Achieving Privacy in the Iranian Contemporary Compact Apartment Through Flexible Design

M.M.Shabani, M.M.Tahir, H.Arjmandi, A.I. Che-Ani, N.A.G. Abdullah, I.M.S.Usman
Department of Architecture
Universiti kebangsaan Malaysia
Universiti Kebangsaan Malaysia,43600,UKM,Bangi,Selangor
MALAYSIA
mmahdi.shabani@gmail.com, designaar@gmail.com, honey.arjomandi@gmail.com,
adiirfan@gmail.com, akmal.goh@gmail.com, imsarch@gmail.com

Abstract: - Privacy like security and peace, is one of the rolling factors that effects housing forms. Since the past, Iranian architecture has emphasized on the relation between building and user. Culture and religious beliefs have concerned the Iranian user to have a suitable dwelling. This effect of culture on architecture has caused the division of the house in order to create privacy. These divisions by getting help from combination of open and closed spaces, has been formed professionally. But during the past century, according to the communications and cultural changes around the world, Iranian architecture has changed as well. The problem is that Iranian users still need their cultural privacy due to their religious beliefs. However because of the shrinkage of today's houses, privacy is taken for granted. Flexibility as a useful method has been employed in different spaces to equip space for more functions. The objective of this paper is comparing the Iranian traditional dwelling with modern dwelling arrangements to set a new method of design. This pattern is based on cultural requirements and it is attempted to create privacy in contemporary architecture. Hence the method is analyzing and comparing the spatial quality of contemporary apartments with traditional houses based on responding to privacy. As a result of this, the flexibility will be described to get applied in today's compact apartments, which is a familiar method in Iranian traditional architecture, that is to create spaces with the ability of combining and separating from each other to have more privacy.

Key-Words: dwelling, privacy, Iranian architecture, public and private space, compact apartment, flexibility

1 Introduction

House as a shelter, from the early days of humanity has been a worthy place, each culture and race has grown up under this shelter. Dwelling has always been such a fusion of living habits, environmental conditions and cultural boundaries. The meaning of dwellings has been studied from many different perspectives such as psychology, phenomenology, sociology and environment-behavior studies [2] [10][11]. Martin Heidegger said that building and dwelling are a single phenomenon, the creation by the individual consciousness out of its rootedness in culture, time, and place [6]. Yusuf Al Qaradawi, the Islamic researcher, defines the house as, the area that each person protects himself from climatic discomforts and feels free and relaxed toward outside of the house[1].This definition or function of the house is based on many Qur'anic verses, such as, 'It is Allah who made your habitations homes of rest and quiet' (Qur'an, Su. 16:80)

Privacy is one of the human's primary requirements in dwelling. According to Michel Georgiou "it's clearly obvious that the concept of privacy has a general definition, privacy is a property

of built environment that has been considered for many years. Having specific domains for each person or a group of them has been one of the primary concerns of people[4]. Houses can be seen as distinctive spaces in which individuals come together in intimate relationship, claiming the control of these spaces for privacy and comfort. These individuals, even though small in number, form an interpersonal forum that is less private than their own private worlds, creating a combination of private, semi private, and at times even semi public spaces. Therefore the relationship between them takes various forms and subsequently, the space they use for these relationship takes various degrees of privacy. [9]

Iran as one of the first civilizations has faced so many challenges in constructing area. Following the advent of new cultures and modernism, new methods in constructing and buildings are observed. The closeness of different levels of society after Islam, flourished the Iranian traditional architecture. The penetration of Architecture in Iranian life style was more spectacular and has different ideas for organizing the spaces. These ideas tried to solve the cultural and religious needs of inhabitants. In 19th and 20th centuries, after the political changes during the reign of Qajar dynasty, there were big differences in the architectural forms of Iran. This evolution caused the shrinkage of houses and omission of courtyard because they changed to be apartments. This led to a number of conflicts in people's lives. Two of such conflicts are the loss of the multi functionality of the traditional architecture, which is due to the small spaces, as well as the loss of privacy in the new small apartments. (Fig 1)

Fig 1, living room in the traditional house, was used before 1900, Shiraz (left side). Today's living room in compact apartment, Tehran; the comparison of different combinations of space in today's apartment with a low degree of privacy opposed to the combination of space in the traditional house with a high degree of privacy. Source: author

The purpose of this paper is finding a creative solution to approach a suitable level of privacy. Flexibility as a solution, in today's compact apartments, is an issue that has been worked on different levels in various durations from Eastern architecture (Japan) in which sliding doors were used to separate the spaces; and to change the measure of the house by opening them, to Iranian architecture that had the ability to be multi-functional. According

to Herman Hertzberger when flexibility became the catchword, it was to be the panacea to cure all the illnesses of architecture [7].

Flexibility in architecture has a wide functionality, which surrounds the definitions of open and free plans, sections and some changeable and portable elements or furniture. In compact apartments, there are different ideas that show flexibility can be a solution for having privacy and publicity. Designing a suitable circulation based on Islamic rules can define the space in regard to the cultural aspects. Overall, having the option of creating the space in compact apartments, according to existing requirements, the users could live a much more comfortable life within the dwelling.

2 Privacy in Iranian Dwellings, the Influence of Religion and Cultural Views

Privacy was one of the requirements that people were always perusing due to their cultural beliefs and religious practices. The traditional Iranian house is the combination of several different open and closed spaces that were designed to articulately mingle the nature and life space together. This combination, by concentrating on the spatial figures and the ability of movement and circulation, tried to create a useful space for dwellers. According to Westin privacy is a territory of individuals or groups that decide on the extension of how much of their life they need to share. from another point of view privacy is the voluntary and temporary withdrawal of a person from the general society through physical or psychological means, either in a state of solitude or small-group intimacy or, when among larger groups, in a condition of anonymity or reserve." [14]

Islam recognizes the right of every individual to be free from undue encroachment on the privacy of his or her life. Therefore, the privacy of the house is significantly stated in many places in the Qur'an. For instance, a verse says, 'O ye who believe! enter not houses other than your own, until ye have asked permission and saluted those in them' and, 'if ye find

no one in the house, enter not until permission is given to you. if ye are asked to go back, go back: that makes for greater purity for yourselves, and Allah knows well all that ye do' (Qur'an, Su. 24:27, 28).

The following sections discuss the privacy of the Muslim house, which can be divided into two categories: visual and acoustical.

2.1 Visual and Acoustical Boundaries

According to the previous discussion, the family is the main concern in visual privacy, particularly the protection of female members from the eyes of male strangers. The Qur'anic verse, 'O ye who believe! enter not houses other than your own', is a command for maintaining this visual privacy in the house. One of the several Hadiths that prohibits visual intrusion of the privacy of the house says, 'He who pulls the curtain and looks into a house before he is granted permission to enter has committed an offence.' The Prophet also says, 'if a person ever peeps [or steals a glance] at you without permission, then you throw a stone at him, even if it puts out his eye; you are not counted as sinful'[1].

In traditional Iranian architecture, dwelling buildings were built on more than one floor. High altitude of the house, without any opening on the outdoor facades has blocked the view from outside and has caused the construction of an inward looking building with visual and acoustical privacy. This method has created visual privacy in interior parts of house by rising the level of rooms and living spaces from the level of the courtyard; hence breaking the direction of the view from the courtyards to the rooms. Furthermore, placing the rooms upstairs as individual areas has created more privacy. The important point is that the direction of the view has been more easily observed from private to public in the Iranian traditional house. (Fig 2)

The acoustical privacy is of no less importance than the visual. The elements (walls, roofs and floors) of the enclosure of the house should not allow the penetration of the inhabitants' voices, particularly females', to streets and neighbors. (Fig3)
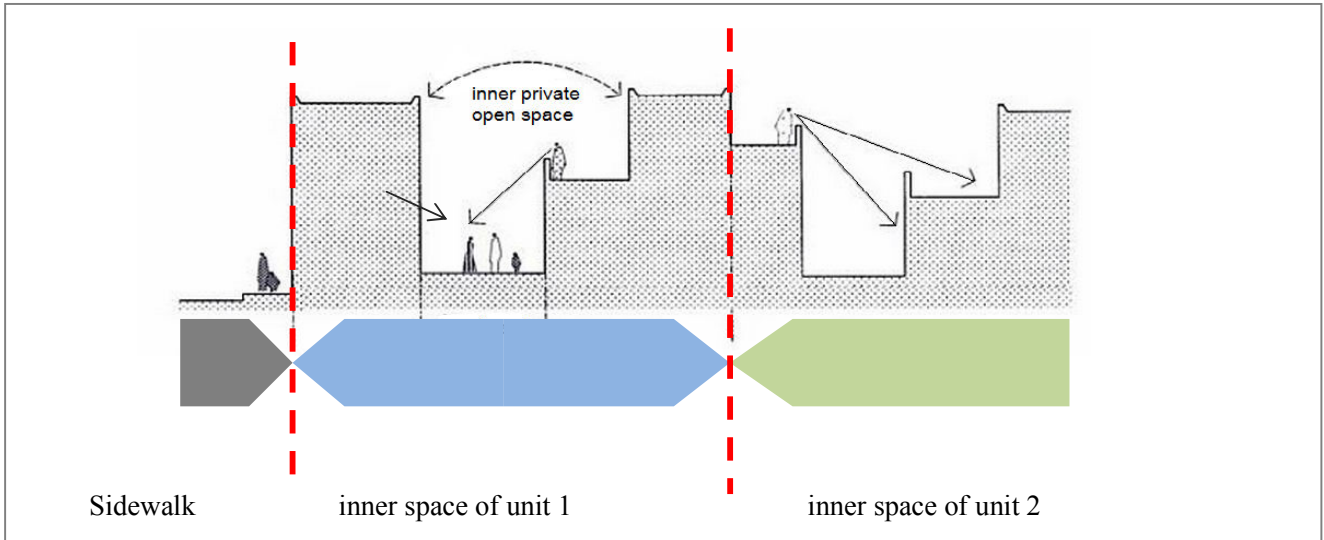
Fig 2, the schematic section of two Iranian traditional houses next to each other and close to sidewalk. The focused point is the view direction and limitation of visual access between each houses and sidewalk
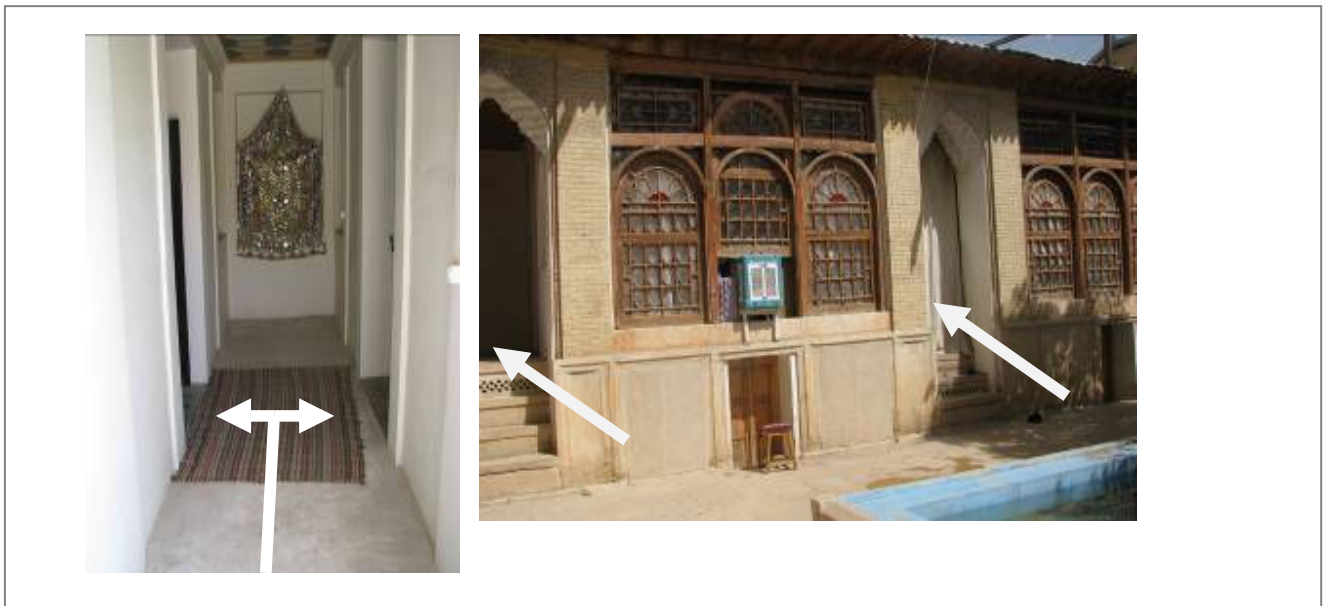Source of section Mortada Hisham analyzing by author

Fig3, the direct access to the rooms from courtyard is not possible, the relevant corridors, working like acoustical and visual filters between each zones; Saber's House, Shiraz
Source: author

There is spatial arrangement in Iranian traditional houses, which is an invisible three-dimensioned

network that has the control of all small and large spaces. Several types of rituals and activities ranging from watching the flowers to big ceremonies all occurred between public and private spaces. (Fig4)

Public territory, containing spaces such as *Shah-Neshin*, *Se-dari*, *Panj-dari* with large measurement were the spaces in which big ceremonies were held.

In-between spaces or family area contained other spaces such as the courtyard, pool-house (*Howz-Khaneh*), or small sitting rooms. In such spaces some other activities occurred such as family gatherings of the relatives, and some personal and collective activities.

one could seek solitude, rest, read, and enjoy the company of one or two. Iranian houses before 1910 were the reflection of the concept of interior parts.

According to Haerri ,In Iranian houses indoor parts represents the private spaces for the family. House in traditional culture was the place for tranquility from hard daylong. These two (invisible three-dimensioned network and public and private boundaries) are visible and sensible through vertical and horizontal layers [5]. Because of this, Iranian architecture is called the architecture of spatial networks.

Private territory, containing spaces such as indoor room, *Do-dari* (bedroom) and underground in which

Fig 4, Zarabiha's house is one of the best-preserved and typical houses in the seventeenth century. The original entrance was down a long passage and via the ubiquitous 'Hashti' (small enclosed transitional space, used as temporary reception) which also gave access to three other houses.
Source of plan, Pirnia, analyzing by author

The location of the guest room was close to the entrance. It was separated from the family domain to maintain the privacy of women in the rest of the house. In terms of the public domain, the existence of

a space for hosting guests is necessary in the Muslim house. This necessity is derived from the duty of maintaining strong relationships with society members (neighbors, relatives outside the family, and

friends). Although Islam greatly encourages the invitation of guests, it disallows mixing between unrelated male guests and the family females. Therefore, direct visual access between the guests' domain or reception area and the family's is prohibited. Design measures should be provided in order to eliminate such access and to maintain the privacy of the family's domain.

3. The Compulsory Change in Life Style and Dwelling Types in Recent Years in Iran

Modernization in Iran has led to many social, cultural, and physical transformations. However, these changes concentrated on the physical or external aspects of life, leaving unchanged most cultural norms and values that constitute living habits. Cities grow, careers are more professional, therefore everyone needs to have his own house near their offices. This has led to the phenomenon that large families who used to live together now opt to live in their own private houses.

According to Darab Diba, since the Revolution of 1979, Iran's population has double. Iranian cities have grown, especially Tehran (from 1.5 million in 1956 to 2.7 million in 1966 to 6 million in 1986 and 12 million in 2002). In the past two decades, a variety of highly hybridized cultural forms have appeared on the Iranian urban landscape: Iranian-Islamic, Iranian-Western, Islamic-Western, and Iranian-Islamic-Western. These forms marry Islamic-Iranian motifs and ornamentations to Western traditions [3].

In this figure (Fig5) according to Madanipour, the changing of patterns of the building form, from (1) an Inward-looking, Low-rise Courtyard House to (2) an Outward-looking, Medium-rise House with a Courtyard, and (3) High-rise Apartment, the new style has been responsive to the country's increasing housing needs. However, it has also contributed to a congested environment lacking adequate planning and larger social considerations for environmental sustainability. It is obvious that increase of land price and population and the houses areas do not respond

to some requirements, such as privacy, while there is not enough space to create them. Today, most new high-rise housings in Tehran resemble piled up boxes very much like those found in the inner cities of the West.
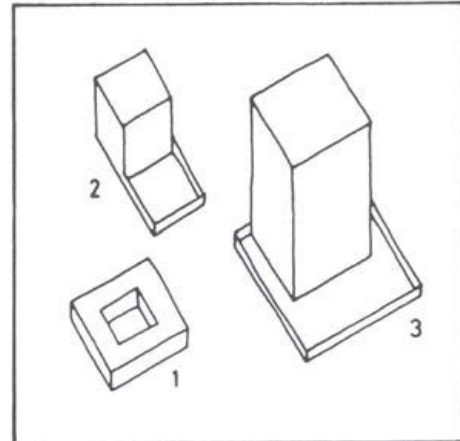

Fig 5, the transformation of Iranian house from central courtyard to today's apartment.
Source:Ali Madanipoor

According to Haeri , Analyzing different types of contemporary architecture shows that living spaces are divided into two groups in terms of the spatial organization aspect: separated and combined areas, which are described as following[5].

Combined spaces: These types of spaces cannot be defined clearly and this is due to the unclear district of entrance, dining room, or living room; since such functions are merely divided by furniture. In addition, there is no view or day lighting potential for this part of the house. The only function that might be different from other parts and might have an independent spatial quality is the kitchen. Kitchen besides having the view and lighting has the potential to be flexible and expand to other areas. In some examples patio can be in this category and can provide the natural light besides the view. As far as un-expandability of these spaces is concerned, there cannot be a specific definition for them.

Separated spaces: Besides living rooms, dining room, and relevant spaces, there are some spaces that are not firstly visible and are separated by

walls and partitions. These spaces such as bedrooms, bathroom, or toilets, are not combined with other spaces.

Fig6. Two instances of apartment plan in Tehran, with 2 main masses of combined and separated spaces, without the ability of changing to each other or dividing to smaller spaces

3. Flexibility in Architecture; the Response to the Changed and Unchanged Iranian Life Style

In this research, it is obvious, that the flexibility is introduced as a method for achieving the suitable quality of space. Because of the absence of enough space, today's Iranian compact apartments have lost their quality. Flexibility has to be evaluated in relation to the patterns of this organization as well, which is the lack of distinctive features. The problem of changeability then is not so much a matter of having to adapt and modify distinctive features, but of having those distinctive features in the first place. So long as the design of buildings was natural, it was thought, they could be put to different uses, and they could. Therefore, in theory at least, absorb and accommodate the influences of changing times and situations. According to Bernard Leupen "Flexibility and changeability are the keywords when faced with

the unpredictability. Flexibility became a theme in western architecture when architects embraced mass housing at the onset of the 20th century. It was the issues surrounding the 'minimum dwelling' that initially stimulated the thinking on flexibility in the 1920 and '30s"[8].The aim here was to make the most efficient use of space as other architects developed concepts for open, transformable living spaces.

Flexibility among residents has become a popular method due to many options it gave them, they are not satisfied with the current housing options. Not only is this not a modern idea, but also the spatial arrangement in traditional architecture of Iran was totally flexible toward requirements and living ways. There is no obstructed space in these houses. Each space, besides its dependent function, has the potential to combine with other spaces. Two free spaces such as three-door rooms and back rooms could create a bigger room for gatherings and ceremonies or other spaces like two-door rooms and the *shah-neshin*, (the biggest room of the house), court yard, and pool house, have the ability to get combined and create a bigger area and show the maximum capacity of the house. This means that all public space could combine with private spaces. The spaces that are helpful for expanding the spaces are middle doors among public and private domains, relevant spaces, hanged curtains , opened windows, and *Orsi*s are all spaces that have the potential to be combined. In architectural culture and literature, this type of dependence and independence of spaces shows the flexibility of the space. (Fig7)

As times change, and societies improve, using the multi functionality for most of the living area is no longer a suitable solution. Today's child of a family wants to have his/her separated space in house. Many of the functions no longer have the ability to be in the same place as past. Many factors of today's human life cannot be strictly analyzed generally. A closer look at either one or many individuals, or at the

diversity of activities, desires, and interests, helps one to define the systemization without overgeneralization. When designing a dwelling area is in a way to fulfill the family's requirements, so each person's situation, hopes and tastes has to be considered.

If the design allows the necessary framework and freedom for flexibility, then both the architect and the inhabitant share the creation of the space together, as it now begins to respond to living patterns and the flow of time.
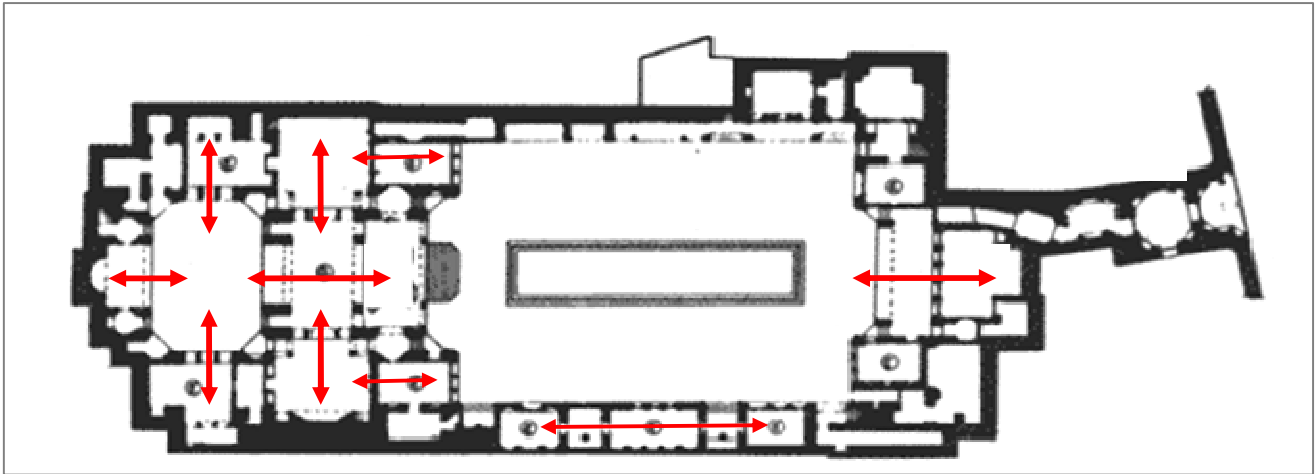

Fig7, the plan of Tabatabai's house in Kashan shows the ability of combination of spaces together by suitable arrangement of relative spaces near each other, and the usage of flexible partitions.
Source: author

4. Spatial Analysis in Iranian Housing Typology

Since the 20th century, dramatic global changes including advancements in communication have affected Iran. The transformation of urban structure, the growth in population, and the rise of new careers have led not only to massive changes in life style, but also to the emergence of small-scale houses. Transformation of Iranian houses from central courtyard houses to apartments during the past century is one notable example. The growth of population was the main reason for the transformation of the houses to compact apartments. However, as these changes have concentrated on the physical or external aspects of life, several cultural norms and values that constitute living habits have been left out. One of these cultural conflicts that have occurred during such evolutions is the loss of privacy

inside the house and different apartments, which was discussed in this paper.

In today's dwelling spaces, every area that was used in traditional houses is used minimally. The iplans of today's apartments of Iran usually include living room, kitchen, bedrooms and bathrooms. Relying on the explanations above, and paying attention to small size of these houses, all of these functions which are enforced to contain ,open, closed and covered traditional architecture, just includes combined and separated masses.

In addiction, compared with the past, today's functions are so elaborated that some spaces that were considered to be private have become public nowadays. For a more detailed analysis, these spaces will be compared one by one. Kitchen is one of these spaces. '*Mat-bakh*' is what it was called in the past, and it was a place used only for cooking and washing in which women were the only people who dwelled.

Nevertheless, today's kitchen is in the public areas and people use it during whole day since it might play the role of a small dining room. The function and activities of traditional private zones as compared with today's private zones, as well as the traditional public zones as compared with the combined zones of today will be analyzed and compared throughout the rest of this paper.

	Functions \ Activates	Family gathering	Eating	Cooking	Sleeping	Pray, relaxing	Entertaining	Washing evacuation
Traditional private zone	Rooms	✳	✳		✳	✳	✳	
Traditional private zone	Kitchen			✳				✳
Today separated zone	Bed Rooms				✳	✳	✳	
Today separated zone	Bath rooms							✳

	Functions \ Activates	Family gathering	Eatig	Cooking	Sleeping		Entertaining	Washing evacuation
Traditional public zone	Court yard	✳	✳	✳	✳	✳	✳	✳
Traditional public zone	Talar (Guest area)		✳		✳			
Traditional public zone	Hall	✳	✳		✳			
Today combined zone	Living room	✳	✳					
Today combined zone	Dining room	✳	✳					
Today combined zone	Kitchen	✳	✳	✳				✳

Table 1and 2, the comparison of different functions in traditional houses and functions in today's compact apartments, based on the ability of responding to different activities.
Source: author

In these analyses, the obvious point is the mixture of the open (courtyard) and closed (rooms) space in public boundaries of the traditional house in addition to the absence of open space in today's apartments. The other point is the multi functionality of spaces in traditional living zones that created, variegate of spaces and activities in both public and private zones. On the other hand, this fixed functionality of today's compact apartments is because of the shrinkage of. private area and the

tendency toward individual territories in the house, which has caused the loss of private quality and quantity of space

In fact, housing design standards is extracted from life style. When the main aim is to make deep changes in housing design and construction, the close inspection of the spatial arrangement and life style is mandatory. Life style includes the institution of family, interaction among the relatives, eating and spending time with them, storing food in winters, using walls for boards and pictures. There are such examples that specify a particular family. The activities done within the house depend very much on each person's personality, and each activity requires a relevant space. In a typical activity, each detailed space can be suitable, disturbing, or facilitating. Unfortunately, limiting the activities to few ones within fewer rooms may lead to a disintegrated live style.

Designing systems of sub-spaces can help to establish more functional convergence instead of the current divergence in today's life style, just like the last 50 years when all buildings and functions were designed in order to diverge and be dependent. The reality of life is that it encompasses a wide range of human activities that people do individually and collectively. Doing so, a wider range of tools are utilized in these activities. From this perspective, several meanings, feelings, beliefs or sympathies are felt and needed within the house. A House has to include too many types of activities inside and conduct different feelings of people. As a result of this, contemporary apartments need to have the minimum space territories and organizations as mentioned below:

Public area: this area includes family gatherings with friends and relatives. This area needs the maximum potential of expanding. Semi-public area: is the common area for all family members to gather. This space can be expanded with preparing the minimum privacy.

Semi-private area: this area is made of two or three people of family members. This space is for the family only and cannot expand as the semi-public spaces can.

Private area: this is a territory of individuals. This space has included all the privacy boundaries and created a specific indoor area.

Accessibility to public spaces shows the importance of expanding these spaces. The private spaces and semi-private ones show the importance of independence of spaces. On the other hand, different spaces have to be flexible in order to include different activities. According to fixed measures of land and designing system, the combination of different spaces shows the flexibility of space besides keeping the privacy. (Fig8)

Public   Semi public   Semi private   Private

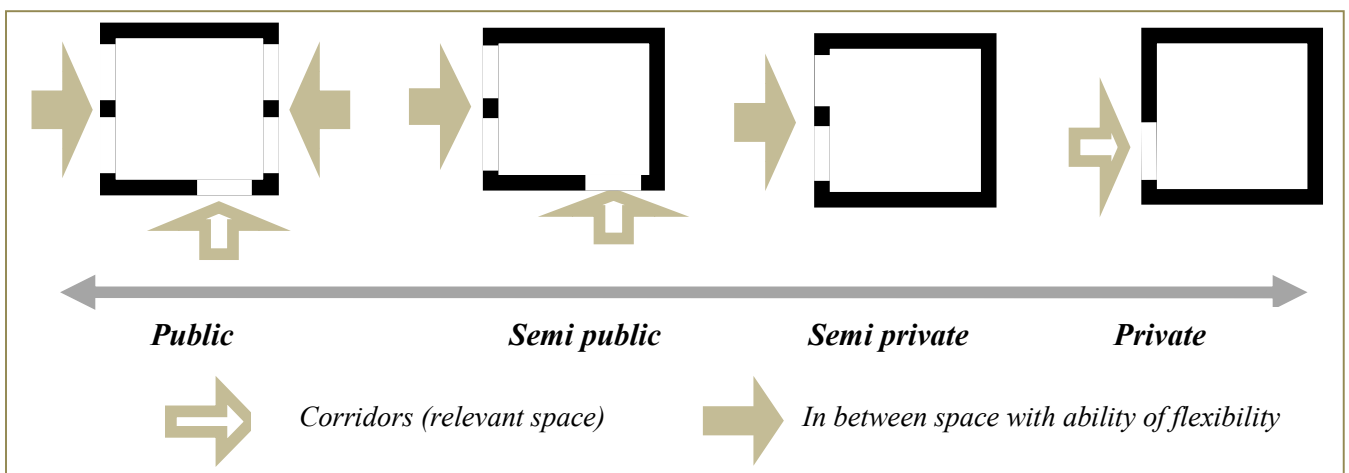Corridors (relevant space)   In between space with ability of flexibility

Fig 8, the potential of expanding the zones based on boundaries

Applying this type of design in contemporary architecture needs the whole design of the space, whole space and subspaces altogether. This type of design means that spaces with common functions, such as the bedrooms, can be converged in a specific area in order to create the semi-private spaces. This type of design has the ability to be flexible for rooms, when for instance there is a need for two bedrooms to be mixed and expanded. Another combined group can be the kitchen and living room to create a semi-public area. It has to be noted that that such spaces have to be prepared for storing and keeping tools. Hence including some service space is mandatory. All these point help an area to be more flexible to respond to more activities, and to be optimized limited space. (Fig9)

4. CONCLUSION

Overall, in this article the goal is achieving privacy in today's compact apartments by using the flexible architecture. At first there must be a detailed analysis of the suitable settings, functions, accesses; whether from spatial sight, dimensional, or privacy. Privacy is a complex issue, which has a direct connection with the human senses of place, and is affected on different levels ranging from visual and acoustical to mental and psychic privacy. Providing all kinds of privacy is not possible in today's compact apartments. Whereas understanding the minimum level of privacy that each apartment needs can be a solution.

Two goals were achieved in paper by reviewing ideas from the traditional architecture of Iran, and analyzing apartments in contemporary architecture of the country based on the cultural conflicts of housing. Firstly the problems that people are facing in today's compact apartments were demonstrated, and secondly flexibility, as a solution in this case, was introduced. Flexibility as a helpful tool and method for setting was introduced. As elaborated, it increases the relation of dweller with space in which he lives. On the whole, having a correct setting of spatial masses near each other by keeping the privacy is important. Then by using the flexible architecture, variegate spaces will be created and it would become such suitable tool in order to change these spaces.
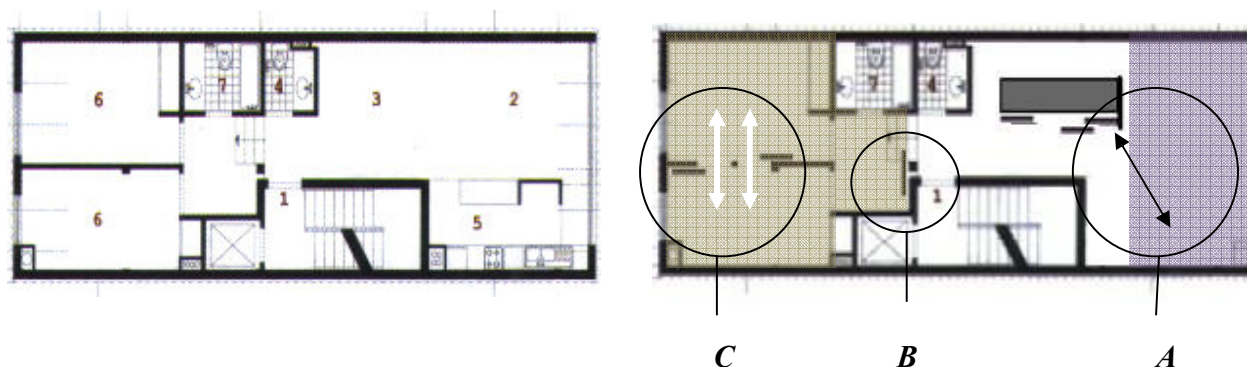

C   B   A

Fig 9 , in building "Dowlat 2", by Arash design group, built in 2008. This building is included in small module buildings, with area of 80 Sqm. In this layout, three steps for having more privacy could be used, by employing of flexibility. Step A is changing the position of kitchen, and make in-between zone among the public and private spaces in this apartment. Kitchen with movable wall has the ability to combine with corridor, and create a dining area, also be a separated kitchen, close to public zone. The step B is installation of one sliding door, for emphasizing on the separation of the public and private zones. In step C, rooms can turn flexible by using some partitions between these areas, which help the dweller to have semi private space.

References:

[1] Yusuf Al-Qaradawi, *The Lawful and the Prohibited in Islam (Al-Óalål Wal Óaråm Fil Islam)*, Indianapolis, American Trust Publication, 1960

[2] Després, C. The meaning of home: literature review and directions for future research and theoretical development, *The Journal of Architectural and Planning Research*, 1991, 8, pp. 96-115.

[3]Diba.Darab,iran and contemporary architecture, *Mimar magazine*, No 30 ,2003.

[4] Georgiou, Michael, architectural privacy, *a topological approach to relational design problems*, University of London, 2006

[5] Haeri,Mohamad Reza, *House in culture and nature of Iran* , information and research center of architecture and urbanism publications,2010

[6] Heidegger, Martin. "*Building, Dwelling, Thinking*. Basic Writings, London, 1993.

[7] Hertzberger H. *Lessons for students in architecture*, 010 Publishers .2005

[8] Leupen, Bernard . *Frame and generic spaces*, 010 Publishers, Rotterdam, 2006

[9] Madanipour Ali. "*Public and Private Spaces of the city*", Rutledge, London .2003

[10]Mallett, S. Understanding home: a critical review of the literature, *The Sociological Review*, pp. 62-89. (2004),

[11]Moore, J. Placing home in context, *Journal of Environmental Psychology,* 20, pp. 207-217 , 2000

[12]Mortada Hisham, *Traditional Islamic principles of built environment*, taylor and francis 2003

[13]Pirnia Mohamad Karim, Sabk Shenacy (Methodology*), Journal of Art and Architecture (In Persian*), N0. 10-11, 1971

[14]Westin,Alan F., *"Privacy and Freedom*", New York: Atheneu .1967