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Appropriate Housing Projects Management of a Random Sample in the Greater Cairo Region

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Abstract:

The housing industry is an essential part of the urban development that requires full cooperation of the country's different institutes including public and private sectors' institutions, individuals, and groups. This is to achieve the sustainable development in all different aspects; economic, social, and urban developments. As the basic citizen needs of "everyone's has the right to have a suitable home" made it essential requirement to offers many housing solutions to fulfill different people needs.

The human concepts changed through the years and evolved the housing patterns, methods, forms and uses. As the human needs, concepts and cultures changed - from the need of only a shelter above the head - to protect from weather, into home that provides not only protection but also physiological and psychological comfort and recreational facilities to practice various activities. The industrial revolution, and the development of mechanization with the technology development, in addition to economic and social changes, leading to lack of areas, which helped the change of housing features and its meanings. As it used to be consisted of two or three floors to hold one family only, it transformed into the existing towers and muti-story buildings to conclude large numbers of residents.

The research relied mainly on surveys to measure the population's preference for housing. He also used field visits (for construction companies that play the role of owner and sometimes contractor and development) and documentary analysis to study the nature of the residential product mainly as well as to measure the level of preference for types and

requirements of housing, as well as the use of interviews and panel discussions. The criteria, recommendations and proposals contained in this research represent a picture of the needs of a sample of the community, but the results of this research cannot be indicated merely or considered decisive, but must be analyzed to suit each case, and use it in the best possible way to contribute to the design decision.

The study reached several results; the most important is to provide privacy and tranquility, due to the low population density with the provision of services, based on the following:

- 1- The preference for a residential building without other services was the largest.
- 2- The residential buildings' height should not exceed 5 floors.
- 3- The residential building should not contain more than 10 apartment units.
- 4- There should be some special services for residential buildings, as a suitable number of parking spaces, as well as the elevator in the buildings and a terrace.

Key words: residents, residential needs, populations, multistory buildings, residential buildings, office buildings, commercial buildings.

Introduction:

The architectural design reflects many aspects; the human being wishes with regard to the inhabitant of the place, human crafts-man-ship, the natural material that exists. The architectural design is the result of the combining professional, ideological, cultural, social, and behavior aspects that affect human behavior. Architectural design is art of self-influence. The surrounding environment affects the human being. The architect is influential as well as it is a direct reflection of human behavior. If we look to old patterns and architectural styles we find out that they are the ones that contributed to making society monolithic, it participate and active member of society and participated architecture in the formation of the personality of the individual. (Wdh, 2005)

The responsibility for architectural planning lies on the project's owner, the revising authorities, the designer, and the contractor in solidarity.

Residential communities are not just buildings and condominiums, but are a social connection and a common interest for all residents, through which their social and humanitarian needs meet. (Kamas, 2006)

In the 20th century, enormous changes established in various science and human arts, the most important of which is architecture that had rapid high rates changes. The evaluating of post-usage performance of buildings is one of those developed branches that contribute to a better understanding of the needs of users and the advancement of architecture both functionally and aesthetically. The concept of evaluation still overlaps with many other concepts used in architecture and the most important of these concepts is architectural criticism. However, the prevailing concept of the evaluation process means judging the validity and efficiency of the design product to meet the general requirements of the

beneficiary in accordance with the available resources and these judgments are often made after the establishment of specific and clear criteria whether these standards are technical related to the profession itself or functional.

The city must meet the current and future needs of work and people requirements in general and housing in particular as housing is very important. (Moulin, 1995)

Putting forward the idea of a city for all through the "right to the city", the right to the city manifested by living there, and considering the city is the right of all. This process carried out through meeting the civil forces with the state, where the state controls the laws of buildings and their regulation, to solve the problem of the applications submitted and this through the reconciliation of the various housing offers submitted by those involved in construction with the demands and needs of the community. Decent housing is a fundamental right for all. (H. Lefebvre, 1974)

The study (Shaukat, 2014) analyzed housing policy through government projects and plans and compared it with social and economic studies and human rights standards to find the pros and cons of this policy, and ended with some recommendations for a more comprehensive and efficient policy in providing adequate housing. The designs have varied in terms of providing housing for a family such as the Two House Projects or a joint housing project for a group of families. The study discussed the modular presentation method as well as the long-term rental method, which subsequently became ownership. The study took more account of the number of units for the population. However, it is not clear how well the quality of the housing provided by the densities and their relationships with the requirements or wishes of the inhabitant.

The study (Faraj, 2013) addressed the role of services in urban development, as it is one of the components of the success of urban development and a key factor in the population attraction and represents one of the three main pillars of development (housing, employment opportunities and services). The topic addressed in terms of distribution methods and the social and economic impacts of the service sector, as services continue to suffer from incomprehensible disparities caused by the levels of success, and this disparity affects the satisfaction and interaction of the population with these services.

The research (Ben Adawa, 2016) discusses the housing needs in Algeria at densely populated cities. Based on the increased need, demand for housing, in the absence and scarcity of land and the lack of possibility of horizontal expansion in cities with high population density. The option of vertical constructions in the field of housing programs, with the goal of establishing as many units as possible on the lowest possible area, was the best solution for such cities. While for us in Greater Cairo the possibility of study, While, of course, places with high population density excluded, while the legal and cultural planning nature of the area allows for the vertical development of the property as well as the multiplicity of uses of the same property.

Some major companies in Egypt are studying the citizen's need for housing types by studying buyer preference for units for population projects, but the study was limited to analyzing customer data, which refused to disclose the results in general. However, as reported by the analysis of the data, the population's preference for higher units starting from the second floor, the preference for places that do not allow a large number of units in the same building.

Research Problem:

Different types of residential buildings, including those that do not meet the needs of the residents due to the lack of the designer's clear view regarding the resident's design requirements.

Research Aim:

1. Identify the preferred residential pattern that meets the actual needs of the occupants, in terms of the usage and population density according to the criteria of a questionnaire.
2. Reaching appropriate planning for the comfortable citizen's housing needs.

Methodology:

The study followed the descriptive analytical approach. In order to achieve the theoretical framework research formation, the importance of studying the population and their needs presented by using data collection, organizing and analysis of data research plan.

The study also followed the study and analyze approaches through surveying work, then evaluates and analyzes data to reach results to support design decision-maker.

Different regions and neighborhoods selected to represent different cultural, social and financial levels segments of Egyptian society, .in order to gain knowledge about the community special design requirements needed to help the architect to consider those aspects when designing residential buildings to conform the society culture and needs and to help making the best decision when designing residential buildings. The greater Cairo region is the geographical scope of the study.

The study focused on the importance of studying the needs of population so that the designer engineer would consider it when designing housing patterns that are compatible with the culture of society and its requirements.

The study followed the theoretical part in the theoretical description in describing the components of housing and determining the basic needs for housing, and the practical part through evaluating a questionnaire form and analyzing it and reaching the results and recommendations.

Hence, it was necessary to know some details about the special design requirements that society needs, thus allowing to form an idea about these needs, which must be reflected in the future to form a clear vision for the designer.

A questionnaire was prepared and the various social, cultural, and income levels and segments of society were taken into consideration and the appropriate age groups to collect information about the suitable housing for the population and thus to devise their requirements for a comfortable housing that provides the necessary needs for the population.

Several different areas and different regions were chosen in the Greater Cairo region, those regions included; Heliopolis, Hadaeek El Zatoon, Nasr City, Ain Shams, Ghamra, The First Settlement in New Cairo.

The nature of the region differs from one region to another. As does the societal culture of the residential community for those areas, as well as the level of living that reflects the changing economic level. The shape and composition of the housing of main entrance and three floors in New Cairo to buildings with higher density in Heliopolis and Nasr City to a higher density In Hadaeek El Zatoon and Ghamra area.

The questionnaire designed to conclude:

- Type of housing in terms of preference for private ownership property or government agency ownership.
- The percentages of individuals who prefer private housing or housing units
- Type of building in terms of use
- The preferred number of units in the building.
- The number of rooms required in the housing unit
- Preferred building height
- Favorite services in the housing unit
- The floors that the resident prefers to live in
- How close commercial services to residential units
- Preference for housing in Greater Cairo or in new cities
- Prefer housing in the suburb or down town
- The housing unit is on a main or secondary street
- Prefer housing over a specific street's width

Results:

The questionnaire distributed to 500 people, but only 420 responses obtained (84%). The survey lists valid for analysis and coding were 386 questionnaires (91.90%). The collected primary data analyzed.

From the questionnaire, conclusions reached on the general form of the type of comfortable housing for the population in terms of:

1. Ownership preference:

Table 1 and figure 1 illustrate that the type of housing in terms of preference for private ownership or government agent housing ownership, the result is as follows:

Most people prefer living in private sector owned buildings (80%), as the rest (20%) people prefer government agent ownership.

Figure (1) Ownership preference

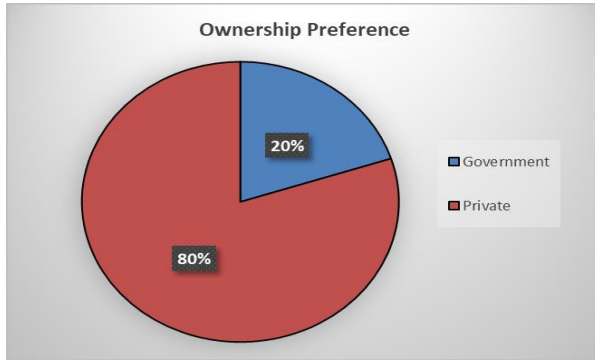


Table (1) Ownership preference

Type of Building	No.
Government	78
Private	308

2. Private Residential:

Table (2) and figure (2) illustrate that The preference of people resident ownership type results are as follows: 69% of the people prefer Private residential buildings, while 38% prefer resident apartment units, the rest (13%) gives irrelevant concern.

Figure (2) Private Residential

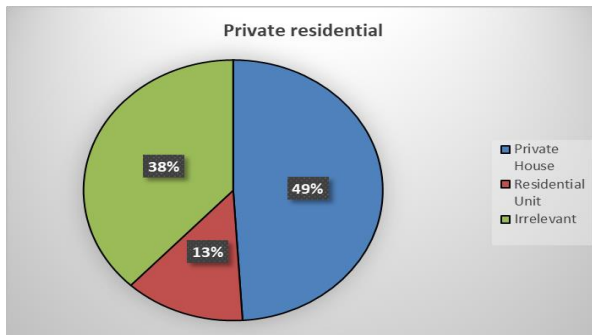


Table (2) Private Residential

Type of Building	No.
Private Resident	187
Residential Unit	148
Irrelevant	51

3. Type of building in terms of use:

Table (3) and figure (3) illustrate that the type of building usage gives the following: 53% of the people prefer to have a dedicated residential building, then 15% would tolerate the building to be residential commercial, 13% of the people agreed to have a residential administrative building, 9% like to have residential commercial administrative building, and 10% acts with irrelevant reaction.

Figure (3) Type of building in terms of use

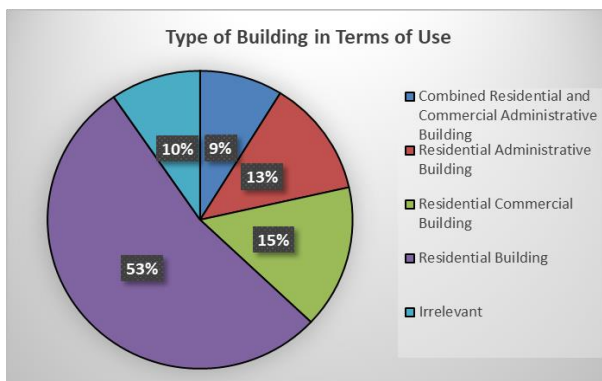


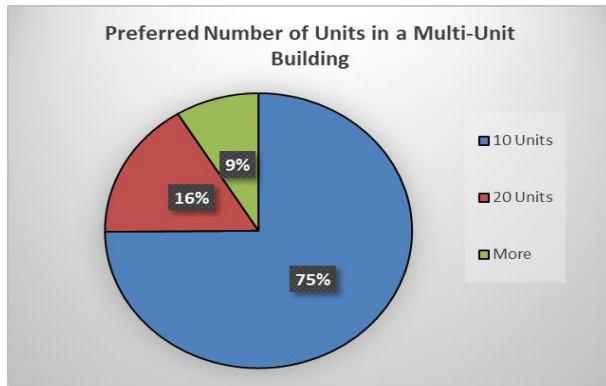
Table (3) Type of building in terms of use

Type of Building	No.
Combined Residential and Commercial Administrative Building	34
Residential Administrative Building	49
Residential Commercial Building	60
Residential Building	206
Irrelevant	37

4. Preferred number of units in a multi-unit building:

Table (4) and figure (4) illustrate that the Preferred residential buildings is that contain 10 units at most as it came with 75%, while residential buildings that contain 20 units occupy a maximum of 16%, and residential buildings that contain more than 20 units alone have a ratio 9%.

Figure (4) Preferred number of units in a multi-unit building Table (4) Preferred number of units in a multi-unit building



Preferred Number of Units in a Multi-Unit Building	No
10 Units	289
20 Units	63
More	34

5. Preferred Number of Rooms of The Residential Units:

Table (5) and figure (5) illustrate that most of the people wants to have 3 rooms apartments (54%), 31% wants to have an apartment with more than 3 rooms, people wants 2 rooms comes with 14%, and at last comes people who wants only one room with 1%. This result is due to the culture of the Egyptian people that doesn't want to move to another area when financially capable.

Figure (5) Preferred Number of Rooms of the Residential Units

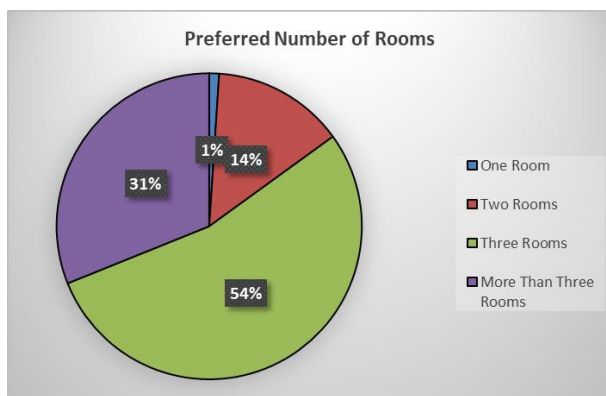


Table (5) Preferred Number of Rooms of the Residential Units

Preferred Number of Rooms	No.
One Room	4
Two Rooms	54
Three Rooms	208
More Than Three Rooms	120

6. Preferred Building Height:

Table 6 and figure 6 illustrate that Most of the people prefer 5 story buildings (65%), 25% accept up to 10 story buildings, while 10% accept more than 10 story buildings.

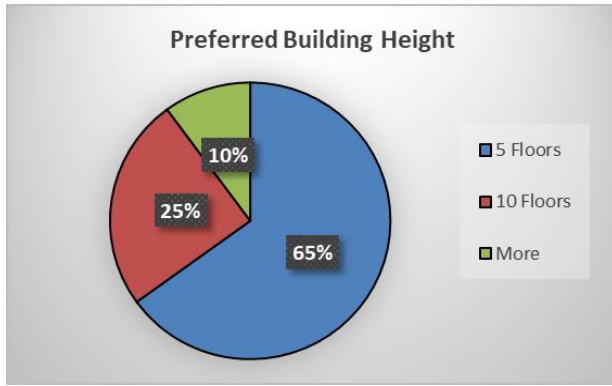


Figure (6) Preferred Building Height

Table (6) Preferred Building Height

Preferred Building Height	No.
5 Floors	251
10 Floors	96
More	39

7. Preferred Services Availability in the Housing Unit:

Table 7 and figure 7 illustrate that Most of the people (73%) prefer to have all types of facilities (balconies, elevators, and cars parking plots), 11% are settled with elevators only, as for the cars parking plots only and balcony only requirements are 8% each.

Figure (7) Preferred Services Availability in the Housing Unit

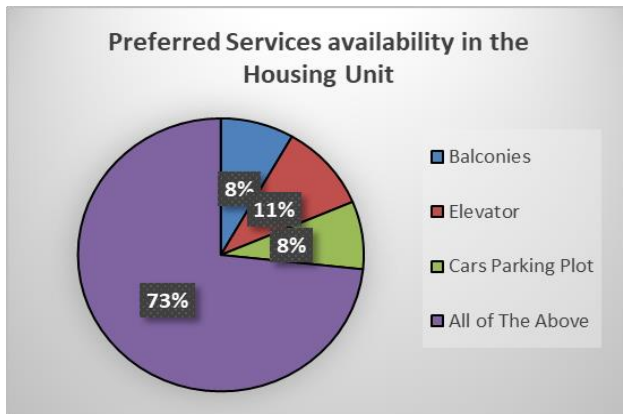


Table (7) Preferred Services Availability in the Housing Unit

Preferred Services availability in the Housing Unit	No.
Balconies	32
Elevator	40
Cars Parking Plot	31
All of The Above	283

8. Preferred Inhabitant Floor:

Table 8 and figure 8 illustrate that 23% of peoples prefer to live on the 3rd floor, 22% prefer to live on the 4th floor, 18% prefer to love on the 5th floor, 15% prefer to live on the 2nd floor, the last floor comes next with 10%, and at last the ground or first floor comes with 4%.

Figure (8) Preferred Inhabitant Floor

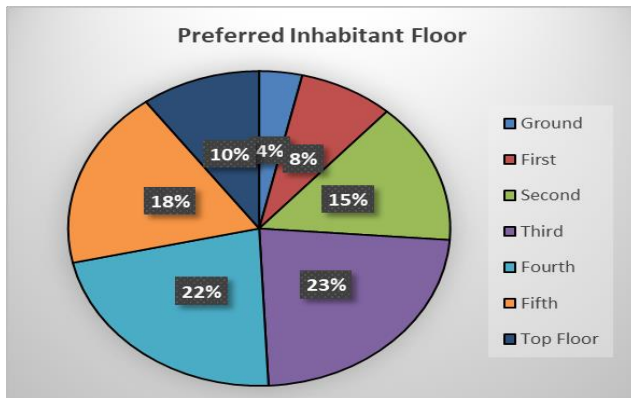


Table (8) Preferred Inhabitant Floor

Preferred Inhabitant Floor	No.
Ground	14
First	31
Second	56
Third	89
Fourth	86
Fifth	71
Top Floor	39

9. Preferred Inhabitant Close to or Far from Commercial Centers:

Table 9 and figure 9 illustrate that 77% of the sampled people prefer to live close to the commercial centers, as 13% prefer to be far from commercial centers, the rest are not interested or it doesn't matter to them.

Figure (9) Preferred Inhabitant Close to or Far from Commercial Centers

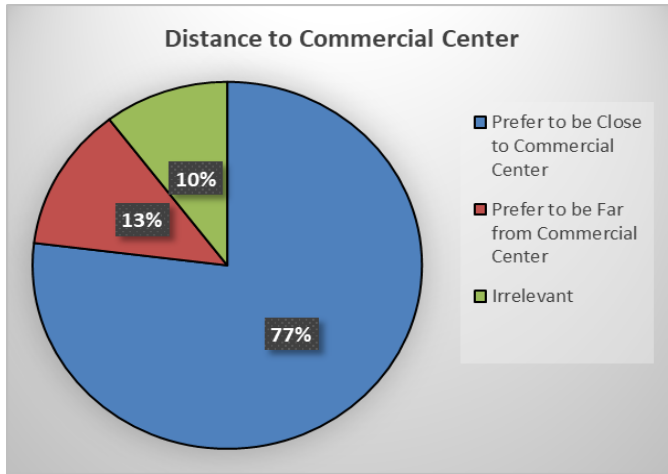


Table (9) Preferred Inhabitant Close to or Far from Commercial Centers

Distance to Commercial Center	No.
Prefer to be Close to Commercial Center	297
Prefer to be Far from Commercial Center	49
Irrelevant	40

10 Preferring to Live in the Greater Cairo Region or in the New Cities Region:

Table 10 and figure 10 illustrate that 58% of the people prefer to live in new cities, as 42% prefer to live in Cairo region.

Figure (10) Preferring to Live in the Greater Cairo Region or in the New Cities Region

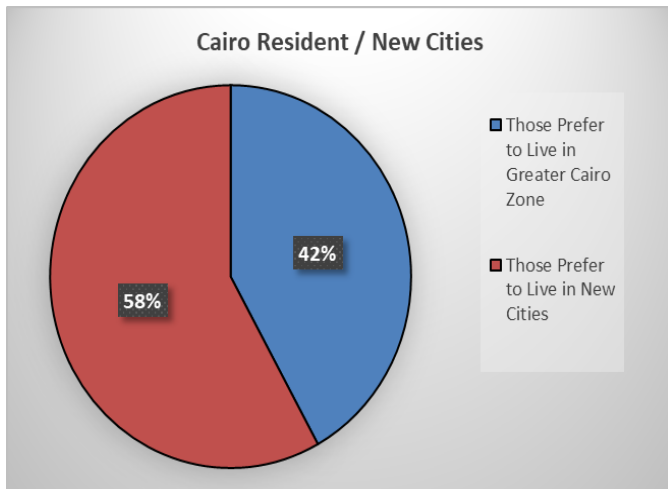


Table (10) Preferring to Live in the Greater Cairo Region or in the New Cities Region

to live in Greater Prefer Cairo or New Cities	No.
Those Prefer to Live in Greater Cairo Zone	162
Those Prefer to Live in New Cities	224

11. Preference of Living Downtown or City Suburb:

Table 11 and figure 11 illustrate that 46% of the people prefer to live in the suburb, as 36% prefer to live downtown.

Figure (11) Preference of Living Downtown or City Suburb

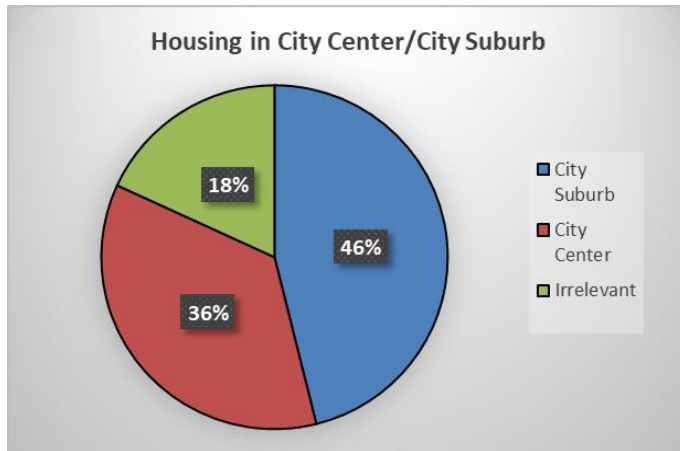


Table (11) Preference of Living Downtown or City Suburb

Housing in Down Town/City Suburb	No.
City Suburb	178
Down Town	138
Irrelevant	70

12 Preference to Overlook On Main Or Secondary Street:

As illustrated in table 12 and figure 12, 40% of the people prefer to live on main streets, 37% prefer to live on Secondary Street and the rest has irrelevant response.

Figure (12) Preference to Overlook On Main Or Secondary Street

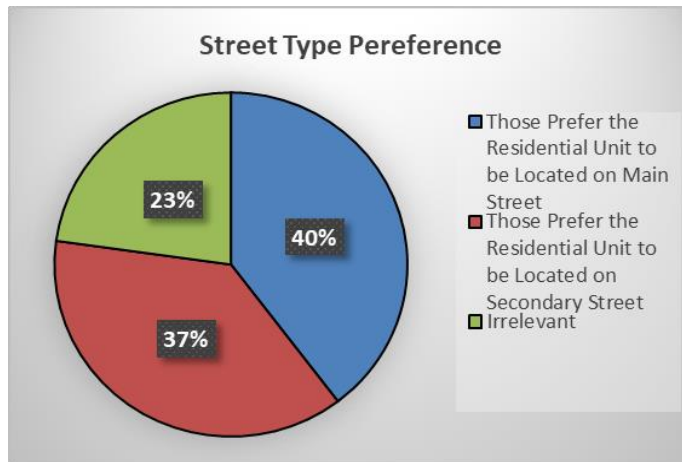


Table (12) Preference to Overlook On Main Or Secondary Street

Street Type Preference	No.
Those Prefer the Residential Unit to be Located on Main Street	153
Prefer the Residential Those Unit to be Located on Secondary Street	145
Irrelevant	88

13 Preference to Live on Special Width Street:

Table 13 and figure 13 illustrate the analysis result of the Egyptian citizen requirements for the housing of the wide streets, starting from 15 m street width. The major demands are for 20 m street width with 31% preference, 19% prefer to live on 15m street width, and the rest of the people sample percentage are distributed over the rest of streets with widths of 6m and 8m.

Figure (13) Preference to Live on Special Width Street

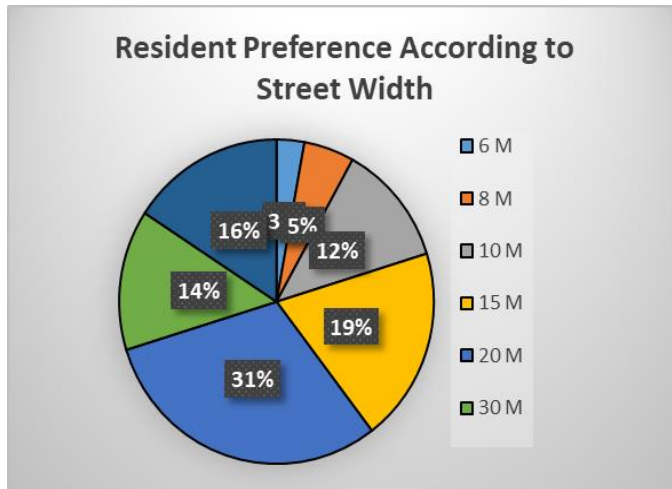


Table (13) Preference to Live on Special Width Street

Resident Preference According to Street Width	No.
6 M	11
8 M	20
10 M	47
15 M	75
20 M	118
30 M	54
Irrelevant	61

Conclusion:

The results of the questionnaire show that the inhabitant prefers low occupants density in the building; these shown as to prefer the short height buildings as well as few units’ occupancy.

It also shows the preference of the largest percentage for buildings with residential units only which shows the preference for privacy.

It also shows that there is a large number of segments tends for the quietness, whether it occurs at the city suburbs or at the new urban communities providing services.

The following is a detailed result explanation for each questionnaire criteria analysis collected from different inhabitants’ categories.

1. Most of the selected survey sample prefers private housing instead of the government housing, as the ratios of people who prefer to live in private housing 80% against 20% of the sample prefer governmental residential buildings. Those who prefer the government-owned housing related this as to guarantee that the buildings are safe as they have opinion that some private sector buildings are bad constructed.
2. People who prefer private residence are 49%, while those who prefer residential buildings units are 38% and the rest are not concerns. The reason is to have privacy in their house property.
3. As shown in table 3, 53% of the chosen sample prefer residential only building with no other activities in it. While 37% of the sample prefer to have a multi usage building. The reason of the choice of one usage is to have safety and quietness.
4. It is therefore clear that 75% of the residential buildings are to be with 10 residential units, as for the 20 residential units buildings at most comes with ratio 16%, and the residential buildings that consists of more than 20 units is 9%. The

reason for that is to have more privacy and to make it easier to communicate to their neighbors.

5. The requirement of the Egyptian society questionnaire for three-room housing was 54% of the Egyptian housing demands. This result is (what the researcher believes) based on the culture of the Egyptian citizen more than needs cause. The Egyptian citizen culture is searching for housing not only to cover the current need but to be a place fulfill his future needs to not to be in-need to move to another larger place when he is financially capable. While the ratio of the need for more than three rooms is 31%, and then the demand for two rooms comes to be 14% and the demand for only one room is very small 1%.
6. The people prefer buildings up to five floors, as the preference for buildings up to five floors is 65%, while the preference for buildings up to ten floors is 25%, and more than ten floors is 10%.
7. Most of the demands are for all the facilities are required such as balcony, elevator, and parking plots, as the results are 73% required all the previously mentioned facilities, while elevators only are 11%, parking plots only and balcony only are with the same results with 8% each. This illustrates the importance of the availability of services such as elevators and parking plots.
8. The Egyptian people mostly prefer to have apartments on the third floor level with 23% result, then comes the fifth floor level with 18%, then the second floor level with 15%, then the top floor of the building with 10%, then the first floor level with 8%, and at last the ground floor level with result of 4%.
9. The Egyptian people prefer to live close by the commercial center with 77% result, as for those who prefer to live far away from commercial centers are 13%, the rest of the sample gives irrelevant preference.
10. People who prefer to live in new cities are 58%, while people who prefer to live in greater Cairo zone are 42%. As in new cities the population density is less, the buildings' spacing gives more privacy.
11. The percentage of the people who prefer to live in the suburb are 46% where more quietness is provided, while the percentage of the people who prefer to live in the downtown are 36%, the rest gives irrelevant opinion.
12. People who prefer their apartment to locate on Main Street are 40%, while 37% prefer to have their apartments locate on secondary streets, the rest gave irrelevant preference.
13. People who prefer to live on wide street with more than 15 m width (20 m and more) are 31%, then who prefer the 15 m width comes with 19%, then the rest of the result are distributed between 6m and 8m width streets.

Recommendations:

1. The government must provide the requirements and the needs that provide the psychological and physiological comfort for the people with no contradicting the planning of the cities. The questionnaire shows the need to provide services close

to the new residential communities, which encourages individuals to get out of crowded places.

2. The civil society and the concerned private sectors that contribute to the construction industry should fulfill the community's needs for residential buildings, whose architectural design matches the requirements of the number of rooms and services.
3. Universities and educational institutes should document, confirm and publish the community's actual needs for housing requirements, such as interior design and surrounding housing services.

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