

# Housing arrangement transformation and the cultural revolution

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## Abstract

This study links between the transformations of houses and the revolution of culture in the Gaza context. It investigates the changes in houses in Gaza starting, from traditional houses until now, in terms of the inner arrangement and openness of spaces and tries to link these changes with changes in culture. It aims to clarify the change in the inner housing design mainly and the reasons behind this.

To achieve the aim, descriptive analysis for houses from different periods was used. A questionnaire to new graduates of the architectural department at the Islamic University of Gaza was used to find out their preferences in housing arrangement. Interviews with academic staff members and architects working in engineering offices as designers were essential to investigate their opinion about how and why these changes happened as experts in the field. The results show gradual transformation in house arrangement in general and a recent trend towards openness. There was a tendency towards openness among the new graduates from the architecture department. The academics and the architects working in engineering offices confirmed this tendency among their students or clients. But there is a desire by the majority to isolate the guest's space by moveable barriers. The reasons behind this tendency diverse. The open-plan concept is considered sustainable by many with some hesitation from others.

## Keywords

Cultural revolution, Housing arrangement, Openness, Transformation, Trends.

## 1. Introduction

Residential buildings are considered the most important among all architectural building types as they constitute the largest proportion of the total buildings, as well as the shelter that contains family members and brings them together for long times. Gaza City in Palestine is one of the most densely populated places in the world with about 678,669 people in 2019 and an area of 74 km<sup>2</sup> (Palestinian Central Bureau of Statistics, 2019). The population density is about 9,171 people /km<sup>2</sup>.

Undoubtedly, residential buildings, like other buildings, evolve and change over time to keep pace with developments in other fields such as the development of building materials and construction, technology, architectural education, and the customs and traditions' changing that are part of the culture of societies. Estaji (2017) denoted that changing housing design followed social and cultural conditions changing, the economic situations and technical innovations which also affect lifestyles. As the cultural factor is a powerful engine in influencing the orientation of architectural design, this study is concerned with studying the stages of transformation of the residential houses in Gaza City in Palestine and linking this with the cultural change of society. The importance of the study stems from being a feedback for designers on the job market and academics of the department of architecture. It will explain the recent trends of the society regarding the arrangement of the residential houses and its sustainability expectation in the future by linking it with theories of cultural development.

The study used the term open-plan to refer to combining the kitchen, living room, guest room and dining room into a single great room without barriers or walls. Alfirević and Simonović-Alfirević (2016) investigated the development of the open-plan concept from the flexibility of integrating certain rooms into a combined space, which is more stressed in smaller apartments, to open-plan concept in other apartments and houses to have internal openness among spaces without any fixed or sliding partitions. They stated that open-plan with an open

kitchen was widely used in the 1960. Estaji (2017) recommended for further studies in assessing the flexibility in houses using quantitative research.

## 2. Culture definition and change

It worth to define the culture at the beginning. The Cambridge English online Dictionary (n. d.) defines culture as the way of life, especially the general customs and beliefs, of a particular group of people at a particular time. While Merriam-Webster's online dictionary (n. d.) defines it as "the customary beliefs, social forms, and material traits of a racial, religious, or social group". Varnum and Grossmann (2017) define culture "as a set of ideas, beliefs, norms, and behaviors shared by or common to a group inhabiting a geographic location." Culture is "a set of beliefs, knowledge, education, customs, and values that society has developed them based on their own beliefs" (as cited in Ettehad, Karimi Azeri, & Kari, 2015). The whole previous definitions share the same items, however, some definitions add the time and a group of people as variables which have their importance for the definition.

Some researchers connected between culture and architecture. Ettehad et al. (2015) considered architecture as an image for the culture of a country combined with the social life of the society human life, and it has a deep impact on it. Estaji (2017) stated that the house should be a flexible system that can adapt to residents' needs and their physical and cultural environment changes. He added that the problem is the inability to guess and control these changes. However, the psychological anthropologist Wallace, known for his analysis of social changes caused by technological change, defined five stages of the revitalization process; steady-state where there is stress but most people tolerate it; period of individual stress when people cannot adapt to increasing stress well and there is a need for changing the culture to be satisfactory for them; period of cultural distortion when flexible people tried to make changes in the culture to be satisfied; period of revitalization in which the functions of maze-way reformulation and cultural transformation happened; and finally; new steady state when the new culture system proved its

viability (Wallace, 1956). In the case of architectural change in the Gaza case, the stress is the new orientation in the house as a result of being affected by other's architecture. The changes represent to some extent the acceptance of the new type of design. However, can we say that there is a cultural distortion that causes architectural distortion or could we expect to reach a steady state in architectural style when the new culture system proved its viability? Maybe in the future, the answer would be clear practically. Currently, we have many styles attributed to the difference in the influence of householders with new ideas. Some householders accept or like changes and other think much before accepting or refusing changes.

The change in culture was investigated for a long time by many socialists. Ibn Khaldun stated, in his introduction, that the conditions of the world and nations and their customs do not last as it is, but they vary on days and times. He added that the weak are often fond of following the powerful and dominant as they believe in dominant's perfection (Ibn Khaldun, 1976). This may be an explanation of the effect of Western architecture on Arab world architecture which minimizes the individuality, regional, and identity. The advancement of internet technology helps in transferring data fast. Nasrah (2008) assured that the change in Western architecture came in successive steps until it reached its current state. However, in the Arab architecture, the change sometimes came in by copying the final result reached by the West; so, it lost its identity.

### 3. Culture and architecture

Ettehad et al. (2015) considered architecture as a true measure of the culture of a society and the culture of the society in role is responsible for the space arrangement of a building. In the Gaza context, we can register the change of local architecture from the courtyard house with an orientation towards inside, and all rooms open towards it to a house with outside garden and orientation towards it. This was associated with the appearance of regulations that demand setbacks. Accordingly, the courtyard changed into a roofed living space. Then, sleeping

spaces were isolated from the living room with a special lobby. And this was acceptable from residents.

A later aspect of change in the house is, related to privacy inside the house, using an open-plan that combines the living room, kitchen, dining area, and guest room into a single great room. There are different perspectives regarding privacy; some support privacy and others do not care about it.

Liu (2013) concluded that understanding the relationship between what he called architectural culture and architectural design is vital and can improve the spiritual side of architecture design. There are societies' features that encourage or discourage cultural change. Varnum and Grossmann (2017) indicated that some of these features such as the degree to which society adheres to social norms, the amount of ethnic homogeneity in society, and the amount of community contact and openness to other cultures. Despite the blockade imposed on Gaza for years, openness through social media and the Internet, in general, is available, as in many countries. Likewise, there was openness to other cultures with the return of the displaced Palestinians to their homeland following the Oslo Accords in 1994.

Eldemery (2009) stated that globalization means to some architects a way to unify the world through the media and customer cultures, and the result is a similar architecture everywhere losing the place identity. He added that the current building in Arab cities reflect a conflict between heritage values and imported ideas, and has begun to lose its locality. This is due to the fact that they give the building a distinctive shape, a manifestation of progress, and a direction towards the future. Nasrah (2008) indicated that there is a need to balance between what is local and what is coming from Western architecture, and she assured the importance of openness towards others away from the unconscious copying but with conscious selection according to residents' needs, taking into account the local constants and achieving the desired benefit. She pointed out for the futility of imitating the literal heritage because of the change in the needs following the

change in the time, and the futility of literal copying of the Western architecture because of different needs following the change in place and culture.

#### 4. Technology and culture

Varnum and Grossmann (2017) demonstrated that as norms change, new technologies influence people's life inside and outside their houses. The influence of globalization on society is one of the factors that affect architectural transformation. Ayna (2011) defined three aspects of this influence on society life styles and practices which are culture, economic and technology. The global culture is transferred through Medias such as the TV, cinema and the internet.

The lifestyle of most families has been affected by technology and its instruments. Before the appearance of the TV device the family spends a lot of time talking together on different issues, parents have an effect on their children and solve their problems. The TV device take part of this relationship between family members to gather them around it to watch different programs. Anyway, they still sit together in the living room and may have some comments on the program they watch. The living room still has its importance in the house. After the appearance of other technological devices such as laptops and cell phones, the importance of living rooms decreases and the importance of bedrooms increases. The new social media attract many family members to use them. They can choose to talk or write; they can choose the person to contact. Even laptops give them more choices than TV. Actually, this sure affects the need for spaces. Accordingly, do we expect less importance and area for the living room in the future or to delete or merge guest room with living room as communication between people become through the media?

#### 5. Methodology

The study uses different approaches. To clarify the transformation in the inner housing design, the study analyzes the transformation in houses' arrangement using architectural plans from different periods. The author make contacts with some of the engineering offic-

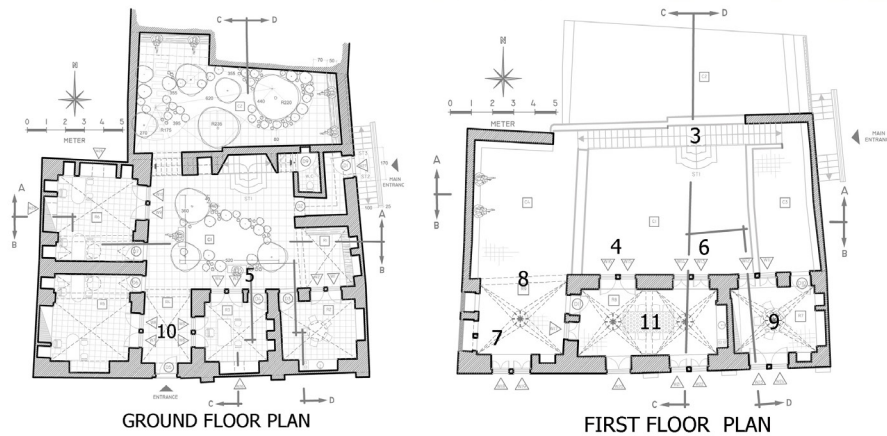
es in Gaza to compare plans of houses, from different years, from their archive. The plans in the figures of the analysis section are part from these plans. To find out the new generation perspective, which represent the future orientation, there was a questionnaire for around 120 new graduates from the department of architectural engineering at the Islamic University in Gaza. The Islamic University in Gaza is the oldest university in Gaza that has graduated architects since 1997. An electronic questionnaire was allowed to about 120 students. The collected number was 86 as it was voluntary. Interviews with seven architects who are working in the design field, at the local market, is another tool to get an idea about the transformation in their designs for houses. Academic staff perspective was essential to get an understanding of the students' projects transformation since the start of the department and its reasons from their experience. Ten from the academic staff were chosen for these interviews. The study addresses two main issues regarding housing arrangement. The first is related to the openness of houses' spaces and the other is the reasons behind this.

#### 6. Analysis and results

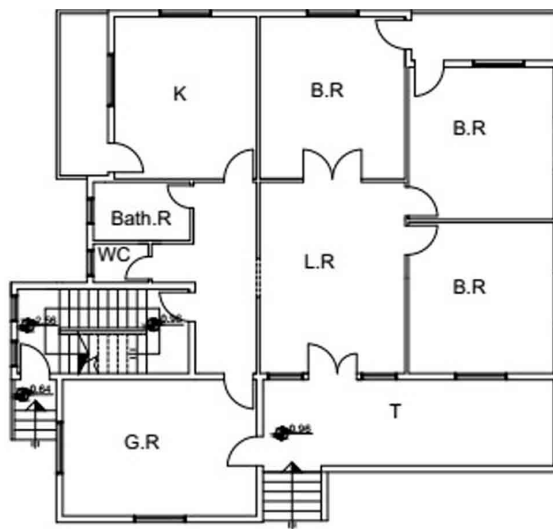
This section includes three parts. The first explains housing transformation in Gaza- Palestine. The second analyses the questionnaire, and the third analyses the interviews with some of academic staff and with some of architects who work as designers at local engineering offices.

##### 6.1. Housing transformation in Gaza-Palestine

There is a need to clarify that the population of Gaza city increased from 466,311 in year 2008 to 585,299 in year 2015, with a population growth rate of 3.3% per a year, while the available land is limited (Gaza Municipality, 2019). This affects the transformation from sprawl to vertical. In addition, the culture of extended family at the same house changed and most of new married spouses prefer to live in a new unit far from the parents' unit. We cannot neglect the effect of globalization and that the architects and residents are aware of all types



**Figure 1.** A traditional house plan (Source: Architectural Centre for Heritage -IWAN, 2016).



**Figure 2.** An example of a house before 1980.

of houses available around the world. The economic situation of households affect their amount of expenditure on their houses.

Housing attributes have changed over the years following the changes in society's lifestyle and the appearance of new construction materials and development in building techniques. The traditional house in Gaza has an open courtyard surrounded by rooms which have their natural ventilation and light from it as the houses were attached to each other from sides. Residents tried to get the privacy from people in the street using the indirect entrance and by opening all spaces towards the inner courtyard (Figure 1). Source: (Center for Architectural Heritage (IWAN), 2016, May 19)

After the First World War in (1917), the courtyard converted to a covered living room with a concrete slab. The

living room was a major space from which all bedrooms open and they get natural ventilation and light from the setbacks. At this time the municipality regulations require setbacks (Figure 2).

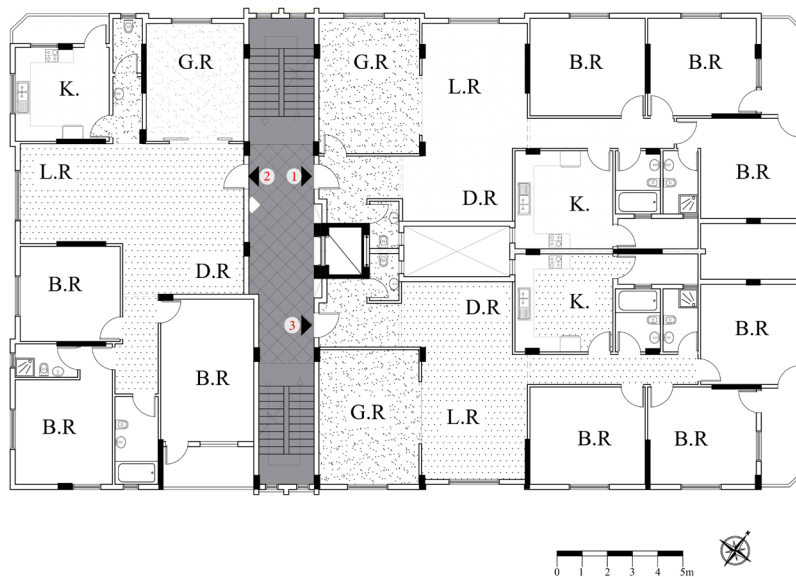
Residents tried to get the privacy by using an external door for visitors from a balcony to get into the guest room (Figure 2). The position of the living room in the middle of the house, like a lobby, with many doors open to other rooms make furnishing it difficult.

After 1981 the architectural departments at local universities started and the number of architects increased locally. Few years later, the plans of houses began to change gradually towards separating the bedrooms to a private zone with doors open towards a small lobby not towards the living room which became a distinct space.

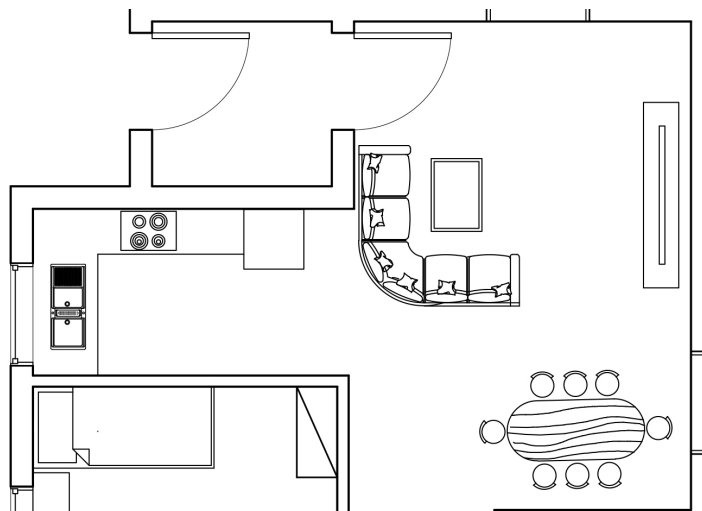
After 1994, the multi-storey residential buildings became commonplace after the arrival of the Palestinian National Authority in 1994 to cope with the increasing need of housing due to the normal increase in population and the return of the Palestinian people to their homeland. Jabareen and Carmon (2010) believed that this multi-storey housing from three to four apartments per floor was against the prevailing traditional cultural detached houses (Figure 3).

This type of building spread fast and it became familiar for the new generation. Residents tried to get the privacy using entrance hall to separate the visitors' space while having a defined space for living (see apartment 1 in Figure 3). However, some apartments do not have this entrance hall and the





*Figure 3. Example 1 of apartments of a multi-storey building.*



*Figure 4. Example 2 of apartments of a multi-storey building.*

family members and the guest enter the living and dining space (see apartment 2 in Figure 3). Sliding dividers is used between the guest and living rooms is a flexible solution that allow privacy and partially open-plan characteristics when needed (Figure 3).

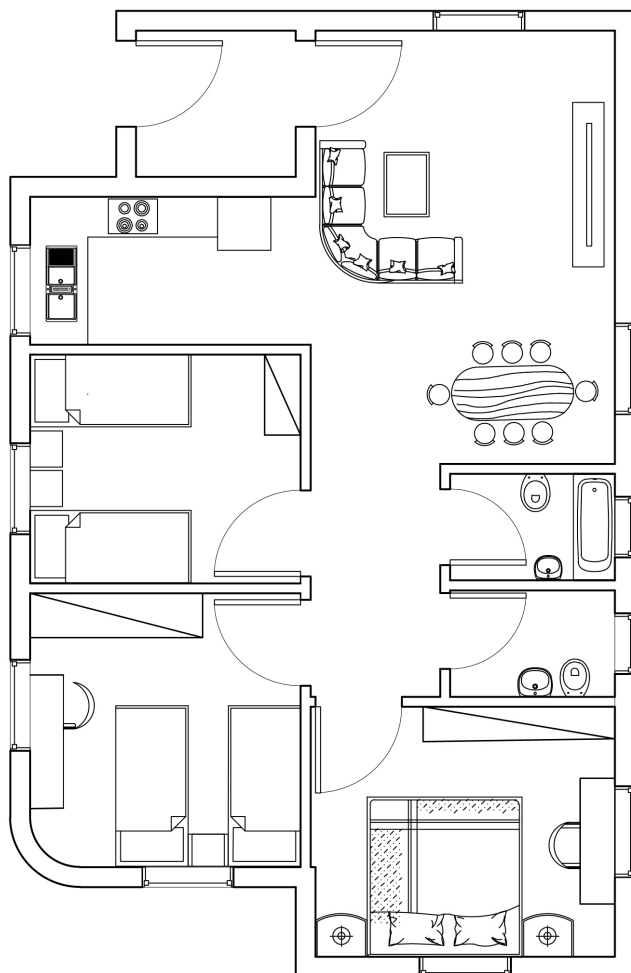
A few years later, other new changes occurred such as open kitchen merging guest space with living space (Figure 4). Many of the new generation of architectural students prefer this open-plan concept as noted by the author during her academic work. This type of arrangement was not accepted before for many reasons. The open kitchen can distribute the cooking smell to the living and other spaces. The living room is used for relative visitors and

the kitchen is a private space. Using a heating device in winter will cost more in case of the open kitchen. Open-plan cause noise to travel more.

Another change related to the economic aspect and affects the area of the apartment which is minimized and avoid using balconies (Figure 5). This may relate to benefit from the balcony space for another space; life quality of residents have less time to sit in balconies; in addition, there is no good view in front of houses as a result of low setbacks between buildings.

In Figure 6, the designer used the open-plan concept to get one wide space for a living area, dining area, and kitchen. This open space is isolated from the bed rooms' area.

Regarding the interior spaces, there is an interest in making gypsum or wood decorations. These decorations are used to give some definitions for different spaces that are used as one wide space.



*Figure 5. An example of small area apartments.*

No doubt that the social relations among neighbors decreased relating to the appearance of many social media. This minimizes the importance of guest rooms. Housing tenure is a highly significant factor for accepting the small apartment area.

To summarize, the changes that happened include: change in the orientation of the house's spaces from inside to outside, change in the regulations regarding the setbacks, change in the house type from sprawl to vertical, change in the extent of using open-plan concept inside the house, change in the used material.

## 6.2. Questionnaire analysis

The questionnaire consists of two parts (see the Appendix). The first part investigates the respondents' preference of open plan in a direct question and most of the respondents (60.5%) support using open-plan in designing houses. There was another question investigating their preferences in detail using the five-point Likert scale in which the choices range from strongly agree to strongly disagree to get a holistic view of respondents' opinions. The results in Table 1 show scores out of five for the preferences as follows. Having temporary separation solutions such as wooden partitions, horizontal or vertical folding separators between the guest and living spaces is a more appropriate solution than full openness



*Figure 6. An example of decoration inside the apartment.*

with a score of (4). The open-plan of the kitchen space to the living space corresponds to my desires have a score of (3.8). Having a dining area within a kitchen space is better have a score of a score of (3.7). And no need for a special external entrance for the guest room have a score of a score of (3.5).

The less accepted preferences were for the properness of: the open-plan of the dining room to the guest room and living room with a score of (3.1). Merging the guestroom with the living space without partitions with a score of (2.8). No need for an entrance hall for the house and the house can be accessed through a dining space or a guest room with a score of (2.8). Two choices were almost not accepted which are: no need for an independent toilet for guest (2), and a separate guest room for the house is not necessary got a score of (2.6) and was refused by 60% of respondents. The answers assure the preference for open-plan except for the guest space which still need to be separated from the family spaces.

The second part of the questionnaire investigated the reasons using the Five-point Likert scale used in question one to assess how powerful the reason in affecting their preference of the open-plan concept (Table 2). The reasons that got high satisfaction over 4 were five. First, it makes a feeling of house wideness with a score of (4.4). Second, the open-plan provides flexibility to change the use of spaces as needed overtime with a score of (4.2). Third, the open-plan gives more opportunity to various ideas in interior design with a score of (4.1), it is easy to get natural light and ventilation for all combined spaces with a score of (4.1), the open-plan is proper for times of relatives' meeting and on occasions with a score of (4.1). The open-plan offers aesthetic advantages, the desire to change from the traditional style, the open-plan compensates for the compact external closure of the buildings which prevent external plan openness, and the open-plan creates visual social contact in the home got scores of 3.8, 3.8, 3.8, and 3.7 respectively.

Most responses refused the choice of no need for privacy according to our social lifestyle with a score of (2.4).

**Table 1.** Degree of preference of housing characteristics.

|   | The item   | The mean |
|---|--|----------|
| 1 | A separate guest room for the house is not necessary   | 2.6      |
| 2 | No need for a special external entrance for the guest room   | 3.5      |
| 3 | No need for an entrance hall for the house and the house can be accessed through a dining space or a guest room  | 2.8      |
| 4 | Merging the guestroom with the living space without partitions.  | 2.8      |
| 5 | The open-plan of the kitchen space to the living space corresponds to my desires   | 3.8      |
| 6 | The open-plan of the dining room to the guest room and living room   | 3.1      |
| 7 | Having a dining area within a kitchen space is better  | 3.7      |
| 8 | No need for an independent toilet for guest  | 2        |
| 9 | Having temporary separation solutions such as wooden partitions, horizontal or vertical folding separators between the guest and living spaces is a more appropriate solution than full openness | 4        |

**Table 2.** The reasons affecting people's preference of the open-plan concept.

|    | The reasons  | The mean |
|----|--|----------|
| 1  | The desire to change from the traditional style  | 3.8      |
| 2  | The open-plan offers aesthetic advantages  | 3.8      |
| 3  | The open-plan compensates for the compact external closure of the buildings which prevent external plan openness | 3.8      |
| 4  | The open-plan creates visual social contact in the home  | 3.7      |
| 5  | It is a measure of urbanization and openness to the outside world  | 2.7      |
| 6  | It makes a feeling of house wideness   | 4.4      |
| 7  | The choice of no need for privacy according to our social lifestyle  | 2.4      |
| 8  | It is easy to get natural light and ventilation for all combined spaces  | 4.1      |
| 9  | The open-plan is proper for times of relatives' meeting and on occasions   | 4.1      |
| 10 | The open-plan gives more opportunity to various ideas in interior design   | 4.1      |
| 11 | The open-plan provides flexibility to change the use of spaces as needed overtime                                | 4.2      |

And the choice of, it is a measure of urbanization and openness to the outside world with a score of (2.7), got a moderate answer.

The last question shows four different plans that represent different levels of openness and the respondents were asked to choose one from these plans, which they prefer, to assure the preferences in the first question. The four plans range from fully enclosed spaces as a first option to open-plan as a fourth option: the first has fixed partition between guest, living & dining and kitchen with doors and got (10.5%) of the choices; the second has an open plan for living, dining and kitchen and got (36%) of the choices; the third has an open plan for living, dining and kitchen and with movable partition between guest and living and got (48.8%) of the choices; and the fourth has an open plan for guest, living, dining and kitchen and got (4.7%) of the choices. These answers are in accordance with the first question answers.



It is clear that there is a general orientation towards openness. However, the openness of the guest room to the living and dining spaces is still refused by many. This does not contradict the privacy culture of occupants from the guests. However, the stereotype of closed spaces is almost unaccepted by the new generation of architects.

### 6.3. Interviews analysis

There were two interviews; the first addressed the academic staff from the department of architecture at the Islamic University of Gaza, and the second addressed architects who work as designers at local engineering offices.

Both interviews examined the interviewees' preferences of open-plan concept, and to what extent their preferences affect students, for academic staff, or the clients' projects for the designers at local engineering offices. In addition, it asked about the transformation of students' or the clients' projects throughout their years of working and the reasons behind that. The last question asked if the phenomenon of preference for open-plan possess sustainability, and why.

#### 6.3.1. Interviews analysis of the academic staff

The first type of interviews was conducted with ten members from the academic staff at the architectural department at the Islamic University in Gaza. They were first asked if they reflect their opinion and preferences to their students during the teaching process and if the students are affected by their opinion and preferences. All of them agree about the first question and the degree of their opinions effects on their students ranged from medium to large degree.

Most respondents agree that students' tendency towards using open-plan in their houses' design become more common during the last few years. They attributed this tendency to the following reasons.

- Open-plans provide magical solutions to many of the design problems faced by the designer, especially the beginner, such as natural ventilation and lighting for inner spaces, family's need for a special dining space

despite the limited space, the difficulty of providing a space for the entrance hall.

- Social and cultural changes that have been affected by Media and social media, Arab and Western TV Series and films, foreign books and magazines.
- Create interactive spaces for the family members in light of technological development that encourage isolation.
- An attempt to change their experience of living in closed-spaces plans.
- Blind imitation of others considering it a type of progress without thinking of its suitability locally.
- The size of the apartments in which they live is generally limited, and the closed guest room is considered to be underutilized except for small periods.
- Overcrowding of building with limited setbacks which reduce the opportunity to view open and wide spaces externally.
- The development in interior design especially for kitchen furniture.
- The tendency of men and youth to meet outside houses in cafes or open spaces which reduces the need for a closed guest room.
- Weak interest in privacy issues and considering it as something old and not beautiful, although it is possible to design a beautiful modern house that is, socially and culturally appropriate.

Actually, the last reason contradict most graduates' refusal in their answers to a question about having a separate guest room is not necessary, and a small percentage of them chose the apartment with a guest space open to living as a preferred solution among the four options in the questionnaire. However, the reason regarding the culture of men and youth' meeting outside houses in cafes or open spaces was a logical justification.

In sum, the reasons were related to the resources of information for students: the instructors, books and internet websites, the family and society culture and the environment where they live in. All these resources have contributed to students' tendency to favor open-plan.

The answers of the last question about if the phenomenon of preferring for open-plans possess sustainability, and why diverse.

The reasons for considering it sustainable: its acceptance by many, its flexibility as it can be divided easily by using movable partitions or curtains, good natural lighting and cross ventilation for all open-spaces, and the other reasons mentioned in the previous question. The negative aspects of being unsustainable are: not the best for local social life, the increase in cost for heating in winter and cooling in summer.

### 6.3.2. Interviews analysis of the architects of engineering offices

The second type of interviews was with seven architects who are working in the design field. They were first asked if they prefer open-plan, and most of them agree. Some of them make a condition that the guest room is not included in the open-plan. Then, they were asked if they reflect their opinion and preferences to their clients and if the clients are affected by their opinion and preferences. All of them agree about the first question and the degree of their opinions effects on their clients ranged from a medium to large degree.

Most the respondents agree that clients' tendency towards using open-plan in their houses' design become more common during the last few years, although this concept was refused by many at the beginning of the change. Some of them declared that most of their clients prefer open-plan for living, dining and kitchen spaces. They excluded guest room which can be opened by using movable partitions, curtains or doors. One of the architects stated that some clients prefer openness between living and guest spaces and excluded kitchen. They attributed the tendency towards openness to the following reasons.

- It gives the residents a psychological and aesthetic comfort.
- Some architects prefer this concept and affect their clients.
- It is a type of modernity in design.
- A result of openness to the West societies.

- To keep pace with the development in the interior design decoration works.
- The size of the apartments is generally limited, and open-plan give a feeling of wideness.
- There is a functional communication between these spaces.
- The open-plan concept is flexible and the spaces can be closed at any time.
- Canceling some walls saves costs.
- To provide adequate lighting for all spaces.
- Overcrowding of building with limited setbacks and limited exterior open spaces.
- Social and cultural changes that have been affected by Media and social media, Arab and Western TV Series and films, foreign books and magazines.
- Relative openness in social relations, especially with the increase in the percentage of working women and the mixing between the sexes.
- Aesthetic appearance in case of the open-spaces.
- Technological development in building materials.

Most of the respondents considered that the open-plan concept is sustainable because it has several advantages such as flexibility, visual wideness, providing natural ventilation and lighting, and beautiful interior design, and reducing costs.

There are many similarities in answers between academic staff and architects working at engineering offices regarding the reasons, however, some differences are related to differences in the working environment.

## 7. Conclusion

Residential plans transformation usually follow residents' needs and desire. As such, it is much affected by the culture of the society which also changes over the years. In the Gaza case, there is a new orientation towards the open-plan concept which includes kitchen, dining and living spaces or living, dining and guest room and in other cases, kitchen dining, guest and living spaces. The study used several tools to verify the extent of the residents' tendency to openness in the housing spaces. The

first tool was to analyze the transformation of housing in Gaza City from ancient times to the present by reviewing a number of architectural drawings in engineering offices in recent years. There was a gradual transformation in houses arrangement in general and a recent trend towards openness. In another tool that targeted the new graduates from the architectural department, there was a trend towards openness, but there is still a desire by many for a special space for guests separated from the living and dining space by movable barriers to the possibility of openness in case of no guests.

The academics have confirmed the existence of this trend among students in recent years compared to older generations. As well as, the architects working in engineering offices, confirmed the recent trend of clients towards openness, with the exception of the guests' space. The reasons behind this tendency diverse. They include: openness towards the world by through various Media, a feeling of house wideness, flexibility to change the use of spaces as needed over time, magical solutions to many of the design problems faced by the designer, especially the beginner, such as: natural ventilation and lighting for inner spaces, aesthetic comfort, and interactive spaces. On the whole, we note that some of the reasons were related to the regulations, functional or aesthetical aspects, cultural and social changes, There is no doubt that all reasons have contributed to the change of culture from closed-spaces to open-plan spaces concept that preserves the privacy of residents from guests.

As for the open-plan concept sustainability, many agree as it has many advantages and its acceptance by residents. However, some still hesitate about this. As such, there is a need to repeat such a study in other countries and in Gaza after many years to expect the future of houses' interior openness. Another study that targets non-architecture students would enhance this orientation towards the open-plan concept.

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## Appendix

### The questionnaire's questions

**Part 1:** Please clarify your degree of preference for each of the following items.

|   | The item   | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|--|----------------|-------|---------|----------|-------------------|
| 1 | A separate guest room for the house is not necessary   |                |       |         |          |                   |
| 2 | No need for a special external entrance for the guest room   |                |       |         |          |                   |
| 3 | No need for an entrance hall for the house and the house can be accessed through a dining space or a guest room  |                |       |         |          |                   |
| 4 | Merging the guestroom with the living space without partitions.  |                |       |         |          |                   |
| 5 | The open-plan of the kitchen space to the living space corresponds to my desires   |                |       |         |          |                   |
| 6 | The open-plan of the dining room to the guest room and living room   |                |       |         |          |                   |
| 7 | Having a dining area within a kitchen space is better  |                |       |         |          |                   |
| 8 | No need for an independent toilet for guest  |                |       |         |          |                   |
| 9 | Having temporary separation solutions such as wooden partitions, horizontal or vertical folding separators between the guest and living spaces is a more appropriate solution than full openness |                |       |         |          |                   |

Do you support the open plan "the openness of the spaces on each other"?

|     |    |
|-----|----|
| Yes | No |
|-----|----|

**Part 2:** Please choose how powerful each of the following reasons in affecting people's preference of the open-plan concept

|    | The reasons  | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|----|--|----------------|-------|---------|----------|-------------------|
| 1  | The desire to change from the traditional style  |                |       |         |          |                   |
| 2  | The open-plan offers aesthetic advantages  |                |       |         |          |                   |
| 3  | The open-plan compensates for the compact external closure of the buildings which prevent external plan openness |                |       |         |          |                   |
| 4  | The open-plan creates visual social contact in the home  |                |       |         |          |                   |
| 5  | It is a measure of urbanization and openness to the outside world  |                |       |         |          |                   |
| 6  | It makes a feeling of house wideness   |                |       |         |          |                   |
| 7  | The choice of no need for privacy according to our social lifestyle  |                |       |         |          |                   |
| 8  | It is easy to get natural light and ventilation for all combined spaces  |                |       |         |          |                   |
| 9  | The open-plan is proper for times of relatives' meeting and on occasions   |                |       |         |          |                   |
| 10 | The open-plan gives more opportunity to various ideas in interior design   |                |       |         |          |                   |
| 11 | The open-plan provides flexibility to change the use of spaces as needed overtime                                |                |       |         |          |                   |

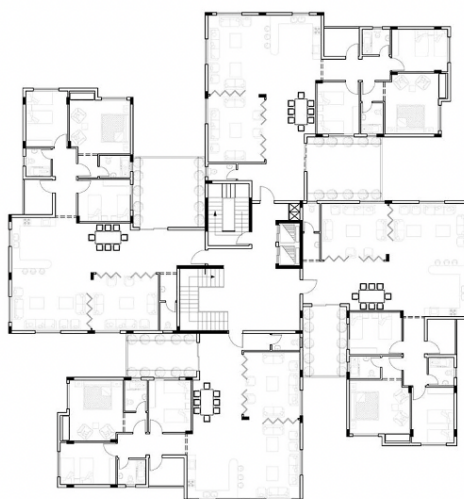
**Part 3:** In the four figures presented below are examples of four types of solutions for apartments that vary in the degree of openness of the spaces to each other. Please choose the model you prefer in case you choose an apartment for yourself in the future.



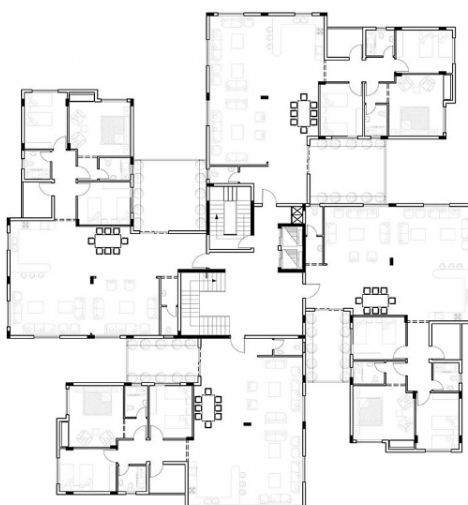
Type 1



Type 2



Type 3



Type 4

