master bedroom, irrespective of users characteristics. The entrance lobby and the reception area were, in most cases remodeled to be larger than originally designed, particularly highly decorated and finishing changed with expensive finishing materials.

As for the lower income group, it was found that the living/reception room was most important, then the kitchen and the bedrooms. Observations showed that the reception room was particularly decorated in comparison to the rest of the house, which was very modest. It was surprising to find out that, in most cases all daily living activities (studying, interfamily socializing, watching TV, sometimes eating), are performed in the bedrooms leaving the reception room intentionally intact, intended to be exclusively used by visitors only [15]. The reception room was provided with a door to be closed when not in use.

Conclusion

This paper tackled an important socio-economic problem related to the large amount of investment in the new communities around Cairo. The main objective was identifying the preferences of people towards household elements in order to identify a trend in users' needs. Since the society is divided into various socioeconomic sectors, the upper socioeconomic class, as well as the lower middle class, were chosen for a comparative analysis intended to test the hypothesis presented in this paper. In order to fully achieve this testing, an empirical study was conducted to document and analyze both target groups preferences and actual household activities.

Particular house elements were found to be very important to the respondents. This preference was studied against different criteria such as gender, yearly income, age, and educational background. The reception area had major importance for both social class groups which was not as expected and defied the hypothesis stating that 'each socio-economic class has common requirements that form a trend in preferences of house components'. The results of this research showed that regardless of socio-economic class, Egyptian household users have the same trend in preferences; specifically regarding the importance given to the guest reception area. This trend in preferences could be related to status identification relative to both social classes. In the higher social class group the reception zone proved to be of major importance in terms of size, finishing materials and accessories. Users tend to remodel their houses in order to fulfill their needs of enlarging the reception area to accommodate their guests and express their status.

The lower income class group, despite of their limited resources, asserted their preference to keep a certain place preserved to receive their guests where they could display their relatively valuable possessions. This place was meant as an exclusive status definition to their guests and identity expression, and secluded from the rest of the house.

It is concluded that the designers involved in the construction of residential projects need to pay attention to users cultural trends, and reassess the designs being offered in

terms of internal layout. One solution that some developers follow nowadays is to offer an external finished skeleton where the user can perform all desired internal divisions, but this did not prove to be a practical solution since it increases the cost of the unit (users losing the benefits of mass production) [1]. It is recommended according to the results of this research, to have a basic guideline for people's preferences to minimize the changes that would later be required by the users and hence to provide the appropriate housing design for the specific user group.

Reference

1. Sherif, N.; Sherif, A.; Lamei, M. – The Dilemma of High Income Residential Compounds Design in Egypt with Respect to Finishing Materials, Proceedings of 37° IAHS World Congress on Housing Science: Design, Technology, Refurbishment and Management of Buildings, Santander, Spain, 2010.
2. Clark, W.A.V. and Dieleman, F.M. – Households and Housing: Choice and Outcomes in the Housing Market, Center for Urban Policy Research, New Brunswick, NJ, 1996.
3. Clark, J.D. – Human Ecology during Pleistocene and Later Times in Africa South of the Sahara, Current Anthropology, Vol.1(4), (1973), pp.307-324.
4. Mumford, L. – The Culture of Cities, Harvest Books, 1970.
5. Rapoport, A. – Environmental Quality and Environment Quality Profile, in Nicholas Wilkinson (eds), Quality in the Built Environment, Public and Private Responsibilities in Housing Design and Settlement Planning, Open House International Association Conference Proceedings, The Urban International Press, 1989.
6. Sherif, N.; Shehayeb, D.; Nashar, I. – The Appropriate Home: A Model in the Egyptian Contemporary Context, Paper presentation in the UIA/IAPS International Symposium, Istanbul, Turkey, 2007.
7. CAPMAS (Central Agency for Public Mobilization and Statistics), <www.capmas.gov.eg>, 2013.
8. Wikipedia – Cairo, <http://en.wikipedia.org/wiki.Cairo>, 2010.
9. Britannica – Egypt, <http://www.britannica.com/eb/article-43497/Egypt>, 2007.
10. Ministry of Housing, Utilities and Urban Communities, Egypt, 2000.
11. El Gohary, M. – The Caledonian Sociology Rules, (in Arabic), Dar El Nahda El Arabia for Printing and Publishing, Beirut, 1981.
12. Amin, G. – Whatever Happened to the Egyptian, Changes in Egyptian Society from 1950 to the Present, The American University in Cairo Press, Cairo, 2000.

13. Abou el Ela, M. – The Landscape Context of Planning for Recreation, PhD Thesis, supervised through Channel System, Faculty of Engineering Zagazig University, Architecture Department, Egypt, 1998.

14. Altman, I. and Chemers, M. – Culture and Environment, Wadsworth Inc., Belmont, California, 1980.

15. Sherif, N. et al. – A Multi Dimensional Methodological Framework, Towards Understanding the 'Appropriate' Home Environment, Joint International Symposium, Housing & Building National Research Centre and IAPS Association, Alexandria, Egypt, 2006.

16. Shehayeb, D.K. et al. – Social, Psychological and Health Aspects of Housing Design and Neighbourhood Planning, research based on a grant awarded by the Academy of Scientific Research & Technology (ASRT)/Housing & Building National Research Centre (HBRC), 2008.