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Courtyard Housing in Tripoli: Tradition, Modernity and Users' Perceptions

Seham Elmansuri

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ABSTRACT

This socio-spatial study explores the meaning of home in an Arab context. It reinterprets the concept of the Muslim-family home (Arab courtyard-house), in terms of space arrangement/flexibility/use, gender, and privacy. The overall aim is to develop a deep understanding of the meaning of home from the perspective of users in Tripoli-Libya. It explores, therefore, the change and continuity, tradition and modernity in the physical form and use of the courtyard house. It also investigates how the role of the courtyard home influences the daily life of women in Tripoli.

Over the past four decades, the courtyard house, once the most common type of dwelling in Libya, has been largely ignored in new housing development. On the other hand, the use of the courtyard house continues to be supported by a minority of architects in Libya, inspired in part by the ideas of Fathy. The opposition of these architects and more generally the ideas of Fathy, raise a series of questions that are the focus of this study: 1) Why has courtyard-housing declined in new development? 2) Can courtyard housing be justified in the present Tripoli? 3) To what extent do modern Libyan homes express points of continuity and change from traditional patterns? 4) How, as part of this, are they embedded into contemporary lifestyles and patterns of family life?

To answer these questions, a mixed-method approach has been employed within two stages: the first, socially-qualitatively driven (i.e. questionnaire survey, interviews, focus groups and photo-elicitation) and the second, architecturally-qualitatively driven (i.e. space-syntax). The first stage utilized two focus groups – the residents and the architects, conducted as a platform to simultaneously use photo elicitation, and semi-structured interviews. The second stage applied the space syntax to extract more hidden socio-cultural aspects of the Libyan homes (e.g. gender and access control).

This study makes a contribution to the home research in a number of ways. Firstly, to the methods of housing user research, as the study utilized mixed-methods that combine the qualitative research with a socio-spatial analysis. Secondly, to understanding the production of courtyard-housing in Arab countries, applying the epistemological frameworks of Lefebvre and the methodological example of Boudon, integrated with the cultural prescriptive approach of Fathy, in an Arab context. In doing so, it provides an original perspective that has, hitherto, received little attention in the literature, particularly within Arab housing studies. Thirdly, to understanding the use of the home from women's viewpoint.

The research has been undertaken from an explicitly female, Arab and architectural perspective. The most subtle characteristics of the Muslim-Arab home, for example, come mainly from its configuration of elements that were tested by people's traditions and culture. It is, therefore, very different from Western writings on the home, including feminist writings of the home, gender and space use. It is also different, however, from Arab studies of the home as these have been undertaken predominantly from a male perspective. Finally, the involvement of a woman as an insider/indigenous researcher provided access to a domestic world that it is not possible for male architects or housing experts.

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Chapter 1: Introduction

1.1 Background and rationale for the study

This study is about the meaning and design of the home in Libyan, Arab society, with 'home' understood as 'an interrelation of objects, spaces and practices' (Boudon, 1972:89). Since the 1950s and early 1960s, the oil discovery and modernisation influenced the Arab cities, home design and societies, including Tripoli and Libya. People's lifestyles have quickly transformed from traditional forms to a petroleum-based society, and modern living with significant advancements in education, technology, trade, and industry (Malkawi, 2008). Urban planning, therefore, has produced buildings that offer new types of internal spaces, often without reference to tradition or indigenous life-styles (Shawesh, 2000).

Fathy (1973) argues that the home should be formed to reflect the people's cultural norms. This means knowing the people's culture in order to identify the way in which they occupy/use home spaces. The house form, however, is a consequence of a whole range of socio-cultural factors, and it is in turn modified by climatic and environmental conditions and by technology as well (Rapoport, 1969). Reconsidering the indigenous forms (i.e. courtyard-house), provide a tool to assist in home design and use to mediate between past tradition and contemporary conditions (Rabbat, 2010; Edwards *et al*, 2006; Ishteeaque & AlSaid, 2003).

Recently, there has been a resurgence of interest in traditional forms of design. Arab architects, including Hassan Fathy, have advocated the use of traditional forms as a means to revive people's faith in their own culture, asserting the importance of local pride in cultural roots and Islamic values (Fathy, 1986; Allafi, 2010; Al-Haroun, 2015). Western housing studies (e.g. Chermayeff and Alexander, 1963; Goodchild, 1997; Colquhoun and Fauset, 1991) have examined the potential of placing a courtyard or patio to allow high level of privacy for different household activities. The patio-house, however, was considered as a theoretical alternative only with respect to density, street patterns and damp weather in northern Europe.

In Libya, some architectural studies have used the traditional courtyard house as a reference, which was understood as a shelter that fulfilled people's needs in relation to socio-cultural criteria as well as climatic factors (Allafi, 2010; Gabril, 2014). Rapid development

and modernization, however, neglected local traditional architectural conceptions to solve current challenges that face Libyan's housing development (Allafi, 2010). There seems to be an increasing gap between people's traditions and present relations towards the home layout and a greater concern for the future. Rather, as Jarbawi (1981) and Al-Naim (2014) argued that rapid urban growth is usually associated with socio-economic change.

Similar to other developing countries, the conflict in the Arab world is between borrowed elements, which are mostly values and beliefs. This has produced numerous social problems for Arab-city urbanisation. What has happened to Arab cities in the last century is an almost total urban transformation. It is debatable whether this physical change caused the social change or vice versa. What is clear, is that an obvious contradiction appeared in Arab society between tradition and modernity. Thus, to what extent the contemporary built environment would meet the cultural demands of Arab society. One of the major consequences of the ignorance of people's cultural needs was that the physical characteristics of the contemporary home environment reduced, for example, the domain of women (Al-Nowaiser, 1987). For that reason, research into people's perceptions becomes of paramount importance to understand this complex social phenomenon: the spatial and socio-cultural meanings of home and its users.

In Libya, there has been no research that explores people's understandings of home, space use patterns and gender. Other studies (e.g. Fathy, 1973; Bianca, 2000; Rabbat, 2010) have recognized the value behind the traditional form of courtyard-house and some even advocated its use, but none explored how this form has been valued and perceived by its users, and particularly how it affects women's role/space. This study uses the Libyan courtyard-house, including the modern design as a means to examine and understand the larger phenomenon of tradition and modernity. It does this by exploring people's understandings of their homes, especially, how it affected women in relation to their domestic world. It focuses on the conflicting tensions between tradition and modernity in relation to identity, use and cultural-adaptability of Libyan homes.

1.2 The purpose and aim of the study

In Islamic Arab society, the house is a private realm. Family and guests' domains are well defined to designated areas in order to ensure gender-segregation and privacy are maintained. The courtyard house is widely considered as an appropriate form in that it fits

the socio-cultural aspirations of its users. The courtyard house concept is also responsive in the sense that it offers a domestic domain in which tradition, social norms, religious, privacy and gender are rigorously ensured. This concept enables the designers to link between present forms and traditional patterns. These progressive considerations remain largely unfulfilled within housing studies in Tripoli and other cities across the Arab region.

The overall **aim** of this research is to develop a deeper understanding of home from the perspective of users in Tripoli-Libya in a socio-spatial context. The purpose of this study is to explore the meaning of the Arab-home, interpreting the role of the courtyard home in the daily life of women in Tripoli. It examines the underlying issues, concerning physical form, space use, privacy and gender to identify the tensions between tradition and modernity. The study adopts a socio-spatial approach to explore the change and continuity in the concept of the Libyan homes from the perspective of users.

1.3 Why courtyard-housing? Research questions

The overall research aim is addressed by means of four research questions, which are used as a guide throughout the study's theoretical, methodological, and practical stages:

1. Why has courtyard-housing declined in the new development?
2. How can courtyard housing be justified in present Tripoli in relation to gender, perceptions of use, and meaning of the home?
3. To what extent do modern Libyan homes express points of continuity and change from traditional patterns in terms of socio-spatial and cultural values?
4. How, as part of this, are they embedded into contemporary lifestyles and patterns of family life, particularly role and space of women?

1.4 Focus of the study: definitions

1.4.1 The home

The meaning of home goes beyond the physical structure of the house, which should be regarded as the setting or locale for certain social practices that might be called 'home life' (Lawrence, 1987:117). It is conventionally understood as a creative of culture of any given historical context (Oliver, 1997; Altman & Werner, 1985). However, most people perceive their place of residence 'house' in terms of symbolic meanings as an experienced

space 'home' (Easthope, 2004; Massey, 1992). The discussion of the meaning of home, and of what makes a house a home and not merely a place of residence, should focus on the different components of home which play a role in the construction of self-identity, gendered-division, and cultural and symbolic meanings. This is mainly because the form and use of houses is largely affected by the cultural environment; the way of life of a society (Marcus, 2006; Gurney, 1997).

To regard a house as a home which comprises the 'lifeworld' of the self and others, Goodchild (1997:33) argued, means that certain quality considerations have to be found in the house such as stability and security where issues such as privacy and the control of interaction and appearance are covered. In this study, the meaning of home refers to what makes a house a home, what a home symbolises, what home means to people in the context of their particular ways of life and culture, and how people define their homes and describe their importance. It examines the physical form of the Libyan homes, notably the courtyard-house concept. The empirical study focuses on users by exploring their perceptions of space use and gender.

1.4.2 What is a courtyard house?

The term 'Arab courtyard-house' is used in this study to refer to the inward facing style, in which the rooms are arranged around an open space located in the centre of the house (Fig.1.1); and to the house being compatible with the demands of Islamic culture in which the issue of privacy and gender is a dominant social aspect. Courtyard-housing is one of the oldest forms of domestic development, spanning at least 5000 years and present in distinctive form in many regions of the world. Its advantages were acknowledged and used by urban dwellers since ancient civilizations and was widely adopted during Macedonian, Roman and Islamic civilisations (Schoenauer, 2000).

Traditionally was associated with the Middle-East where climate and culture have given shape to a particular type of courtyard house (Edwards *et al*, 2006). It becomes a generic typology in hot-arid climate and forms the basis of the urban patterns in the Medinas of the Islamic-world (Ozkan, 2006; Bianca, 2000). It is defined as a typology in which all living areas are distributed around the courtyard (Scudo, 1988). 'This shape was neither accidentally conceived, but is symbolic' (Fathy, 1973:3). The house is made up of a variety of

rooms, some of which have roofs and others which do not. The patios/courtyards are simply rooms without roofs (Poster, 1989).

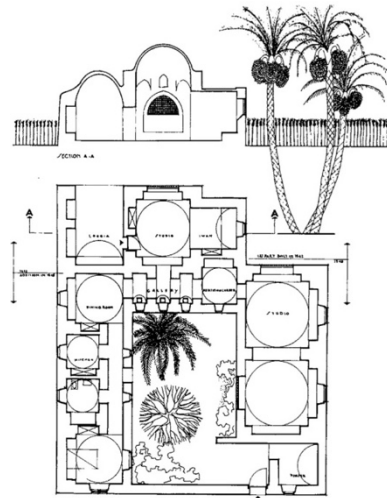


Figure 1.1: Typical layout of the courtyard house

Courtyard-house designed by Hassan Fathy, Cairo-Egypt, 1945. Source: Serageldin (2007:61)

The first configuration turns up in the Arab region in revised form having been transferred from exterior tent to interior space in response to either socio-economic factors or simply as a reflection of the growing desire for a greater degree of privacy from increasing urban force (Steele, 1988). From these roots, the idea of the Arab courtyard-house was significantly associated with socio-cultural, environment, religion, and women-privacy. The central private domestic space (i.e. courtyard, Fig.1.2), is understood in an Arab context as a domain of women and family (Noor, 1991; Fathy, 1973).



Figure 1.2: The inner-domain of the courtyard-house: the domain of women & family

Traditional courtyard-house, Cairo, Egypt. Source: Bianca (2000:72)

1.4.3 Modernisation

According to the Oxford English Dictionary, modernisation has multiple meanings, including: as a theory of social development; as a style of décor or building design; and as the installation of modern equipment and technology. The OED defines ‘to modernise’: 1) *trans.* to make modern, to bring up to date; to give a modern character or appearance to; to adapt to modern needs or habits. 2) *spec.* (A) to rewrite (an old text) in modern spelling or language; to change (obsolete spelling, words, or language) for modern equivalents; (B) to remodel and refashion (an old building) in a modern style; to provide (a house, business, etc.) with modern conveniences or equipment.

Modernise on this second definition (**which is relevant to this study**) means installing modern domestic equipment- sanitation, hot and cold running water, cooking equipment and air conditioning, as well as TV’s, home computers etc. It also means updating the urban fabric to modern forms of communications, including, in the recent past, motor traffic. ‘Modernisation theory’, which also defined by (OED) as ‘a theory of social development originating in the United States in the 1960s as an alternative to Marxism, which proposes that all societies necessarily evolve from a simple to a complex structure and towards a goal of industrialisation’. There is another, simpler definition of ‘Modernisation’, meaning the act of making modern.

Modernisation as a theory of social development and as the installation of modern equipment and technology are the most relevant to the context of this study. By 1920, large parts of the world were under European influence. At this point in time, the Western model was largely recognized as a Modernism, and as such, the Westernisation that occurred followed the Modern Movement and its ideals (Kiet, 2011). It is viewed by some as a new form of colonialism, which affected the socio-cultural, identity and privacy stability, for example, its impact on the Arab societies (Mahgoub, 2004; Beck, 1992).

1.4.4 Westernisation

The non-Western societies become modern when they interact with Western societies, especially those which were invaded by West (Al-Naim, 2014). These changes have also generated new forms of individualisation. They affect patterns of interaction dependent, for example, upon housing and living arrangements. Thus traditional forms of community

beyond the family are beginning to disappear (Beck, 1992). Moreover, it is important to understand and accept modernization as another phase of human development, however, according to the response to change in circumstances, and not forced in (Fathy, 1973).

The process of change is associated, therefore, with the West. Westernisation is understood as the adoption of Western (European and American) ideas. Modernisation as a theory of social development is very similar with and overlaps concepts of Westernisation. Modernisation as an equipment and technology, however, does not necessarily mean Westernisation (Al-Naim, 2014). Societies, in principle, can modernise without Westernising, especially if modernisation is understood in its alternative meaning as the installation or use of modern conveniences and technologies (Lal, 2000).

Whatever the broader debates about modernisation, the adoption of Western models of architecture, building and planning have been criticised as failing to adapt to the local customs in the Arab world and as a result, create a confrontation with established traditional values of society (Allafi, 2005; Emhemed, 2005; Almansuri *et al.*, 2010). This thesis examines such critics and also examines whether living in a dwelling designed according to non-Arab/Western models has any impact on life-styles.

1.4.5 Tradition

The word ‘traditional’ or ‘tradition’ refers to a form of cultural continuity, which reflects the beliefs, customs, and practices of a group of people over time (Al-Haroun, 2015). Rapoport (1969:6) defined tradition as a model resulting from the ‘collaboration of many people over many generation’. From an Arab context, it is based on materialistic-culture in different forms which are essential for societal survival. In other words, tradition is the social identity of personal habit (Fathy, 1973; Al-Naim, 2008). Fathy (1973:29), defines ‘tradition’ as all inherited experience and the ‘legacy acquired over generations’.

Tradition, in this sense, is seen as a mechanism which has no authority but ‘forms the most important source of our knowledge and serves as the base of our thought and action’ (Al-Hathloul, 1981:254). For this study the word ‘traditional’ refers to the indigenous form of the Arab house (traditional courtyard-house). It also refers to the persistence in the respondents’ social norms, different codes of behaviour, beliefs as well as space use and

furnishings. The term 'tradition' has also been used in this study to differentiate it from recent trends in society and housing forms towards cultural adaptability and identity.

There are also traditional architectural-components derived from the Libyan traditional courtyard-homes, for example: *Housh-Arbi* (Arab-house/traditional courtyard-house); *finna/wast-elhoush* (courtyard); *Dar-Maqaad* (sitting room/female reception); *sala* (central living roofed area); *Elsida* (Mezzanine/sleeping/storage); *marbouah* (Male social room); *Mashrabiyya* (wooden lattice). These components emerged from the empirical study, therefore, for this study they have been used as a basis to elicit people's understandings and the cultural values of their domestic spaces.

1.5 The significance of the study

This study fills a gap in the literature about the socio-cultural and spatial implications of the most basic institution in contemporary Arab society- the home. This study builds upon recent debates on the socio-spatial aspects of housing, highlighted by both the Western and Arab writings. However, while acknowledging the values of the existing literature this study extends the analysis to go beyond the case study of courtyard homes in Tripoli, Libya. The focus is on home meanings and the physical form, and this opens up a range of crucial issues concerning, for example, gender relations/roles, family and socio-cultural values of home, women privacy, hierarchy and patriarchy of spaces.

These issues and their links to broader housing concerns and the home as a whole have been neglected within the literature. This study extrapolates beyond a specific local case study because it raises issues of modernisation, Westernisation and tradition. These issues certainly are encountered in Arab countries, however, they are also encountered in the Western world. It has a particular relevance to the discussion of gender/housing-design/space-use and meaning of home in the Western-literature. Firstly, conflict between tradition and modernity is significantly demonstrated. Secondly, woman's views about gendered-roles and space use are also discussed in this study, bringing into focus Western discourses of home (e.g. Lefebvre & Boudon, 1972; Easthope, 2004; Marcus, 2006; McDowell, 1983; Saunders & Williams, 1988; Madigan *et al.*, 1990; Gurney, 1999). Thirdly, the continuity in the expectations of the females' perspectives about home, space use and lifestyle within different modes of housing forms is also discussed.

The discourses of Western housing literature on home-meaning, gender/space use (e.g. Smith:1987; McDowell:1983) give foundation to this study's exploration of the relevance/similarities/differences to these studies that have been highlighted in this context. To demonstrate differences and originality, this study deals with the shift from tradition to modernity in the physical form and use of the courtyard home. It deals with how this form of dwelling is perceived and valued, and how it influences the daily life of women.

These particularities of the Arab woman are not considered in the Western-literature, although Western traditions identify the idea of the home having the negative-side (e.g. Madigan *et al.*,1990; McDowell, 1983). This dark-side of the home, for example, is also triggered in the Arab-home through the traditional views of the woman. There are differences, however, in the way that the Western-traditions and the Arab perspective see the idea of this negative-side. The Western feminist/writers have raised the question of the 'dark side' of the home in relation to gendered-roles from equality and oppression aspects. Whereas Arab-perspectives address this idea from religious and socio-cultural norms that are rigorously held/respected in Muslim-societies (e.g. Othman *et al.*, 2015; Sobh & Belk, 2011). The position and culture of Western feminist are likely to be very different from the assumptions of Arab societies. Arab feminist writers (e.g. El-Guindi, 1999:1981; Altorki, 1994; Mernissi, 1991; El-Solh, 1988) see that gender-differentiated areas in the home, for example, exist in different degrees throughout the Muslim world, in Arab-Islamic societies, they remain prominent. This study can show, through these studies, that there is an absolute chasm, not just a gap in the literature on the concept of home.

In this study, the concept of courtyard-housing is interpreted in terms of change, continuity, tradition, and modernity. The original focus of the research is on the courtyard-house and how it is valued and perceived by its users. The study also provides deep insights into how women are affected in this type of housing. None of the previous studies (e.g. Shawesh, 2000; Amer, 2007; Allafi, 2010; Gabril, 2014) have considered this concept from this particular perspective. These studies gave such assumptions that courtyard-house would adapt to the Libyan lifestyle, they did not, however, seek the perspectives of women. In this research, the women have been interviewed to explore their views in traditional and modern context.

Arab literature of home relates the Muslim-home to women's privacy, social norms/traditions and religion, which contributed to unify the character of the Islamic Arab architecture (e.g. Bahammam, 2006; Fathy, 1973; Zako, 2006; Hakim, 1994; El-Guindi, 1999; Moghadam, 1999). For example, in the courtyard house there is a reversal of roles and, the woman partially controls the domestic domain and the tasks she performs. The men, and especially visitors of non-kin, are segregated from the core activities (Zako, 2006). These assumptions and implications have not previously been explored from the perspective of users, particularly female users.

Importantly, to emphasise a key contribution this study makes is that the researcher is a female architect, looking at the Arab home design in a gender-segregated Muslim society. The study is directly influenced by the researcher's experience as an architect, considering the physical form from an architectural viewpoint. Also the social position of the researcher as an Arab-woman allows access to the women's domestic domain, which male researchers could not have done. In fact, the access to the Arab inner-domestic world is affected by religious and social norms. Beyond that, this position gives the researcher insights into the Arab cultural norms as an insider-researcher, which the Western-researcher/outsider also would not experience.

To elaborate on the distinction, which is applicable to many types of research: being an insider is necessary to understand the cultural practices and social expectations. Being an outsider is necessary to provide a critical perspective and is facilitated by the use of comparisons (for example in this research through comparing Arab and Western concepts of the home or Arab and British examples of courtyard homes) and by the use of systematic theory and methods applied to a specific case, as is of course the aim of this study. Inside knowledge, generated by being a member of a group or by an adherence to a particular set of beliefs. Inside knowledge is not of itself a source of bias and it provides insight of which outsiders would be unaware. Inside knowledge needs a sense of critical awareness, however, and it needs to be tested (Altorki & El-Solh, 1988; Altorki, 1994).

For this study, this point of positionality offers good means of observations about how the layout of the typical Arab courtyard home is organised to promote, for example, control and role of women. Based on a situational context (researcher's role as an Arab female) accessing to knowledge in her own-society, this study poses a number of epistemological

questions: why this particular topic; how the researcher acquire data; and in what ways the researcher analyses and interprets this data. This study is probably of interest to people and architects of Libya, however, it can also be of interest to researchers and housing experts who are outside of Libya and Tripoli, including Western-researchers. In other words, this study can be related and generalized in relation to the wider housing literature (i.e. Western housing and feminist literature), as it identifies the influence of tradition and modernisation/westernisation on the physical form of home and users, particularly the female users.

1.6 The theoretical framework

The theoretical framework is essential in not only understanding the philosophical basis for the research but also in providing a link between the theoretical concepts and practical aspects of the study (Silverman, 2011). The research is driven to respond to many themes (i.e. modernisation/Westernisation, tradition, change, continuity, home meaning, gender, and space use) in relation to the concept of the courtyard home in Tripoli. In order to interrogate this, a theoretical construct is presented with interconnection between the social and spatial and the cultural identity, adaptability and the idealistic approach of spatial production for the Arab society. The interconnection between social-reality and space-production is emphasized by Lefebvre (1991:31):

‘every society...and hence every mode of production with sub-variants...produces a space, its own space’

By mode of production, Lefebvre essentially means industrial capitalism (typical of Western-Europe in the 20th century). However, the same principle can be extended to Arab societies, for example, those based in traditional forms of production based on agriculture and trading; colonial forms of production and petroleum-based, boom societies.

This study examines change and continuity in the spaces of an Arab city, (Tripoli-Libya), which has been through those modes of production. Lefebvre also provides a series of analytical concepts, including the specification of different levels of analysis; the abstract, the intermediate, and the concrete (Lefebvre:1969). They enable the examination of what is respected at a particular time, for example, the concrete-level changes according to lifestyle/family patterns.

This study deals with moving targets – the architects’ intentions and ideologies/policy, change as a result of different patterns of development (e.g. traditional forms of the Medina, colonial/Italian, oil boom, Gaddafi-era, post-Gaddafi era). There is also lifestyle, gendered-segregation and space use, which are profoundly affected by changes in the family home concept. Fathy’s (1973) theory, in contrast, is about the direction that housing, building and urban development should go in Arab-countries. It is prescriptive, asserting how Arab housing forms, notably the courtyard house should develop.

Fathy (1973:53) considers ‘cultural authenticity’ as a key aim of his principles, rejecting architecture that is not rooted in the location and culture of the environment, including an ‘overly romantic vision of the past combined with a mystic understanding of Islam’ (Richards *et al*, 1985:33). Fathy looked at the Arab house as ‘an expression of Arab culture’. He has methodically dealt with the Arab house within a cultural context, in an attempt to identify a continuity of standards that might serve to replace a highly subjective set of design variables imposed by those from outside his traditional frame of reference (Steele, 1988:23).

There is a distinction between Fathy’s cultural/idealistic approach and Lefebvre’s institutional levels. The latter is materialistic, emphasising that there is inevitability about the different forms of producing space, and analyses what is happening when the mode of production determines what is produced. On the other hand, Fathy raises something slightly different, through which Arab culture is the distinctive factor in defining the urban form, and highlights the idealistic way in which the Arab society should move.

Thus, this study, juxtaposed both social theories to examine socio-cultural aspects that Fahty identified concerning how the courtyard house is a suitable form for Muslim-family lifestyle. Lefebvre, in turn, provides classifications of the levels and how to examine the concrete reality of users against the professionals’ theories/ideologies (Fig.1.3). The dual influences of Lefebvre and Fathy identify the study context in relation to home institution, modernisation/standardisation/Westernisation, and the shift in society and socio-cultural values.

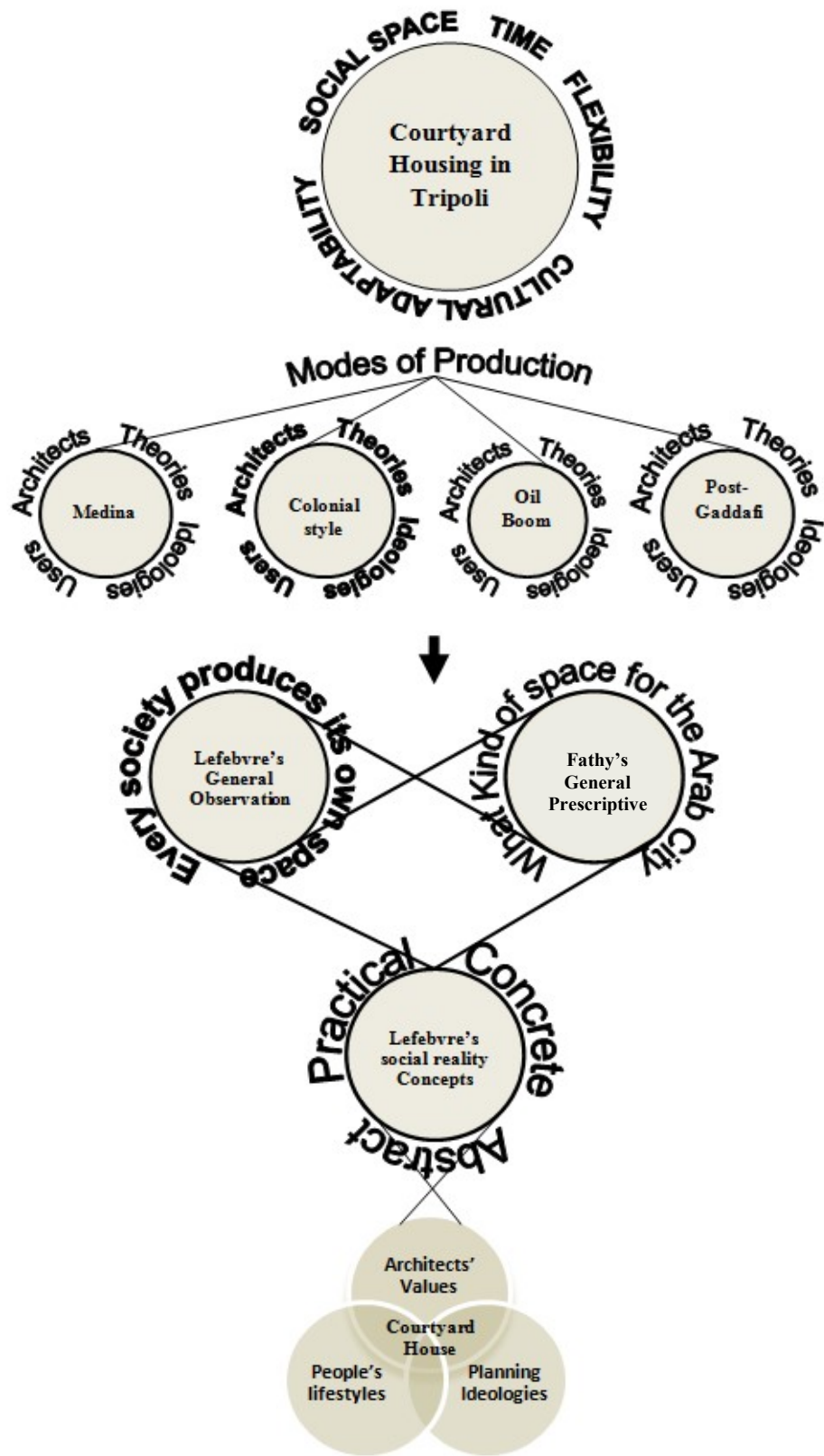


Figure 1.3: Assumptions of the study & integrated theoretical-framework

Source: Author

1.7 Methodology

In order to fulfil the research gap in terms of the socio-cultural aspects of courtyard housing, appropriate information had to be collected and analysed. A mixed-method approach was employed to ensure that greater insights can be developed to understand the socio-functional of courtyard-housing. Within three courtyard housing schemes in Tripoli, harnessed a complementary range of qualitative methods, namely: questionnaires-survey/350 samples (222 completed), individual interviews (15 residents, 13 professionals), focus-groups (7 women focus-group, 5 architects focus-group) and photo-elicitation to explore different avenues and attitudes.

The research draws on the method of Boudon (1972) as a methodological model to compare the remarks of residents with architects' conceptions raised within the focus-groups/interviews in relation to Libyan-homes layout and adaptability (social qualitative approach). In addition, 'Space Syntax' was employed as a supplement tool (an architectural qualitative approach) which revealed gender, control, and space access issues that did not come out in the focus group. Gender-segregation emerged through the research as one of the key determinants and implications in exploring the form of courtyard house (Fig.1.4).

Analysis and interpretation of the case study consist of a form of examining, categorising, and tabulating involved using themes and connections to explain the findings. This was achieved by developing a list of key themes discovered as a result of categorising and sorting the data. This was followed by a consideration of the implications of the findings. The field-study was conducted in Tripoli, a city situated in the north-western part of Libya, which is the capital and the largest city in Libya. Tripoli was chosen as an appropriate target for several reasons: firstly, it is the national centre for society, administration and cultures.

In addition, it represents paradigms of housing development in Libya: Tripoli is a Libyan city where there is a living bridge between traditional and contemporary architecture, including different forms of housing in which a diverse range of cultures is represented. Secondly, the Medina is one of the cities in North Africa, where traditional courtyard-housing remains well maintained and lived in. The north African Medinas feature the most formalised configuration with an absolute centrality of the courtyard. Thirdly, the author has an interest in, and knowledge of, Tripoli's architecture and culture, having experienced and trained as an architect in Libya for several years. Through designing, examination and review

of housing projects, the author noticed the many adaptations by users of their homes. As a female, the researcher is familiar with social norms and culture of the Libyan Muslim society, which helped in gaining access to the females of the case study facilitated with rich and reliable data. Fourthly, lastly, the researcher is also familiar with the field-work site which makes it easier to accomplish the field study within the time-frame available. These reasons support Tripoli as an appropriate case study for this research and as an example of Arabic/Islamic culture.

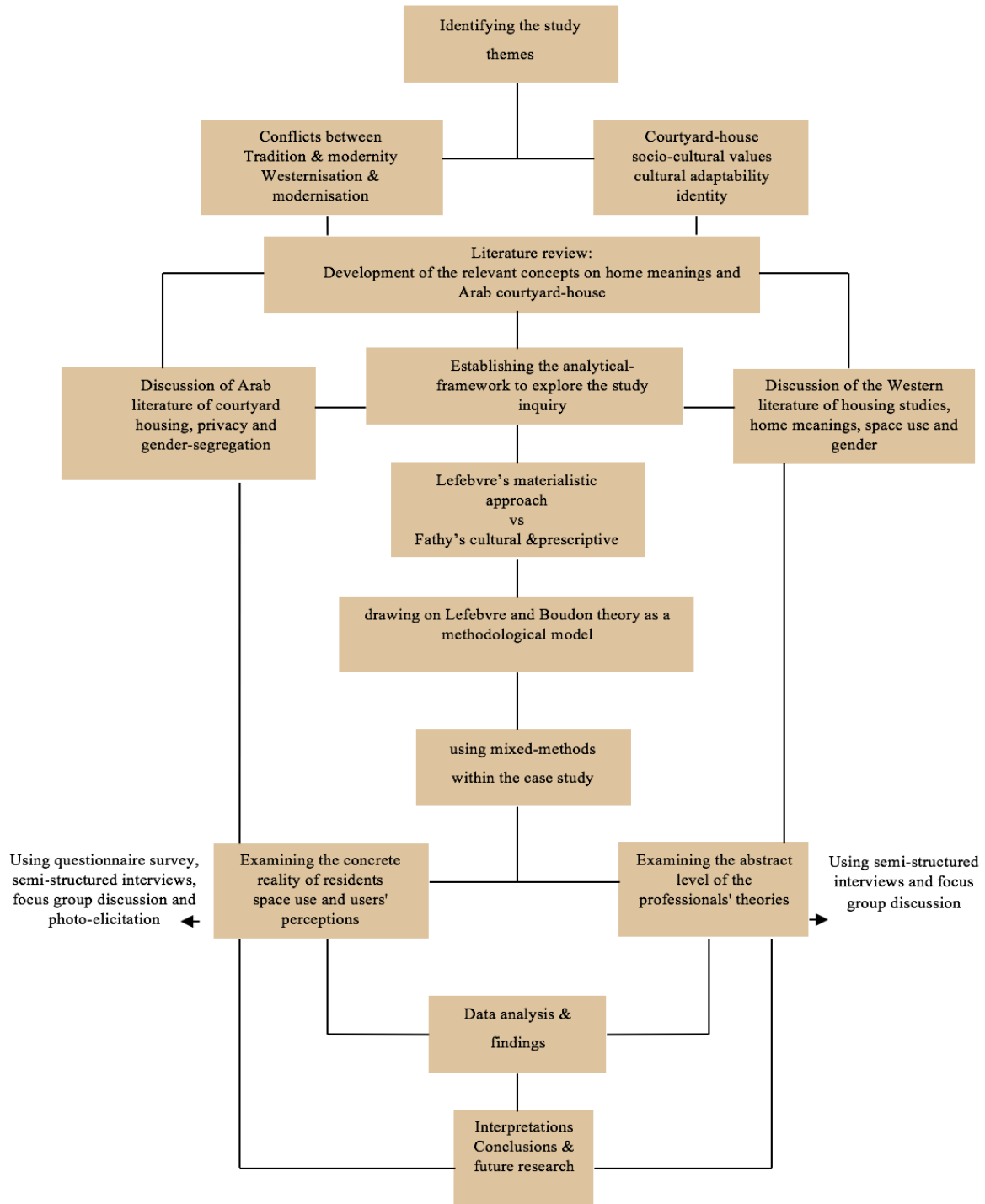


Figure 1.4: Development of the research process

Source: Author

1.8 Structure of the thesis

After this introduction, the thesis is divided into three sections; the literature review, the field-work/methodology and analysis/findings/implications, and this material is presented as follows:

Chapter two: Draws out the themes of meanings of the home, gender, space use and privacy discussed within the Western and Arab housing studies. It identifies the traditional aspects (as understood by Western feminists) of the Western literature, for example, the position and culture of Western feminists and how they consider the negative side of the home in relation to gender-division. From an Arab perspective, this chapter brings into focus the meaning of the Arab home, based on religious and cultural anchors. The last section sheds light on Lefebvre's socio-spatial theory, and reflects on his analytical levels of social reality to examine how these concepts could be achieved in an Arab context. The purpose of this chapter is to highlight the gap within this knowledge, and to enable a strong argument about the shift from tradition to modernity, in relation to home design and use.

Chapter three: Presents the experiences of Arab and Western courtyard-housing, including European values and experimental programmes in courtyard buildings. It highlights the spatial, socio-cultural, and planning implications of the movement from tradition to modernity in the physical form of courtyard-house. It also discusses the influence of Westernisation, for example, the colonial architecture. From that point the chapter covers the different modes of housing production that show the influence of modernisation (understood as installing modern domestic equipment) and Westernisation. A context of Fathy's ideas on Arab-house design provides an insight into the root of the Arab direction to building and home design, notable the courtyard-house. This approach links to and directs the study.

Chapter four: Introduces the study's methodology and methods. It discusses the philosophical assumptions that underpin the research approach (i.e. ontology and epistemology). It also covers the rationale for the case study approach, and the rationales for each method. The chapter pays particular attention to the reflexivity and positionality, and addresses how the reflexivity upon research process was influenced by the researcher's positionality in relation to conducting the study in a gender-segregated Muslim society. The purpose of this chapter is to identify the mixed-methods and analysis utilized that will enable

an exploration of the complexity of this social phenomena, to answer the key questions, and to address the aim of this study.

Chapter five: Presents the findings/analysis that correspond to the abstract level of professionals' perspectives. It draws out the implications of the tensions between tradition and modernity that result from the role of government as an obstacle to home-grown innovation programmes in housing design. It also highlights the implications of use Lefebvre & Boudon (1972) as a methodological model in relation to modernisation, Westernisation and cultural differentiations. The aim of this chapter is to explore the internal contradictions/consistency between government's policy and the architects' conceptions, and to identify the influence of Westernisation and modernisation in relation to housing design. It also examines the professionals' perspectives in terms of space use and cultural adaptability of the Libyan homes.

Chapter six: Presents findings/analysis that correspond to the concrete reality of residents. It draws out the key implications/determinants in exploring the form and function of the Libyan courtyard-house. It structures the account under the main themes (i.e. space use, privacy, sociocultural values/family and gender) that emerge from the discussion of home in Arab society, and discussion of home and gender from Western theories. This material emerged from the interviews and focus groups/photo-elicitation. The contribution this chapter makes is to identify the change and continuity/persistency, in space use and cultural values from the perspective of users, particularly the women of the case study.

Chapter seven: Discusses/interprets the study findings in relation to the literature. It presents a discussion structured around three key categories of knowledge/literature: the reference to the epistemology of Lefebvre and ontology of Fathy; the discussion of Western feminisms/gender/space-use; and Arab studies/perspectives of the Arab courtyard-house. It draws out how the findings contrast with or complement previous studies, for example, the use of epistemological frameworks of Lefebvre (1972; 1991), and the methodological model of Boudon (1972), in an Arab context. In Libya, the contradiction is much sharper, between a traditional life-style strongly influenced by religion, and the twin forces of modernisation and Westernisation. In contrast, Fathy (1973), for example, argued that there is a strong gender-segregation, culture and religion that seem to persist despite the changing traditional context. This social pattern correlates favourably with the respondents' statements which

show the same tendency and love of tradition and cultural-identify that Fathy argued. Secondly, the feminist housing studies (e.g. McDowell, 1983; Madigan *et al.*, 1990; Smith, 1987; Marcus, 2006) provide a valuable link to the meaning of home and the role of women and gender-division. This study, however, considers the particularities of the Arab women, and the influence of the courtyard home in their daily life. Finally, the assumptions of the Arab literature (e.g. El-Guindi, 1981; Elsafty, 1981; Hakim, 1994; Baskaya, 1996; Mazumdar, *et al.*, 2001; Edwards *et al.*, 2006; Mortada, 2011; Sobh & Belk, 2011; Rabbat, 2010; Othman *et al.*, 2015) widely recognize the notion and value of the courtyard home, its socio-cultural aspects, and relate this to patriarchal relations, and the privacy of Arab women. This study extends to these assumptions from the viewpoint of users, especially female users in terms of space use and gendered-relations.

Chapter eight: Concludes the study, synthesises and summarises the findings from the analysis chapters. It reflects on the Libyan society, the Libyan homes design, and theoretical propositions. It also explains the main ways in which the study has contributed to knowledge, for example, contribution to the methods of housing user research; contribution to understanding the production of courtyard-housing in Arab countries; contribution to understanding the use of the home from a women's viewpoint; and a positional contribution as an Arab woman architect. In addition, it explains the limitations of the research as well as possible uses and implications for further, follow-up studies.

Chapter 2: The meaning of home: Western concepts & Arab values

2.1 Introduction

This chapter draws on the literature to reflect on how the meaning of home is understood and discussed, particularly within Western housing and feminist studies. It reviews the key concepts and theories relating to the aim and objectives of this study stated in chapter one. The purpose of this chapter is to address the gap in knowledge by: firstly, identifying the Western concepts of home, and drawing out the aspects of the Western tradition, values, culture and role of women as revealed in the literature (Smith, 1987; Saunders, 1989; McDowell, 1989; 1999; Marcus, 2006; Gurney, 1999; Easthope, 2004). Secondly, highlighting the meaning of home and women's role from an Arab perspective in the context of cultural and religious values. Discussion of both Western and Arab concepts identifies the gap/differences/relevance, influences and values that relate to the argument of this study. This in turn highlights the conflict between tradition and modernity, and Westernisation and modernisation. Thirdly, the assumptions of Lefebvre's socio-spatial theory, its relevance and applicability are used to examine the context of the study in terms of space production and use.

2.2 Meaning of home: Western concepts

Many studies into the multidisciplinary field of the home understand home as a multidimensional concept (Mallet, 2004). Most of these studies approach this holistically, which result in general categories being ascribed to 'home' that demonstrate a wide variety of meanings (Meesters, 2006). The term 'home' functions as a place for complex interrelated and/or contradictory socio-cultural aspects of people's relationship with one another. It can be a dwelling place or a lived space of interactions between people, places, and things or perhaps both. But the boundaries of a home can be much broader than the boundaries of a house (Mallet, 2004).

In attempting to clarify the relationship between house and home, Western conceptions of home, (e.g. Bowlby *et al*, 1997; Madigan *et al*, 1990), prioritise a physical structure/dwelling, such as a house, flat or caravan and a set of economic and social relations. Architects (e.g. Rybzyński, 1986), conflate house and home, asserting that the spatial structure of the domestic dwelling both influences and reflects forms of sociality associated

with any given cultural and historical context. The concept of the home has been understood in different ways, the home as socio-spatial entity (Saunders & Williams, 1988), not simply a physical location, but located in both time and space (Easthope, 2004), as an ordering principle in space (Dovey, 1978), or as a complex entity that defines and is defined by socio-cultural, psychological, and economic factors (Lawrence, 1987).

Every place/physical dwelling/house is a unique mixture of the relations which configure social space (Massey, 1994). Conventionally, home is understood as a creative expression of culture and the frame within which people's experience of culture takes place (Oliver, 1997; Rapoport, 1969), or as a symbol of privacy: a place where a handful of people live in a close, intimate relation (Madanipour, 2003). The dwelling as a social entity plays a major role in the development of the self and identity through the influence of others, whether they are the people or objects and artefacts provided in these places. The design of the space, along with these objects and their position within the space, helps people consciously to make an impression on their surroundings as well as subconsciously attach an identity to it (Rocherburg, 1984).

The idea is broadly expressed that the dwelling has double significance as a form of building; firstly, as a place of living and, secondly, as a place of structure, and one depends on the other. So, 'shelter' and 'habitation' are the most sufficient terms to describe the double function of the dwelling, they both have a dual meaning, that enfolds the secure and protective enclosure (Oliver, 1987). Houses are symbols representative of culture, self, and family identity (Marcus, 2006; Rapoport, 1995). Space is socially constructed and differences in the use of various spaces within the home by family members/males/females, in turn, show social relations and define gender relationships within family and society (Altman, 1975).

The cultural and symbolic meanings behind the gendered-division and space use have been extensively studied in the West (e.g. Mallett, 2004; Bowlby *et al*, 1997; Gurney, 1997; Madigan *et al*, 1990; Marcus, 2006; Porteous & Smith, 2001). However, few comparable studies have been done in modern Arab-Islamic societies, with some exceptions (e.g. El-Safty, 1981; Al-Kodmany, 2000; Sobh & Belk, 2011). In the context of the Arab world, El-Safty (1981) examines the cultural meanings of space use and organization in terms of traditional rural and urban structures. She attributes the changes that have taken place in the

use of domestic space to the ‘mechanisation’ and the import of the modes of housing. Al-Kodmany, (2000), tested empirically contrasting views about the importance of residential privacy to women (traditional and modern context) in Damascus.

In their recent work Sobh & Belk (2011) focus on spatial boundaries and gendered spaces in Qatari homes in the Arab Gulf. They identify the significance of privacy and gender segregation as anchors for identity, both national and religious. While these studies provide valuable insights about spatial and social diversity in contemporary Arab city, they did not focus on the meaning of home or, specifically, space use and gender-differentiated areas within the home from the perspective of the female. Nor did they address the impact of modernisation against tradition, culture and identity. The argument in this study is somewhat different as it argues how the Arab-Muslim home, and its meanings, are perceived in a contemporary society. Thus, in the context of tradition and modernity conflict, what remains of past values and cultural meanings, and what has been changed in relation to form and function of courtyard-house?

2.2.1 Space and gender-division

Gender relations and home/space have been discussed by feminist Western writers (e.g. Rose, 1993; McDowell, 1999), who draw from a post-structural and psychoanalytic perspective the mapping of space and differences, especially, race, class and gender, and the roles of women in those spaces. For Western feminists, one of the most oppressive aspects of every day spaces, is the division between public space and private space. Gender relations and their space patterns reveal the map of everyday patriarchy. Smith (1987) agrees about the nature of women’s subjectivity, but argues that it a consequence of women’s specific role in the division of labour, not its cause.

Places are not just physical or spatial surfaces; they are also about the boundaries that control women and men. McDowell (1999:156) relocates gender in coordinates of ‘contestation, fluidity and uncertainty’ and the Western tradition on gendered perceptions, identifies home as a site of oppression, and patriarchal domination of women who manage the household. Although their work, maintaining domesticity and comfort is valued by the family, they remain socially isolated. The implication of this segregated concept for women

is that they have little capacity for paid work and participation in the wider domain (Madigon *et al.*, 1990).

Home is often understood in the literature as a refuge. It is perceived as a safe place/space where people can relax with a distinction between public and private, and the inside and outside world (Rapoport, 1995; Altman and Werner, 1985). According to this dichotomy the inside or enclosed domain of the home represents a comfortable, secure and safe space (Dovey, 1985). From the view point of this study, religion, social norms and gender segregation are key factors that influence the notion of the Arab Muslim dwelling. On the basis of the socio-spatial aspects and the concrete reality of respondents to the physical form of the home, gender roles and social relations remain substantially traditional in terms of layout and use pattern.

In the context of this study, the role and status of woman, therefore, is also subject to the social change such as in North African countries, where women's responses to, and involvement in, change processes may vary. Social change is usually described in terms of modernisation (as the adoption of an industrial society), revolution, cultural breakdown, and social movement. The prescribed role of Arab-women in Islamic law is often argued to be the determinant of women's status. Women are perceived as wives and mothers, and gender segregation is customary (Moghadam, 1993:94). In the Arab city, colonisation, revolutions, and reforms are a special case of social change that rapidly leads to transformation of political and economic structures, and social and gender relations to conform to an ideology. During periods of transformation, for example in Tripoli-Libya, changes in society values and ideologies affect gender relations.

Rules about women, however, are traditionally closely bound to the power of *Shari'ah* laws. In considering many household arrangements, however, in general context, the home is the site for the creation, reproduction, and maintenance of patriarchal relations (Morgan, 1985). The characterisation of a place as home originates from those who have left; this characterisation is often framed around those who stayed behind. Usually, the former are the males whose traditional role in the family is to challenge the external world, while the latter are the females, particularly mothers, whose main role is personifying a place which did not change (Massey, 1994).

Roles performed within the home can appear natural to women and men of the house, and yet the organisation and performance of these roles both illustrate and determine a gendering of roles and responsibilities (Bowlby *et al.*, 1997). The feminist Western literature on space and gender is also potentially relevant from the perspective of the relation between gender, gender division and the urban space of the home. However, for example, McDowell (1983) addresses the women issues and space in modern Britain from a socio-feminist perspective, using a historical analysis of the conventional and the new urban theory of feminism and how this applies to the analysis of post-war housing policy in Britain.

McDowell looks at social production and reproduction in relation to women's role in the capitalist industrialisation period in Britain from the point of women's subjection to dual oppression by both capitalist and patriarchal social relations. In relation to this study, the perspective is different from McDowell's. The implications of the urban space, particularly the layout of Arab dwellings show a strong patriarchal pattern that reflects traditional gender relations and gender roles; the male's social room, for example, in the Arab house is a strong reference point of entry to maintain gender segregation and privacy. This shows the traditional patriarchal pattern within both modern Arab society and physical environment. Madigan *et al* (1990), and Bowlby *et al* (1997) have also made a specific link between the implications of housing production and family ideologies in gender-neutral Britain.

Madigan *et al* (1990), based on very broad literature on the meaning of home, incorporate the changing nature of gender relations into the changing nature of housing production and consumption, from economical (state scale) and ideological (family pattern and relations) perspectives. The meaning of home, therefore, is manifested through tenure and the difference that gender makes from the point of housing consumption and rights of occupancy. The implications are to enhance tenure meaning as a status symbol, and as a display of wealth achieved or aspired to. It is bound up with the conditions of housing occupancy and structure of family life. It is also related to the utility of the home as a source of privacy, independence and security (Madigan *et al*, 1990). In terms of privacy, which is a key implication of gender relations in Arab housing design, Madigan *et al* (1990) claim that in western culture there are very ambivalent attitudes to privacy.

Nevertheless, most of the architectural literature (e.g. Chermayeff & Alexander, 1963) considers the issue of privacy within the home, but only to segregate adult from children (quiet domain from noisy domain), ignoring the possibility that adults may want privacy from each other. This is a Western notion describing privacy as the right of the individual to non-intrusion. Use of privacy in the Arab and Islamic contexts is different, it concerns two core spheres: women and the family. For women it is both a right and an exclusive privilege. This is reflected in dress, space, architecture, and gender behaviour (El-Guindi, 1999), whereas Western feminists see the privacy as a problem, and being confined to a private sphere is perceived as a form of deprivation (McDowell, 1983; Bowlby *et al.*, 1997).

For some women the private sphere is a source of strength even when it has been defined by traditional domestic boundaries, while for others the house is a prison in which they are tied to a domestic treadmill and social relations (Madigan *et al.*, 1990). From a socio-economic perspective, Bowlby *et al.* (1997) address the notion of the home as a complex physical entity for social, economic, and gender relations. Western ideology of home, family and gendered-relations, therefore, considers both gendered-roles, the traditional (the degree that women are trapped in the domestic environment), and the shifts in women's participation in the public sphere to imply patriarchy and inequalities in power between men and women (McDowell, 1983; Madigan *et al.*, 1990).

Arab feminist interpretations of women role and veil in Islamic public life and home, argue that the veil and/or the notion of gender-differentiated areas in home in the contemporary Muslim world is used as a symbol to exemplify the identity in a world controlled by supremacy of Western modern thoughts (El-Guindi, 1999; Altorki & El-Solh, 1988; 1994; Mernissi, 1991). As such, patriarchal relations, however, in Arab society seem to be a key feature/pattern of family ideology and domesticity (e.g. Mortada, 2011; Bahammam, 2006; Sobh & Belk, 2011; Othman *et al.*, 2015).

2.2.2 Home and identity

Marcus (2006) deals with the physical environment and home as having a very deep emotional impact on users, or rather about ‘the subtle bonds of feeling that people experience with dwelling past and present’ and not about ‘architecture per se’. Marcus uses a psycho-analytical framework to examine people narratives. Her study suggests that:

‘the places we live in are reflections of the notion that we are all-throughout our lives-striving towards a state of wholeness, of being wholly ourselves, and indeed the places themselves have a powerful effect on our journey toward wholeness’ (Marcus, 2006:8).

The ontology is about the deep meaning of home through people’s experiences and feelings with their homes, and more about users’ personal stories. This context seems similar to this study in engaging with the concrete reality of respondents, using the social qualitative form of data. In relation to the scope of this study, however, Marcus discusses the concept of the home from a different viewpoint of personality which is addressed by Western psycho-analytical theory. Whereas this study addresses the concept of the home from a cultural adaptability perspective, using a socio-spatial theory, by which the assumptions of Lefebvre and Fathy are integrated to investigate the socio-cultural and planning aspects of the Arab home concept. Likewise, the study of Porteous and Smith (2001) is potentially relevant but is silent on the issues and assumptions which are addressed by this study, as they are using an inappropriate frame of analysis. They address how the sense of loss of security, ownership, identity, historical connection and sources of memory affect the psychological reactions to the deliberate destruction of home against the will of the home dweller.

The loss of dwelling could be through expropriation, power of compulsory purchase, or in the public interest (desire of government to erect something quite different on the site). To look at the psychological aspect of home meaning through the ‘domicide’ that resulted in the destruction of ‘a place of attachment’, especially the home, Porteous and Smith also used a western psychoanalytic framework. This framework, therefore, allows them to relate the ‘domicide’ to the meaning of home, to reveal that home is a positive factor in people’s lives since it helps to confer both centeredness and identity upon both individual and group, and central to this form of organising space is the personal hierarchy.

Gurney (1997) is consistent, to some extent, with the context of this study, using social constructionist theories, and employing a multiple-method approach, including in-depth interviews, episodic ethnographies and survey data to examine how people make sense of the home through lived experience. Accordingly, he asserts that home is an ideological construct, which arises through, and is formed from people's lived experience. Marcus (2006), refers to the relation between home and identity by which the house, objects, and the use of space all reflect the users' sense of self/identity. Marcus draws on the Jungian concept of the collective unconscious which links people to their primitive past and is the place of fundamental forms of 'psychological energy known as archetypes'. Symbols manifest these unconscious archetypes in space and time. Accordingly, she speculates that one of the most fundamental archetypes, 'the free-standing house on the ground, is a frequent symbol of the self' (Mallett, 2004:82).

2.2.3 Towards understanding meaning of the home in a contemporary society

Saunders & Williams (1988) see meaning of the home as a physical form 'locale' in terms of, for example, family structures and relations, gender relations, property rights and privacy. They consider these assumptions within contemporary British society and their point of view is that 'the physical and spatial character of the home is a constitutive element in the reproduction of social action' for example, gender relations, age, class differentiation, ethnic inequality, the status order, distinctive regional, national cultures and identity are all reproduced through the home' (Saunders & Williams, 1988:82-83).

The meanings attached to home ownership are considered by Gurney (1999) in relation to the growth of home ownership and the 'residualisation' of social rented housing, utilising the notion of power relations embodied in public and private accounts of home ownership which normalise it as a way of consuming housing in contemporary British society. This is addressed from a socio-tenurial perspective, using Western theoretical framework (notions of disciplinary power and discursive practices developed by Foucault, 1977).

Easthope (2004) examines the concept of 'place' in relation to people's identity and psychological well-being, using the work of Heidegger (1972) 'philosophy of being-in-the world', and Bourdieu (1979) 'concept of habitus', concerning the nature of people's attachment to place. From a theoretical point, therefore, it is shown that the discussed

literature in home meaning is silent on the difference that the layout of the Arab home makes in relation to the concept of the home, form, function, privacy, and gender, the latter has been discussed in variable ways.

2.2.4 The significance of the home

As a physical shelter, Madanipour (2003:6) refers to the physical value of the dwelling: 'Home is the spatial unit that combines a number of traits of the private sphere. It provides personal space, a territory, a place for being protected from the natural elements, as well as from the scrutiny of others'. Le Corbusier (1929) interpreted the physical dimension of the house as a 'machine for living'. This interpretation, however, is not helpful, as Goodchild (1997:34) argued that 'The house cannot be compared to most types of machine such as a car, washing machine or even a computer', as machines serve limited and specific functions.

In contrast, a house supports a multiplicity of human activities, culture, and lifestyle. This is mainly because, as Fathy (1960) argued, the house is not a machine for living in, it is a private world, dependable, unchanging, a constant kindly refuge in the cultural avalanche that people call civilization. Likewise, Oliver (1975) claims that the significance of shelter, and symbol is deeply rooted in man's being. He also asserts that dwellings have two functions; physical shelter and the provision of symbolic space. A dwelling thus provides a system of functions, which facilitates its user's access to an acceptable degree of shelter and a better quality of life.

Yet, religious, traditional and socio-cultural values are generally bound to have a major influence on the notion of privacy, family domain, guests' domain and gender-segregation, and thus the layout of the home can be more responsive to its users. In this sense, Altman & Chemers (1984:91) point out that differences in these core societal themes from one society to another might have implications for people's interactions with their built environment, in general, and with their private spaces, for example, the home, in particular (Fig. 2.1).

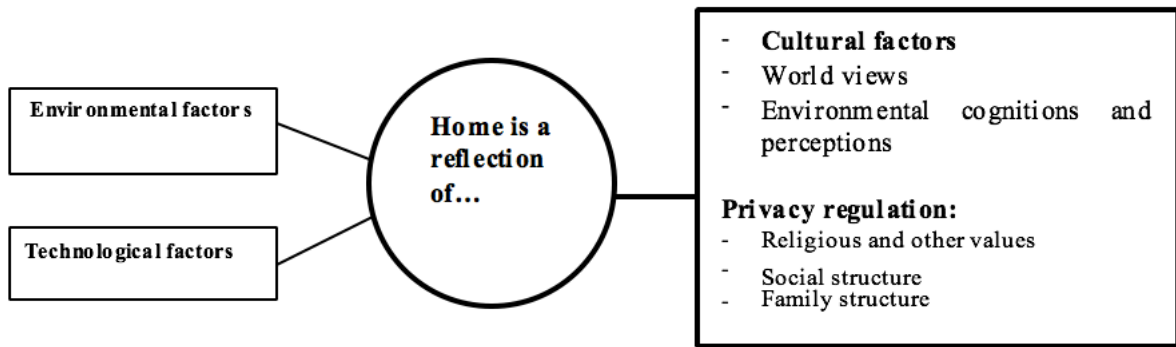


Figure 2.1: The home concept in relation to socio-cultural and environmental factors

Source: Altman & Chemers (1984:91)

To summarise, there is significant relevance of the Western literature in linking a set of attached meanings to the home in terms of gender, privacy, and feminism. There are also aspects of these home and feminism theories (e.g. McDowell, 1983; Madigan *et al*, 1990) which apply and relate to the Arab world, Libya in particular. For example, space use and gendered roles and space that highlight the idea of home having a negative side. The next section discusses the meaning of home from an Arab context, and the influence of religion, gender, and cultural identity.

2.3 Meaning of home: an Arab-Islamic perspective

One can start by investigating the connection between the Arabic terminologies of the dwelling and the social and spiritual values and meanings people held about it. The word *maskan/sakan*, that is widespread in Arabic terminology, to denote the house. Its derivatives *sakinah* and *sukoon* mean tranquillity, peace, rest and quietness. Another derivative of this term, related to the context of this study, is *Iskan*, meaning ‘housing’, which also carries urban implications as it is used to imply the idea of accommodating groups of people in an appropriate environment (Mortada, 2011).

Connotations of the derivative term *Iskan* suggest that ‘the ideal of a peaceful environment protected from inappropriate intrusions’ (Bianca, 2000:72). In exploring the meaning of the Muslim-dwelling, Bianca (2000:73) also analysed the content of Arab terms ‘*harem*’ and ‘*dar*’. The terms *Bayt*, *Dar*, *maskan*, *manzel* and *housh* all mean house in Arabic but the latter is more used in informal language and dialects. Social meanings are linked with

physical premises in the terms *bayt* and *dar*. They have both been used in a broad sense, and the word *dar* is applied in various dimensions which can transcend the scale of the house. Its etymological root has to do with the idea of encircling, and *dar* therefore means the encompassed or community, or any space or social unit which is centred in itself. This clearly reveals the philosophy of housing in the Islamic world.

The term '*harem*' implies another essential value regarding the individual's preferences in a dwelling, and the need for privacy and intimacy is also included in this word. It means woman domain which is related to *haram*, 'sacred' to denote the family living quarters in the Arab house (Fathy, 1973). El-Menghawi (2004) suggests that the Arabic terms for dwelling, *bayt*, *dar*, *maskan*, *manzel*, and *housh*, have different physical, and social meanings (e.g. *bayt*/physical, *dar*/social, *maskan*/spiritual, *manzel*/physical, *housh*/physical). Accordingly, all of these values reflect the meanings of settling, encirclement, tranquillity, and centrality (physical/settling, social/encirclement, spiritual/tranquillity, physical/centrality).

Such meanings, consequently, highlights the concept of centrality embedded in such social groupings (e.g. home), which needed to be controlled, probably from a central place. Additionally, this alludes to the notion of the central space in the dwelling that may be seen as a reiteration of a broader physical and social concept of centrality. It is certain that tranquillity considered in Islam as an essential theme of the built environment, since the word *sakan* is mentioned in the Qur'an more than forty-five times (Mortada, 2011). Although spatial planning has a direct impact on the lifestyle of the building user, Islamic teaching does not provide any direct guiding principle for the placement of the different spaces but explain us how to perform different tasks, on the basis of which, guideline for spatial planning can be drawn out (Malik & Mujahid, 2016). Apart from the terminology corresponding to Arab home and its connotation to privacy, gendered roles/spaces and women space - the main focus of this study - the practical implications of these themes on the way in which users organise/use their homes spatially is discussed in the concluding chapters (Chapter-5,6 & 7).

2.3.1 The meaning of home in the Qur'an

Many studies (e.g. Al-Hathloul, 1998; Bianca, 2000; El-Menghawi, 2004; Amer, 2007) have made a direct link between housing design and the Qur'an. It is believed that the architecture of the Moslem house was, to a great extent, shaped by the *sharia* as well as existing social conventions (Al-Hathloul, 1998). The special character of the Islamic religion influences the corresponding social structure and living habits. These were in turn clearly reflected in certain spatial preferences (Bianca, 2000). Arab Muslim home is considered as a visible product of Islamic thought and custom (El-Menghawi, 2004).

The particular influence of Islamic teaching and tradition on the formation of living habits of its followers and which in turn set the parameters for the design of their built environment. Islamic principles and laws are derived from the *Qur'an*, *Hadith*, and *Sunna*. These sources provide the guidelines that a Muslim is supposed to follow during their lifetime (Amer, 2007). The concept of dwelling is revealed in the Qur'an in various aspects relating to the home as a place of rest, e.g. '*Allah has given you houses to dwell in*' (16:80). Amer (2007) points out that many influential aspects of the inclusion of Islamic rules/Sharia/Qur'an have affected the housing design that distinguishes the Islamic house from other designs for housing in the world. These aspects can be outlined from the viewpoint of Quran and Hadith as: privacy; gender separation; treatment of guests; and modesty.

The links between religion, space and women's identity/role are examined by Mazumdar *et al.* (2001), Sobh & Belk (2011) and Othman *et al.* (2015) who scrutinise women's significant spaces and how these spaces are intimately connected to the contributions of women. In the Qur'an there is an allusion to the strong relationship between women and the dwelling. This relationship connected women to the private space and members of the family, both physically and spiritually (El-Menghawi, 2004). The Qur'an says: '*And of his signs is that he created for you from yourselves mates that you may find tranquillity in them; and he placed between you affection and mercy*' (30:21). This verse shows that women are the main foundation of establishing an intimate place of abode and they themselves are the dweller who makes the house a place for tranquil dwelling (Yusuf, 1946).

Form, use and the spatial arrangements are affected by religion. However, it would be mistaken to consider it as the only variable that determined all aspects related to home (Rapoport, 1969). The socio-cultural/social-relations factor affects the spatial organization of the house, the entrances, the separation of the parts allocated for family activities, and the guest-quarters (Oliver, 1997). In organising the living spaces, it is essential for the Muslims to maintain women's privacy in the dwelling. This is observed even in the simplest form of the early Arab domestic units i.e. the tent and the reed house, where a curtain or partition was put in the middle into avoid any visual intrusion to the family area (Bahammam, 1987).

Maintaining privacy in the Muslim dwelling can be defined as secluding women from men other than next of kin. The practice of seclusion is based on both religion and social customs; evidence of gender separation is found in the former (Doumato, 1995). With respect to the notion of seclusion, women are recommended in the Qur'an as follows: 'And stay quietly in your houses, and make not a dazzling display, like that at the former times of ignorance' (33:33). Regarding the *Hadiths*, women are advised to give great attention to their private sphere, within family members, segregation is also considered: '...arrange their beds [to sleep] separately [kids]' (Al-Bukhari and Muslim, Book-2, *Hadith* no. 495)

The Islamic principles and rules derived from the Qur'an and *Hadith* in relation to home design, therefore, imply social meanings, concerning family, ways of living and the use pattern of home spaces. According to these principles about gender-segregation, which affect the home design, the teachings also involved respect and care for guests: '...show hospitality to guest' (Al-Bukhari and Muslim, Book-2, *Hadith* no. 706). Thus, religion is a major determinant of peoples' behaviour and attitudes as well as the spatial organization of the living spaces, especially the home. The arrangement of domestic spaces, activities and objects express individual relations between the spatial characteristics of home spaces. The layout of the Arab Muslim house, therefore, complements the behavioural values of society, and mainly applies Islamic principles regarding the way in which home interiors are organized and used.

The order and organisation of the domestic spaces are bound to result from an 'intimacy gradient' (hierarchy arrangement), which controls the penetration from the public to the private zones. With respect to religion and cultural patterns, it is the degree of kinship that affects the way in which this point of transition is used (Lawrence, 1984). When

applying these views to the courtyard home, the focus of this study, it is found that this is quite evident and may be more emphasised since Islamic principles have a great influence on the communal as well as individual's way of life and also their places of abode. On the basis of the Quran and Hadith quotations, it remains an open question whether the courtyard home is the only possible layout and design that is consistent with Islamic principles. Through focus groups and other qualitative research methods, it is nevertheless possible to determine the views of an overwhelmingly Muslim population as to whether the courtyard home meets their life-styles, daily practices and preferences.

2.3.2 Privacy as a cultural view

Although certain aspects of privacy have universal features (rights to non-intrusion), its regulation is achieved differently from one culture to another (Rapoport, 1977; Altman & Chemers, 1984). Likewise, Westin (1970) and Margulis (1977) describe privacy as a mechanism acting as a regulator of interaction which aims to enhance autonomy and freedom whilst minimising vulnerability. In an Arab context, for example, *Hurma* (best translated as 'sanctity') denotes the concept closest to the notion of privacy in Arab culture. *Hurma* refers simultaneously to a woman or wife, to the sanctity of religious sites, and also to the sanctity of the home. All are seen as sacred and pure and should be guarded (El Guindi 1999; Sobh & Belk, 2011). As such, privacy in Arab-Islamic culture concerns the inviolable character that Arab-Muslims attribute to their homes (El-Guindi, 1981).

Taking the words *hurma* and *harem* as examples, these signify the female group of the family, as well as the corresponding physical spatial realm within the house. They also specifically define the women's space in the large-scale Arabic-homes with extended family (Bianca, 2000). It is clear from these definitions that privacy is the control of access, communication interaction and cultural requirements. In other words, privacy is the control of information filtration. It also involves both the sociocultural and physical environments. In fact, various ways of patterning and structuring the physical and social environments enable people to relax and feel non-intruded. Different mechanisms for privacy (i.e. controllers) also help to control unwanted interaction and social communication (Margulis, 1977).

Cultural devices used to control the appropriate amount of interaction, such as social norms, are necessary to manage the use of space. They affect territorial and domain divisions, proximity and gendered roles. One can argue that cultural survival may often depend on setting up group territories so that group identity is authorised and reinforced (Rapoport, 1977). The need for privacy, therefore, can be seen as a need for protection against interaction. However, the need to understand how communication and interaction is controlled is essential to explore the nature of privacy controls.

Rapoport (1980) identifies six main mechanisms used to control unwanted interaction: Disciplines/manners avoidance; Behavioural cues; Psychological means (internal withdrawal); Structuring activities in time (so that particular individuals and groups do not meet); Spatial separation; Physical devices/doors/courtyards/curtains. Hillier & Hanson (1984) suggest that spatial organisation of human settlement is itself one of the mechanisms which manage the level of interaction. These devices/controllers can be used to control the flow of unwanted interaction in the built environment. They involve socio-cultural, psychological means, spatial separation, physical barriers, space organisation, and social rules (Shawesh, 1996).

Religion is also deemed to be a great influential factor affecting this relationship. Rapoport (1977) asserts that people's behaviour inside and around the dwelling reflects the differences in their core beliefs and as a result social norms and traditions are eventually established. Some of these norms assist in implementing constraints and barriers when using spaces for different activities, where images corresponding to the behaviour attached to each space are subconsciously formed. In the next section, the issues of gendered roles and spaces within Muslim society are highlighted in order to examine their effect on the way in which Arab-Muslims organise and use their dwellings.

2.3.3 Gender segregation: roles and spaces

Issues of gender have been at the centre of the exploration of space and architecture. Besides, women and gender in architecture have come under the focus of many core debates (Jimenez, 1999; Rendell *et al.*, 2000; Mazumdar *et al.*, 2001). 'Gender' generally means the social construction of sexes rather than the biological differences between them. This social construction leads to a definition of gender specifically as a 'conjunction of relations with

specific intensities in time and space' (Jimenez, 1999:69). There is a strong correlation between gender, women in particular, and space. The woman's role in the private space is substantial, in the public spaces their role is subject to social guidelines which regulate the connection and transition, of both men and women, from private to public and *vice versa* (Mazumdar *et al.*, 2001).

The role of gender in space organisation has been given a significant focus in many research studies (e.g. Madigan *et al.*, 1990; Baskaya, 1996; Sobh & Belk, 2011). This role differs from one society to another. The difference depends on many factors such as culture, religion and family structure as well as women's position in society. Baskaya (1996) examines previous work (e.g. Madigan and Munro, 1989) which deals with the gender inequality in housing, the meaning of the home and its relationship to the physical form of housing in Britain; Hirschon's study on urban Greek women, which investigates several aspects of the relationship of urban Greek women to their physical environment; and Giele's research on women's position in eight societies reveal how women's status differs according to culture and historical circumstances.

Baskaya also highlighted the connection between societal complexity and gender equality, drawing on a number of studies (e.g. Smock; Rapoport; Kent; Duncan) to show how similarly they considered the concept of gender differentiation, expressed through portioning and segregation, and its relation to the organisation of space and the built environment. Smock found three psychological and moral types of 'female-male role relationship' (Fig. 2.2), which propose the subordination of a woman's needs to the interests of the rest of the family members in pre-industrial societies and how this affects her behaviour, which is characterised by dependency and lack of individuality in taking decisions.

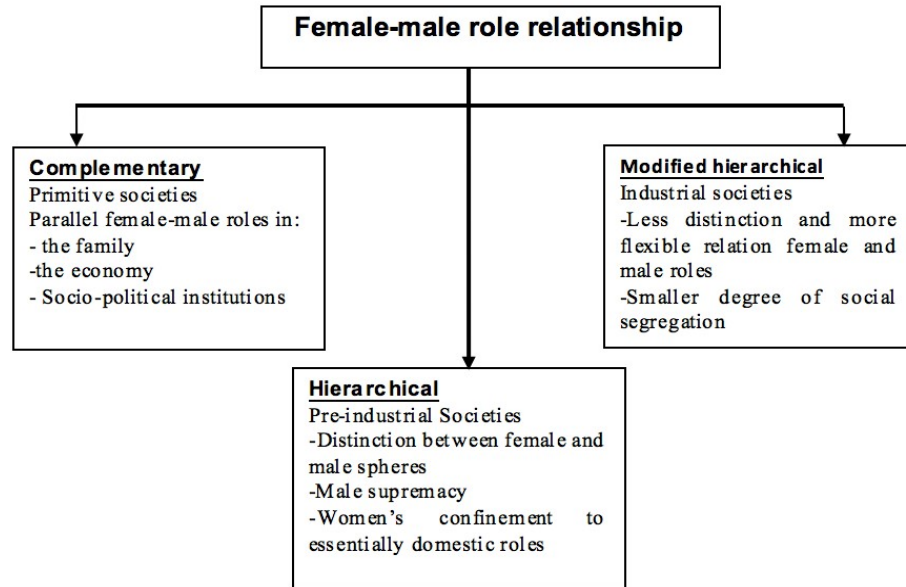


Figure 2.2: Female –male role relationship by Smock
Source: Baskaya (1996)

Kent improved this proposal (Fig. 2.3) to relate the concepts to the built environment and reveal the spatial implications of these modes of interaction (Baskaya,1996:187-90).

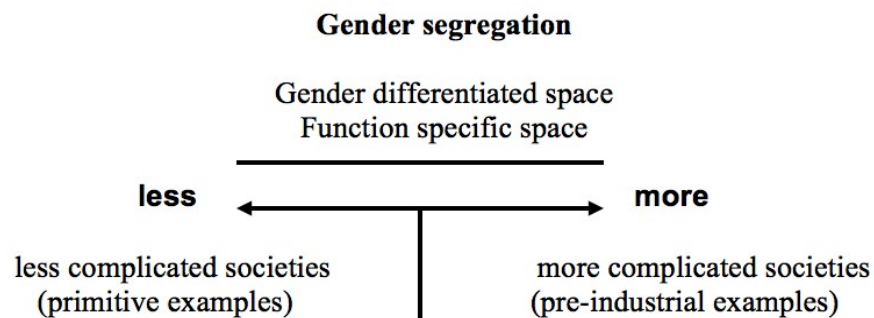


Figure 2.3: Kent's model of gender differentiated space
Source: Baskaya (1996)

Certain restrictions on the social behaviour of both Muslim men and women have led to the segregation of the latter from male members of society both at public and private levels. In general, maintaining privacy in the Muslim dwelling can be defined as secluding women from men other than next of kin. The practice of seclusion, is based on both religion and gender separation (Doumato, 1995). By inscribing boundaries around a place deemed

harem, which is a principle of segregating and configuring space, providing a moral framework for inside-outside division, common to Arab-Muslim society. Thus, the *harem* is identified as an exclusive inner sanctuary, a site representative of status, power, and honour (Lad, 2010).

The practice of gender-segregation results in the spatial centrality of the *harem*/women space. The values dictated by gendered-roles restrict the household to the domain of the female, equated with the concept of ‘harem’ or sanctity. Female activities that take place in the home tend to be confined within certain areas e.g. laundry and cooking. Other activities in which males take part are grouped together and are quite separate from the female domestic world. Gender-segregation, thus, is symbolised in the segregation of activities allocated to each sex (El-Safty, 1981). The Arab courtyard house is designed to enforce domestic privacy as a means of supporting the cultural practice of gender segregation. Its details and elements such as the courtyard *mushrabiyya*/wood lattice as visual separator, and the male reception room, in turn, aid in constructing an inwardness image of the courtyard house. This spatial arrangement is defined by Islamic concerns for maintaining gender-segregation and female seclusion (Chowdhury, 2010).

The explicit and implicit rules derived from the Qur’an determine a way of planning which justifies the term ‘Islamic architecture’. The entrance door for example separates public from semi-public space. It opens into a buffer space without a direct view into the depth of the house. Many details of the traditional courtyard-house, for example, the extensive use of screened bay windows/*mushrabiyya/rawshan* indicate that protection rather than seclusion of the women is intended. All the women’s and children’s quarters, including family room and kitchen are private, and the deeper into the house the more private spaces become (Ragette, 2003; Malik & Mujahid, 2016). For example, privacy and gender-segregation, notably the privacy/seclusion of women space can be seen as a form of use in the contemporary Qatari homes (Sobh & Belk, 2011).

The above discussion highlights that the Arab home design based on tradition (i.e. the home associated with the traditional use patterns). It mainly brings into focus the meaning of home in both approaches, the Western and Arab (both Western and Arab concepts of home and gender tend to be concerned to specific issues). As an antidote to the cultural and religious material, socio-spatial triadic theory of Lefebvre (1972; 1991) offers a dialectic

correlation between spatial production and space consumption. In essence, this is linked with the combined processes of urbanization and modernisation: at every scale new spaces have developed. These new space-time configurations determining our world call for new concepts of space corresponding to contemporary social conditions (Schmid, 2008). Lefebvre's analytical concepts of space and society provide means of linking Western concepts and Arab values of the home and they that because they are more open-ended approach (epistemological model/framework e.g. Lefebvre & Boudon, 1972).

Arab home as a social entity is examined from the view point of the theoretical question of the social construction of space thus to explore the particulars of Lefebvre's theorizations about the production of space (Lefebvre, 1991). Lefebvre is largely responsible for the simple but powerful observation that space is a social product (Marston, 2000). Using this observation as a milestone, this study adopts the ways in which Lefebvre treated the question of the social space, as well as how the complexity of the construction of space could be investigated through case study (e.g. Boudon, 1972). There are principles that constitute our understanding of space production that of a social space is a way of framing conceptions of reality; nothing ontologically given about the traditional division between (e.g. home and locality, urban and regional): rather, the differentiation of spaces is established through the space structure of social interactions (Marston, 2000).

Lefebvre & Boudon bring those concepts of home (Western and Arab discussed earlier) all together and synthesise the two approaches, providing: very open-ended approach; framework for understanding; and identifying what are the cultural practices at any given time/history/society, and therefore to reveal how they are related to the production and general policies/assumptions of housing. The next section thus draws on and examines its applicability in a context where the modernized-space and the rapid influx of Western cultural influences can imply cultural tensions to which the users feel subjected.

2.4 Lefebvre's analytical concepts of space and society

The dialectic relationship between social aspects and spatial structure is best known from 'The Production of Space' (Lefebvre 1991:39). In this, Lefebvre develops a conceptual and epistemological framework for analysing urban space as a series of triadic relationships, that is comprising three elements and not two. Lefebvre does not object to the existence of dualities in social space- dualities such as the distinctions between straight and curved lines

or, indeed, between private and public areas as these define the home. Instead, Lefebvre suggests that the dualities of urban space cannot capture movements over time or processes of change.

2.4.1 Interpretations of Lefebvre's approach and triadic thinking

Lefebvre uses more than one triad, however, the one listed in the *Production of Space* (1991), and another, earlier classification of levels of reality in the introduction to *Lived-in architecture* (Boudon, 1972) that deals specifically with housing design and, amongst other things, the impact of modernity in housing design. The relevant triads are as follows. In Boudon (1972) Lefebvre conceptualised the various elements of the **social reality** as:

- *Abstract* level: at which architects and town planners deal with the empirical problems by referencing town planning ideologies, policies and assumptions.
- *Practical* level: ideological considerations, whereby architects, planners and policy makers pay attention to practical needs and meet them for future developments.
- *Concrete* level: the presence of the urban setting where social activities are undertaken by groups of occupants and their experience of using this setting (Boudon, 1972: Preface by Lefebvre).

In the *Production of Space*, Lefebvre (1991) distinguished between the fundamental elements of the production of the urban space of the **spatial triad** as:

- **Spatial practice**: is space of physical environment where people practice 'daily routine' within 'urban reality' over time and space, '*perceived space*', "spatial competence" (P:33)
- **Representations of space**: the space of 'planners', architects, 'scientists' in which their productions are in spatial practice, '*conceived space*', Lefebvre claims that representations of space play a 'substantial role and specific influence in the production of space' (P:42)
- **Spaces of representations**: the produced spaces which experienced by 'users' and 'inhabitants' linked with 'images and symbols' of their spaces, '*directly lived*' (P:42).

The two triads differ that the perceived/conceived/experienced triad uses to interrogate the spatial-constructions at increasing geographical scale e.g. the main aspect of the city and/or spaces that are institutionally represented. This was also endorsed by other studies (e.g. Unwin, 2000; Goodchild, 2008; Leary, 2009), as the spatial triad is only a broad analytical framework, not a means of predicting or explaining events. It is about the social organisation of space in general rather than the production of specific space in the sense of the process of design (Unwin, 2000). When applied to specific cases, questions arise as to which aspect of design and development should be categorised under which element and whether this matters (Leary, 2009). This limitation was recognized through the use of the social reality triad (overlapping elements) to classify the scale and location of social practices in urban development (Goodchild, 2008). This triad originated as a commentary on a case study by Boudon (1972) of a modernist housing estate designed by Le Corbusier at Pessac near Bordeaux in France and is, as a result, particularly relevant to the analysis of the relation between design and the user in housing.

Equally, however, they share the following features: they offer a means to uncover the production of space, that is amenable to the in-depth analysis inherent in the case-study approach (analysis of the essence of urban design as associated functions, structures and forms with the urban pattern); both triads consider the socio-spatial construction of the urban space. For example, the space of the city is formed by social practices, relations and architecturally represented space, in the productive process:

‘spatial practice, representations of space and representational spaces contribute in different ways to the production of space according to the society or mode of production in question, according to the historical period’, aspects of ‘perceived, conceived, and experienced’ (Lefebvre, 1991:46).

This study draws on Boudon and Lefebvre’s analysis (1972) as a methodological model. Boudon’s (1972) case study involves a forward written by Lefebvre and is based on a distinction/contradiction between architecture/Le Corbusier’s conception and town planning/ideology (abstract), which both are examined against the (concrete) reality of residents. His analysis considered the consequences of the twentieth-century architecture (i.e. standardisation/modernisation and industrialisation), and the capability of occupants to

personalise their homes, and therefore to meet their individual requirements. Emphasising the extent to which the layouts are adapted by users:

‘Interviews and observations combine to produce a clear picture of the many opportunities provided by Le Corbusier’s architectural conception for subsequent conversions and alterations’ (Boudon, 1972:114).

Given their similarity, therefore, both triads can be applied to housing and the home.

Interpretations: The discourses of Lefebvre’s concepts follow different paths, and have deeply influenced urban theory within debates and writings. In detailed studies, geographers (e.g. Unwin, 2000; Soja, 1980; Merrifield, 1993) offer a framework to emphasise Lefebvre’s general observation of spaces and changing societies. Unwin, (2000:15-16) points out three aspects of Lefebvre’s conceptual triad: First, with the mode of existence of social relations, Lefebvre chose to concentrate primarily on developing an understanding of capitalism and modernity. His focus, moreover, was on the urban world, particularly in a European context. He thus had very little to say about rural life or about the conditions of people living in other parts of the world. Second, Lefebvre’s writing was grounded in a deep commitment to Marxism that was both theoretical and practical. A third important observation is that Lefebvre was keen to reincorporate the users into his analytical framework.

Arguing that the users’ experiences, being subject and object at the same time show how physical liberation can be achieved through a production of space. Likewise, Soja (1980:224) suggests that a socio-spatial dialectic is a productive and appropriate focus for the concrete analysis of capitalist social formations and for concerted social action. The unity in the theory of space is the proximity between physical space, mental space, and social space (Merrifield, 1993). For Lefebvre ‘the concept of ‘space’ defies traditional categories as it is both a means of production and a commodity; both a social product and a medium of social reproduction and control’ (Dovey, 2008:52).

According to Lefebvre (1991:193), places are ‘defined as having special and unique significance. Naming and placing are both ways of producing difference, meaning, and values. Every social space implies a superimposition of certain relations upon networks of named places’. Smith (2001:40) suggests that ‘places produce meaning and values’ through acting as the point of ‘attachment of representational spaces’ and through the generation of

differences between them. Lefebvre (1991), however, suggests that each society produces its own space. Likewise, Massey (1994:5) argues that if the 'dynamism' of the concept of space-time is employed, place can be understood as 'open and porous', and, therefore, always becoming 'unfixed, contested and multiple'.

Massey and Lefebvre are saying almost the same thing, albeit in different ways and with a different emphasis. Massey looks at the short-term; place hence becomes a moment in the network of ever-changing social relations at all scales. Lefebvre looks at the longer term historical change, but both agree that the identity of a place is a particular mix of social relations. Madanipour (1996:24) points out that the conceptualisation of place as a 'contested space' with multiple identities offers 'dynamism' in understanding places. This makes it possible to grasp the diversity and differences within particular spaces themselves and in relation to larger contexts. However, the 'dynamism' of space and its use can be limited when the speed of change varies in different places.

Merrifield (1993:225) suggests that 'The spatial-relations identified by Lefebvre take on meaning through, and are permeated by, historically defined social relations (and vice versa)'. These aspects of the socio-spatial discourse were adapted by others (e.g. Harvey, 1989; Madanipour, 1996; Goodchild, 2008) in the context of the relations between people and places, as well as the urban planning process with state policy. Madanipour (1996:17-20) endorses that the perceived, conceived, and lived spaces are 'three moments of social space'. This notion of space 'as produced through the dialectics of everyday social life is a key to Lefebvre's social theory which couples a concern for the social constructions of spatial ideology with the importance of lived experience' (Dovey, 2008:25).

Lefebvre's first task, 'is to bring together objective and subjective understandings of space by tracing them both back to the process in which space is produced' (Madanipour, 1996:18). 'The second task in Lefebvre's project is to argue for differential space: for the 'right to be different'. The physical space that we perceive, create and use is embodied in our daily practices and it is through charting the process of its making that we can understand this environment' (Madanipour, 1996:19-20). (Goodchild, 2008:127) asserts that 'The classification is more about the social construction of space rather than either space as an object or the production of space in the sense of the specific processes of design, development and construction'. The 'perceived/conceived/ experienced' triad is only a broad

analytical framework, however, rather than a means of predicting or explaining events. The triad is about the social organisation of space in general rather than the production of specific spaces in the sense of the processes of design, development and construction (Unwin, 2000). When these aspects, therefore, are applied to specific cases, questions arise regarding which aspect of design and development should be categorised under which element and whether this matters (Leary, 2009).

In terms of the social reality triad, each level and each concept of space ‘overlaps and interacts’ with each other. Each also ‘contains internal contradictions’ (Goodchild, 2008:127). In any specific case, the analysis must reveal the existing contradictions and interactions, and has to recognise the distinction between the intentions of the professionals’ concepts and the users’ perceptions of the places where they live. In Boudon’s study, the analysis of different levels illuminated a distinction between the modernist political and aesthetic assumptions on which the scheme was originally designed in the 1920s, the application of those ideas to the site and the local, vernacular preferences of the residents.

The vernacular preferences led residents to transform the scheme over a thirty period, away from Le Corbusier’s modernist intentions. More generally, the different levels introduce general assessments. These levels introduce general assessments, covering all of the aspects involved in design and town planning, and supporting different and changing life-styles (Boudon, 1972). Lefebvre’s use of the triad is slightly different as writing as a Marxist, his priorities are a combination of ideological factors, technological factors such as mass production and the workings of capitalism, as well as the tensions between local life-styles and the forces that produce the built environment.

2.4.2 The use of Lefebvre's triads

The dialectic discourse on Lefebvre’s triadic aspects has widely influenced the field of urban planning, housing, and urban. Some studies have used the insights offered by Lefebvre as an analytical framework. For example, Goodchild and Cole (2001) use Lefebvre’s social reality triad for understanding the implications of housing policy and the state’s role in the residents’ experience living in British social housing neighbourhoods. For this study, employing Lefebvre’s theory can offer new possibilities for understanding the task in

practice. In the context of the urban design and development process, for example, courtyard housing (form and function), the use of space, and housing design assumptions in Tripoli, the events and relations need to be reconstructed. The different levels of social reality interact with one another, but this interaction is itself subject to unexpected and unpredictable events (Goodchild, 2008).

This study seeks to reconstruct the relation between the identified levels involved in the urban development process. The discussion may be summarised in the following two diagrams 2.4. and 2.5. For example: general state ideologies, including public policy, and professionals' theories; the intentions of architects and planners, dealing with requirements by bringing them into practice for future development; and finally the socio-spatial/socio-functional context of the Libyan home in relation to its users' perceptions and use patterns (Fig. 2.4).

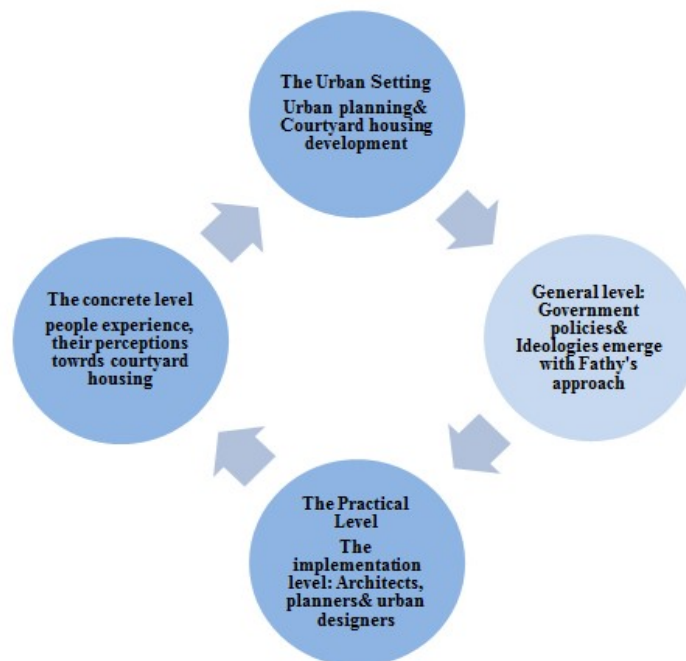


Figure 2.4: The use of Lefebvre's social reality triad

Source: Author

The reconstruction of the levels of investigation, therefore, implies: firstly, actions and practices dealing with the courtyard housing concept; secondly, the analytical process enables a better understanding of what is happening to courtyard housing in terms of the

modes of housing form and the users' aspirations (Fig. 2.5); thirdly, the analysis of the levels includes different events, each of which may interact, overlap and/or be in a mutual relation with each other, or in such circumstances may also be influenced by some factors that are often unstable as the case study reflects.

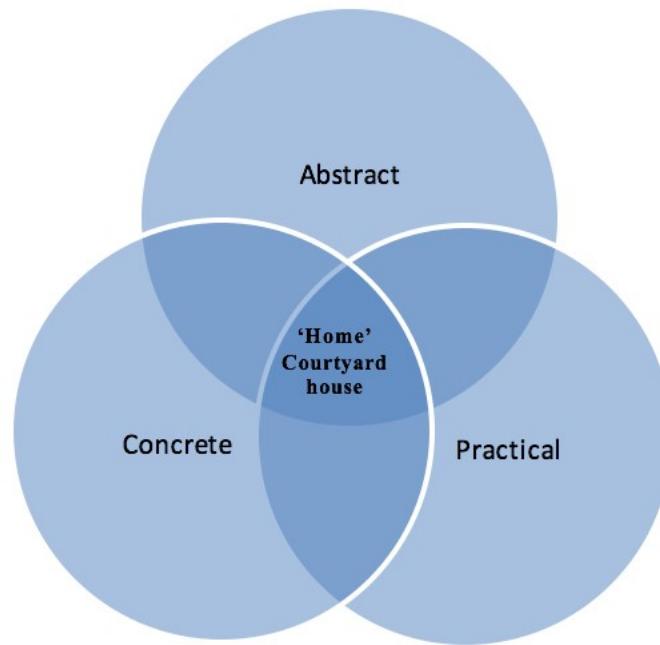


Figure 2.5: A diagrammatic representation of the aspects of Lefebvre's analytical levels

Source: Author

The overall effect of using the framework is to suggest a distinction between the housing assumptions and intentions of professionals on one hand, and the way in which users' experience living in their homes on the other. The concrete reality of users therefore needs to be assessed against the conceptions of professionals and the reality on the ground. The housing assumptions and policy, including the planning assumptions of the Gaddafi government, correspond to the abstract level. How these planning regulations are applied corresponds to the practical level. At this level, architects, urban designers and planners are also likely to adopt different views and approaches regarding the conceptions and designs of Libyan homes' layout. The concrete level can be equated to the physical setting and form of courtyard housing and how people think of it, and use it. The outcomes of this process are addressed in the forthcoming chapters.

2.5 Conclusions

The discussion covered in this chapter confirms that this study goes beyond a specific case study, as it relates the home, gender and space use with the shift from tradition to modernity, cultural values and the Western influences. These issues are certainly encountered in the Arab city, but they are also encountered in the Western world. Thus, this study has a relevance to the discussion of housing design and gender in Western countries. Nevertheless, the position and culture of Western feminism is different from the assumptions of this study's respondents. However, understanding a phenomena associated with the meaning of home becomes of paramount importance, particularly to identify the conflicts of modernisation and Westernisation. Most importantly, from this review it is clear that there is an absolute chasm, not just a gap, in the literature on the concept of home, notably from an Arab context.

The review of interdisciplinary debates and studies of home illustrates how different perspectives are valuable to reflect on how people have different experiences, and ways of perceiving home. Western housing studies (e.g. Marcus, 2006; Gurney, 1999; Easthope, 2004; Madigan *et al*, 1990) considered how home could be understood upon specification of place and time at any given historical and social context. From an Arab view, the home as a place of living emerged from the appropriateness of spatial organisation. The Arab-Muslim home, in general, plays a major role in promoting the privacy, and gender-segregation together with socio-cultural and religious values. The physical characteristics of the Muslim-home also underlie the spatial-religious structure.

The reference to Lefebvre and Boudon's analysis (1972), provides a methodological model, which is based on the distinction/contradiction between architectural conceptions and town planning/ideology (abstract), and both are examined against the (concrete) reality of residents. This analysis considers the consequences of the twentieth-century architecture (i.e. standardisation, modernisation and industrialisation), and the capability of occupants to personalise their homes, and therefore to meet their individual requirements. The next chapter continues to draw on the literature on the Western and Arab experiences of courtyard homes, including European values and experimental programmes in housing design, movement from tradition to modernity in the organisation of housing development, the shift in socio-cultural values, and the demise of courtyard home in Tripoli, Libya.

Chapter 3: Arab & Western experiences of courtyard housing

3.1 Introduction

The previous chapter revealed that the interdisciplinary debates about the meaning of home and the values associated with its use, not only facilitate reflecting on the study context, but also enable identifying the gap/conflict of tradition, modernity and Westernisation/modernisation. The latter draws out the significance of privacy/religion and gender-segregation as anchors for identity in society and the built environment. It also highlights the cultural meanings of space and the shift caused by the influence of Westernisation/modernisation. However, study of home has come to rely on these ideologically-charged assertions more than the empirical evidence of how people experience the reality of the home (Saunders and Williams, 1988).

Furthermore, it is necessary to discuss the Arab courtyard-housing studies to understand how the Arab housing was developed in a different way (e.g. for particular environment and culture). It is also important to review how the physical form of the Muslim-Arab house implies different codes of use of the domestic spaces. This will shed light on how Fathy's theory of Arab house design could achieve cultural adaptability in the context of the confrontation between tradition and modernity. All of these concepts are covered in this chapter.

3.2 The Arab courtyard-house concept

From the earliest Islamic times (632-700), there has been a tendency to arrange the house spaces around a central space. First property was defined by building a wall and thereby an enclosed yard, a roofed space is then constructed at the rear part, while the front is used as a yard for daily work, animals and storage (Fig.3.1). The growth pattern is peripheral, along walls. To give adequate protection and privacy, solid walls and roofs are required, and additional rooms can be arranged along the other sides of the yard (Ragette, 2003).

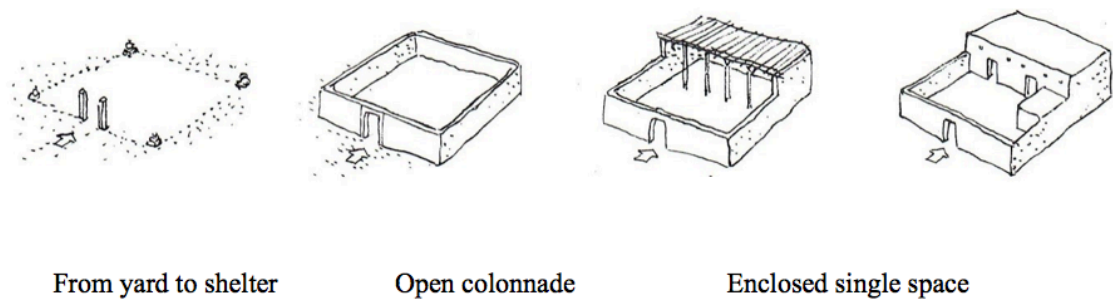


Figure 3.1: Concept of the early Arab courtyard house

Source: Ragette (2003:48)

The Arab courtyard-house was the predominant house in the Arab region, and a determining urban component of the Islamic city, with following characteristics: effective shelter in an unfriendly harsh environment, exterior openings can be avoided; light and air are received from the courtyard; secure closed rooms and useful outdoor space, with the diverse functions, male, female quarters, visitors' or family areas, formal or housekeeping functions; and being closed to the outside it suits the introverted character of Muslim family life (Ragette, 2003:60). It is a cellular structure comprising a central precinct with chambers arranged around the perimeter.

It can be found in settlement groups and for the grouped courtyard houses found together, the exterior walls are always physically shared or connected. The Middle Eastern courtyard house has two basic domains, a 'screened-off' domain, where the women, children and relatives live. The public domain, in which, the master of the house receives visitors. The house itself is an interlocking combination of indoor and outdoor spaces that together make up the house (Ishteeaque & Alsaïd, 2003). Some studies of the courtyard house generally focus on climatic considerations (e.g. Dunham, 1960; Hinriches; 1988; Wadah, 2006). Other scholars regard this type of dwelling as a response to, and reflection of, social values (e.g. Rapoport, 1969; Fathy, 1973; El-Menghawi, 2004).

Although climatic considerations are regarded as crucial factors contributing to the existence of this form of design, the design itself, more importantly, succeeds in meeting the socio-cultural demands (Makiya, 1986). The need for privacy and to the desire to

accommodate different activities of the family is deemed to be the generator of this architectural form (Bahammam, 2000). However, both physical and socio-cultural aspects have a major influence on a dwelling's form (Rapoport, 1969). Therefore, it can be assumed that the courtyard house is mainly a product of religious, physical and behavioural factors.

Through an analysis of the Muslim's traditional dwelling (e.g. Fathy, 1973) one can clearly observe that the design and use of the home also reflect a compound interaction between diverse environmental and cultural aspects as a response to the social values. The main feature of the courtyard house is the inwardness of its layout; it is a form conceived from the inside outwards. The layout of the courtyard house is simply described as an arrangement of spaces around a common open space; these spaces are mainly family rooms, the kitchen and the women's reception area (Fig.3.2).

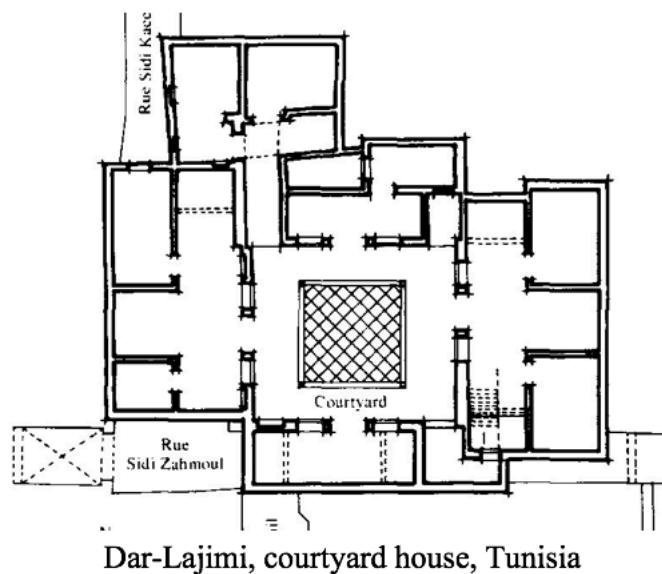


Figure 3.2: Traditional layout of an Arab courtyard house

Source: El-Shorbagy (2010:6)

The components of the traditional Arab-Muslim home were basically divided into two main zones in terms of the function of the space and of those using it. While the semi-public zone constituted spaces that were used for receiving and entertaining male guests, the private zone was mainly designated for the family living spaces (El-Shorbagy, 2010). The main features of these zones are discussed below with reference to users' attitudes and the codes of social behaviour within these spaces.

3.2.1 Hierarchy of spaces: Gender, family and role of women

In any built environment it is evident that there is a systematic hierarchy of spaces, which reflects an individual's behavioural and physical manners as well as mode of communications and interactions among groups (Hillier & Hanson, 1984; Lawrence, 1984). Living spaces, in general, are classified as public or private according to their nature and users' behaviour in and towards them. In other words, the distinction between public and private is based on categorising certain forms of behaviour appropriate to each one of them, as well as boundaries that separate spaces and the thresholds and transitions that link them in different ways (Lawrence, 1984). In Islamic-societies, the religious and social rules create a system of spatial configuration. Due to the need for privacy, hierarchical levels of spaces have been established, hence, the social structure affects the design and use of these spaces.

In the Arab-Muslim society, the spatial structure can suggest a strong control (exercised by men) over private space (i.e. home, women space) (Sobh & Belk, 2011). In other words, in order to ensure familial privacy, an intermediate space, i.e. semi-private, is provided for both grouped houses and individual dwellings (Baskaya, 1996). The public realm is considered to be a male space whereas the private realm, though it belongs to both genders, is conceived as a female space and subject to female control (i.e. the courtyard); and this central space is mainly used for women's gatherings (El-Menghawe, 2004).

Furthermore, according to Mazumdar *et al.* (2001), understanding of the use of public and private spaces in Muslim societies in addition to the male-female interaction in these spaces is bound to be influenced by the Islamic main beliefs. This sheds light on the rigorous system of kinship (*mahram* and *Na-mahram*) and its influence on the relationship between people and space. By comparing the conceptualisation of space in Western and Muslim societies, they claim that the factors on which the division between private and public spaces depends differs widely.

In terms of Western societies, Mazumdar *et al.* (2001), also found that the separation between the private and public spheres has no gender manifestation (Fig.3.3). This notion is based on control of access, control of interaction, ability to have access and other factors. Moreover, the line dividing these spaces is vague, not rigid and comprises semi-private and semi-public zones that ensure the space's identity and people's class rather than their gender.

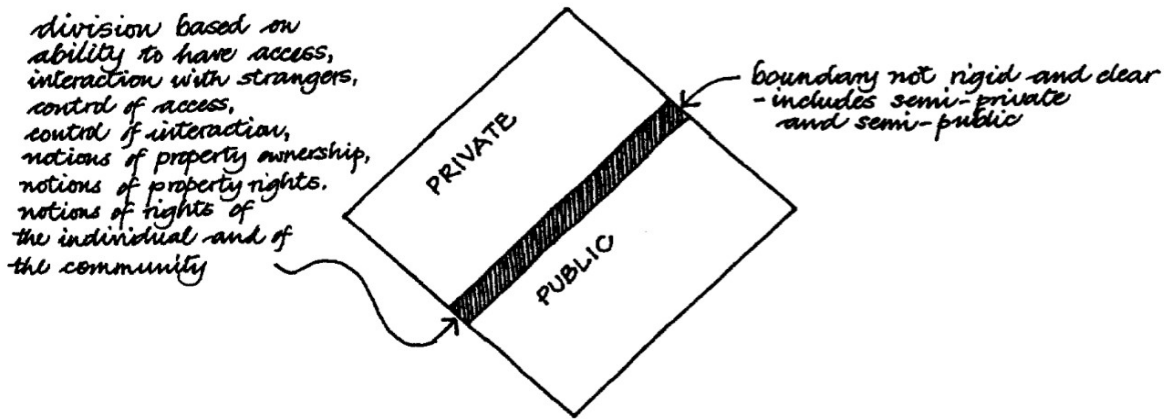


Figure 3.3: Conceptualisation of space in Western societies

Source: Mazumdar *et al.* (2001:314)

Muslim societies conceptualise their spaces in accordance with gender and kinship. The boundary in this case is clear and strict and more importantly based on peoples' relationships (Fig.3.4). Thus, the notion of public and private spaces is influenced by the Islamic nature of its conceptualisation, and women are central to this idea of spaces, especially in the dwelling.

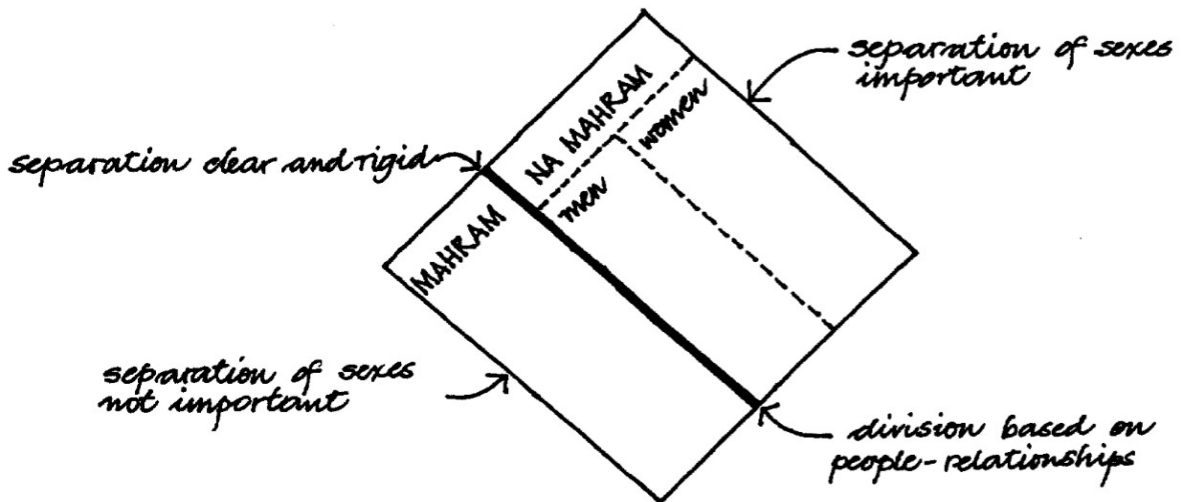


Figure 3.4: Conceptualisation of space in Muslim societies

Source: Mazumdar *et al.* (2001:314)

Combining elements of the two show more complex and diversified world (Fig.3.5). The notions prevalent in the Western conceptualization of public space assume that it be accessible to all and that men and women, and all have equal access to such space. The assumptions for Muslim societies are that 'public' and 'private' have different connotations in Muslim spaces (Mazumdar *et al.*, 2001).

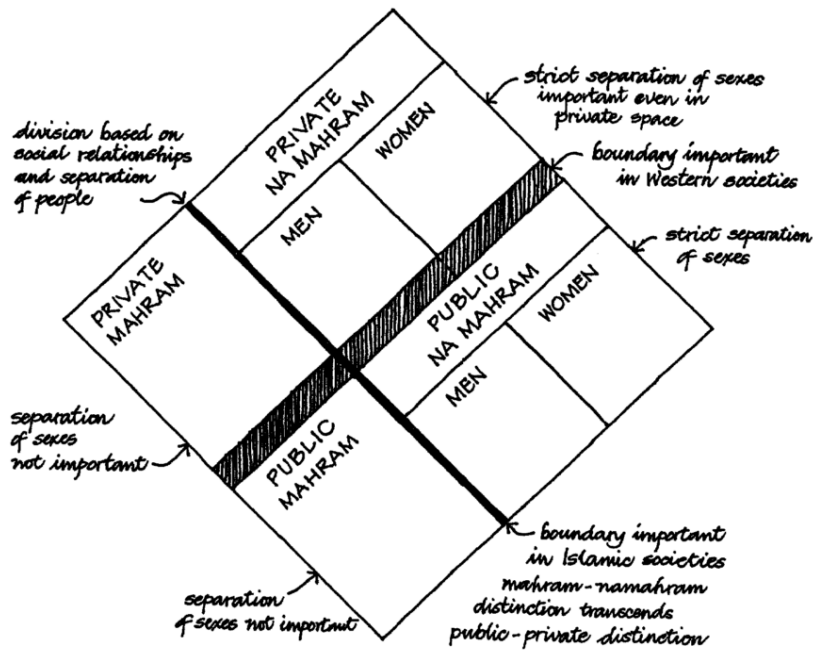


Figure 3.5: Combinational model of space of the two conceptualisations

Source: Mazumdar *et al.* (2001:315)

The public-private division formulated and introduced by feminist anthropologists (Rosaldo, 1974; Lamphere, 1974; Sanday, 1974; Ortner, 1974) has been provocative, powerful, and a useful tool in analysing women's role in certain contexts. It focused attention on patriarchy, subordination of women, separation of male and female activities, and the equation of public space with men and private domestic space with women (Mazumdar *et al.*, 2001). In the years following its formulation, the model, or parts of it, has been repeatedly discussed by Western feminist studies (e.g. McDowell, 1983; Madigan *et al.*, 1990). However, they consider these assumptions as a negative side of the home/space that implies a degree of oppressive and exclusionary pattern, especially to women.

Among the spatial patterns of the house, the most important one is the permeability of the configurational system; that is how accessibility and movement are controlled by the

arrangement of cells/units/spaces, i.e. rooms and the entrance. There is a difference between direct and controlled permeability, or between the contiguity and containment relations respectively (Hillier and Hanson, 1984). The interior organisation of the traditional Muslim house is usually based on a number of major cellular units which are grouped around a central distribution space or a courtyard. Each one of these sub-units tends to have individual access, and be complemented by ancillary rooms for storage and services adjacent to it.

This type of sub-division is facilitated by the fact that a single room can be used for different purposes. The internal division into 'public' and 'private' spheres, therefore, implies physical coherence between the various components, that is, between 'inside' and 'outside', or 'private' and 'public', e.g. the courtyard and the room near the main entry for temporary reception purpose (Bianca, 2000). Courtyard-houses and the separation of domains in general are used in cultures which are both 'crowded' and 'hierarchic', and the prevalence of these houses, that can be found in Rome, Chania, Spain, Islamic countries and many other areas, may be due to similar principles and needs. However, in cultures with no overall hierarchy, this type of development does not take place (Rapoport, 1969).

The inclusion of religion within people's behaviour/practices can be seen on three levels – macro/societal; intermediate/maintained religious spaces; and micro/domestic. On the macro level, it is argued that many religious aspects continue to dominate the lives of believers, both men and women (Oliver, 1987; Mortada, 2011). However, the basic structure of religion has been influenced by the processes of secularisation and rationalisation. This occurred mainly in the Christian societies. On the contrary, Islam accommodates religious activity for both men and women at an intermediate level, with emphasis on the male responsibility to maintain the rituals, and more importantly the home becomes the focal point of women's religious deeds at the micro level (Mazumdar *et al.*, 1999).

Thus, significant spaces and activities at home are defined and structured by religious ideals and enhance women's self-identity and social/familial roles. The main components of both the traditional and modern layouts demonstrate the level of spaces' hierarchy (Fig3.6), in terms of *women's space*. The male reception room constitutes an important social space. It usually occupies a substantial place in the semi-public zone in the dwelling. Due to the fact that Arabs lay strong emphasis on hospitality and entertaining guests, the layout of their

dwellings make an allowance for this by allocating a special place for receiving guests (Noor, 1991).

The space of the entrance for example, within the traditional layout has been articulated in a way that prevents any kind of direct visual intrusion from the outside towards the main social core of the house. Semi-private and, often, private domains represent the sociocultural core of the house, while the semi-public domain which, is in direct association with the semi-public domain of the entrance, views the world of men and male-guests (Al-Thahab, 2014).



Figure 3.6: Distribution of the private (family-spaces) and public (guest-space) within the traditional and modern layouts

Source: Behloul (1991:68)

Spatially, according to Bahammam (2006) and Webster (1984), the idea of the veil/hijab in Islam may be seen as a physical reflection of the concept of privacy. Thus, an

entrance/access point, tightly regulated access points, and separation of internal and external space, help in retaining this principle. The resemblance between the dwelling access-point and the veil can be seen as the initial access separates public and private space, and permission is needed for an outsider to cross it. The second access separates kin and non-kin, as well as men and women (Webster, 1984). Public and private relations inside the house are largely arranged in relation to the lines of familiar stranger, guests and, most certainly, male-female relations (Madanipour, 2003). However, these studies seem to offer very little towards understanding the physical layout in relation to its socio-cultural meaning or to elicit hidden aspects (i.e. gender, change and continuity in space use and cultural values).

Mernissi (1991) claims, from the crisis of identity besetting a Muslim society that struggles to come to terms with modernity. As the West looks to the present and to the future, she asserts that Muslims obsess instead with the past, turning to tradition and especially the apparent certainty of Quran/Hadith texts for strength in a changing world. Both social-relationships, and cultural-values, which are controlled by religious beliefs, are mapped into the spatial-structure of the dwelling, especially, in respect to gender-segregation. The common rule is, therefore, that men and women should practise many of their social activities in two separate spheres. This duality of space in turn emphasises the seclusion of women, which is considered as an important factor influencing the spatial-organization in general and the use of the domestic space in particular (Chowdhury, 1992; Mazumdar *et al.*, 2001).

Nevertheless, the employment of women gives them access to the man's world/public sphere. A woman is no longer restricted to her own private domain, however, employment does not mean she no longer respects social norms. The role of women within the household will therefore be the same, and the space allocated to them remains unchanged. However, by the influence of modern standards in relations between gender, the men-space discontinues/integrates to be designated for males (El-Safty, 1981).

Religious/social norms, modesty and privacy of women/family in the Arab home, therefore, can limit gaining access to information (for a male or female researcher) in a gendered-segregation society. Undertaking this kind of research has specific consequences for the researcher's role in the field. This role will be therefore structured by gender and only secondarily by the variables by which the researcher elects to define her/himself to the

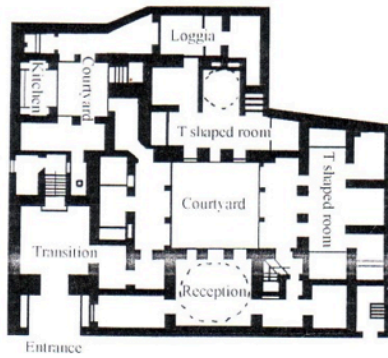
community. The female indigenous researcher studying her own society can play a major role in providing a more balanced analysis of the role of women in Arab society (Altorki, 1994). Although the class barrier in Arab society may to a certain extent reduce the ‘commonalities of the female experience’, this fact can be overridden by expectations based on the commonality of being part of the same cultural area and tradition (El-Solh, 1988:91).

In this study to find a supplementary socio-spatial theory that attempts to understand the physical layout in relation to socio-cultural context, ‘Space Syntax’ as developed by Hillier and Hanson seems to have more to offer. Hillier and Hanson (1984:9) argue that buildings do not only express social meaning, but also constitute that meaning through the ordering of space, function and social-relations. Buildings are therefore ‘not just objects but transformations of space through objects’. The use of ‘Space syntax’ theory provides insightful interesting results when combined with social and cultural data to interpret hidden meanings (e.g. gender-segregation, access control) embedded in the interactions between spatial structure and users (Al-Sayyed, 2012; Khattab, 2005; Al-Bahar, 1990).

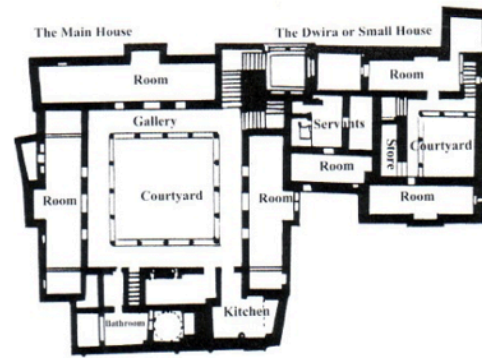
3.2.2 The Arab courtyard-house: spatial and functional aspects

Reconsidering the **traditional patterns** of the vernacular housing architecture implies: firstly, built form can have a direct influence on social behaviour that beings respond to both socially and physically. Secondly, it is a form of environment that is created by strong communities based on traditional quarter structures, in which the entire neighbourhood lived and work together as a kind of extended family. Thirdly, densely built urban development patterns of the past produced greater advantages in terms of sun, light, air circulation, and convenience than modern patterns do (Lewcock, 1988).

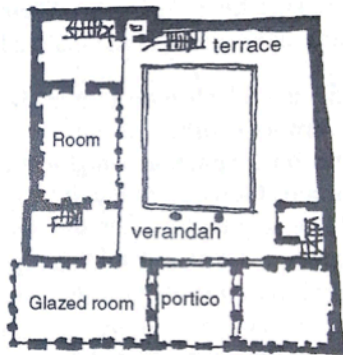
Courtyard house forms were subject to variation according to the size of the house, local traditions, customs, and climate conditions. For example, in North Africa’s Medinas (Libya, Tunisia, Algeria, and Morocco) courtyard houses display different characteristics than those of Egypt, Syria, and Iraq as they feature the most formalised configuration with absolute centrality of the courtyard (Sibley, 2006). This alters the role of courtyard and the design of house components (Fig3.7).



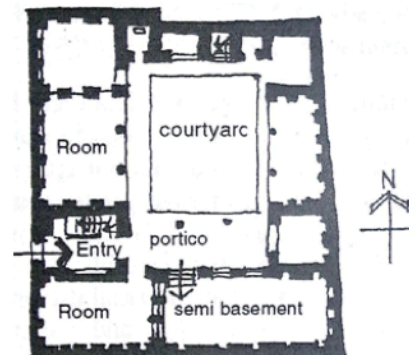
A-Large courtyard-house: Algiers, 19th-century



Large courtyard-house: Tunis, 16th-century

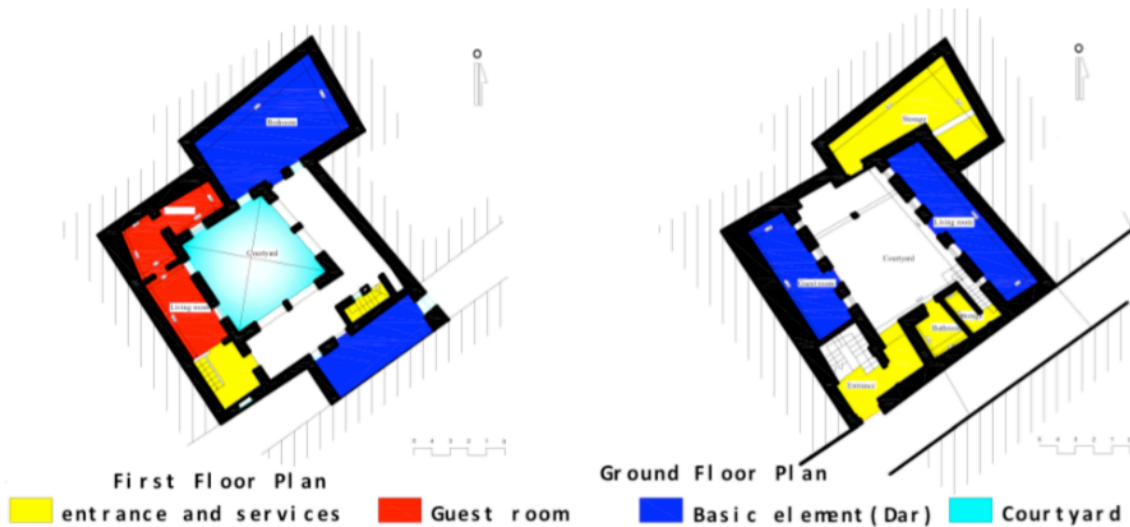


First floor



Ground floor

B-Traditional courtyard-house: A typical layout, Baghdad, Iraq



C-Traditional courtyard-house: Medina-Tripoli, Libya

Figure 3.7: Variations of courtyard homes in Arab countries

Source: A- (Sibley, 2006:50&52), B- (Ishteeaque & Alsaïd, 2003:218)

C-(Gabril, 2014:45)

Traditionally, no space in the Arab house has an explicit function assigned to it. This means the space can be either a living or dining room, a study or a bedroom. The habit of sitting cross-legged on the floor or upon a mattress with cushions against the wall is traditional and preferable. The living room arrangement (Fig3.8) can be changed into a bedroom, simply by spreading mattresses. Room size is often measured by the number of mattresses to be accommodated, even representational rooms like *majlis/iwan/marbouha* can be used for sleeping, if required (Ragette, 2003).



Figure 3.8: Arab-House: Typical living room arrangement

Source: Serageldin (2007:97)

The use of space in the Arab-Muslim house derives from nomadic simplicity and practice, and implies a minimum of permanent furniture e.g. closets/cupboards that were mostly integrated into wall niches. Mattresses could either be folded and stored away or remain on low benches along the walls, serving both sitting and sleeping purposes. The dominant situation in the home resembles the practice in the mosque e.g. the custom, to take off one's shoes outside the room, and sitting or kneeling on the floor (Bianca, 2000).

The traditional family-dwelling in Muslim countries has been architecturally designed to afford privacy on two levels: overall privacy for the family and guests, and more specific privacy for any women living in or visiting the home. Space, in other words, is primarily allotted and used in terms of gender. This can be conceptualised on three levels: outside the walls of the house is public-space; within the walls is the private-domain, the home, and it

is this area which is separated according to gender. The area immediately inside the front door is the male area; it is a semi-public area in that it is less public than the street, and yet is accessible, under certain conditions, to unrelated males. It is here that male guests are entertained by men in the family. Beyond this intermediate area is the female space, which is private and accessible only to women, children, and male family members, unless an unrelated woman is present, in which case all men are barred (Webster, 1984).

Physical treatments with regard to privacy, segregation between male and female, visitors and women of the family have, therefore, been performed in a manner that may imply a deep understanding of socio-cultural and religious values. This can be clearly shown in the physical, spatial and functional aspects and the variation in spaces' levels (Al-Thahab *et al*, 2014). Moreover, the independence of the individual sub-units/rooms, e.g. of the large-scale traditional house and their multi-functional use is needed for shifting domestic functions from one place to another for various purposes (Fig.3.9).

For example, a change in the use of rooms could be due to changes in family structure (marriage of sons); shifts in climatic conditions (the use of lower floor, basement and the courtyard during the hot summer, and the use of upper rooms during winter); and an almost daily shift of functions when the family have non-related male visitors (Fig.3.10). In this case the rooms are segregated into 'male spaces', which would allow for temporary access and reception of male-visitors, and 'female spaces', where family practices continue at the same time without being seen/disturbed/intruded by outside-visitors (Bianca, 2000).



Floor plans of a double courtyard house in Fez, serving a large family and consisting of several semi-independent sub-units.

Figure 3.9: Traditional courtyard-house: space use and arrangement

Source: Bianca (2000:63)

Spatial-use and arrangement: courtyard-house in Fez, Morocco



A- Courtyard: corner turned into a dining space with the help of transportable copper tray and mobile mattresses.

B- The interior of the living area/female reception, with view through door openings into the courtyard in order to allow the users to adapt the opening to different activities and climatic condition.



C- Central courtyard of traditional courtyard house in Medina-Tripoli, with semi-open space/loggia for domestic use, showing a sense of centrality and the integrity of the protected domestic space.

Figure 3.10: Traditional use-patterns: space-use flexibility

Source: A-& B- (Bianca, 2000:77&85)

C- Author field-work

Previous studies (e.g. Fathy, 1973; Noor, 1991; Sibley, 2006; Bahammam, 2006) have highlighted the high level of responsiveness to socio-cultural, religious and environmental factors. The design of spaces, for example, of the traditional Saudi-house, in addition to

being physically functional, is also a response to behavioural values. The socio-cultural values that people had led to patterns of behaviour which in turn gave shape to the built-forms, e.g. the concept of traditional courtyard-house (totally veiled from outside) mirrors/reflects closely the need for privacy, expressed in women *hejab/veil*. In other words, values are the root of architectural meaning and give validity to functional solutions (Bahammam, 2006). In Algiers, however, the occupancy of modern apartments and the importance of exhibiting a modern physical form, combined with the persistence of traditional space use patterns illustrates a clear conflict (Sibley, 2006).

According to Fathy (1973), the traditional architecture has accommodated itself to the environment, both physically and practically, over many centuries. The analysis of the courtyard-house in different Arab societies reveals the role behavioural factors play in shaping the physical form of the built environment. Each society has developed its own characteristics of the courtyard-house in order to meet certain functional and climate needs, and also as an illustration of wider cultural values. As a result, the traditional courtyard-house has meaning and significance for the Arab people, in spite of the reluctance to develop alongside modernised forms.

3.2.3 The shifts in socio-cultural values, lifestyles and space use

Social symbolism of house form has been examined by numerous researchers (e.g. Rapoport, 1969; Oliver, 1997; Mortada, 2011). One of the best known for his leading socio-cultural study of the house, Rapoport (1969:47) states that:

‘My basic hypothesis...is that house form is not simply the result of physical forces or any single causal factor, but is the consequence of a whole range of **socio-cultural** factors seen in their broadest terms. I will call the socio-cultural forces primary, and the others secondary or modifying’

He studied the primitive and vernacular buildings/settlements in order to understand the forces that shape these dwellings, and the forms and factors that affect the house-type. Also, to a certain extent to find implicit/socio-cultural forces rather than explicit/climatic/technological influences. As housing is the main component of the urban fabric, alterations appeared in the layout, and architectural style may cause discontinuity in social values, that have played a great role in shaping the dwelling form. This indicates that

the socio-cultural forces are primary in determining the house form whereas the other forces such as physical environment, and climate are secondary or modifying; religious-ideals, local-customs and traditions are among the socio-cultural values that people take into account while establishing their dwellings (Oliver, 1997). Consequently, houses and settlements become the physical expressions of the *genre de vie* (a term that includes all the cultural spiritual, material, and social aspects which effect form) used to constitute the spatial, socio-cultural aspects, affecting building form. Family structure, position of women, privacy, social intercourse and some basic needs are, in turn, considered significant factors of *genre de vie* (Rapport, 1969:49).

The study of traditional vernacular house-forms in Libya suggests several determinants that formed the house. However, it is imperative to point out the ‘*genre de vie*’ of basic needs, family, position of women, privacy, social intercourse, as an aspect that has had a vital role in the formation of the traditional house forms. This shows how cultural forces can be classified into two groups of factors that govern the cultural performance of the house (Fig3.11). These forces, derived from traditional house-form, can be utilised in the examination of the cultural performance of the contemporary house-form in Libya (Gabril, 2014:59).

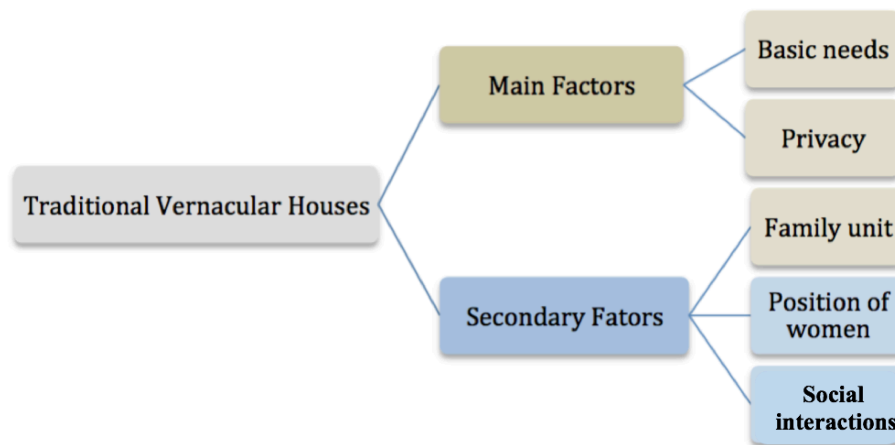


Figure 3.11: The cultural forces that shape/influence the Libyan-house form

Source: Gabril (2014:60)

Rapoport (1995:57), suggests that space is a central element in understanding inherited **cultural-values** as he defines concepts such as ‘space’ and ‘spatial qualities’, which he sees as culturally related and dependent on values and lifestyles. He also suggests that a sample

ranging both through time and across cultures is necessary for a thorough understanding of these concepts. Likewise, Oliver (1997) combined three forms of lifestyle: sedentary, rural and urban. His study included descriptions on building material, climatic and social variations between regions, and spatial organisation of some houses, including houses in Arab cities. His study accounts for the effect of the structure/organisation of the house on the inhabitants and visitors. Despite Rapoport giving primacy to socio-cultural factors, he does not exclude other aspects. In vernacular architecture, cultural and environmental factors are seen to merge as one, manifested in traditional vernacular elements. For example, in the Middle-East the courtyard meets the culture's need for privacy and is also a direct response for the harsh desert climate (Al-Haroun, 2015).

Socially, the structure in Muslim societies has been influenced by modernisation that have emerged as a consequence of increasing contact with the West (colonial impact). This resulted in the emergence of new lifestyles, cultural values and inspirations. Other factors contributing to this change include: demographic demands, globalisation and standardisation (Mortada, 2011). The modernisation process continues to challenge architectural tradition in the Gulf area, for example, with the economic boom many building programmes were launched, some of which neither took account of environmental/climatic conditions of the area, nor responded to the socio-cultural traditions of the people (Al-Hathloul, 1998). As a result, many of these standardised designs not only failed to accomplish the socio-cultural values local people held, but also produced a homogenisation of architectural form (Shawesh, 1996).

As the socio-cultural aspects are supposed to be one of the main determinants of the house form and layout, implementing other societies' styles of design is not the appropriate solution for the housing demands/identity. The development/alteration in home design in Muslim societies has been associated with new types of **social organisation** such as: a decrease in family size, a loosening of **family** ties, increased mobility and changes in social make-up. All these are outcomes of cultural, social and economic change (El-Menghawi, 2004). Hillier *et al.* (1984) claim that the ordering of space in buildings is a ramification of the ordering of relations between people. The family is the basic unit of social organisation in traditional and contemporary Arab society, in all three Arab patterns of living (Bedouin, Rural, Urban).

Social relations in Arab society are characterised by interacting as committed members of a group, rather than as independent individuals who assert their privacy. In Libya, traditionally, the social value of family and tribal loyalties has been defined by a combination of two elements: kinship and regional-solidarity in relation to familial and tribal bonds (Abubrig, 2012). Arabs even in big cities, experience a strong sense of belonging through sustained communities and loyalties to family, community, and friends. Yet, the Arab family has been undergoing significant changes as a result of structural change at the level of production and the transitional nature of Arab society.

Today in the Arab world, major **social-changes**, also are affecting the form of domestic architecture as a result of contact with the West (Barakat, 1993). The traditional Arab-family, however, was the one social institution that held out the most in resisting changes, particularly the status and role of women. The manifestations of the change in women's role are bound to affect the contemporary Arab-family. The change aspects can be seen in the nuclear family; and women are gaining more rights in education and work. However, women are still expected to carry out their traditional role/domestic chores. Moreover, the woman is still expected to seclude from interaction with men outside the kinship group (El-Safty, 1981).

The extended/traditional family's system affects the Islamic social structure as well as the urban fabric of the Muslim-city since the family has to anticipate the architectural transformation process in dwelling (Bianca, 2000). The nuclear family, the decline of polygamy and the reduction in the number of children per couple have resulted in correspondingly smaller housing units. Existing houses, formerly inhabited by extended families, have become tenements for unrelated groups or are abandoned. There is increased acceptance of freedom of movement for women, with greater social contact, resulting in less demand for fully enclosed environment (Petherbridge, 1978). The Muslim Arab-house has to accommodate two contradictions: Arab hospitality and social-customs require large spaces for meeting and entertaining, but religious demands require privacy and gender-segregation (Noor, 1991). Islamic tradition shows a great degree of concern towards the issue of privacy of household members, females in particular. Attitudes towards women in Islamic societies, therefore, deemed to greatly affect the spatial organization of the dwelling.

Changes in the architectural forms and spatial organisation reflected changes in the socio-economic structure, and resulted in either the partial continuity or the complete disruption of the traditional architectural process. In addition, the structure of society itself along with many other aspects has distinctive architectural consequences (i.e. Muslim-home) (Al-Hathloul, 1989). The effect of these changes is demonstrated in transformation and change of the housing design. As Western and modernisation influences have increased, people's desire to modify their dwellings has increased; the transformation of the city through its master plans literally forced a new house design on the Arab-city and its people. The modern-villa had an extroverted form, which changed the way people lived (Al-Haroun, 2015).

For example, in Kuwait City after the oil boom domestic architecture went through three socio-stylist phases; the first was the rejection of the past and the dissociation with the traditional context in search for modernisation, the second was rejection of conformity in search of individuality, uniqueness, status, and prestige, the third was the search for a post-oil Kuwaiti identity which attempts to reinstate traditional values and concepts (Al-Bahar, 1990; Islam *et al.*, 2006). The dramatic contextual movement between the traditional and the modern environments has resulted in a complete physical and socio-cultural discontinuity with the past. This is a result of people's and 'mediocre architects' sense of being freed from the traditional way of life and of being attached more to the Western stereotypes (Zaini, 1976).

The new houses were characterised by the absence of a courtyard, and instead were surrounded by gardens, with high fences. Therefore, the activities that used to take place in the courtyard, particularly by female members of the household, are now carried out in other spaces with a lack of privacy. Despite these disadvantages, which emerged from adopting new design ideas, it seems that this layout has become the most dominant one. Unlike the traditional courtyard-house, today houses have come to accommodate an array of requirements deemed necessary by the user. These include the emergence of balconies and perimeter wall (semi-private open space). As a result, today Libyan's domestic built environment manifested in hybrid styles, which in turn has significantly changed people's lifestyles (Amer, 2007; Belgasem, 2005).

The design of the flat, for example, influences the degree of privacy in and around it. The way in which the spaces are configured demonstrates the level of privacy achieved and arranging different functions in a limited space (Fig.3.12). The idea of the dual-purpose space has been adopted as an approach in order to save on space required for different functions (Al-Kodmany, 1999). This, however, increases concern about family privacy and women's spatial needs. Despite the amalgamation of the guest and living rooms, it is still uncommon for women in many Arab-Muslim countries, even nowadays, to use the living room while unrelated male guests are around.

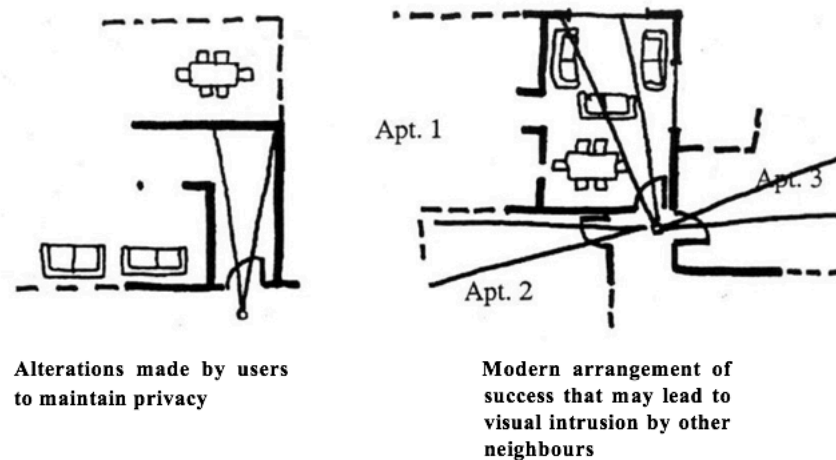


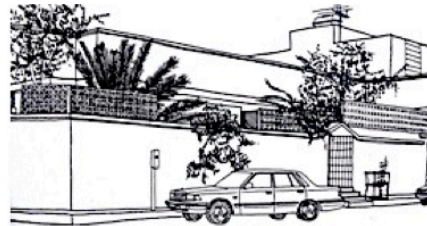
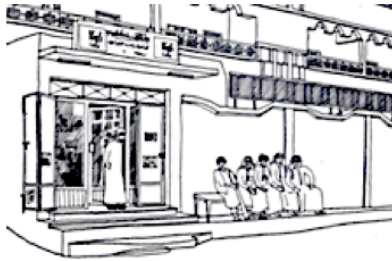
Figure 3.12: Access and spatial arrangement in modern flat

Source: Al-Kodmany (1999)

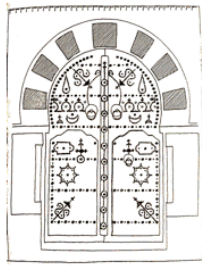
However, according to Al-Hathloul (1989) and Hakim (1994), the concern for religion and *Urf*/customs/traditions in Arab societies is reflected in the physical forms. This suggests that the persistence in traditions in contemporary times is illustrated in several ways, including the architectural treatment of the physical features. For example, the use of the bench near the corner shop for visitors from the neighbourhood; the use of high perimeter coloured panels located on the top of the fence to maintain privacy level; and the use of arch motifs in the balconies to express allegiance to Islamic-culture (Fig.3.13).

Thus, one can say the architecture of Muslim house was to a great extent shaped by *shari'ah*/religion as well as social conventions. In the placement of doors, opening of windows, treatment of roof, there have always been rules for producing appropriate form. In spite of changes in forms, however, each new type kept to these rules as 'the deep structure' or 'system of arrangement' that held different elements together in relation to space use (Al-

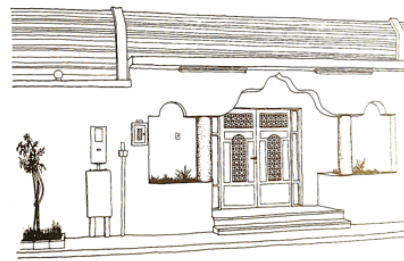
Hathloul, 1998:26). The people's tendency to alter their spatial and social environment is to facilitate their interests, which are regarded as a powerful motivator for change. This might be encountered in the Arab countries, it all begins with people's interest in the new lifestyles, some of which cannot be introduced easily and applied directly to the social and cultural orders of these societies (Abdelsalam, 2003).



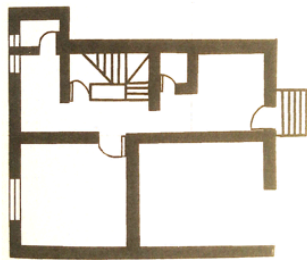
A- Corner of a house shows recent customs: conversion of the garage into a shop; the use of the bench *dakka* near the shop for visitors. The use of high perimeter walls, Dammam, Saudi Arabia.



B- Main door in traditional house in Tunisia, using traditional motifs.



The persistence of the tradition in contemporary situation, people used traditional treatment for the front gate, Saudi Arabia



C- One of the typical traditional Saudi houses: The *mashrabiyya* house: a terraced house with screened windows towards the street side and no courtyard.



D- The traditional use of built-in bench *Rikkaba* for male neighbours' gathering, Tripoli, Libya.

Figure 3.13: The persistence in traditional use patterns in a contemporary Arab society

Source: A- Hakim (1994:119), B-Hakim (1994:119&122), C-Al-Hathloul, (1998:27) & D-Author-fieldwork

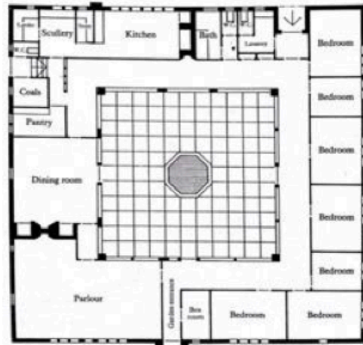
3.3 The Western-experiences of courtyard-housing

The courtyard house is an indigenous urban house form that evolved at least 6000 years ago in various regions of the world with different climates, cultures and building materials. The advantages of this house form were recognized and used by urban dwellers in ancient civilisations, including urban houses designed during Macedonian, Roman and Arab Empires (Petruccioli, 2006; Sibley & Goh, 2009). Traditionally it is associated with the Middle East where climate and culture has given shape to a particular type of courtyard housing, other examples exist in Latin America, China and Europe where the model has been reinterpreted (Edwards *et al.*, 2006). The transformations of various courtyard house typologies resulted from the demographic change, culture, socio-economic and climatic constraints in various part of the world (Goh, 2010).

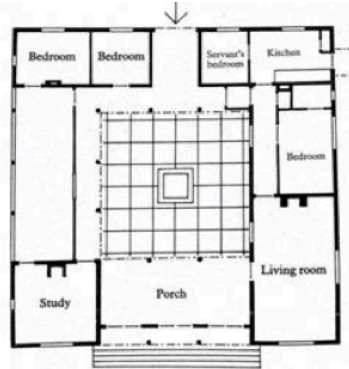
According to Macintosh (1973) and Edwards (2006) the history of the modern courtyard-house in Northern-Europe and the United-States is intended to bring out the potentialities as well as the problems of this type of house. The modern courtyard houses of the 19th century have very little continuity between their development and those of earlier kinds. The courtyard house of the 19th century is quite different from the ancient vernacular version. It has been built for a smaller family and for a more comfortable way of life than those which existed in previous centuries. But in fact these have had little or no influence on modern designs (Macintosh, 1973). Edwards (2006) notes that the perimeter block was the preferred model in Scotland, Germany, Holland, Italy, Spain and much of France. It offered four main advantages which ensured its popularity throughout the 19th and 20thcenturies: economical to build because of high level of repeating construction parts; efficient and often profitable land utilisation; social and sanitary order; and responds well to climatic imperatives. Likewise, Plunz (1990) highlights that the merits of the perimeter block with an internal courtyard have also been recognised by New Yorkers.

The experimentation of the perimeter block layout in housing design was carried out in the late-nineteenth century reaching its peak in the 1920s. The improvements made to the traditional perimeter block with a central courtyard were achieved by designing different typologies such as (I, L, Z, T shaped) which were grouped to provide better block aesthetics and reinforced socioeconomic impetus. There have been three main lines of development for modern courtyard houses. First, mass courtyard housing in northern Europe was

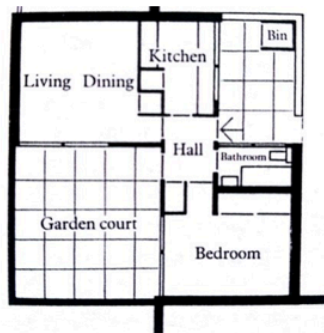
developed without any reference being made to old Mediterranean house types (Fig.3.14). Second, the less important modern atrium house was based on the Roman atrium house. The third main genre, the patio house in United States, began as an imitation of the Spanish patio house during the Spanish Colonial Revival in southern California 1895-1930



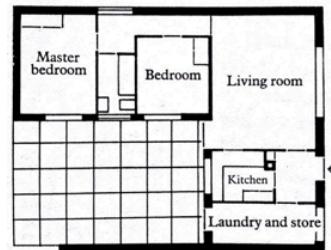
Patio house: Frinton-on-sea, 1908, England



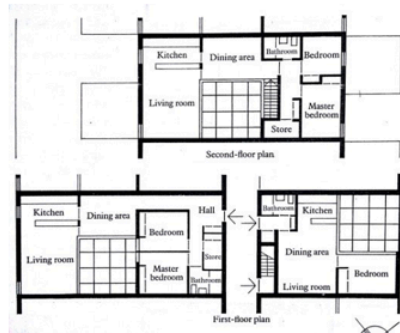
Oivala atrium house: Helsinki, 1925, Finland



Patio house, Dundee, Scotland, UK, 1963



L-shaped terraced houses with courtyard
Dessau, Germany, 1928-29



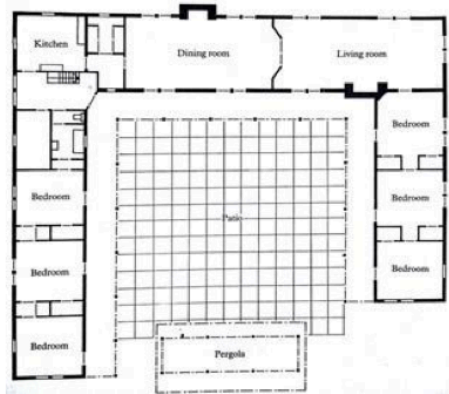
Patio house: Essex, UK, 1967



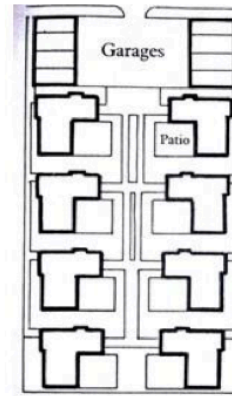
Peter-Phippen: Patio house, Hatfield, UK, 1963

Figure 3.14: Courtyard/patio/atrium house in Northern Europe

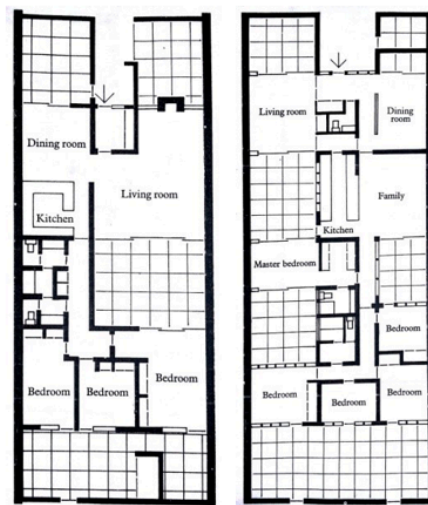
Source: Macintosh (1973:10-12)



Patio house introduced in US
by Chales & Henry Greens, California, 1903



Patio house by William & Purcell, Sothern-California



Patio house, Harvard, US, 1957, produced
Chermayeff & Harvard students



Patio house, New-Haven, US, 1962
developed by Chermayeff

Figure 3.15: Patio-houses of in the United-States

Source: Macintosh (1973:19)

According to Sibley & Goh (2009), this type was introduced in the UK in the late 1940s as one of the new attempts to respond to a housing crisis after the Second World War. The majority of the courtyard housing schemes built in the UK were regarded as low-medium and medium density developments. The L-shaped courtyard house type is the most commonly found typology in the UK. To reduce the heat-loss during winter, the strategy of incorporating the maximum volume internally while exposing the minimum surface area externally, has been adopted in this lower development density of L-shaped courtyard houses.

Goodchild (1997:28-29) suggests that 'Narrow fronted dwellings (frontage of less than 5 metres) and medium fronted dwellings (frontage between 5-7 metres) predominate. The use of a medium or narrow frontage increases the number of dwellings along a road and, in doing this, reduces land and infrastructure cost, also reduces the amount of external wall in relation to party walls and so reduces building, maintenance and heating costs'. In determining the internal layout of the urban dwelling he added that 'The requirements for day-lighting in narrow fronted houses ensure a simple distinction between a back room, sometimes supplemented by a back extension and a front room'.

He also notes that 'Narrow fronted patio dwelling allow high levels of privacy and the separation of different household activities. However, they are more difficult to heat and generally require the use of flat roofs which are more liable to water penetration' (Goodchild, 1997:29). In other words, typical patterns of relatively high land prices and building cost pressures have pushed developers in Britain towards narrow-fronted house types in low rise schemes of two or three storeys. Narrow-fronted houses in turn favour terraces or possibly semi's. Patio-houses are considered as a theoretical alternative only. The use of an internal courtyard increases light penetration to the interior but requires flat roofs and leads to homes that are difficult to heat and leak through the flat roofs (which are notoriously unreliable in damp UK conditions).

Another mostly theoretical possibility would be to place a courtyard or patio within the building envelope of a narrow fronted terrace-house, which was explored (see Chermayeff and Alexander, 1963; Colquhoun and Fauset, 1991). A house with a narrow frontage, and long continuous party walls, in terraced form, appeared to be successful when placing a courtyard or patio within the built form, and showed its potential in providing community and privacy (Chermayeff & Alexander, 1963:239-245). They developed a range of plans which are separated into noisy and quiet areas, tidy and untidy, public and private, and suggested that houses should be divided into 'domains' (Fig.3.16), each having different requirements, particularly in terms of privacy (Colquhoun and Fauset, 1991:51-52).

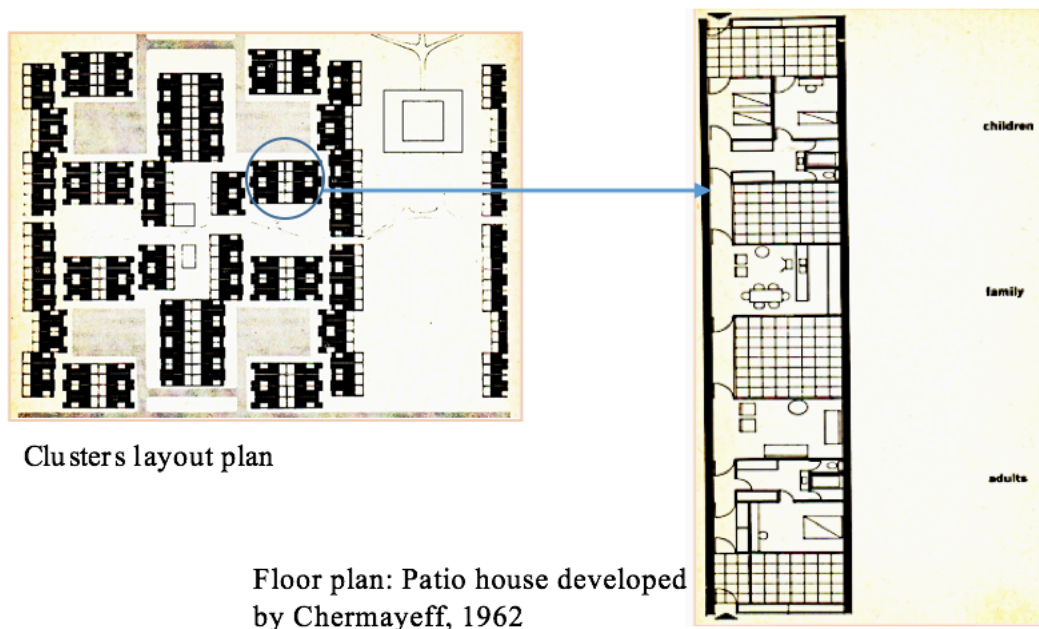
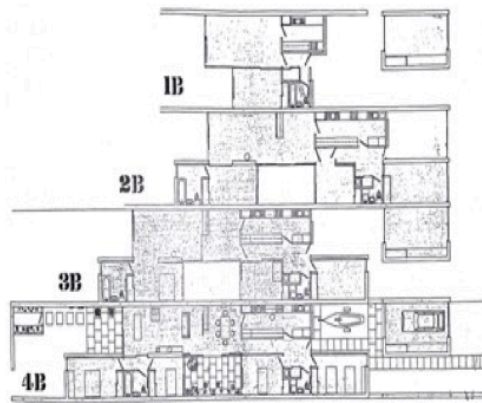


Figure 3.16: The placement of the courtyard to separate functions and increase privacy
 Source: Chermayeff and Alexander (1963:242)

‘This larger area plan has six interior patios on two sides of a service spine, which enables the zones; adults, family, parents and guests, and children’ (Chermayeff and Alexander, 1963:243). In other words, they applied the principles of the multi-patio house to the linear house, and increased the privacy within the house, making each patio relate to a particular part of the dwelling. ‘Chermayeff was particularly, concerned with combating the electronic and mechanical noise that had invaded the modern house’ (Macintosh, 1973:17).

These principles were brought to the UK by Peter Phippen in 1962 and produced a co-optative scheme using linear patio-houses at the Ryde, Hatfield (Fig.3.17). Thereafter, patio-house schemes followed in other Europe countries. In general, the most common layout resulted in a low penetration of roads and open-spaces. Some schemes proved unpopular, particularly when built with non-traditional construction. Other schemes, however, proved highly successful such as Bishopfield in Harlow New Town and Setchell Road, Southwark in London (Colquhoun and Fauset, 1991:52).



The Ryde, Hatfield: residential plan



Interior opening towards patio

Figure 3.17: Patio housing estate at the Ryde, Hatfield, UK, 1962

Source: Colquhoun and Fauset (1991:51)

According Colquhoun (2004) and Lynch & Hack (1984), open space is an important aspect of housing design in terms of providing natural air, light, and comfort for the users. It also has a socio-cultural dimension in terms of privacy concepts (sight, sound, space, and security). However, it should form part of a spatial system in which each area/open space has its own function. The important aspect is that open spaces serve a function and can be used in a natural and uninhibited way in terms of safety and security (design to avoid the possibility of crime and perception of crime). The determining factor for most people will be size and natural character. However, the private yard is still an important use of the ground in a family house. It is used for sitting, playing (children will spend their outdoor time, and can be overseen by parents from indoors), cooking and eating, cloth drying, gardening, entertaining and storage.

‘To serve these functions, a space of 12 by 12m is likely to be a minimum. But if that quantity of ground is not available, then a simple outdoor room (courtyard/patio) of 6 by 6m may be provided, simply for sitting’ (Lynch & Hack, 1984:269). In Arab societies, the house roof, for example, is also accessible as a private outdoor space, through an internal staircase. Although there is usually a screen, fencing the roof area, both roof and courtyard are being used less, especially in the inner cities because new surrounding high buildings eliminate the privacy (El-Dars & Said, 1972). Abdelmalek (2006) argued that the courtyard, by its position in the house, its organization and its social role suggest more socio-cultural values than a physical one. It is important to see the courtyards not for example as a climatic regulator, but as a social space able to adapt to the changing conditions of modern life.

3.3.1 Courtyard-buildings: European values and experimental programmes

The most influential theoretical design models in the middle of twentieth century were the mathematical studies of built form at Cambridge University in the 1960s by Leslie Martin and Lionel March. Two of their studies published in *'Urban Spaces and Structures'* (1972), related to court and perimeter housing. Using hypothetical models, courtyard housing was shown to provide three times more accommodation than a tower block development on an equivalent site (Colquhoun, 1999:17-18). They developed two design principles based on studies related to housing layout and density; courtyard (patio) housing and perimeter housing. The geometry of housing design is linked to the geometry of street layout (Fig.3.18). Martin & March (1972:35-36) suggest that there are only three basic types of plan form: the pavilion or tower, the street and the court. 'The pavilion is finite in its plan form. The street extends, potentially, infinitely along one axis. The court extends infinitely along two'.

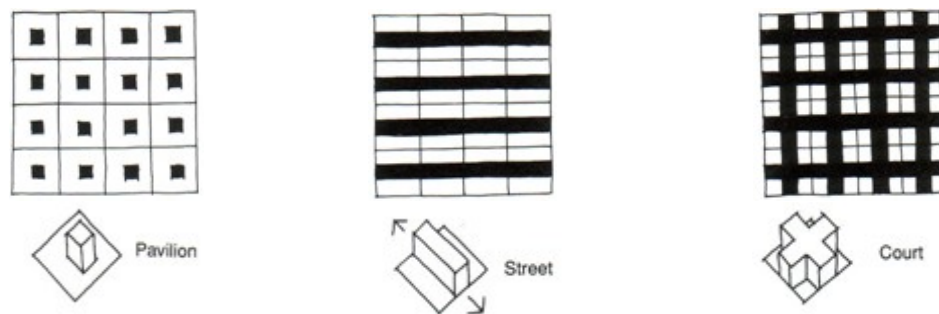


Figure 3.18: Geometry of housing designs proposed by Martin & March

Source: Martin & March (1972:36-37)

If the distance between blocks is determined purely by conventional spacing standard, for example daylight and sunlight standard or a common privacy standard, the pavilion has the least potential for high density at any given number of storeys (Fig.3.19). Tower blocks only achieve high densities through their great height. The court has the greatest potential and the street has an intermediate potential (Goodchild, 1997).

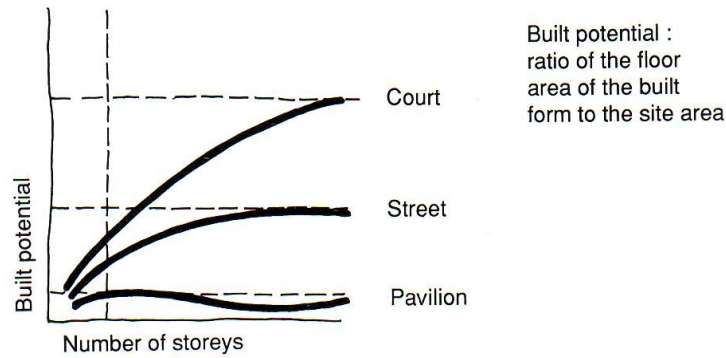


Figure 3.19: Build potential of using court/patio housing
 Source: Colquhoun and Fauset (1991:48)

The second concept of Martin and March (1972) is perimeter housing, the concept of which lies in the geometry of the ‘Fresnel Square’. When translated into architectural terms this means the concept is that the traditional tower block isolated within a square of green could be developed as a thin ring of ‘low rise housing’ around the edge of the green without the loss of dwellings (Fig.3.20).

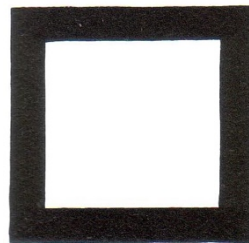


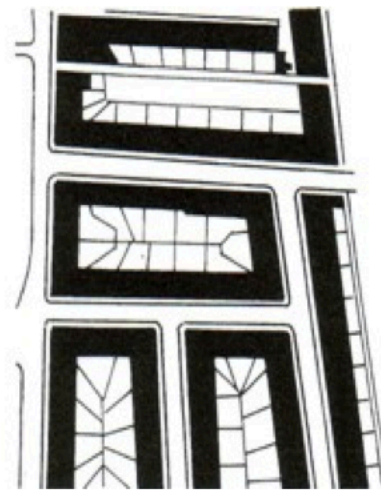
Figure 3.20: The concept of Perimeter Housing ‘Fresnel Square’
 Source: Colquhoun &Fauset (1991:53)

The concept of the L-shaped patio house was first developed between 1928 and 1930. The earliest L-shaped patio housing schemes that were to make a significant impact on subsequent housing were Jorn Utzon’s Kingohusene courtyard schemes at Helsingor 1957-1960 and Fredensborg, 1963 (Colquhoun and Fauset, 1991:49). In Britain, the hollow square provides the basic layout of four storey tenements developed in the nineteenth century in Scottish cities.

The nineteenth century layouts (Hollow Square), however, were seldom in current renewal schemes as the hollow square layout lacks car-parking and suffers from poor day-lighting at the ground floor. The repeated use of L-shaped houses, whether as detached or terraced units or linked together, leads to a more intricate pattern on the ground than is usually the case for large tenement blocks. The pattern involves footpath access and a small patio like back garden, this type of development is often called patio housing (Fig.3.21). ‘Therefore, the repeated use of narrow fronted housing forms provides the highest and the most economic type of development of low-rise housing’ (Goodchild, 1997:3132).



The repeated use of L-shaped patio houses



A complex of residential unit in a hollow square

Figure 3.21: Loosening the matrix of courtyard housing, Scotland, UK

Source: (Goodchild, 1997:31)

As cost constraints became tighter in the UK from the early 1970's the patio plan type began to lose favour (Colquhoun and Fauset, 1991:52). Other courtyard schemes proved less popular due to the narrow pedestrian alley-ways between the houses which fostered crime and vandalism, and the separation of the house from the street (Colquhoun, 1999:19). Goodchild, (1997:31-32) suggests that the reasons behind the rare use of patio house after 1970's, almost certainly linked to the desire of local authorities and housing associations to provide conventional-looking dwellings and estates, with road access to each property. An additional factor is the large number of external walls and the use of flat roofs exposed to the wet climate in Britain.

Courtyard housing in Europe, especially Britain, disappeared during the 19th century, consequent upon the adaptation of public health regulations, associated spacing standards and the need for direct road access to each house. Thereafter, in the context of the pressure of land prices, developers have used a combination of street-based layouts or medium/high rise pavilions. Cost effective courtyard housing in Britain has either failed to provide individual road access or uses a narrow fronted form with some characteristics of terraced housing (Goh, 2010; Goodchild, 1997).

The same tendency is likely to occur elsewhere, such as the Arab city within which basic possibilities in the geometry of housing based on street layout (from Martin & March) can be employed: the pavilion (detached or isolated tenements); the street, and the court. Later, the courts geometry (traditional forms of courtyard housing) was abandoned, attributed to the requirements of road access and the desire to improve centrality and reduce land costs in favour of pavilions and street-based layouts, albeit with the possibility of local variation and hybrid forms. In addition, the irregularity of traditional layouts, including courtyard housing cannot be standardised and mass produced (Mahgoub, 1997).

There are other ways to maintain or increase densities. Direct road access can be abandoned in favour of footpath access and the use of either relatively wide-fronted L-shaped houses or any shape of patio houses. The limitation of patio houses, like other forms of courtyard development mean that, in most conditions the street layout and therefore, the repeated use of narrow fronted housing forms, provided the highest densities and the most economic type of development in low-rise housing (Goodchild, 1997).

The biggest advantage of patio housing, however, was the ability to achieve relatively high densities with a high level of privacy. The level of privacy afforded was very high and could not be achieved in ordinary terraced housing (Colquhoun and Fauset, 1991:52). Moreover, with the increasing importance of density and sustainability in the late 1990's, the courtyard house form is once again being considered as a potential solution to high density urban housing in the UK (Mac-Cormac, 2007)

Since the early twentieth century in Britain, Ireland, France, and the United-States, the rise of the modern family led to the 'differentiation and specialisation in the organisation of space in the house: from a period when most the activities of households took place in a few communal spaces to a time when small households use a number of functionally defined-

spaces for a multiplicity of activities'. The popular house types of the last century, semi-detached and detached houses (narrow-fronted), shared their internal arrangement with the terraced house: in the separation of public and private areas and the functional differentiation of the space (Madanipour, 2003:72).

Being narrow fronted, these homes are well adapted to urban sites (Chemayeff & Alexander, 1963; Martin & March, 1972). Their floor plan is also similar to that of narrow fronted courtyard houses developed in the UK in the 1960s (Colquhoun, & Fauset, 1991; Goodchild, 1997; Colquhoun, 1999). These UK examples offered few advantages over conventional narrow fronted terraces and semis and in a cold wet climate raised problems of inadequate insulation, given the increased area of external walls. They were not widely used and the experiment has not been repeated (Goodchild, 1997).

Housing in Lochiel Park in Adelaide, South Australia, a city in a similar climate zone to Tripoli, has been based on programmes of government innovation and some of these are using courtyard-housing (Fig.3.22). They have realized that courtyard-housing is quite well adapted to that warm/hot climate, and they were not aware of the Arab courtyard-house; it was a completely accidental discovery. These courtyard homes are designed to maintain human thermal comfort across all seasons (Berry, 2014). The courtyards in dwellings designed and built in non-Arab countries, however, may not similarly promote Arab life styles, concepts of the home and domestic practices. They might, for example, serve similar cooling functions, with cross ventilation, but not serve the same cultural functions.



Figure 3.22: The applications of the courtyard home in Adelaide-Australia
 Source: Berry (2014:341)

Unlike the Western or non-Arab homes, Arab housing was developed in a particular way for particular reasons. They certainly look very different and they typically use street-based layouts. The Arab courtyard home, for example, has all the rooms leading off a central space, an open-air room (or courtyard). Non-Arab homes have courtyards to the side of the main living, sleeping areas or in narrow fronted houses, the courtyard amounts to an open-air room in a series of rooms. Nevertheless, the application of the courtyard home in the UK, Europe, Australia and elsewhere corresponds to the concept of the Arab courtyard home in relation to form and function. Only the attributes are varied due to the climatic characteristic of different regions (Abass, 2016).

The traditional home in Muslim countries has been designed to afford privacy on two levels: overall privacy for the family and guests, and more specific privacy for any women living in or visiting the home. Space, in other words, is allotted in terms of gender identity and kinship (Webster, 1984). For example, there is a clear difference between the built

environment in Western-culture and the built environment in traditional Arab culture, such as in Libya, where issues of religion, and, particularly privacy, were perceived in the separation of public and private life. This characteristic affected the use of space, the dwelling settlement system, and the streets system, which represented special space organisation for different purposes, according to the different needs and desires of groups or individuals (Shawesh A., 1996; Shawesh E. 2000).

The concept of the traditional Libyan dwelling type, therefore, was not a random phenomenon but was subject to many factors, including historical, environmental, socio-cultural and economic conditions (Shawesh E., 2000). According to Edwards (2006), the form of both the perimeter-block of North-Europe and the courtyard-house of the Middle-East has evolved subjected to similar determinants. Although they differ in scale and urban ambition, both forms are the result of three critical forces; climate, social structure, and the need for privacy. However, the tradition is stronger and the rules of privacy more rigorously upheld in the Middle-Eastern courtyard-house. Gender-division expressed as domestic territory ensured that social and religious norms were upheld (Edwards, 2006:131).

With respect to spatial organisation, region and culture, the similarity or difference in the courtyard homes of Arab and non-Arab is that it is not the basic domestic cell that produces the courtyard house, but how the cell is put together. The resolution of the public realm 'street' and the private realm 'cell' in designs to produce shelter and privacy is the essence of the courtyard house (Petruccioli, 2006:18). Vernacular forms are built to meet specific needs, accommodating the values, economies and ways of living of the cultures that produce them (Oliver, 1997). The true vernacular came from a 'living tradition' and it was not about style. It was the essence of the traditional that is revived in buildings to bring back quality to the things that were paramount in people's everyday life (Fathy, 1973:20). The effects of modernisation/Westernisation evident throughout built environments around the world, are taking local societies away from their indigenous forms, domestic tradition expression and sustainable living (Allafi, 2013).

3.3.2 Modernisation and Westernisation concepts

In the 19th and early 20th centuries, the world was very Euro-centric as the major world powers were European-nations that had colonised regions of Asia and Africa. So when the changes relating to modernisation took place, they were attributed to the West. The process

of change was closely associated with westernization as initiated in the West, thus they were identical. Now, Westernisation and modernisation are two entirely different identities. Westernisation is the adoption of Western culture and ideas. Modernization is merely a practice of reforming modern techniques and technologies and applying them in everyday life. In fact, modernization can come from anywhere as each country incorporates them within society (Lal, 2000). In the world, however, these two concepts were ambiguously connected in people's mind, which increased resistance to the physical changes in the contemporary Arab city. Thus, the issue of identity arose as a result of the association between the modernisation process and Westernisation (Al-Naim, 2014).

In Tripoli, the movement from the traditional Islamic-city pattern to the modern colonial style was clearly Westernisation or perhaps a kind of modernisation. Italian colonial brought the Mediterranean architecture features that prevailed in southern Italian cities (Azlitni, 2009). Although the earliest of the Italian architects' tendencies which began with the related use of indigenous building forms, later development was characterised by Roman symbols and signs (Maclaren, 2008). Modern urbanisation, therefore, was introduced to Libya by the Italian colonisation (1911-1943). At that time, Italy planned to develop Libya as one part of its Empire by modernising and developing new agricultural centres (Rghei & Nelson, 1994). Since oil discovery in 1950s, Libya has endeavoured to fashion/modernise a physical framework within which economic and social development could take place (Awotona, 1990:55).

Unlike the modernising Arab leaders, Gaddafi, for example, expressed a reverence for Bedouin and traditional tribal society, appearing in a tent to symbolise his Bedouin identity. The modernised production, however, during the course of his regime has witnessed no stability in policies (Bazzi, 2011). Libyan architects argue that Western-style forms were standardised and duplicated all over the country, in the name of modernisation (Azzuz, 2000). 'Without understanding of the socio-cultural and religious characteristics of a country', Western technologies, often innocently but forcefully and efficiently propose the direct use of 'Western mass production' (Khan, 1978:38).

Fathy (1973:319) argues that the Arab city was culturally Westernised, using ideas, methods and products that create a confrontation with established values of the Arab region. He stands for what he called cultural identity against Westernisation. In his view,

modernisation is desirable if it is used in a completely thought-out response to change in circumstances, and not forced in. In other words, modernisation can proceed without Westernisation and therefore without disrupting people's lives. Although the modernisation opportunities give hope for a better future, it has created many challenges. It is clear that this new wave of global social, economic, and political changes brings huge opportunities for development, yet it also pushes cultural diffusion and environmental problems to its extremes. Therefore, the challenge is to work within modernisation, yet recognize and confront its side effects by being active participants instead of passive recipients of globalisation (Mahgoub, 2004; Al-Haroun, 2015).

Moreover, Bianca (2000:192) asserts that arguments on the implementation of the modern ideologies which neglected both spiritual and social realities, does not impute that Arab city culture should renounce the benefits of modern technology to preserve its identity, and therefore adopt it into meaningful cultural system. A post-modern¹ approach was developed, adopting the indigenous forms to deal with local culture, religious, environment and climate. So any apparent/physical-form that includes modernist and regionalist appropriation of indigenous forms, does not create a conflict between tradition and modernity (Allafi, 1993). Modernity does not necessarily reject heritage, but it is a way to bring the heritage up to the contemporary level and making the best use of the recent technological developments. This modernisation cannot be achieved away from the culture belongs to, however, most Arab-architects associate the term 'local architecture' with vocabulary only, while actually, it is a combination of experience, religious and social reflections, and response to environmental and social problems (Abdel-Azim, 2017).

3.4 The movement from tradition to modernity in the organisation of housing development

In the nineteenth century, industrialisation had a delayed but massive impact on Muslim society, much of which was transmitted through Europe's colonial expansion and development (Bianca, 2000; Kiet, 2011). One of the major shortcomings of the modern movement was its disregard for the socio-cultural and physical context, as expressed in its

¹ Understood as stable institutions which used to bind society together having much less influence now, and with the rise of globalisation and New Media technologies, individuals are much more free to construct their culture and identity that they once were. Post-modernity does not properly begin until the 1970s. In other words, post-modernity refers to the view that the institutions and ways of living characteristic of modernity have been replaced and that society is fundamentally different to 'modern' society <http://www.oed.com>

rejection of historically grown urban structure. Yet many decision makers in Muslim countries still take for granted the superiority of imported principles of their own traditional urban heritage.

During recent years, large-scale development projects have been exported to many Arab countries, they were implemented without recognising the fact that the physical forms of these projects have grown out of ideological matrix that imply different codes of behaviour and different environmental conditions (Bianca, 2000). The effects of the Western model/developments were firmly established in the Arab city, through governmental structures and procedures. Economic patterns set by industrialisation were designed to interact with Western technology. Living conditions, prestige, and education were all based on the standards of the Western world (Kiet, 2011).

3.4.1 The impact of Western building regulations, codes and models

In the context of the **Arab city**, Fathy, (1973) argues that the recent planning of houses design arranges the houses according to street-based layouts. Yet there is no need to arrange houses like this. Exactly the same houses can just as easily be grouped round a small communal-space. This is as economical as the straight rows of houses, and has several advantages. First, a communal-space keeps the customary inward-looking aspect of the grouped houses. Second, it brings to the houses grace and urbanity. Likewise, in **Tripoli-Libya**, Azlitni (2005) argues that the most common feature of the new urban plans is their similarity. The lack of environmental treatment, very wide streets, huge open spaces, low densities, high rise buildings as well as the similarity of the physical planning and design standards.

The contemporary patterns of development characterised by detached ‘object-like’ structures have supplanted dense cellular urban-form (Mitchell, 2010:223). Transformation in courtyard-housing in Arab city was as a result of the rapid development, such as, the economic prosperity, planning system, and the use of different means of transportation. The modern-housing, in turn, lent itself to such alterations made to the original designs to satisfy the occupants’ needs (Almasri &Abuhijleh, 2012). Recent interpretations point out that the inward-concept house implies the seclusion of woman and gendered roles/spaces, highlighting the differences between Arab-Muslim residences and European houses (Chowdhury, 2010).

Houses being built today turned away from the principles that have guided house organisation for generations. This is particularly indicated in the disappearance of the courtyard by which the women are most affected from these transformations. Consequently, the courtyard has been replaced by covered central space. The dominant pattern of the tradition in the physical environment and lifestyles no doubt changed, but a sense of continuity persisted. With the beginning of adaptation of modernised/Westernised models, however, this tradition was challenged. Street grid, detached house (villa), and apartment building began to replace basic components of traditional urban forms in Muslim cities (Al-Hathloul, 1998).

Bada (2006) justifies the demise of courtyard housing as attributable to: changes in family structure; housing policy and urban planning regulations have imposed small plots making the courtyard housing patterns turn away from the contemporary development; and the individualisation of rooms has undetermined the collective life of the family and made the need for a shared internal space largely unnecessary. According to Mitchell (2010), in the Arab Gulf cities, during the 20th century, for example, two significant developments related to the use of the courtyard are identified as; the introduction of wind-tower houses with courtyards in the 1920s, and planning initiatives made after the discovery of oil, which effectively abolished the use of courtyards in residential buildings. Master plans and legislation introduced street subdivision/grid of plots with minimum setback requirements. this resulted in detached villas (Fig.3.23).

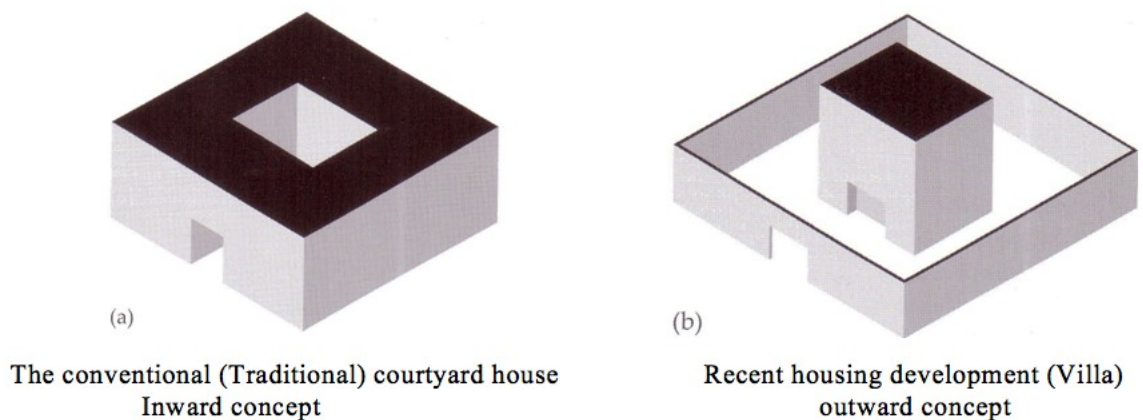
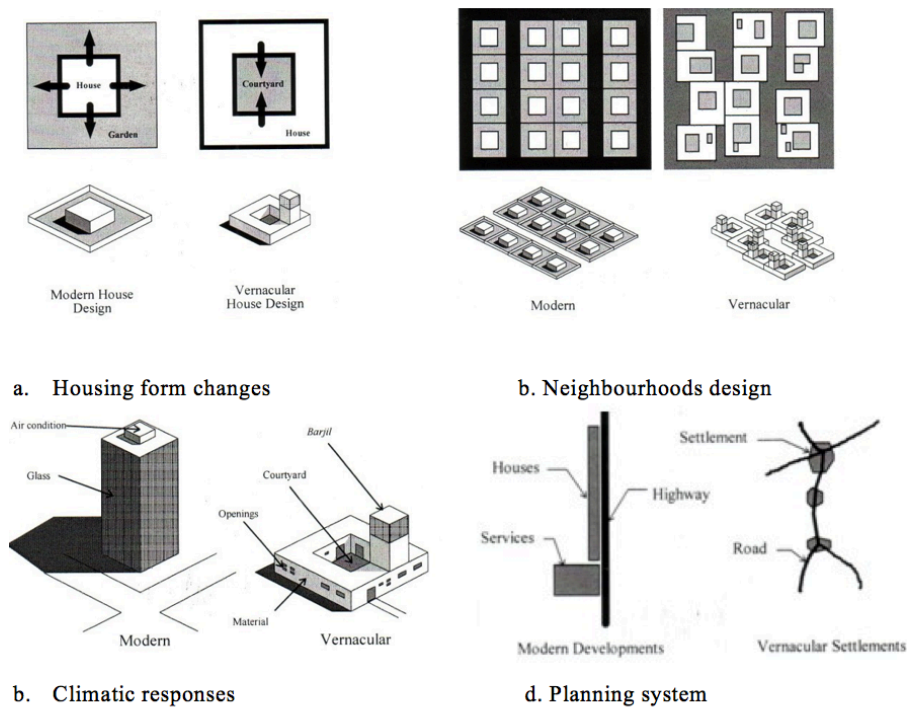


Figure 3.23: The transformation in the concept of courtyard house

Source: Mitchell (2010:224)

In terms of trends in **Tripoli-Libya**, the biggest implication of these concerns is road access and density. Courtyard housing became less viable once direct car access was required to each home. The demise of courtyard housing may be attributable therefore to the growth of car ownership and changes in lifestyles. The modern-dwelling, therefore, defies needs of the residents and makes needed privacy unachievable, no matter how many extensions are added to the perimeter walls. The rapid introduction of information technology, and hybrid models of development, have brought unclear images of socio-cultural, and physical structure of the society. The decision-making authorities displayed neglect to the traditional architectural environment, rather than promoting the traditional ambiance of neighbourhood (Ishteeaque and Alsaïd, 2003).

As Muslim urban built environment has passed through phases of change, people started to perceive the courtyard house as old-fashioned and not suitable for the modern lifestyle. Therefore, the Muslim traditional-dwelling has been firstly modified then eventually swapped totally with a modern one (Fig.3.24). The reasons for considering the traditional dwellings unsuitable were that they are costly to build; they cannot accommodate modern furniture; and cannot suit the new social structure of the family. In addition, proponents of the modern design consider the traditional-form as a reflection of a backward or non-progressive society (Zaini, 1976).



b. Climatic responses

- a. The concept of courtyard housing changed from inward-looking to outwards the streets.
- b. Neighbourhoods design moved from the traditional residential clusters to the new settlements grown on a regular grid pattern, with individual housing units separated with wide straight streets.
- c. Courtyard, slim openings, wind-catcher as temperature regulator components, replaced with air-conditioning and covered glazed curtain walls.
- d. The planning system transformed from organic neighbourhoods' growth into automobile dependant planning.

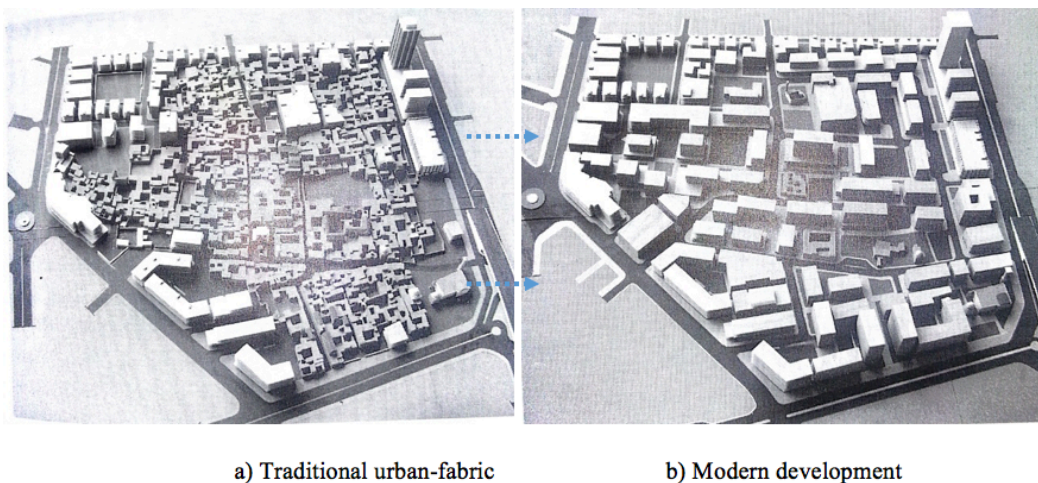
Figure 3.24.: The transformation the planning system and housing design in the Arab cities

Source: Mahgoub (1997:15-16)

Housing types today, however, commonly used in Arab cities are applied in multi-storey types which constitute the major part of contemporary housing development in urban areas (Mahgoub, 1997). No serious attempts have been made to adopt housing forms that meet the local needs and specific climatic conditions. The difference in the area/layout of housing units required in local residential practice, from that in common European housing standards, results in spatial tensions of housing design in Arab cities. Duplicating the European concept of a balcony in multi-storey housing fails to conform to local needs for privacy and climatic requirements. Also, the design and position of windows/openings are not compatible with local natural lighting and ventilation requirements (Hakim, 2006). For example, in Tripoli-Libya, the absence of courtyards, huge glass facades and using of

imported materials, are together considered as needs for modern life. The emergence of Western models and hybrid architectural features became a reality, which is imposed by local authorities to be an integral part of the architectural composition (Alzlitni, 2009).

By the end of the 19th century European-values had a profound impact on city planning and architecture, in many Islamic countries (Fig.3.25). The resultant changes that occurred in the design of the house were in line with the overall trends. The villa house type grew out of a need for a new found individual expression. The function of the rooms also reflects this growing expression of the individuality of the family. This meant a growing need for furniture, and a specific function for each room. This expression of individuality is a different outsider concept to traditional housing. There was usually no exterior indication of the size or social type of house, and the private domain of the house was not on view to everybody (Azzam, 1987).



- a) Traffic planning into isolated fragments surrounded by vehicular roads then the massive blocks are constructed along the easily accessible and commercially valuable street edges.
- b) The block structure spreads out, to substitute the asphyxiated and no longer viable residues of the historic fabric.

Figure 3.25: Typical modern transposition in an urban Arab city

Source: Bianca (2000:183)

It was very common to find European-type cities established close to traditional layouts during the colonisation-period. However, Western-values influence continued after the end of the colonial power, and the independence was through the modernisation. Any sense of physical and socio-cultural continuity was practically changed and the effect this

has had is enormous at a time when Muslims are searching for a ‘cultural-identity’ and a means of survival against these ‘standardised values, products, and influences’ (Azzam, 1987:24). However, since a definition of urban form within the Arab-Muslim city is to be found not within the physical elements of the Arab-house themselves but within their system of arrangement, then these elements can be adapted so long as their system of arrangement or their relationships remain constant (Al-Hathloul, 1989).

Oliver (1990:159) states that ‘We have witnessed the thoughtless destruction of many traditional buildings, the censure of architects and planners who wish to ‘modernise’ and who are wedded to the idea that Western building forms and technology are applicable in all climates and cultures. We know that inappropriate housing has been mindlessly inflicted upon countless numbers of people in the name of modernity, and we are all too aware that traditional skills are in decline, that Western building types reflect status, and that vernacular architecture in the eyes of many, is ‘backward’ and ‘underdeveloped’.

3.4.2 The impact of Western models and the demise of courtyard housing in Tripoli

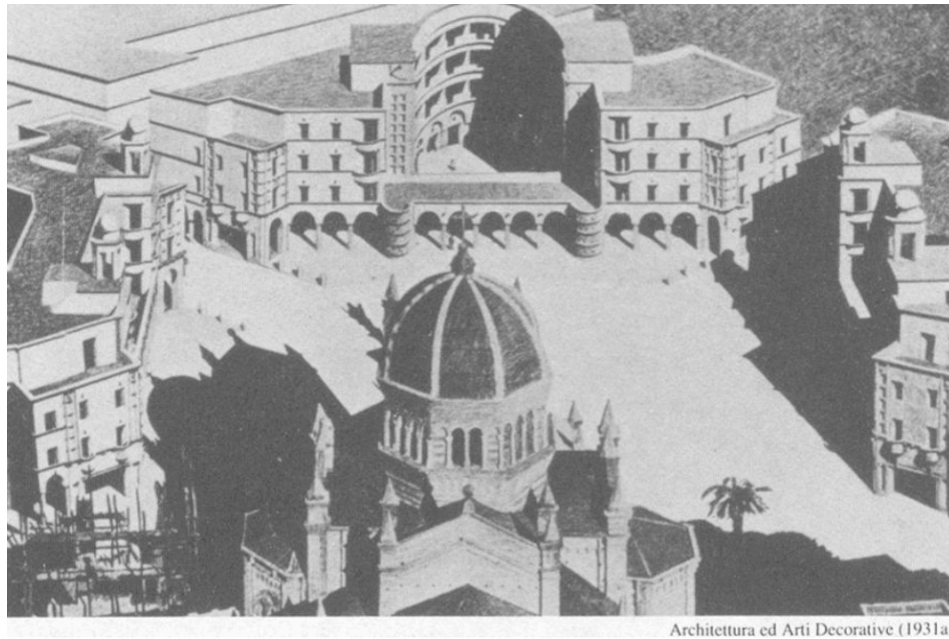
The changes in the architectural and planning principles of the neighbourhood unit from a traditional to a geometric pattern, from pedestrian-oriented type to vehicle-oriented style, affect the concept of private and public domains and the prominent impact of transitional social spaces. The personalization of space relates to the transition between the private and public domains of the house (Lawrence, 1987; Al-Thahab *et al*, 2016). In Libya, the rapid social and economic changes, the impact of modernity and Western models affect the general fabric of the Libyan cities, particularly the housing design.

During the Italian colonial era (1911-1952), a new European type of city was created which transformed the courtyard-type houses to a colonial city, separated into the traditional city and a new area of more Western design (Amer, 2007). The essential principles of the master plan were imposed in 1912. This first plan was completed in Rome, on the basis of inadequate site data, and was sent to Tripoli. The second master plan, drawn up in 1931-33, resembled recent legislation for Rome. Its main purpose was to shape the ongoing growth of the new town while leaving the original one (Medina) nearly untouched. Consequently, the city was divided into four areas: Multi-story building, villas, houses and light industry.

The Italians established for the first time, a modern, Western style central business area in Tripoli (Fuller, 2000). The housing policy adopted by the Italian authorities was the most important factor affecting the urban change in Tripoli. They sought to issue and apply a set of building and planning regulations: abolition of the City Municipal Council in 1912 and application of Italian urban laws which were not compatible with the social lives of Tripoli's inhabitants. In 1915 new building regulations and the general terms of buildings according to an Italian identity, as well as special technical requirements for houses were applied. They also issued in 1924 the land laws, which granted the municipality the right to own land, and to construct residences thereon (Amourah, 1998).

Planning system/regulations regarding the relations between the neighbouring houses were introduced: two types appeared in this period in terms of form, heights and external colours, according to the modern planning practice. These were different in design depending on the type of the residential quarters; with longitudinal and parallel rows and others with houses arranged to enclose an external courtyard. The planning structure was distinguished by a grid plan which expanded southward in semi-circular developments with wide, paved streets and arcaded shopping areas (Amer, 2007).

They adopted the ray-planning system from a focal point of the city (Fig.3.26). In the 1920s and 1930s, Italian architects had the opportunity to conduct experiments in colonial architecture and urban planning on a vast scale. In the Libyan context, the Italian architects confronted problems stemming from the distinction between 'Italian' and 'primitive/indigenous' architecture, and they were preoccupied with architectural form. 'Modernity' was an overriding concern in that time of Italian architectural discourse, as was seen as a representation of Italy's character to the rest Europe (Fuller, 1988:455).



Tripoli, 1931

Figure 3.26: The colonial architecture: Mediterranean building types and the Roman classical heritage

Source: Fuller (1988:467)

According to Tripoli municipality (1972), the Italian/Western house was developed in complete opposition to traditional Libyan home. They introduced: villas (detached house); multi-story flats; public houses (corridor-house) built in rows on a street 4-8m wide; and the Arabic house (this type was developed with the line of the traditional house, built by Libyan people but under Italian authority).

Housing programmes/plans/policies in Libya were formulated during different periods according to the economic influences. These housing programmes were discussed by many Libyan housing scholars (e.g. Awotona, 1990; Hudana, 1995; Omar & Ruddock, 2001; Sheibani & Havard, 2005). They can be divided into three main periods distinguished by the different role the government played in housing development: the first period is from 1970 to 1978 (government role: construct and allocate housing and permit the private sector to invest in housing by sale or leases). In that period a set of building regulations were initiated. These mainly introduced a setback for housing design, and the division of houses by application of grid patterns for subdivision of land. The government started to subsidise private housing by establishing the real estate fund to provide people with loans to build

new houses. This led to the abandonment of the traditional areas, which led to falling into decline (Awotona, 1990).

The second period is from 1979 to 1988 (this phase was characterised by instability in public housing policy with a reduction in numbers constructed. The policies did not reach the planned targets. The aim in this period, for example, was 7500 units but they built only 5943 units). And the last period from 1989 to 2000. Housing policies in this stage were marked by diminishing of the government role generally and in the housing sector in particular. This phase was distinguished by changes in the government policies trends, tending to play an assistance role instead of the role of bailiwick. Public and private companies attempted to invest in real estate after being absent for a long time. Also, the period 1996-2000 was marked by confusion in housing policies (Sheibani & Harvard, 2005).

The evolution of Government policies in the housing sector was within the Six-Year National Development Plans from 1950 to 1980, including Doxiadis Associates,² who undertook many projects in Libya, and were invited to participate in developing city plans and housing schemes, and formulating housing programmes during the 1960's. The residential buildings developed during this period included apartment buildings, detached houses, and traditional Arab-houses (Awotona, 1990). During the 1980s, however, the housing sector was distinguished by stagnation, reduced government participation, and the private sector stopped participating completely.

As a result of stagnation, housing shortages appeared, the Libyan authorities attempted to play a role in restricting the housing shortage and encouraging the private sector to participate in preventing the aggravation of the housing shortage (Hudana, 1995). Libya faced a series of economic and political sanctions in the 1980s and 1990s'. The departure of these companies led to many of their projects stopping, and the whole housing sector was affected (Amer, 2007). Therefore, the number of constructed houses decreased, also the quality became worse. In the period after 1990, the government moved away from direct

² Doxiadis Associates was founded in 1951. Since its establishment, the firm has grown from a small group of architects and engineers into a large consulting organization of international scope. Its activities span the whole spectrum of development, with special emphasis on addressing the problems of human settlements. <http://www.doxiadis.com/page.php>

intervention in housing, and tried to push the private sector and attract foreign investors to be involved in investment in housing (Omar & Ruddock, 2001).

Emhemed (2005) and Almansuri *et al.* (2010) clarified that the main components of planning and building legislation that affect housing projects in Libya are land use, streets width, building height, site coverage and zoning regulations (Libyan planning and building Act 1969). Modern legislation requires housing units to stand separate from one another across a specified minimum distance. Buildings must have the following dimensions:

- Yards and setback requirements: The Libyan Planning and Building Act 1969 illustrates the different distances of these setback requirements (front, side and rear), particularly in residential areas, according to the land-use and density of the area as determined in the master plan (the designed model located in zone R2 single-family residential district low-density, 500m²land area).
- Building height limits and number of storeys; maximum number of storeys, according to zoning type area.
- The thickness of the external walls should not be less than 25 cm on the ground floor and 20 cm for the upper floors; and the thickness of the internal walls inside the flats should not be less than 20 cm.

The crucial point is that contemporary housing has been imported as unquestioned developments, where they are used as complete packages implying different factors. The main deficiency of modernity was its disregard for the inherited social, cultural, and physical environments (Bianca, 2000; Al-Tahab *et al.* 2014). Religion and socio-cultural values in Libya play a very important role in controlling and directing the behaviour of people within internal and external spaces (Emhemed, 2005). Many authors (e.g. Shawesh 2000; Emhemed 2005; Amer 2007) have raised the main Libyan socio-cultural factor as privacy in Libyan society is a priority consideration within home spaces.

The separations by age and sex, and of guests has long determined the roles played within the family. Although all of these factors are well addressed in the Libyan local traditional architecture, most do not exist in contemporary houses (Almansuri *et al.*, 2010). According to Emhemed (2005), the effect of religion and social interaction on local architecture can be observed in two ways; Islamic religious teaching encourages privacy and

modesty, and courtyard houses fulfilled this condition by providing an inward-looking house. The traditional courtyard home might be the only suitable form of accommodation for Arab-Muslim users. As discussed earlier, the socio-cultural and religious aspects, however, might also make modern housing more adaptable to their users' identity in terms of space use and gender. This study, therefore, investigates how the role of the courtyard home influences the daily life of women in Tripoli.

In Libya programmes of innovation in housing design are either non-existent or limited. As a result, designers and developers are stuck between the continued use of traditional models and the import of Western models and Western building regulations neither of which are well suited to local climatic and cultural conditions. In terms of home-grown experimental/innovations in Libya, Gabril (2014), based on the vernacular architecture of the traditional Libyan homes, developed three models of contemporary courtyard homes, according to environmental and cultural requirements in three cities: Tripoli, Gheryan, and Ghadames. Her aim as a spatial-ecological experiment was to achieve the lowest energy consumption within the comfort zone of the region.

The opinions of residents and professionals in Tripoli in terms of future housing design have been investigated (e.g. Amer, 2007; Almansuri *et al.*, 2009). They identified recommendations for new house design in relation to: suitability of the design for environment and culture; combining the advantage of the traditional and contemporary designs; considering the courtyard concept in terms of appropriate building materials, good proportion, appropriate position, provide movable cover to avoid excess summer heat and winter rain, also, solarium house can be a good solution and a courtyard can be used as a solarium when using moveable covered windows; avoid large windows and provide balconies to provide shading, using *Mashrabiyya* (wood-lattice) to maintain privacy; use local building materials with modern technology; avoid high rise building; and the contribution of users in the design process is important to fill the gap between designers and users.

Allafi (2005) also claims that reconsidering the idea of Arab courtyard homes in a contemporary context does not mean returning to live in traditional homes. The task is to uphold the socio-cultural, religious and environmental values in home design. The implication of the home-grown innovations programmes in terms of Libya is that, for

example, the innovatory project of courtyard homes in Lochiel Park-Australia (Berry, 2014) are a product of a sustained programme of research and development, initiated by the South Australian government.

The foregoing discussion of housing policy, building regulations, and the impact of the adoption of Western models/codes in Tripoli-Libya, suggests that the instability of government role in regulating effective housing policy, and the use of imported Western models, applying set-back regulations of housing design have blocked the development of courtyard housing (Fig.3.27).

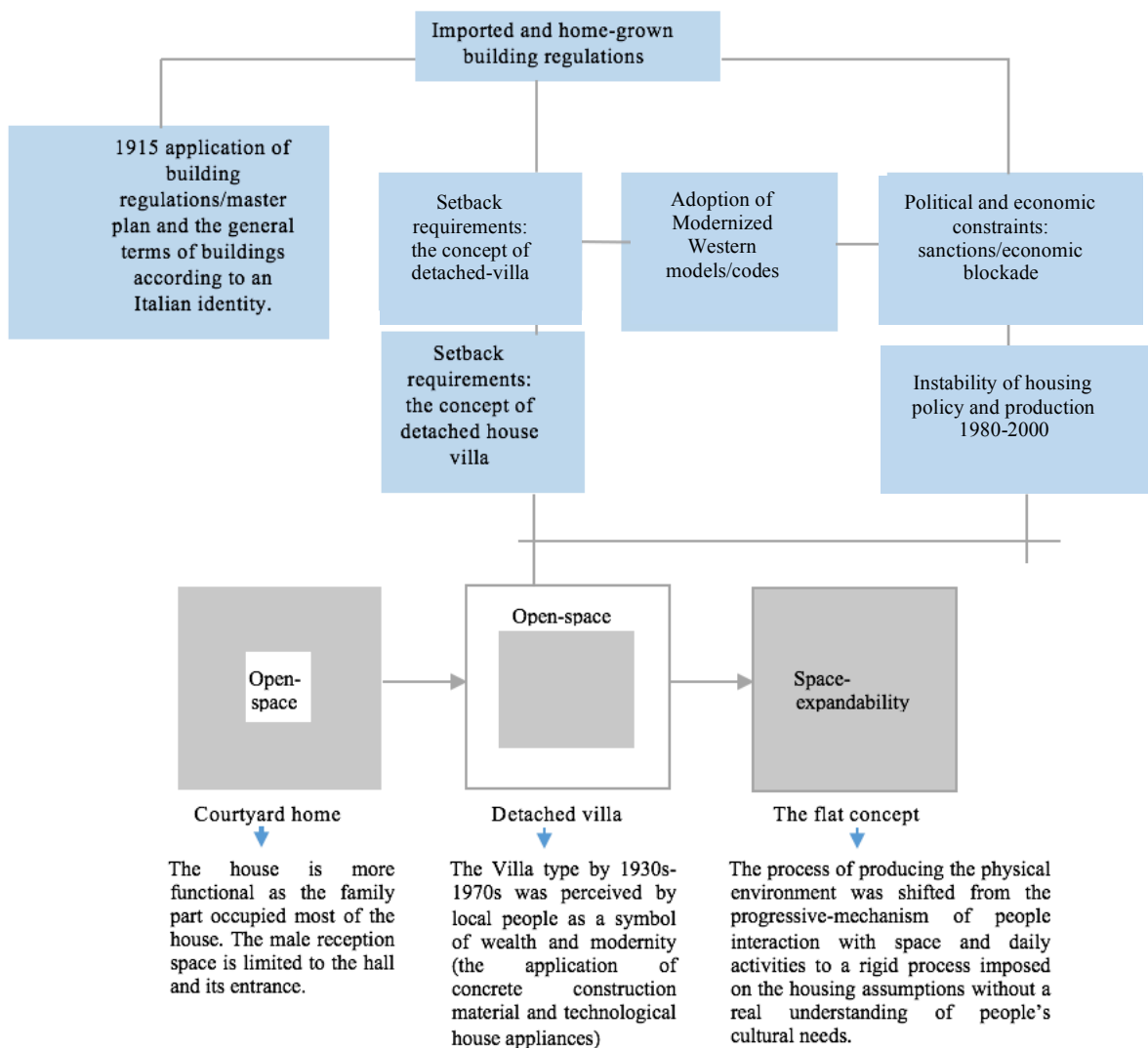
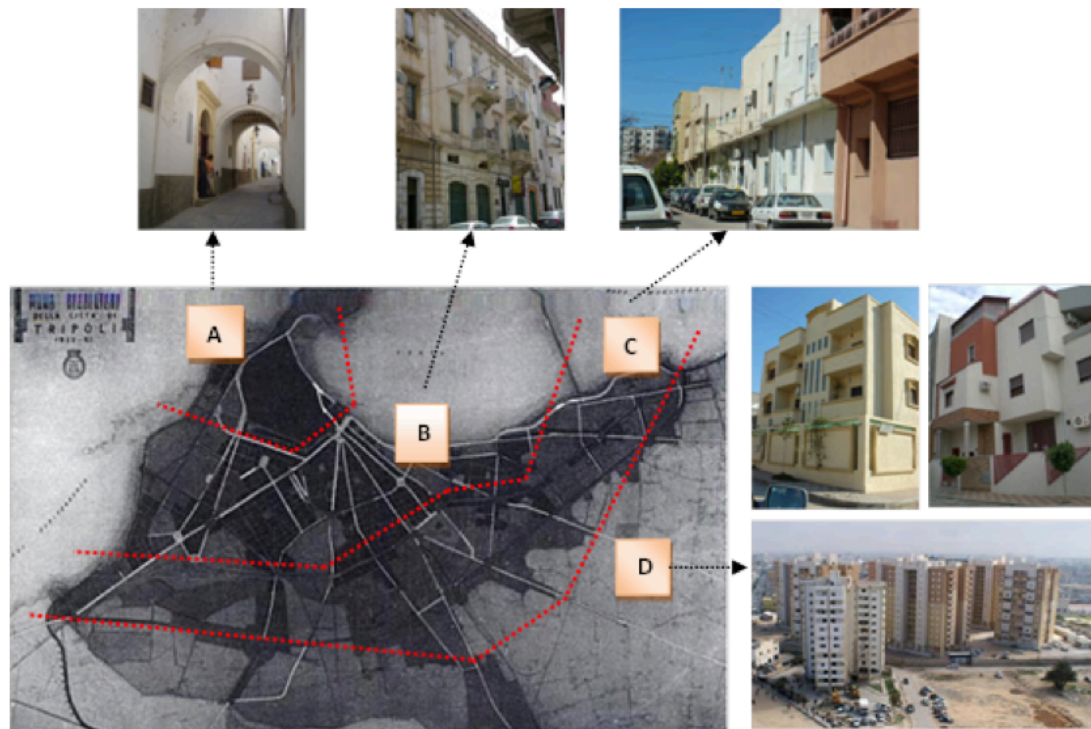


Figure 3.27: The demise of the courtyard homes in Tripoli, Libya

Source: Author based on Emhemed (2005) and Almansuri *et al.*, (2010)

3.4.3 The changes of housing forms in Tripoli

The variety in architectural forms can be seen as a result of a host of social, cultural, economic, physical and technological variables (Rapaport, 1969). The changes in housing patterns in Libya were subject to certain changes in socio-spatial, cultural, and planning aspects. The urban growth and housing forms can be divided into four different structures that chronologically represent the major phases of the city growth as illustrated (Fig.3.28).



- A: The Medina of Tripoli: Traditional courtyard-housing, developed by Ottoman (1551-1911)
- B: Italian-colonisation period: Western-style, developed during the Italian colonisation (1911-1952)
- C: Independent period: Modernisation trends and vehicular use, built during the independent period (1952-1969).
- D: Gaddafi era: Mass-standardised production (1969-2011)

Figure 3.28: The morphology of Libyan houses

Source: ECOU, 2009

The architecture of Libyan houses can be divided into three main phases of development: traditional courtyard-houses; colonial houses; and post-colonial/contemporary houses as follows.

3.4.3.1 Traditional courtyard-house

The use of traditional courtyard houses which was the dominant type of housing in Libya during the Arab conquest and Turkish times goes further back to the ancient days of Phoenicians, Greek and Romans who introduced their typical courtyard-houses not only because they were similar to the native Libyan shelters, but also because of the similarity in the climate conditions of all Mediterranean regions (El Dars & Said, 1972). The spatial structure of the courtyard house achieved its cultural and environmental adaptability as a result of the arrangement and functions of the layout, which suits different socio-cultural contexts (Fig.3.29).

In other words, the organisation of interior space in developed courtyard houses related to users' socio-cultural values. These values such as religion, privacy, relations with neighbours and the surrounding environment conditions, dictated the arrangement of the interior space as well as the relationship between interior and exterior spaces. The domain of the men and guests was the reception-room and the domain of the women the private areas such as the kitchen and sleeping areas (Shawesh, A. ,1996).

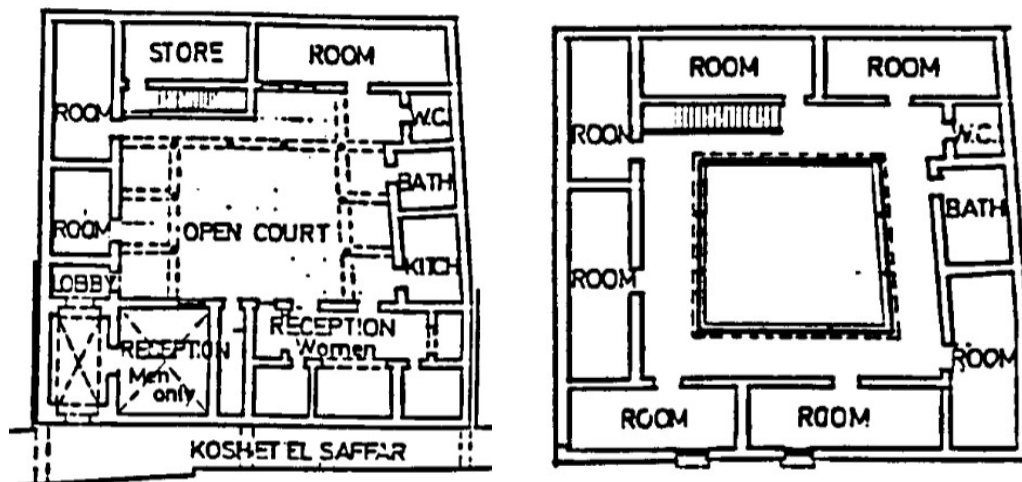


Figure 3.29: Typical layout of Libyan traditional courtyard-house

Source: Amourah (1993:67)

In terms of the traditional space-use pattern, social activities are conducted in the customary two domains, of public and private and of men and women. The most effective consequences of this tradition are the seclusion of women and the attitude toward guests. Privacy for the family as a whole is a basic requirement and the sheltering of women is reflected in the traditional house design, whereas socialising and entertaining guests are striking features of Libyan social-life (Buchanan, 1975; Amourah, 1998). People of a given culture are typically bound by a common worldview of ideas and choices and by a set of socio-cultural values and rules that produce their life style and manners as embodied in their image of their environment (Oliver, 1975).

For example, there is a clear deference between a built environment in Western-culture and a built environment in a traditional Arab Islamic-culture, such as Libya, where issues of socio-cultural needs, particularly privacy and religion, were seen in the separation of public and private life. This characteristic affected the use of spaces, the dwelling organisation, and the access system, which represented a special space organisation for different purposes, according to the different needs and desires of groups or individuals (Shawesh, E. ,2000).

3.4.3.2 Italian-Colonial houses

The influence of Italian principles and actions showed itself in new architectural and planning forms and spread throughout the country. They introduced the concept of multiple occupancy flats with total ignorance of the local culture. For example, the concept of detached-house design was based on open-plan spaces. The corridor-house with veranda attached to the entrance or placed at the rear part, was first introduced by the Italians (Tantoush, 2009). The traditional internal courtyard was moved to outdoor-garden, and the traditional latticed-windows converted to unveiled-openings and balconies. The private family area did not exist in the European-style house and the main entrance led directly to a single corridor with the rooms arranged on either side. The rooms could be used for any purpose, kitchens usually accessible from the rear court garden or balcony, and the roofs accessible for domestic purposes (Essayed, 1981).

However, the interpretation of indigenous architecture in Libya offered by the Italian architect Carlo Enrico Rava during 1930's was that modern colonial architecture should be based on indigenous sources and local culture of Libya. Thus, the architecture in Libya emerged as a space of interaction where the modernisation of the colony and the continuity

of its indigenous culture could take place (McLaren, 2006). McLaren concludes that colonial architecture in Libya resided in a ‘liminal space in which modern and indigenous, West and non-West, are linked in a complex relationship of repetition and displacement’ (McLaren, 2006:225).

One of the crucial reasons behind the appropriation of these local sources, he noted was that they were modern. This modernity was to be found in their suitability to climatic condition, their lack of superfluous elements, and their ability to harmonise with the colonial context. This was supported by modernisation program of indigenous politics, that called for preservation of the environment and culture of Libya. Houses developed during this period were designed to accommodate the Italian population in the cities, and houses located outside the colonial cities to accommodate the Libyan population (Fig.3.30). The residences had various of layouts, most were organized into three of the most common features; $(V \rightarrow C \rightarrow X, L\&D)$, $(V \rightarrow L\&D \rightarrow C \rightarrow X)$, and $(V \rightarrow L\&D \rightarrow X)$, where (C) means corridor, (L&D); living and dining room, (V); veranda, and (X); means bedroom, kitchen, toilet, and bathroom, or other space (Shitara: 2008:27). Libyan houses have the major features of the traditional dwelling that differ from the colonial-style to reflect the wide variations in social structure (Gabril, 2014).



Models of houses for Italian settlers, 1938-1939

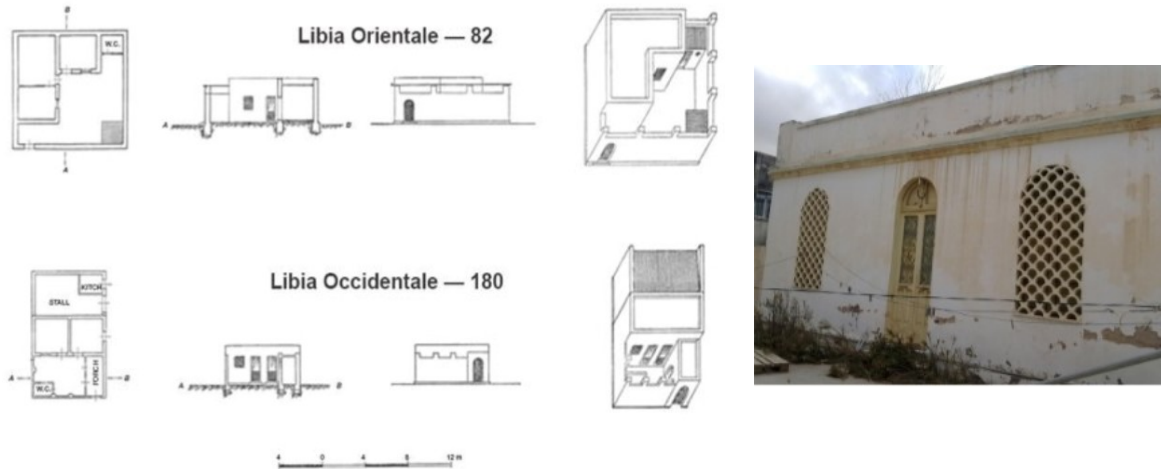
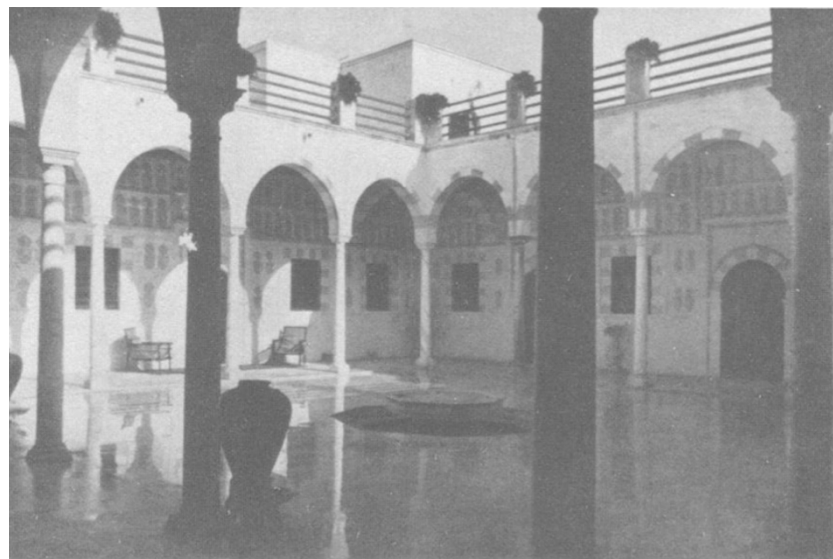


Figure 3.30: The Italian-colonization housing forms

Houses for Libyan settler with a placement of the courtyard in the front or the rear of the house

Source: Gabril (2014:34)

In the presentation of the building restored for the Italian use e.g. (Fig.3.31), it was claimed that despite its traditional structure, it was restored following the most modern and rational criteria. This restoration was the first example in an Italian colony, giving new life to the old Arab residences, with modernity of intentions and of views of the Italian architects (Fuller, 1988:462).



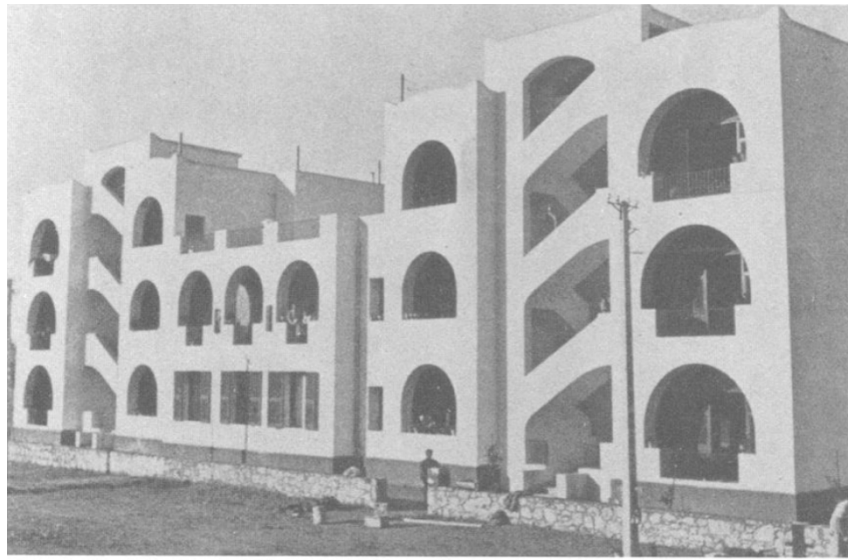
Domus (1931b)

Figure 3.31: The restoration of traditional courtyard-house by Italian architects

Governor Volpi's villa in Libya

Source: Fuller (1988:470)

The Western/Italian, housing in Tripoli e.g. (Fig.3.32) was described in terms of the Mediterranean tradition and not the classical Roman. The architecture is derived from the typical motifs one finds on the Mediterranean shores (Italy, Athens), where every element has an eminently structural value (Fuller, 1988). The two residences (Fig.3.33 & Fig.3.34) were presented without the references to the Roman or classical tradition that prevailed in public buildings. They have the appropriate sense of that ‘colonial’ character. These modern villas are spontaneously conceived in their climate, in their environment, in their function, which is why they are truly ‘colonial’ (Fuller, 1988; Fuller, 2000).



Architettura (1933)

Figure 3.32: Italian housing projects developed in Tripoli

Popular housing in Tripoli, 1933

Source: Fuller (1988:470)



Fariello (1933)

Figure 3.33: Villa type introduced by Italians
House in Tripoli by Fariello, 1933
Source: Fuller (1988:471)



Fariello (1933)

Figure 3.34: Villa type introduced by Italians
House in Tripoli by Fariello, 1933
Source: Fuller (1988:471)

According to Rava (1931b:36 in Fuller, 1988), the original Libyan architecture provides the Italian architects with all the desirable elements to create their own colonial architecture. These elements are its rationalism, most modern simplicity of exterior forms, perfect adaptation to the necessities of the North-African climate, and perfect harmony with Libyan nature.

3.4.3.3 Contemporary houses

The evolution of modern housing design and types in Libya has been influenced greatly by the discovery of oil. This transitory phase shows functional, structural, and identifies evolution from the traditional patterns to a modern architecture. The first example was ‘Haush-Arbi’ (Arabic-house) traditional-house type of the 1950s and 1960s (Fig.3.35). The ‘Haush’ as a type of privately built house that began to open more space on the street, losing the advantages of the courtyard, as it has now been reduced in size and lost its principal importance as the core of domestic life (Tošković, 2006).

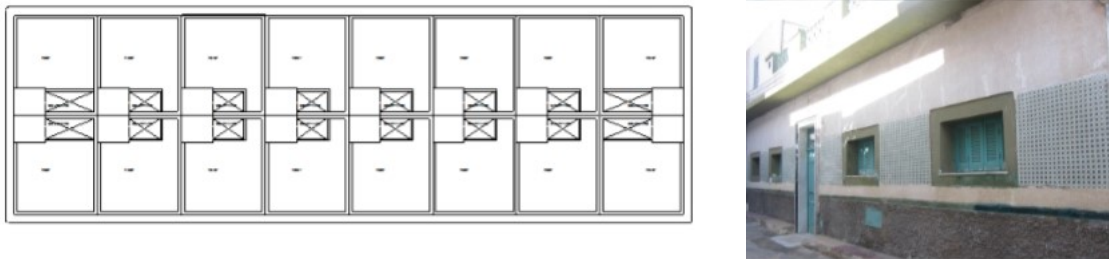


Figure 3.35: Arabic ‘*Haush*’ Traditional-house type 1950-1960

Source: Gabril (2014:35)

Another typical urban-house was developed in the name of modernisation. This type is found, mainly in the newly developed residential areas, and is called ‘Villa’; a modern type of accommodation in Tripoli, replacing the traditional-house. It is a detached house surrounded by garden, and is seen as a reflection of the European-model with no central courtyard. Its cultural and environmental measure is achieved through the influence of contemporary architectural movements, however, reasonable modifications to meet socio-cultural needs are done, resulting in a lack of domesticity to consider them as distinctly local designs (Tošković, 2006).

Different layouts of the flats were also developed, but usually such development consisted of flats in two-storey and four-storey blocks surrounded by gardens. The basic plan contains a reception room, through which the flat is entered usually with a guest's toilet adjoining and a dining room. In many cases the reception and dining rooms are combined into a large room for the same function. There is ample open space on the balconies and verandas, but it is neither convenient nor sufficient for many activities of the Libyan family and it is not a satisfactory substitute for the open space of living area of the courtyard house (Amer, 2007).

Shembesh (1981) argues that variations of housing styles have a direct impact on the living patterns and life-style of users. There is a need to adopt a radical approach to housing planning and design so as to set a trend that supports rather than inhibits the good aspects of the local way of life, values and attitudes. The contemporary architecture of Libyan houses is an issue of great debate among Libyan architects. Apparently, it is not a matter of contradiction in design tendencies, but rather a question of suitability to culture and environmental concerns (Fig.3.36).

However, the traditional paradigms of Libyan house offer an enormous source of inspiration; it has far deeper roots to borrow from (Gabril, 2014). These types of housing achieved their aesthetic measure from the 'copy-paste method' of so called 'modern'. On the other hand, these were adopted on a narrow scale as a style, that is neither suitable environmentally nor culturally for Libya (Tošković, 2006). In this regard, Fathy maintained a delicate-balance between architecture, culture, and the environment. His theory is very critical of the forces of development that undermine local culture and traditions as discussed in the following section.



Figure 3.36: Contemporary residential buildings in Tripoli

Source: Azlitni (2009:144)

3.5 The Arab-house design from the perspective of Hassan Fathy

It is helpful to draw on Fathy's work as a prelude to a wider reconsideration of his theory and its relevance today. 'His theory produced an alternative modernism. His vernacular is an invention of a new housing hybrid style within his own hybrid cultural inheritance, in an emerging postcolonial situation mass housing' (Miles, 2006:117). Fathy's approach remains illuminating for researchers in enhancing the identity of Arab architecture, and urban housing development (Elshorbagy, 2010). Between the years of 1937 and 1945, Fathy began to incorporate his impressions of the architecture that shows great historical and social perspective, and concern for climatic and cultural issues, into a crucial series of prototypical designs.

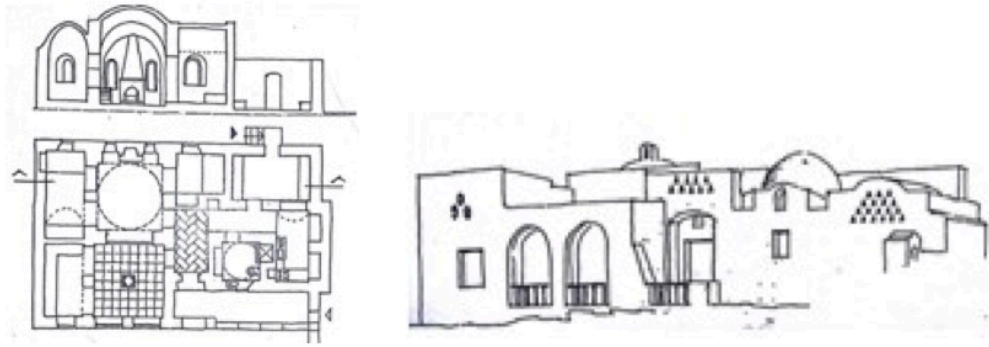
His early guide to these impressions was the surviving remnant of a mediaeval Cairene house in the central core of Old Cairo, leading him to greater understanding of how to begin to use their techniques in the 'formation of aesthetically convincing and environmentally responsive spatial combination' (Steele, 1988:48). Fahty also shows a structured approach to the same issues expressed in the responsive Nubian architecture to strict social and environmental criteria (Ibid:46). He modified the interpretation of his architecture in his own

writings with a manifestation of these lessons as a constant reference to an essentially Arab and later an Arab-Islamic one with universal applicability.

The main principles that characterised his ideas: tradition as a key element of cultural-identity; appropriate use of technology; a universal approach to architecture as a natural extension of a society's culture, rather than a limited approach; belief in the primacy of human values in architecture; promoting the appreciation of one's own culture through the act of building; and need for socially oriented, cooperative construction techniques (Steele, 1989:11-12). Fathy, accordingly, documented the concepts that he was to develop and combines them in his text '*Architecture for poor*' (1973). The clear definition of public and private space with corresponding courtyard, indirect entry, scaled domes, as well as the use of natural environmental control-devices as the *malkaf* and *mashrabiyya*, strongly signal theory emerging as reality (Steele, 1988:50).

3.5.1 The Arab-house: interior and exterior features

Fathy appropriated the Arab-house image and its spatial response to its environment as the model for his own courtyard-houses, the model became the Arab-Islamic house. (Rabbat, 2003). The design of the first house (Kallini house) gives a very clear preview of many elements which were to become a familiar signature of Fathy's style in later years. The core of the house is a *qa'a* with a reception area surrounded by *iwans*, separated by a raised half-level from the entry lobby which serves both the *qa'a* and a linear family-quarter adjacent to it (Fig.3.37). The family area is only accessible through a buffer corridor which connects three elements: a terrace, a patio with sitting and a kind of *qa'a* which consists of a domed living room, and two sleeping alcoves. The exterior shows traditional features (Ragette, 2003:255).



Floor plan, cross-section, and elevation
Sidi Krier, Cairo, 1971

Figure 3.37: Fathy's house: The concept of Arab-house

Source: Regette (2003:225)

He created a series of typological elements by studying Arab architecture in general and in Cairo in particular. He noted that the courtyard served as a temperature regulator as well as a filter of the dust from the polluted air in the city. In addition, he noted the *Qa'a*; the main reception room, flanked by two *iwans*. These elements were to become the main elements of his design. As adapted by Fathy, 'the *Qa'a* took on a new significance as a formal residential reception area, as he carefully began to scale down the high central tower of the Mamluk and Ottoman houses to allow it to fit contemporary domestic needs' (Steele, 1997:13)

The analysis of the traditional Arab-house opened a new field for research into the optimum configuration for patterning buildings, with a view towards the creation of an appropriate use of space, (public, semi-public, private; open, semi-covered, covered). This may enrich the design by adding to the problem tackled a design that concerned with convenience and quality of life (Fathy, 1973:325). Courtyard is an ensemble element also functions as an independent space, enriched with a loggia and fountain (Fig.3.38). *Qa'a* contains *iwans* and serves as the major interior space. In Fathy's design, the *Qa'a* is the most capable room, supporting a variety of activities; dining, living, and sleeping; and built-in sleeping alcoves (Fathy, 1972).

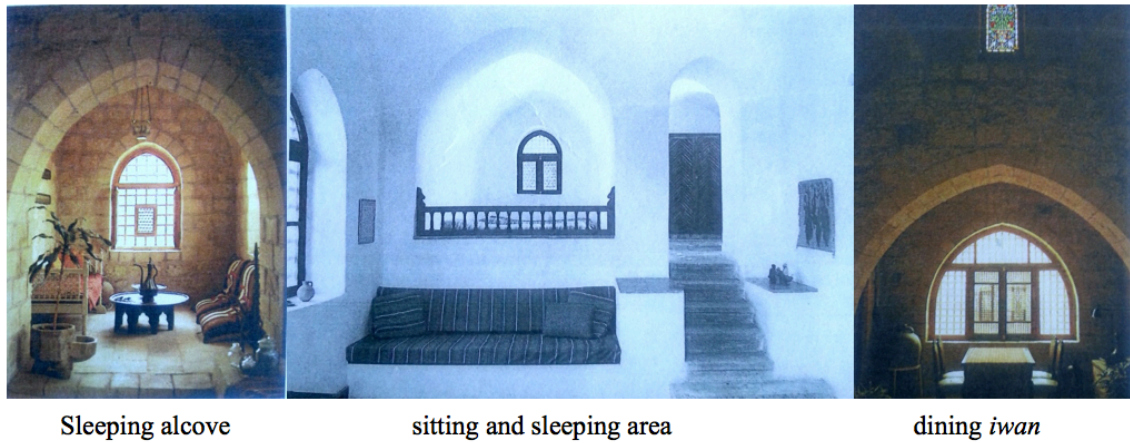
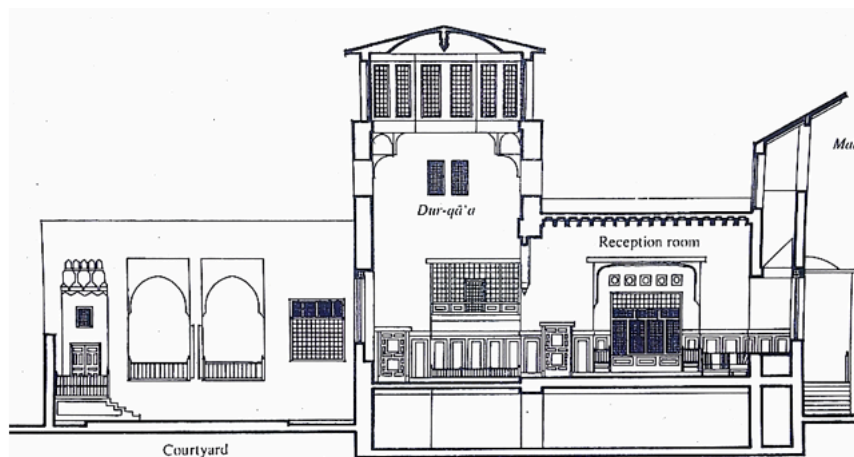


Figure 3.38: The Arab-house: *Qa'a* and Spaces adjacent to it

Source: Richard et al. (1985: 74 &77)

Environmentally, prototypes are conceived to produce the same variety of contacts with open space, the same response to shade and to the movement of the air at each hour of the day. Individual enclosures are gathered around *Qa'a* (main central-room), courtyard, and rooms for light and air. The *malkaf* (wind-catcher) was the solution for this problem in a very simple way. The *malkaf* is a shaft rising above the rest of the house for ventilation. Combined vernacular elements were used such as in some projects of courtyard houses in other Arab cities (Fig.3.39). To reduce the glare without reducing air movement in the rooms, the window was fitted with a lattice screen *Mashrabiyya* (Fig.3.40) made of wooden bars in order to break up direct sun light (Fathy, 1972:7).



Section of a courtyard-house: the use of *Malkaf* designed by Fathy, Saudi Arabia

Figure 3.39: Arab House: The use of traditional and environmental components

Source: Fathy (1986:128)



Sitting area: The use of *Mashrabiyy* to preserve comfort, privacy, and filtered light

Figure 3.40: The Arab-house: the use of *Mashrabiyya*

Source: Richards *et al.* (1985:53 &73)

3.5.2 Concepts of the neo-traditionalism

According to Rabbat (2003:197) ‘Fathy traditionalist poses his approach in adoption of the vernacular in the age of the mechanism and international modernism’. Fathy (1973:24) sees the tradition based in materialistic-culture; ‘Tradition is the social analogy of personal habit, a tradition is not necessarily old-fashioned and need not date from long ago but may have begun quite recently, as the first step has been taken in the establishment of a tradition’. Every society has a continuous flow of traditions, changing and taking on different forms, which are essential for societal survival (Al-Naim, 2008). However, different societies produce their own spaces/modes (Lefebvre, 1991). To Fathy, Islamic architecture is a traditional and regional art, where every country has its own art (Al-Sayyed, 2012).

The key distinction, therefore, between those concepts of Lefebvre and Fathy is that the idea of ‘continuum’ that Fathy proposed was based upon the idea of linking the past with a present that needs a history to become coherent for its people (Guitart, 2014:176). Changing the production of space is itself tantamount to changing society, and this implies ‘a modernist planning agenda of social reconstruction’, however, the means of changing society and space were different from ‘the modernist, blueprint styles of town planning in vogue for most of the 20th century’ (Goodchild, 2008:126). Fathy (1972:15) argues that:

‘To judge by the criterion of contemporaneity, we must perceive the forces that are working for change, and must not passively follow them but rather control them and direct them to where we think they should aim’

Previous analysis concluded that the concepts embodied in the design of past Arab-house remain as valid today as they were yesterday. Fathy (1972:11) claims to estimate what is basic and ‘constant’ and thus worthy of keeping, and what is ‘transient and can be discarded’. Fathy reflects on the negative consequences of the industrial revolution and consequent modernisation. He argues that industrially developed societies have weakened the craft developed societies through increased communication, or as it is more known today modernisation (Fathy, 1986). Likewise, Lynch (1960:112) endorses that these changes are often ‘disturbing to the citizen emotionally, and tend to disorganise the perceptual image’. The techniques of design may prove useful in maintaining a visible structure and a sense of continuity even while massive changes are occurring.

In order to assess the continuity of the traditional vernacular architecture and its values in the Arab-city, with all the changes over space and time, various concepts of design, and the meaning of many terms that the modern architect uses need to be clarified, such as ‘contemporaneity, functionalism, and internationalism’ (Fathy, 1972:12). The role of modern architects must be to renew Arab architecture from the moment when it was abandoned, try to bridge the existing gap in its development by analysing the elements of change, by applying modern techniques modified by the valid ones of the past which were traditionally established, and then by working to find new solutions for these elements (Fathy, 1972:15). This architectural language is constructed from indigenous sources and is not really against modernity, but merely anti-Westernisation and the internationalism that stripped people of their individuality (Nabil, 2003).

To sum up, Fathy applied a general approach to housing design and building form in the Arab-city, and how spatial organisation of the Arab-Muslim home should develop. ‘He advocated the use of the courtyard house for its ability to enhance thermal comfort, as well as its social relevance and symbolic associations’ (Rabbat, 2010:207). Fathy adapts, therefore, a general level of social reality, in which theory merges with housing assumptions as considered by Lefebvre (1972). As a result, his approach can be positioned at the level of the professionals’ theories and housing assumptions (abstract) of Lefebvre’s social reality concepts.

3.6 Conclusions

Reviewing the experiences of the Arab courtyard home has identified key aspects/gaps in this literature which is addressed in the following chapters. This chapter highlighted that socio-cultural and religious values are the main determinants in Arab lifestyles and housing design. Gendered-roles/spaces, and particularly the role of Arab women, have also played an important role in provision and organisation of space. Furthermore, the modern aspects that influence the way of life in the Arab-society were identified. The concept of continuity therefore is an important factor for socio-cultural and physical-environment identity, as it relates the present with the past and reflects the shifts in these values of a society over space and time.

The experience of courtyard-housing in Western countries has been drawn out. In Britain, for example, the social-cultural preferences produced individual front door homes, privacy requirement for urban dwellers in the old industrial cities produced the back-to-back with court type development, similar to those of perimeter block in European cities during the 19th century. Thereafter, the requirements of direct road access, adoption of public health regulations and land cost have led towards the demise of courtyard housing in favour of pavilions and street-based layouts.

In the Arab city, the courtyard house was the predominant type in relation to climatic, privacy and Islamic lifestyles preferences for long time. However, by early 19th century, the adoption of Western-ideologies and the desire to improve the centrality and housing plans in the name of modernization, courtyard housing has been abandoned, therefore, in favour of the modern villa concept. This highlights the demise of courtyard housing from the contemporary developments and the role ideologies, experiments and housing design innovation programmes.

This chapter has also shown the changes in the Libyan housing forms which can be defend through the three major periods of development: traditional vernacular-architecture forms of which the dwellings of people relate to their socio-cultural and environmental contexts; Italians managed to stamp their own identity on the place with new types of architecture/Western e.g. colonial style houses built mainly for the Italian colonial population; and contemporary architecture/post-colonization, which can be categorized into two prototypes, courtyard houses and detached and semidetached houses ‘Villa’. These

morphology changes highlight the influence/tensions of modernization and Westernization in many Libyan cultural aspects such as social norms, lifestyles, religious and privacy. The main feature of the contemporary Tripoli, however, is the coexistence and the conflict between tradition and modernity. This is reflected in many gaps between different attitudes in terms of identity/society/physical-forms/space use.

Against westernization and internationalization, and as not against modernity, Fathy developed his theories on Arab house design that correspond to life-styles and culture of people in the Arab countries. The traditional patterns of any given region, therefore, provides rich precedent for knowledge (Fathy, 1986). This highlights the distinctive spaces in the modernized Arab society. This study intends to examine the form and function of the courtyard-house as this form regarded by Fathy. It also examines socio-cultural issues surrounding the move towards modernity. The next chapter discusses the methods employed in collecting data for the study.

Chapter 4: Methodology and Methods

4.1 Introduction

The purpose of this chapter is to identify the most appropriate methodology/methods/analysis that will result in the right information being gained to successfully answer the key questions (as stated in Sec.1.3), and address the aim of the study (Sec.1.2). This mainly emerged from the discussion of the literature in the previous two chapters, which identified the original gap in the knowledge (Fig.4.1). As all social phenomena are multifaceted with different views and meanings, a variety of approaches enables an exploration of their complexity. The chapter thus is structured into four main sections: *the philosophical assumptions of the research approach*, this includes a critical discussion of ontology and epistemology; *research design and methodology*, this includes the discussion of positionality, reflexivity, and the rationale for the case study approach; *methods and analysis*, this discusses selection of the case study areas, the qualitative tools employed, sampling, and the analytical approach; and *ethical considerations*.

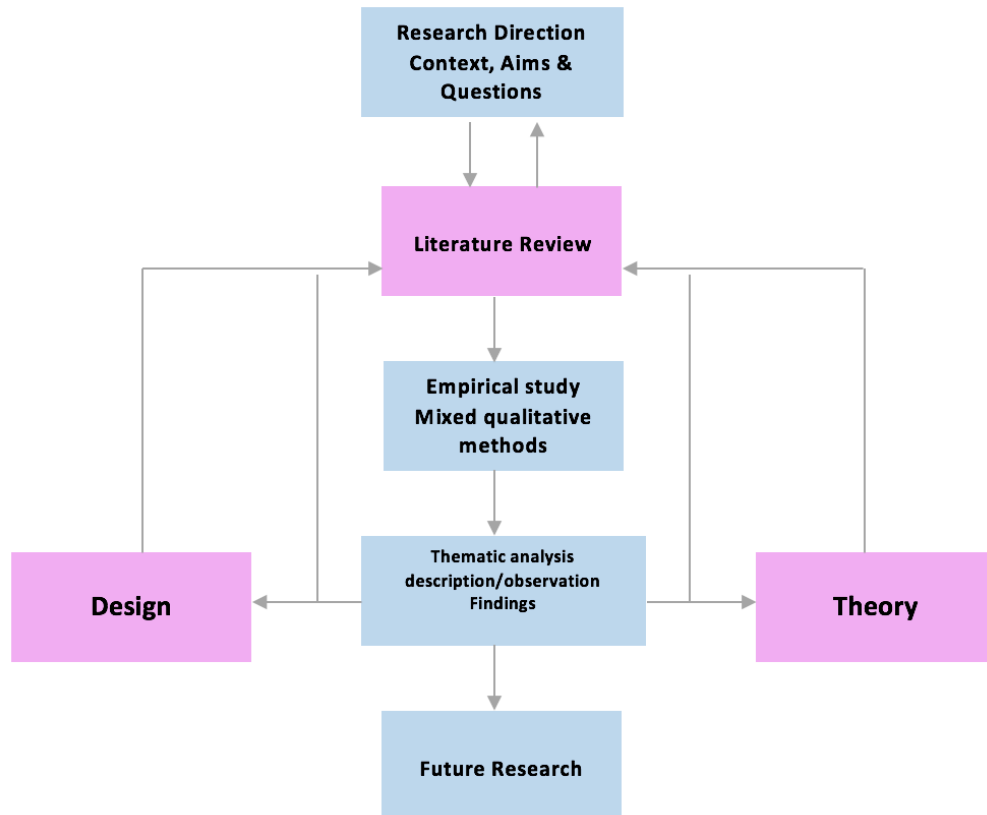


Figure 4.1: The research process

4.2 The philosophical assumptions of the research approach

Traditionally in philosophy the basic epistemological questions have been concerned with the origin of knowledge. As a technical term, it refers to how we know and the relationship between the knower and the known. It is distinguished from ontology (what exists, and the nature of reality) (Gialdino, 2011). To justify their way of knowing and doing, all researchers must be aware of philosophical and theoretical assumptions of knowing. In this sense, philosophy is a form of communicating not only what we know but also how we know (Aitken & Valentine, 2015).

According to Creswell (2012) and Kitchin & Tate (2000) although philosophies are not always explicitly articulated, all research is guided by a set of philosophical beliefs. These beliefs influence and motivate the researcher's approach. Research paradigms/approaches, in turn, address the philosophical issues, and they are a set of common beliefs and assumptions shared between researchers about how the problems could be understood (Creswell, 2012). Understanding, for example, a particular situation or social phenomena, raises ideological, epistemological, ontological and methodological questions about why the study was conducted (Kitchin & Tate, 2000). Thus, research paradigm can be characterised through these terms and the relationship between them (Fig.4.2).

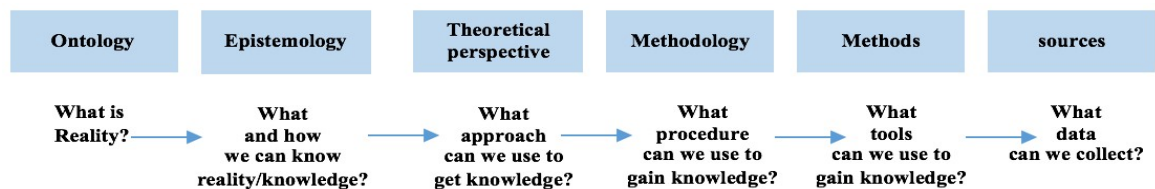


Figure 4.2: The philosophical dimensions of the research design process

Adapted from Grix (2010:68)

Some social scientists highlighted that how we come to approach the world through theories and philosophies, and researcher ways of knowing and doing is constantly challenged/rejected/refined and/or transformed. Theoretical traditions (e.g. positivism, humanism, Marxism, feminism, realism) have been understood as dominant paradigms. These approaches/paradigms contain multiple paths of thinking to develop ways of paradigmatic status (Kitchin & Tate, 2000; Aitken & Valentine, 2015).

In terms of social research, the philosophical dimensions of the research paradigms are the ontology and the epistemology, which create a holistic view of how knowledge is viewed and how we can see ourselves in relation to this knowledge, and the methodological strategies we use to discover it (Grix, 2010; Gray, 2013). **Ontology**, for many, is the starting point, after which the epistemology and methodology logically follow. It concerns the study and image of social reality upon which theory is based.

Ontological claims and assumptions are made about the nature of social reality, claims about what exists, what it looks like, what units it is made up of, and how these units interact with each other (Grix, 2010). Crotty (1998) suggests these terms (epistemologies, theoretical perspectives, methodologies and methods), represent distinct hierarchical levels of decision making within the research design process. The researcher initially adopts a particular stance towards the nature of knowledge (for example, objectivism or subjectivism). This stance will underlie the entire research process and governs the particular theoretical perspective selected. The theoretical perspective will be implicit in research questions and dictate the researcher's choice of methodology (for example, qualitative or quantitative). Also, this methodology or plan of action will in turn inform the choice of research methods employed (for example, questionnaires or interviews). Crotty (1998:10) conflates ontology with epistemology claiming the two are mutually dependent and difficult to distinguish conceptually when discussing research issues: 'to talk about the construction of meaning (epistemology) is to talk of the construction of a meaningful reality (ontology)'.

Ontological positions are often divided between those based on foundationalism and anti-foundationalism. The former asserts that social phenomena have an existence that is independent of social actors. The latter asserts that social phenomenon is continually being accomplished by social actors (Grix, 2010). Based on the former position, it can be assumed that the change and continuity affecting the form and use of Arab courtyard-home exist independently of what actors believe is the reality. This implies that this shift exists not because people perceive that it does. On the other hand, anti-foundationalists do not believe that the world exists independently of our knowledge of it, but that reality is socially and discursively constructed by human actors (Grix, 2010). Based on this position, the reality of issues surrounding the form and use of Arab courtyard-home in the context of tradition

and modernisation/Westernisation confrontation lies within the thoughts, perceptions and feelings of key actors involved.

The ontological claim for this research is that there are considerable influences on the design of the Arab-house by which the socio-cultural, religion and gendered-roles/space have a substantial role on the way that the Arab courtyard-house has been formed. Shifts in these values are influenced by the confrontation between tradition and modernity, which in turn imply cultural and urban continuity. This claim includes the prescriptive approach of Fathy (1972; 1973) of how the cultural-identity of the Arab home design contributes to the studied phenomena. It is assumed that the reality of this problem partly lies within the experiences and perceptions of the key actors involved and is partly independent of their experiences and perceptions. An appropriate position on how to go about investigating this reality is addressed after a consideration of the epistemological assumptions of how to approach these phenomena.

A relationship exists between the philosophical stance adopted by a researcher, and the methodology and methods used. As ontology includes how one perceives reality, epistemology identifies how one comes to know that reality, and methodology then corresponds to data used to gain knowledge, referencing to the research framework. (Crotty, 1998; Gray, 2013). **Epistemology** is about how we know what we know, and it is related to ontology, 'the study of being' (Crotty, 1998:10); or the nature of the relationship between the knower or would-be knower and what can be known (Gray, 2013). Epistemology is concerned with providing a philosophical grounding for deciding what kinds of knowledge are possible and how we ensure it is adequate and legitimate (Crix, 2010).

Crotty (1998) notes that an ontological stance implies a particular epistemological stance and vice versa. For example, relating the integrated theoretical framework of Fathy and Lefebvre's theories to this research (ontology is based on Fathy's, 1973, traditional essentialist view of Arab culture; and the epistemology and broad research strategy is based on Lefebvre, 1991 and Lefebvre and Boudon, 1972). The complementary nature of the terms is clear when he cites the ontological notion of realism, which assumes that realities exist outside/independent of the mind, and its complement objectivism, an epistemological notion asserting that meaning exists in objects independent of any consciousness; if one stance is adopted, so is its complement. This is related to the foundationalist ontology discussed

above. To proceed on the basis of this assumption, the research would go about discovering the objective truth of the claim made above, employing a scientific method (researcher is independent of data and has an objective stance from the studies phenomena) as a result the research methodology related to this theoretical perspective is quantitative.

Essentially, what is required is concrete research that is research grounded in empirical study but which allows an important role for abstraction and therefore is not simply empiricist. As a concrete reality, a particular actor/object/institution combines a wide range of influences, each of which might be isolated in thought by means of abstraction, as a first step towards better understanding (Patterson, 1996:28). Social inquiry is shaped by the epistemology of the researcher, his or her underlying assumptions about the process of knowing. Epistemology is seen as theories of knowledge that justify the knowledge building process that is actively or consciously adopted by the researcher (Gringeri, *et al.*, 2013). ‘Through recognizing and analysing the cultures in which we are positioned, and that therefore cannot help but mold our world- views, we take steps to become more aware and even more objective. We come to know the world more fully by knowing how we know the world’ (Takacs, 2003:29).

The relationship between the researcher and the participants in the project is a central aspect of reflexivity, one in which the researcher reflects on her or his personal history and social locations and the ways these shape interactions with participants and may contribute to power dynamics in the relationship. It is critical for researchers to see the multiple positions they occupy during the process of research, many of which grant power and privilege to the researcher relative to the participants: investigator, expert, decision maker, participant recruiter, and insider/ outsider, among others. In time, being aware of the ways these roles play out in the process of the work and the ways they shape our interactions with participants and examining the possibilities of sharing roles and privilege become a reflexive activity for the researcher (Takacs, 2003; Gringeri, *et al.*, 2013).

Crotty (1998:3) defines the **theoretical perspective** of the research design framework as ‘the philosophical stance informing the methodology’. A theoretical perspective closely linked to objectivism is positivism. The argument of positivism is that the social world exists externally to people, and that its properties can be measured directly through observation/observable phenomena [scientifically verified] (Creswell, 2012). In contrast,

subjectivism views reality as dependent on social actors who contribute to social phenomena. It accords primacy to subjective experience as a fundamental of all measure and law (Crotty, 1998). This is related to the anti-foundationalist ontology discussed earlier. By proceeding on this assumption, the research would go about uncovering the truth of the reality from the experiences/understandings of people living in Arab-homes and their meanings, and how these meanings and cultural values come to define the contemporary society. The theoretical perspective closely related to subjectivist epistemology is the constructivist perspective or constructivism/interpretivism.

According to Creswell (2012), social constructivists claim that we cannot know reality apart from our interpretation of it. Reality is a social construct and this is opposed to the idea that reality is objective and exists outside an individual's interpretation. Social constructionism as a perspective enables one to interpret a problem in its 'real' conditions. This is because social problems do not change, only the way in which they are defined and understood changes, with the policy towards the problems changing as a result. Constructivism posits that truth and meaning do not exist in some external world, but are created by the subject's interaction with the world. Meaning is constructed not discovered, so subjects construct their own meaning in different ways, even in relation to the same phenomenon (Lund, 2011).

Constructivists believe that there is no single reality or truth, and therefore reality needs to be interpreted, and therefore they are more likely to use qualitative methods to examine those multiple realities (Crotty, 1998). For social research that claims to be subjectivist, this analysis has several implications: the researcher has to be the primary data-gathering instrument to fully understand, respond and describe the complex interactions taking place. As each research participant has their own point of view, the focus of research is on the identification of the contextualised meaning of these multiple points of view (Greene, 2007). With the goal of creating a collaborative reconstruction from the multiple realities that exist (Creswell, 2012).

As the researcher is not outside or beyond the research, which is concerned with qualitative methodology, therefore subjective interpretations are made (i.e. the analysis follow the logic of thematic methods in that the researcher seek to identify shared cultural meanings underlying the opinions expressed by individuals). This theoretical

perspective/paradigm thus has influenced this study's research design and methods. Implications for this study are that the researcher was the sole-investigator (human instrument) who interacted with all participants. The researcher was thus able to realise and study all of the participants' constructed realities. As a native researcher her insider role allowed interviewees, especially the female participants, to interact freely. It seemed appropriate to conduct the research information collection within the researcher home-country where the researcher and participants shared a culture, religion and language. The subsequent analysis revealed insights and clarified the views expressed from the multiple realities that existed at the time the information was collected. This analysis relies on the theoretical perspective that led to the case study design.

The preceding discussion explains a range of assumptions on which a research project may be founded. There are many theoretical research perspectives that result from particular epistemological and ontological stances. For example, the theoretical perspectives subjectivism and constructivism both have underlying subjectivist epistemology, and both could lead to a variety of methodologies. Proceeding on this assumption, the research seeks to interrogate the truth of the reality, utilising the epistemological stance of Lefebvre and Boudon (1972) in the light of the triadic relations between the social and spatial.

In relation to **the epistemological stance of this study**, Lefebvre's writings, however, are about establishing an urban epistemology in the sense of providing a structure for the production of valid knowledge. The specific joint work of Lefebvre and Boudon offers an epistemological model for the study of user response in housing in emphasising the importance of a multi-level approach to design and development, whilst also considering the detailed views of respondents. The model itself is a mixture of approaches, however, in using extended interviews of residents and therefore an interpretivist methodology as well as mapping techniques of social linkages and therefore a more objectivist methodology. Likewise, this study is multi-level in considering the historical development of housing in Libya, the views of architects involved in design as well as the detailed views of female respondents. Equally, it is interpretative in using focus groups and phot-elicitation and more objectivist in using the space syntax to describe the internal layout of the Libyan-family home. The ontological assumptions of this study are in the background and concern the

beliefs of Fathy that Arab society and the Arab home is based on tradition. The next section explains the methodology and the methods used for the study.

4.3 Research design and methodology

Methodology refers to how we go about finding out knowledge and carrying our research. It is the researcher's strategic approach, rather than techniques used and data analysis (Yin, 2013). It is the strategy, plan of action, process or design lying behind the choice and use of particular research methods (Crotty, 1998). Many different methodologies may have the same underlying theoretical perspective and each methodology may be implemented using different combinations of research methods. Some methodologies also may be conceived by different investigators as originating from different theoretical perspectives (Crotty, 1998). For example, conducting qualitative research emerged from an interpretivist/constructivist approach.

Qualitative research can describe or provide further understanding of a subject and its contextual setting, provide explanation of reasons and associations, evaluate effectiveness and aid the development of theories or strategies. Qualitative research can stand-alone or stand alongside and complement quantitative surveys to provide depth and richness to an investigation (Creswell, 2012; Neuman, 2011). In this case study, the research design/framework/strategy established to integrate the different components of the study in a coherent way, thereby, ensuring the study effectively address the research questions.

This in turn was based on a form of qualitative research, in which the researcher collects and interprets data, making the researcher as much a part of the research process as the participants and the data they provide (Corbin & Strauss, 2015). By including qualitative research, design is generally based on a social constructivism perspective, research problems become research questions based on prior research experience. Sample sizes can also be as small as one, and data collection involves interview, observation, and/or archival data. Additionally, it comprises positionality and reflexivity in social research (Creswell, 2012). The following two sections discuss these assumptions in relation to research context and process, and the third section highlights the rationale for the case study approach.

4.3.1 Positionality

The notion of positionality relies on the assumption that culture is more than an entity to which one belongs or not. To say that one is an insider raises the question of what is the situation of the researcher in the context of researching issues of difference (Aguilar, 1981). Factors such as education, gender, class, race, or sheer duration of contacts may at different times outweigh the cultural identity we associate with insider or outsider status (Merriam *et al.*, 2001; El-Solh, 1988). It has commonly been assumed that being an insider means easy access, the ability to ask more meaningful questions and read non-verbal cues, and most importantly, be able to project a more truthful, authentic understanding of the culture under study.

The insider's strengths become the outsider's weaknesses and vice-versa (Merriam *et al.*, 2001). Feminist geographers, for example, McDowell (1992) and Rose (1997) have addressed the notion of positionality: to situate and take into account the relationship between the researcher position, participants and interpretations, then reflexively examine the positionality of the research practice. In other words, it is the way that our experiences, beliefs and social location affect the way we understand the world and go about researching it (Aitken & Valentine, 2015). An important issue that affected this study was the researcher's gender.

As a female Arab/native researcher, this gave me the privilege of having insights into the interviewees' perspectives and understanding of home meanings and values that other researchers (i.e. male, western/outsider) may not have. Gender is particularly important within a socio-cultural context where patriarchy and segregation by gender are the norm. Gender issues need to be considered in all research and appropriate methods and processes chosen, since cultural and social norms elicit certain expectations from researchers and participants in terms of gender (Ahmed *et al.*, 2011; Altorki, 1994).

In Arab Muslim-societies there is a limitation of access to the domestic world of home and observation in relation to gender issues and social practices. Traditional, cultural and religious views about gender exist and shape relations between men and women (Al-krenawi and Graham, 2000). In this study, the women's focus group lasted longer and produced rich information. This is related to both the researcher and participants being of the same gender,

sensitive use of space and time was also important in the data collection. For the architect focus group, the architects were both males and females, but they worked in a mixed gender environment so there was less of a gender difficulty.

This difficulty has been found by other researchers from different cultures (e.g. Ryan *et al.*, 2011), drawing on their experiences as a non-Muslim researching local Muslim communities, in which religion, ethnicity, gender and age may impact on the research process. For example, the involvement of community/peer researchers in the research process to carry out fieldwork in hard-to-access areas. Their insider position is assumed to derive from their religious and cultural background which are matched to the target reality/community. They are involved in various steps of interpretation and construction, like all members of the research team., and their positioning and discourses impact the research process.

It is important to engage with the community/peer/insider researcher in a reflexive process for example through focus group discussions (Ryan *et al.*, 2011). But this is not the case in Tripoli where I conducted the empirical-work because of the practice of gender segregation. As discussed earlier, being a female, sharing a religion and culture with participants aided this researcher's fieldwork. This limitation of access to the domestic world of the Libyan society has been encountered by Abubrig (2012), investigating the complex relationship between human, environment and urbanisation in relation to economic, socio-cultural and environmental variables. Through the empirical-work, it was not possible for him, as a male researcher, to interview many women due to cultural factors and religion. 'Because the research would be biased without women whose experiences and opinions are just as relevant as those of men, the researcher relied more on working women and elderly women. Therefore, this group of women, without whom information gathering could not have been carried-out, have significantly influenced data collection' (Abubrig, 2012:101).

As an architect, I experienced most of the architectural, functional and cultural aspects, dealing with clients and designing. This experience was used in the study as a strategy to connect with the participants of the study and to build up trust. Where there is trust, for some interviewees, the interview can be a positive experience as they get the opportunity to talk about their lives, personal experiences and stories. However, interviewees will not talk in this way unless they trust the interviewer (Ahmed *et al.*, 2011). There were assumptions I

made as a researcher regarding access and positionality that relate to the concept of insider/outsider.

As the research was conducted, I was an insider alongside all of the participants. Although I was a visitor researcher while they were indigenous residents of Tripoli, we shared a common bond as members of the same Muslim society, with shared cultural identity, and norms. I may have also achieved a greater sense of affiliation with participants as most of whom were females. However, it was evident that the researcher was also an outsider to some participants (i.e. elderly female, uneducated male/female participants) as I was conducting research and studying abroad. Positionality is thus determined by where one stands in relation to the other, and most importantly, these positions can shift.

4.3.2 Reflexivity

The notion of reflexivity refers to a process of reflection about what we know and how we come to know it (Aitken & Valentine, 2015). It is the process of looking both inward and outward with regard to the positionality of the researcher and research process. It also part of the production of knowledge (Shaw & Gould, 2001). Reflexivity has been increasingly recognized as a crucial strategy in the process of generating knowledge by means of qualitative research (Berger, 2015; Ahmed *et al.*, 2011; Pante, 2014; Rayn *et al.*, 2011; Merriam *et al.*, 2001). Questions about reflexivity are part of a broader debate about ontological, epistemological and ‘axiological components’ of the self, ‘inter-subjectivity’ and the ‘colonization of knowledge’ (Berger, 2015:220). Researchers also play an important part in analysing and interpreting data that is produced. And, in considering reflexivity, researchers cannot avoid having an impact on the process of research. The aim is to highlight the researcher’s impact in knowledge production (Ahmed, *et al.*, 2011).

Relevant researcher’s positioning includes personal characteristics, such as gender, race, affiliation, age, personal experiences, linguistic tradition, beliefs, biases, preferences, theoretical stances, and emotional responses to participant. These positions of the researcher may impact the research in three major ways: First, they can affect access to the ‘field’ because respondents may be more willing to share their experiences with a researcher whom they perceive as sympathetic to their situation. Second, they may shape the nature of ‘researcher– researched’ relationship, which, in turn, affects the information that participants

are willing to share, for example, a woman may feel more comfortable discussing her experiences with another woman than with a man. Finally, the background of the researcher affects the way in which he or she constructs the world, uses language, poses questions, and filtering the information gathered from participants and making meaning of it, and thus may shape the findings and conclusions of the study (Berger, 2015:220)

Reflexivity is crucial throughout the research process, being a feminist researcher, for example, doing a research in a masculine space makes the researcher more rooted in social reality and more reflexive in the use of sociological theories and research methods (Pante, 2014). Through reflecting on the experiences of a Black woman interviewing Black women, Asians interviewing people 'from home', an African scholar interviewing local businesswomen, and a cross-cultural team studying ageing and learning in a non-western culture, researchers uncover the intricacies of claiming an insider or outsider status. A closer look at these fieldwork experiences revealed multiple insider/outsider positionalities and complex power dynamics, factors bearing on knowledge construction and representation in the research process (Merriam *et al.*, 2001).

Drawing on experiences as non-Muslims researching local Muslim communities, makes the researcher relies and considers issues of access and trust, the relationship between academics and community organisations and the role of peer researchers (Rayn *et al.*, 2011). Reflexivity when sharing participants' experience, however, helps address the double sword inherent in the situation. On one hand, such familiarity may enable better in-depth understanding of participants' perception and interpretation of their lived experience in a way that is impossible in the absence of having been through it. Similar experience echoed in Ahmed *et al.*'s (2011) study of her fieldwork of visually impaired young people in Bahrain.

This study engages with the researcher's positionality as an Arab-female architect through a reflexive analysis within a socio-cultural context. Issues of gender, religion and culture needed to be actively engaged during the fieldwork in this social context. My gender role/Arab origin and the behavioural norms that implied for a woman of Arab decent appeared to be the more crucial factors, overriding both social class and educational status. My theoretical approach is based on combined interpretive and theory-building approaches (i.e. how event influenced by how actors define situations) (see e.g. Tesch, 2013:17).

According to subjective understandings and socially constructed reality (knowledge is constructed through interaction with others), which is interpreted in a value-laden study (influenced by personal perspectives). The detailed methodology, therefore, is influenced by interactionism and social constructivism as represented by the procedure of qualitative grounded theory research. The procedures can be used to uncover the beliefs and meanings that underline action, to examine rational and non-rational aspects of behaviour, and how person responds to events, actions and interactions (see e.g. Corbin and Strauss, 2015).

It also influenced by the perspectives of, for example, Western feminist writers whose views are also subject to examining in a different culture (Arab context). This study is therefore combining together different approaches within a broad framework that is in turn influenced by the positionality of the researcher. The complexities of the study's factors (interconnection between social/users/societies and spatial/space/use/home) are in turn interconnected with time, modes of production/reproduction, change and continuity. These dialectic relations are consistent with the arguments of Lefebvre (1991). Lefebvre argues that, epistemologically, each kind of society produces its own kind of specific form/space. Extending the same principles to Arab societies contrasts with Fathy (1973), who argues that, ontologically, the built-form is socially constructed according to cultural, religious and environmental considerations, and this is how, for example, courtyard-housing, should develop in Arab cities. Given the theoretical perspective, this study employs an explanatory methodology. And, to empirically examine the factors that influence the form and function of the Arab house in terms of the socio-cultural aspects of users, a case study approach is adopted.

4.3.3 Rationale for case-study approach

In previous discussions (see Fig.1.3), it was established that the meaning of home in the context of courtyard housing is a complex phenomenon. It also became evident from the discussion of home and gender in chapter-2 & 3, that the home is conventionally perceived as the basis of the private sphere, as this space is socially constructed and differences in the use and sense of designated spaces within the home by individual family members (adult males/females) illustrate social-relations and define gender-relationships within family and society. The pattern of relationships between family members as well as between guests within domestic space are also likely to convey and respond to the cultural and religious

meanings of Arab homes. In addition, this social phenomenon is developing amidst significantly dynamic socio-cultural and planning situations.

These are some of the complexities within which the study investigates tradition modernity, change and continuity which influence the form and function of courtyard-home. A case study is both a process of learning about a case and the product of that learning (Crowe *et al.*, 2011). It is a powerful approach designed to facilitate and ensure that the required data can be obtained accurately. It is also appropriate when a researcher's concern is directed towards a set of issues in a single organisation, such as the development of housing. These are the motivations for choosing a case study approach. Further to these, a case study approach is used to generate an in-depth, multi-faceted understanding of complex phenomena in their real context (Tellis, 1997; Yin, 2013). A case study approach provides an opportunity for understanding complex phenomena in smaller manageable relationships that can be empirically examined. With a case study approach, a researcher is able to study the voices and perspectives of individual actors or groups and the interaction between them (Tellis, 1997).

The essence of the case study approach is triangulation: the combination of different levels of techniques, methods, strategies, or theories (Johansson, 2003). With the case study approach, the study of home and associated meanings and values could derive ideas, style, or pattern from a broad and diverse range of sources. The researcher can be pragmatic in dealing with things realistically, in a way that is practical, and the combination of methods and multiple data sourcing can make a study even richer (Tellis, 1997). Finally, the home, gender and space use is contextually shaped within both Western and an Arab context (as discussed in Chapter-2), and the case study approach enables the researcher to examine these within their contexts (Crowe *et al.*, 2011).

Reflecting on the socio-cultural and functional aspects of the home layout, the researcher's goal was to seek how and why within particular case studies involvement of context and in-depth/rich data of users' lived experiences/perspectives was required. 'How' and 'Why' questions are more explanatory and likely to lead to the use of case studies as the preferred research strategies (Yin, 2013:6). A qualitative case study allows analytical and contextual thinking to extend and/or develop on theory or provide a deep insight to examine social reality (Neuman, 2011). As a result, a mixed-qualitative research design was selected,

with semi-structured interviews, focus groups, photo-elicitation, socio-spatial analysis/space syntax as the employed methods. These were the most relevant/appropriate methodological tools, which would complement both this interpretivist/constructivist epistemological approach and the context of the study's social reality.

4.4 Methods and analysis

Researchers can employ more than one method to collect data in order to obtain a valid, holistic and systemic picture when using an interpretive approach. Mixed-methods research can be subsumed within a research strategy (Bryman, 2015). This triangulated approach makes it possible to consider how the views of people in different positions, such as policy makers, providers, and users, coincided or differed (May, 2001). The combination of qualitative and quantitative methods is well established in case studies (Tellis, 1997; Johansson, 2003; Crowe *et al.*, 2011). For example, Tellis (1997) identifies six methods of data collection for case studies. These include interviews, documentation, archival records, direct observations, physical objects, and participant observation. Interviews are one of the most important sources of case-study information, and can take several forms: structured; semi-structured; or unstructured.

For this study, using a quantitative survey was not feasible as the number of sampled people in each courtyard housing scheme was small. Additionally, depth could not be gained by the use of such a survey. Quantitative design is informed by a positivist paradigm, using percentages and statistical generalisation, and relating its result to a large scale sample to attain replication, unlike that contextual generalisation suggested by subjectivist paradigm (Nauman, 2011). Methods were decided in light of the research key aim and questions being investigated as presented in Chapter-1 (Fig.4.3), illustrates how each of the various questions relates to more than one method.

The structure of the analysis was assessed by the methodological model adopted from Boudon's case study (1972) and Lefebvre (1972; preface) (see also Sec.2.4). This model is based on the distinction between Le Corbusier's conception and town planning/ideology (abstract level), which are both examined against the (concrete level) reality of residents. The focus, therefore, was to consider the consequences of the housing assumptions (i.e.

standardisation/modernisation and industrialisation), and the capability of occupants to personalise their homes, and to meet their individual requirements.

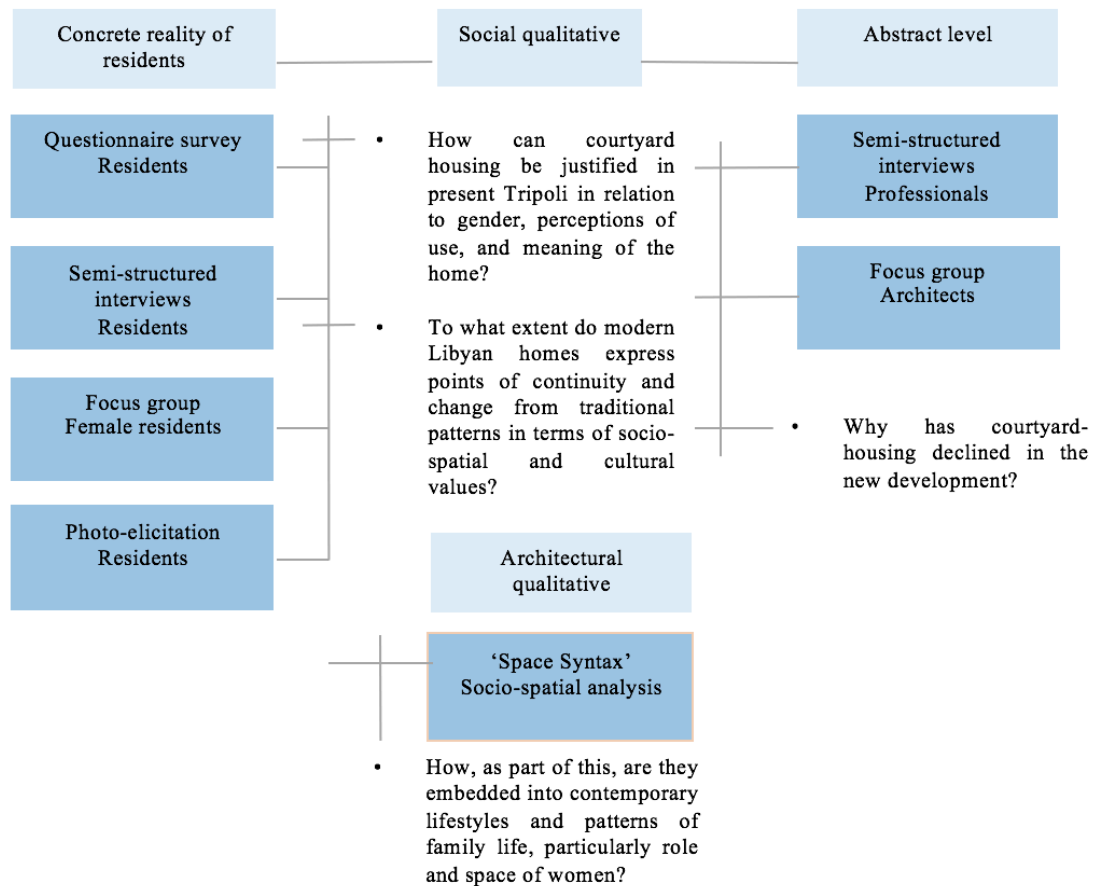


Figure 4.3: Research questions and key methods

An over-view of the methods employed and people sampled, is illustrated in (Fig.4.4). Three courtyard-housing schemes were selected as case studies, and participants were selected and sampled in Tripoli on the basis of house types and social groups to explore their experiences in terms of home, gender and use surrounding the move from tradition to modernity. In order to research this phenomenon, it is necessary to understand the various factors that affect the Libyan individual. For the Libyan homes, it is specifically architects and users who play a key role in shaping domestic architecture. Further explanation is presented below on the case studies selected and how methods were used and sampled.

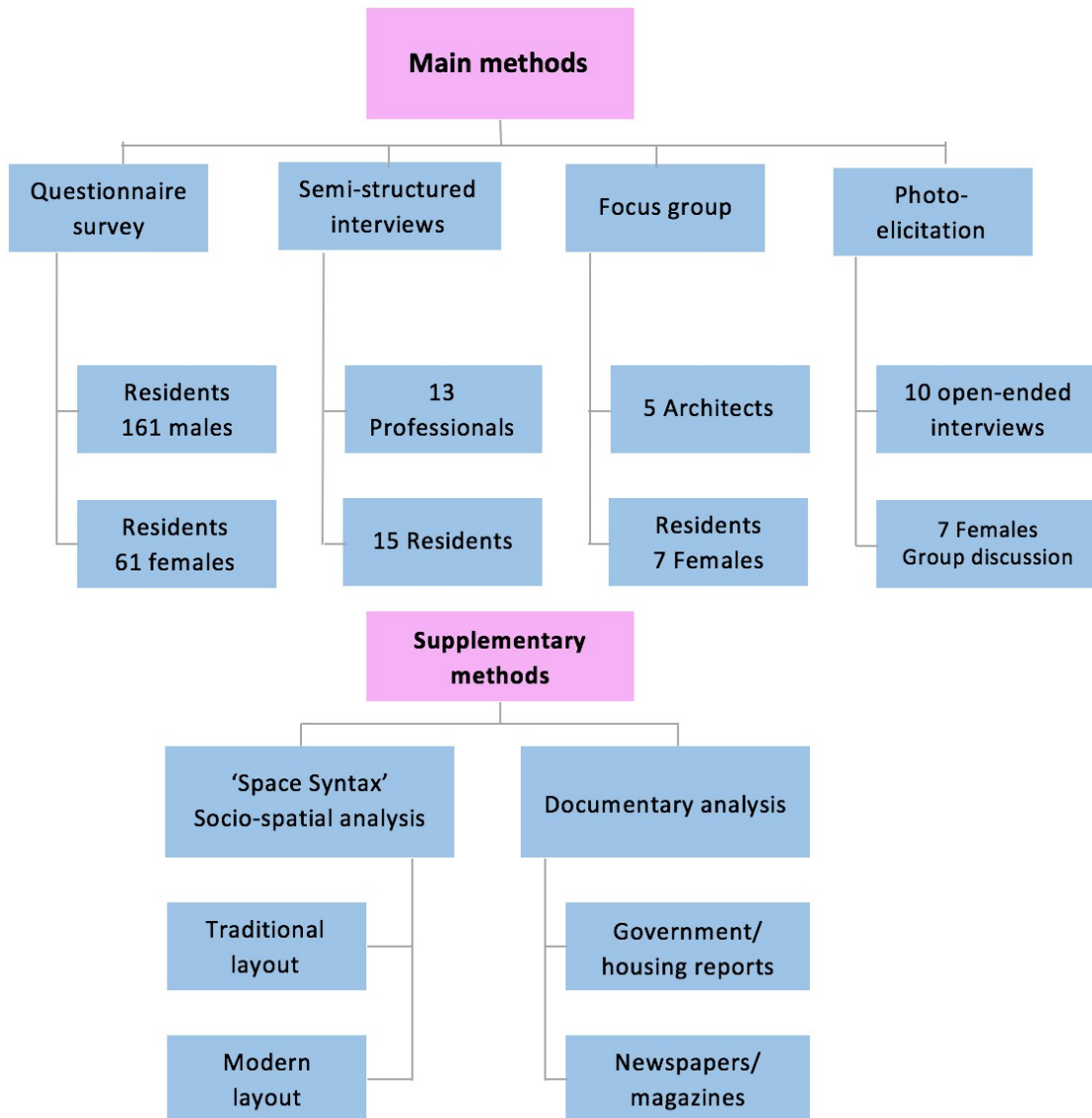


Figure 4.4: Mixed-Methods Research

4.4.1 Selection of the case study areas

Tripoli represents a typical Libyan city in terms of socio-cultural values, urban growth, and residential development. It also has witnessed different periods of urban developments, which have led to the production of various forms of housing. In spite of Tripoli being the largest urban settlement in the country, the city has been neglected in the field of research, particularly in relation to housing studies. Some of the studies (e.g. Amer, 2007; Abubrig, 2012; Gabril, 2014), however, address sustainability, environmental, and urban growth in terms of the physical form.

The selection of Tripoli for this study helped to fill the gap in knowledge regarding the housing development process. The areas selected include: traditional courtyard housing found in the district of the Medina of Tripoli; Ka-Zalanges shared-courtyard residence/cluster; and Al-Ghadamsi shared-courtyard residence/cluster (see Table 4.1). Alternatives were considered during the pilot study, such the altered courtyard housing, a type that was developed during 1960s. At the present time, however, these districts have been completely transformed into non-courtyard housing districts as a result of alterations and demolition.

The selected areas were chosen because they represent different styles of courtyard buildings developed in different periods of urban development. Through these periods, Tripoli has witnessed substantial changes in socio-cultural aspects and housing forms. Moreover, these courtyard housing neighbourhoods were selected because they facilitate understanding the shifts in the physical forms of the Libyan homes as well as examining space use patterns and social relations/lifestyles in Tripoli over space and time.

Table 4.1: Key features of the three courtyard housing schemes

Key Facts	High-Density Traditional CYH	Medium-Density Collective-housing Ka-Zalanges	Low-Density Collective-housing Al-Ghadamsi
Location	The Medina district, Central Tripoli	Al-Zawiay street, Al Dahra, Tripoli	Zawiyat Al-Dahmani, Tripoli
Design & completion date	19 th century Islamic city, Ottoman style (1835-1911)	Designed 1933 Completion 1935	Designed 1982 Completion 1983
Developers	Ottoman & AMHC	Italian building company	SIAB Stockholm
Architect	Ottoman & AMHC's architects	Alberto Alpago novelle Otavio Cabiati Guido Ferrazza Lungi Piccinato	Eltahir Elzalouzi 'Libyan Architect'
Number of Dwellings	Bab El baher quarter 1200 Units' samples selected 240	84	12
Dwelling mix	3 bedrooms 67 units 4 bedrooms 58 units 5 bedrooms 90 units 6 bedrooms 25 units	2 bedrooms 26 units 3 bedrooms 30 units 4 bedrooms 28 units	4 bedrooms
Other provision	Mosques, school, shops, and public square	Community facilities nearby, outdoor communal open space	Outdoor communal open space
Previous use of site	Derelict land	Slums	Industrial
Density	App. 57 dwellings per hectare App. 982 habitable rooms per hectare	38 dwellings per hectare 54 habitable rooms per hectare	25 dwellings units per hectare 50 habitable rooms per hectare
Forms of tenure	138 Owner occupied 78 Rented 24 Multi-occupied (rented)	65 Owner occupied 19 Rented	12 Owner occupied
Key targets	A high dense CYH scheme for urban living which is environmentally and socially appropriate	Designed as a car free residential development, creates better social mix, and green space	Designed as a free car residential development, creates urban environment and social mix
Site area	Medina district 64 hectares Bab El-baher quarter 21 hectares	2.24 Hectares	0.48 Hectare
Transport access	City-centre location provides good access to facilities	City centre location, (off road parking)	Main road access to city centre and other facilities, parking mainly on-street

Source: Author based on ECOU (2009)

4.4.2 Questionnaire survey

Questionnaires are the most widely used data collection technique, (Flowerdew & Martin, 2005; Robson, 2007). It is a useful tool when conducting research and consists of a set of questions with the intention of obtaining information relating to the topic (Robson, 2007). Design, layout, question and construction of the questionnaire are critical to the success of a survey. All of these factors influenced the decision to use a questionnaire, though additional methods are used in order to gain deeper insights into the studied phenomenon. The sample needs to draw its responses from a selection of individuals who can be taken to jointly represent the organisation to which they belong, and also to comprise an adequate number of individuals, meaning that the desired outcome of the study can be satisfied. The art of designing a questionnaire consists of thinking about the research issue in terms of what the concepts mean and how the data will be analysed (Cloke *et al.*, 2004).

According to May (2001), questionnaires offer the advantage of collecting a large amount of information from a large sample in a short period of time in a relatively cost-effective way. In this study, due to its relatively small sample size, generalisation of the users' responses towards home features, neighbourhood, domestic open spaces, and privacy investigated by the questionnaire cannot be treated as conclusive. So, in order to seek clarifications and find answers to some ambiguities in the questionnaires, this strategy was complemented by qualitatively mixed-approach.

The questionnaire was designed in four parts, all of which centred on home, space use and privacy. The participants were asked to respond to three types of questions: the first are closed questions (the participants were invited to tick one or more answer from a range of options); the second type were open-ended and explore the participants' many meanings and understandings of the topic (the participants were allowed to freely express their experiences in relation to home, car access, domestic open space(s), use patterns, and privacy in their own words); and the third type were quantitative and measure the participants' positive, neutral and negative responses to the question. Specifically, they are Likert scale questions, where a respondent was asked to what extent they are satisfied or dissatisfied with a statement. Responses are ranked from 1 to 6 the responses are treated as ordinal data. In other words, one cannot say that a participant response that selected 'extremely satisfied'

instead of 'fairly satisfied' prefers the former twice as much as the latter. Therefore, the ranking is expressed but not by how much quantitatively.

4.4.3 Interviews

Qualitative interviews are widely used in social research, and scholars have recognized the value of interviews (e.g. semi-structure/in-depth interviews) as a useful data gathering technique. This strategy is closely related to the theoretical perspectives of interpretative/constructivist (Neuman, 2011; Silverman, 2011). Geographers have also adopted interviews to investigate social processes in geographical patterns (e.g. Longhurst, 2003). The purpose of the qualitative interviews is to contribute to conceptual and theoretical knowledge, and based on social context such as meanings, values and lived experiences perceived by respondents (Neuman, 2011). Also, conducting an interview with a fairly open framework, allows focused conversation and two-way communication (Creswell, 2012).

Interviews are an important source of primary information used to complement questionnaire data in this study. Unlike the approach of a positivist, structured questionnaire survey, qualitative interviews enable the researcher to deeply develop the social context, exploring values and beliefs of the social reality (Rubin & Rubin, 2004). Some authors have looked at interviews as a special form of discussion, which is able to give relevant data about the subject under investigation by asking interviewees to converse about their lives, experiences and, most importantly, to understand the insights of the respondents (Silverman, 2011). Semi-structured in-depth interviews are the most widely utilised interviewing format. These types of interviews generally last from 30-min to more than an hour (Corbin & Strauss, 2008).

Accordingly, semi-structured interviews were used in this study. Creswell (2009) argues that, to achieve optimum use of interview time, interview guides serve the useful purpose of exploring many respondents more systematically and comprehensively as well as keeping the interview focused on the desired line of action. Therefore, an interview guide was prepared according to the specific items intended for discussion with the respondents. General questions for discussion with respondents were outlined with sub-questions attributed to the general question. In order to have the interview data captured effectively,

recording of the interviews is considered an appropriate choice but can sometimes be a matter of controversy among the researcher and the respondent (Corbin & Strauss, 2015).

The interviews were recorded only when the respondent consented to it. This was supplemented by note-taking. In addition, such interviews can be used as a stand-alone method or in combination with another method. They incorporate predefined questions found in structured interviews and/or questions developed by the researcher with the open-ended exploration (Bryman, 2015). Also they are generally organised around a set of open-ended questions/themes to be explored, allowing respondents to include more information, such as feelings, views, and their understandings (Bryman, 2015). An open-ended interview therefore was used in conjunction with the focus groups and photo-elicitation methods. They yield unique insights for the researcher, as respondents were freely conveying their feedback and ideas in their own voices. The rationale for using focus group discussions and photo-elicitation approaches are discussed below.

4.4.4 Focus group discussions

Focus groups are an established method of collecting research data in the social sciences, bringing together people with mutual characteristics or interests to offer individual and collective insights into particular topics (Morgan, 1997). Invited groups of people are interviewed in a discussion setting in the presence of the session moderator and generally these discussions last for 90 min (Creswell, 2012). Since 1980s, focus group discussions have become a core qualitative method and have been increasingly used in social research science (Hennink, 2013). They emerged across multiple academic disciplines as researchers wanted to explore alternative interviewing techniques that would overcome the limitations of the traditional one-to-one interviews (Flick, 2009).

The method brings out the verity of perspectives, and the interactive discussion prompts rationalisation, explicit reasoning, and focused examples, thereby uncovering various sides and nuances of the issues that are not available by interviewing an individual participant (Hennink, 2013). The essential purpose of focus groups is to identify a range of perspectives through a combination between qualitative research principles and small group dynamics. A typical/ideal scenario would have between six to eight participants, led by a trained moderator and focusing on a specific set of themes, and creating an environment

where participants feel comfortable (Krueger & Casey, 2009). In longer-term (e.g. social studies) crossing time and space, web-based focus groups, using text-based chat rooms can be utilised, for example, engage groups that are geographically distant. The web-based nature of the research also can involve people with disabilities or barriers that prevent them from taking part in conventional face-to-face focus groups (McKee et al., 2015).

Focus groups usually include the use of general guideline questions/semi-structured/open-ended sessions and other means (i.e. photos/sketches) to enhance the gathering of deep, strongly held attitudes and views. This approach is valuable to clarify social context and to examine complexities of issues involving values and perceptions that underlie behaviour, social relations and spatial interaction (Krueger & Casey, 2009). Further to this, ‘the hallmark of focus group is the explicit use of the group interaction to produce data and insights that would be less accessible without the interaction found in a group’ (Hennink citing Morgan, 1997:2).

Participants should have similar backgrounds/experiences, and not be randomly selected. A key component in conducting successful and productive focus group discussions is identifying appropriate and informative questions. Questions may be derived to help the researcher learn of the participants’ knowledge, skills and abilities, aspirations and attitudes related to the subject. The sequencing of the questions must establish a pattern be descriptive, and allow for opinions, feelings and perception to arise from the participants’ knowledge and/or skills (Hollander, 2004; Hennink, 2013).

Another key decision is whether the researcher selects a constructed or natural group. A natural focus group involves people with similar pre-existing experiences/interacting with each other. A constructed group consists of participants who are unlikely to have met before or been involved in a network of relationships/activates. In a focus group, however, participants interact with each other and the moderator is virtually co-constructing understandings of the participants’ views/experiences during the discussion and this interaction is formed by particular context (Hollander, 2004).

It was decided to set up two focus-group discussions (one for residents and one for architects), prepared as natural-groups (participants involved with the home context). Their main purpose was to be employed as a triangulation methodological tool combined with

open-ended and photo-elicitation sessions. Focus groups were intended to provide more insight about the meanings and cultural values of Libyan homes, and reveal contextual social knowledge. Additionally, the socio-spatial context of the focus groups revealed a contrast between the architects' conceptions and users' perceptions towards home layouts and use.

4.4.5 Photo-elicitation

Photo-elicitation was first named in a paper published by Collier (1957), who proposed it as the solution to a practical problem (the research team was having difficulty, agreeing on categories of the quality of housing in the research area). The technique was put to use when the research team used photo-elicitation to examine families adapted to residence among ethnically different people, and to new forms of work in urban factories (Harper, 2002). According to Dempsey & Tucker (1994) the use of photo-interviewing yields richer data than that usually obtained from verbal interviewing procedures alone. Photographs focus the interviewing process, enabling intended as well as unintended aspects of a program. It is a flexible approach, one that can be responsive to unpredictable and uncontrollable behaviour in social and cultural field settings (Collier, 1979).

Using photographs in research have been grouped into three major categories: 'subject-produced images' where the researcher invites participants to photograph aspects of their lives; 'researcher-produced images', where researchers document events or situations; and 'pre-existing images', where existing, sometimes historic, photographs are used (Dockett *et al.*, 2017:226). This research involves Arab-female participants and photography that relied on subject-produced images such as **photo-elicitation**. Others studies (e.g. Banks, 2007; Bridger, 2013) highlight that generating data requires an interpretation of reality, and adopt 'a broadly interpretive stance and use 'elicitation' to mean the process by which verbal discussion is brought about' (Bridger, 2013:107), and it involves the use of images as cues for verbal discussion (Harper, 2002).

How photo-elicitation has operated in certain forms of inquiry is classified into four areas: social-class/social-organization/family; community/historical-ethnography; Identity/biography/autobiography; and Cultural/cultural-studies (Harper, 2002:16). Suchar (1988; 1992) and Suchar & Rotenberg (1994) adopted form of community and historical ethnography in their studies, using photographs to show how urban residents transform

urban neighbourhoods based on strategies which derived from their own social locations and identities. Harper (2002) presented the approach's three main uses of photographs. First, photographs are used as visual inventories of objects and people. Second, photographs depict events that are a part of collective or institutional paths (e.g., photographs of schools or images of events that occurred earlier in the lifetime of the participants). Third, photos have social dimensions. For example, photos of family and photos that connect one's self to society, culture, or history. For example, Clark-Ibáñez (2004) multiple-applied the three uses in a single roll, as a child in her study took photos of her refrigerator and Barbie dolls (inventory), her after-school program building (institution), and self- portraits and sisters (social). As a consequence, visual methodologies can be seen to provide a more 'authentic' perspective compared to more conventional research methods (Clark & Morriss, 2017:37).

Suchar's photographs elicited refurbishing and redecorating by residents, and ways of using and occupying space. Furthermore, photo-elicitation was seen as an appropriate method for researching the use of space, ideas of homes, and day routines (Heath & Cleaver, 2004; Radley, 2005; Bridge, 2013), asking participants to visually represent their experiences of living. The types of images used include photographs, paintings, and sketches, among others (Wang & Burris, 1994). Photo-elicitation was adopted for this study to produce different kinds of perspectives and to evoke information, feelings, and meanings that are due to the photograph's particular form of representation. Furthermore, the photo-elicitation exercise was intended to act as a motivation for discussion and prepare the participants for the upcoming group interview.

4.4.6 Space Syntax: architectural qualitative approach

As this study attempts to understand the physical layout in relation to socio-cultural context, syntax theory seems to have much to offer. According to Hillier's theory, the concern is the space rather than the form, style, or shape. Moreover, it is concerned about the understanding, evaluating, and analysing spatial relationships. Space syntax is defined as a set of techniques for the representation and interpretation of spatial configuration in the urban built form (Hillier and Hanson, 1984).

Studies on the spatial-organization of vernacular houses (most notably those of AlBahar, 1990; Khattab, 2005; Al-Sayyed, 2012) reveal that social values embedded in the

built form can be retrieved in a very powerful way by utilising what is defined as socio-spatial analysis, which could be found when a consistent pattern happens with a sample. Spatial organisation can also be analysed in terms of gender and function because in order to analyse the structure of the house it is not enough to identify the spatial distribution. However, it should be analysed once as spatial structure, and again as a spatial-functional structure based on gender domains, and the relation within the house between inhabitants and guests (Al-Sayyed, 2012).

Space Syntax theory provides strong interesting results when integrated with social and cultural data to interpret such meanings/values/beliefs embedded in the spatial-structure and its users (Khattab, 2005). Differences found in spatial and representational forms between traditional and modern houses in Kuwait are reflections of underlying socio-cultural forms in both societies (traditional and modern), in terms of differential gender factors. Such a social change happened at a much more rapid speed than the change in spatial structure in the modern society expressed by house spatial layouts (Al-Bahar, 1990).

In this study, spatial patterns of selected samples of houses (traditional layout and modern layout) have been subjected to analysis by means of space syntax, to extract hidden social aspects, for example, access control, hierarchy of spaces, and patriarchy of spaces/gendered-roles. Unlike Al-Bahar (1990) the use of 'Space Syntax' in this study is intended to unveil the persistence/continuity in the traditional patterns of socio-cultural values and space use, though the changes in spatial structure.

4.4.7 Documentary and local socio-cultural sources

According to Yin (2013) documents and records are good sources of data and information, which can provide ideas about significant questions and also give basic information about field activities or subjects. The documents serve to corroborate evidence from other sources and provide specific details that can support the verbal accounts of the informants. These are useful for drawing conclusions about events (Tellis, 1997). In this study, the researcher sought out documents from numerous sources that provided valuable information on housing developments in relation to the traditional and modern context. This technique was used to understand how processes of transformation in housing development/housing policy have taken place in Tripoli over time and space. Emphasis was

placed on scholarly publications and government documents and records (Table 4.2). Further to this, local materials concerned with the consumption, lifestyles and space use within courtyard-housing were also sought. This data was obtained by accessing local archival data, from libraries, magazines, and newspapers to illustrate this context.

Table 4.2: Key document sources from Tripoli

Sources	Documents
Ministry of Housing & Utilities	Housing programmes' reports
Department of Architecture & Town Planning, University of Tripoli	Academic theses and schemes' plans
Authority of Urban Planning	Reports, urban planning criteria, housing design criteria
Authority of the Agency for the Management of Historic cities, Medina	Maps and photographs
The Engineering Consulting Office for Utilities ECOU	Urban and architectural reports
Academy of postgraduate studies	Theses and articles

4.4.8 Sampling techniques for the methods used

According to May (2001), the creation of the **questionnaire survey** is based on designing, piloting, distributing, and collecting the sample (Table 4.3). The choice of sampling technique depends on the cost and the degree of accuracy required in the study (May, 2001). In this study, however, sampling was based on: the domestic conditions of Libya; avoiding a biased sample; and the time available for the survey. Several methods of sampling were adopted: the probability/simple/stratified random sampling, non-probability purposive sampling and snowball sampling (May, 2001).

In this study, self-administered questionnaires were used for self-completion by residents. This was based on the principles of random sampling to select respondents with this method, any household within the three schemes had an equal chance of being selected for participation. The key reason was to gain a better understanding of the courtyard housing concept in Tripoli. It was essential to generalise the sample by giving an opportunity for any household or individual to participate in the survey. The diversity of ages and level of education of the participants was taken into consideration. This plays an important role in ensuring that contextual data was achieved.

Table 4.3: Questionnaire survey administration

Questionnaire samples 350			
Case Study	Traditional CYH Medina 1200 units	Collective Housing Ka-zalanges 84 units	Collective Housing Al-Ghadamsi 12 units
Distributed questionnaires	240	70	12
Collected	150	60	12
Percentage completed	63%	85%	100%
Overall percentage	Completed questionnaires 222		

The snowball sampling method was used to select individuals for **interviews**. The selection of respondents was based on choosing one respondent as a starting point and then asking him/her to recommend other suitable respondents. This method has proven useful especially when interviewing professionals/architects. Applying this sampling frame enabled the researcher to focus on those who had considerable experience or a close interest in the research topic.

A non-probability purposive sampling technique was adopted in selecting the people for the **focus-groups/photo-elicitation** sessions. All participants were purposively selected to reveal patterns of perspectives concerning the explored issues. Purposive sampling may be used where the researcher intends to select participants who have experience about the central phenomenon or key concept being explored (Creswell, 2012). Further to this, the purposive sampling technique may be adopted when the researcher intends to group participants according to preselected criteria (Flick, 2009). All the participants had different social, experience and education backgrounds, and their ages are varied (Tables 4.4, 4.5, 4.6 & 4.7). The preselection criteria for this study were based on the people who experience living in courtyard housing to explore the concrete reality of the residents, the professionals (i.e. housing policy makers/developers) concerned with the housing development, and those concerned with design, form function and architectural identity (i.e. architects/urban-planners).

Table 4.4: Interviews conducted: Residents

interviewees	Gender	Age	Location
SH	Female	35	Medina
MO	Female	65	Medina
AE	Male	66	Medina
FD	Female	50	Medina
AA	Male	56	Medina
SL	Female	33	Ka-Zalanges
FS	Female	40	Ka-Zalanges
MA	Female	55	Ka-Zalanges
MT	Male	60	Ka-Zalanges
TF	Female	37	Ka-Zalanges
GH	Male	39	Al-Ghadamsi
KH	Male	60	Al-Ghadamsi
MO	Female	34	Al-Ghadamsi
NJ	Female	40	Al-Ghadamsi
JA	Female	35	Al-Ghadamsi
Total: 15 interviews			

Table 4.5: Interviews conducted: Key professionals and Architects

interviewees	Gender	Position	Organisation
AM	Male	Senior lecturers Architect & urban planner	Department of Architecture & Planning University of Tripoli
MW	Male	Senior lecturers Architect & urban planner	Department of Architecture & Planning University of Tripoli
JA	Male	architectural researcher	Private office
BS	Female	Architect	Authority of management of historic cities Medina -AMHC
AD	Female	Architect	Authority of management of historic cities Medina -AMHC
FM	Male	Architect	Authority of management of historic cities Medina -AMHC
MS	Female	Architect	Engineering Consulting Office for Utilities-ECOUCO
ZA	Male	Architect	Engineering Consulting Office for Utilities-ECOUCO
FS	Male	Architect	Engineering Consulting Office for Utilities-ECOUCO
TF	Male	Housing policy manager	Ministry of Housing & Utilities
MF	Male	Urban planner	Authority of Urban Planning
AB	Male	Urban planner	Authority of Urban Planning
AS	Male	Housing policy manager	Ministry of Housing & Utilities
Total 13 interviews			

Table 4.6: Focus group: Architects

Initials	Gender	Position	Institution
JA	Male	Private designer and consultant	Private office: architectural researcher
AM	Male	Architect and senior lecturer	Department of Architecture & Planning University of Tripoli
BS	Female	Architect	AMHC, Medina of Tripoli
NR	Female	Senior architect	Department of Architecture & Planning University of Tripoli
AE	Male	Urban planner	Planning Authority
session venue: Architect JA office			
Session duration: 2 hours			
Time & date: 22/08/2012 4pm to 6pm			
Moderator: Author			

Table 4.7: Focus group: Residents

Members of focus group	GE	NM	EA	TB	HS	KN	ZM
CYH scheme	Medina	Ka-Zalanges	Al-Ghadamsi	Medina	Ka-Zalanges	Al-Ghadamsi	Medina
CYH Type	Traditional CYH	Shared CYH residential cluster	Shared CYH residential cluster	Traditional CYH. Multi-family occupied	Shared CYH residential cluster	Shared CYH residential cluster	Traditional CYH
Gender	Female	Female	Female	Female	Female	Female	Female
Age	69	35	40	27	39	45	50
Marital status	Widow	Married	Married	Married	Married	Married	Married
Location	Elghizawi'a house/GE Bab El-baher neighbourhood-The Medina						
Time	4:00 pm to 6:00pm						
Moderator	Author						

Another consideration was the relevance of the organisation and/or participants to a particular research objective and question (context). Seven females were selected for the residents' group discussion from the three case study areas, and the majority of the individual interview participants as well as the photo-elicitation session were female. In Arab society (as a gender-segregated), the family organisation seemed the most accessible for a female researcher, the selection of female participants in relation to home became a focus. This, in turn, provides a vital contextual account. The positionality and the role of the researcher as an Arab female/ insider, as discussed above (see Sec.4.3.1 &4.3.2), run through all the thesis

and all the specific contributions to knowledge. Five architects and urban planners with different levels of experience and background took part in the group discussion. The purpose was to gain insights into their conceptions about courtyard housing in Libya in the light of Lefebvre's (1972) different levels of social reality.

In this study, **photo-elicitation** offers a means for grounding socio-cultural dimensions in terms of the reality/subjective interpretations of culture users. Other studies (e.g. Collier, 1967; Harper, 2002; Clark-Ibáñez, 2004; Dockett et al., 2017; Clark and Morriss, 2017) that make use visual research as a particular way of experiencing, expressing, sensing and of course, seeing social work worlds. For example, what insights can be revealed from adopting this approach; how is it being used; what claims are being made of the approach and the data. Dockett *et al.*, (2017:235) suggest that the social and cultural contexts in which research occurs help define the audience. The social and cultural context of the audience also shapes the images that are shared.

For example, 'some journals have clear guidelines about what types of images will be reproduced in an article, and researchers choose which images to use in presentations' – often considering the audience. visual methodologies can be seen to provide insight into difficult, emotional or otherwise sensitive issues and experiences. This is particularly important for some of the topics addressed by social work research. For some, this allows researchers to not only understand but also empathise with participants (e.g. Clark and Morriss, 2017:36). This may be because such issues are difficult to articulate, or because at least in the case of elicitation techniques, the visual can provide an apparently 'neutral' – or at least somewhat displaced – element around which to formulate and advance discussion, acting as a kind of 'third object' around which participants and researchers can focus.

Using the photo-elicitation interviews alone or with other qualitative methodologies such as interviews or participant observations can illuminate dynamics and insights not otherwise found through other methodological approaches. In addition, the photo-elicitation empowers the interviewees to teach the researcher about aspects of their social world otherwise ignored or taken for granted. For example, Clark-Ibáñez, (2004), conducted interviews with children in South Central Los Angeles, California, she found that the data generated from photo-elicitation-interviews went beyond the normal scope of that generated in regular words-alone interviews. She also pointed out that not everyone has the sensitivity

involved with the photo-elicitation, especially when involved with children's pace, style, and playfulness. When he introduced the photo-elicitation method, Collier (1967:51) wrote, 'no type of fieldwork requires better rapport than an intimate photographic account of family culture'.

Photo-elicitation mines deeper shafts into a different part of human consciousness than do words-alone interviews. When conducting photo-elicitation interviews, researchers introduce photographs into the interview context. Photographs appear to capture the impossible: a 'person gone; an event past'. That 'extraordinary sense of seeming to retrieve something that has disappeared belongs alone to the photograph', and it leads to deep and interesting talk (Harper, 2002:23). However, photo elicitation is a complex method, requiring us all to adopt a reflexive stance as we examine its benefits and limitations. To do this, we need to look beyond the photograph or the narrative that accompanies it, to consider how each contributes to complex, multi-layered data and to examine how and why such data were produced (Dockett *et al.*, 2017).

At the core of this socio-cultural study is the interpretation of signs. I interviewed, such as female-participants about the meaning of home to show how their homes are perceived and valued at interpreting their messages. These insights were understood theoretically, that is, as indicators of the shifts and/or continuity in cultural values and home-use of socially meaningful messages. photo-elicitation focused on the meaning of home and local culture. The researcher discusses photographs of participants, using their homes for their daily routine of activities. Interviews, therefore, inspire subjects to define how they interpret the events illustrated/captured that facilitate asking respondents questions. It is most remarkable how investigations of local culture have used photo-elicitation, 'an obvious choice for circumstances in which the local cultures have a distinctive visual character' (Harper, 2002:20).

For a more inductive research approach, researchers ask their interview participants to take their own photos to be used later as interview stimuli (photo-elicitation) (Clark-Ibáñez, 2004). This is the approach I used in my research of three courtyard housing schemes in Tripoli. After written instructions have been sent to the residents who participated in the project, I gave residents their disposable cameras (some of them have used their smart devices and/or shared their old photos) as soon as I received their signed permission slips.

Photo-elicitation methodology, alone or supplementing qualitative methodologies, can be used with almost any topic and produce rich data (Clark-Ibáñez, 2004).

Residents mostly took photos of homes/people/social-gathering or things with social attachments and meaning. For the interviewees, photographs seemed to allow them to reflect on related but indirect associations with the photographs themselves. In focus-groups, photographs served to illustrate multiple meanings for the participants and sometimes revealed tensions among the participants, and importantly between female focus-group and Space-Syntax/ socio-spatial analysis (negative/patriarchy side of home). For example, the focus-groups served two important functions. First, it revealed that the residents' photographs are varied— capable of generating multiple meanings in the viewing process. Second, the photographs triggered discussions and revealed contrasts and tensions among (e.g. the viewers, tradition and modernity trends) and other qualitative methods. However, photographs generated data that illuminate a subject invisible to the researcher but apparent to the interviewee.

There are **challenges** to the researcher, using photo-elicitation, for example, for interviewees, the addition of photographs may mean an additional way of domesticity/privacy than regular face-to-face interviews, which may make it harder for the researcher to obtain permission or recruit interviewees. The financial cost, distribution and retrieval of cameras, and time spent producing the photographs and conducting the interview was expensive for the researcher. In terms of data **analysis**, photo-elicitation also presents a challenge of coding both words and images. Analysis was difficult when shifts through the data from (e.g. focus-groups) who viewed and referred to multiple photographs. Respondents were talking simultaneously, it was hard to identify which individuals are talking, or conversation may significantly shift themes.

Challenges were addressed by realising their effects on the research and respondents. Respondents' photographs reveal more reflexive aspects of what home mean, space use and gender. Residents showed me their photos of the objects/attachments meaningful to them, and dimensions of the social of the Libyan family (e.g. the tea-set, *Dar El-Maqaad*, *El-Marbouah*, inner courtyard, women space). These auto-driven photographs showed that residents' interpretation of the concrete reality. Moreover, a gender-differentiation in the position from which the photos were taken. More females take photos of (e.g. the outside

from inside, their inner domain) compared to males. Also, males are more likely to be outside the home than females are.

In terms of **Space syntax** analysis based on justified permeability graphs, floor plans are the basic source of information. The relevance of symmetry/asymmetry to what this analysis tests therefore is the issue of the access-control over home spaces in relation to gendered roles/spaces and privacy. Each sample selected was redrawn by the researcher, using the original floor plans. The first step was to provide a convex analysis of each house, by breaking and numbering their spaces of series numbers of 'convex spaces'. All spaces were numbered, from least and largest number, in relation to main distributing space, such as main entrance/lobby/courtyard. Then, translating the convex analysis into permeability graphs drawn for each house plan, identifying the integrated and segregated spaces 'cells' in each house.

4.4.9 The analytical approach

The approach to data analysis directly responds to the questions/objectives and methods of the study. For the questionnaire survey, there were three question types; for the closed and open-ended questions qualitative coding through thematic analysis was used. For the Likert scale questions, a quantitative statistical analysis was conducted; Excel software was used to process and analyse the data. Beyond discussing the use of software in qualitative data analysis, Tesch (2013:17-25), identifies three basic qualitative analysis orientations: the 'language-oriented', concerned with the use of language/meaning of words and people communications; the 'descriptive/interpretive' approaches, concerned with descriptions and interpretations of the social phenomena, including their meaning to those who experience it; and the 'theory-building' approaches which aim to identify the connections between social phenomena through which the events/places are structured/influenced by social actors.

Other studies, defined qualitative analytic methods as divided into two approaches: the first, there are those stemming from a particular theoretical or epistemological position i.e. 'grounded theory' or 'narrative analysis'; and the second, methods that are more independent of theory and epistemology, i.e. studies guided by either realist or constructionist paradigms (Murray, 2003; Dey, 2003). According to Braun & Clarke (2006), thematic analysis is a

qualitative analytic method for identifying, analysing and reporting patterns/themes/categories within data. It organises and describes the data in rich detail. However, frequently it goes further than this, and interprets various aspects of the research topic. While such classifications are contestable, they are still capture the various qualitative data strategies used to describe, interpret or explain social action, culture and socio-spatial processes, with an emphasis on the meaningful character of social phenomena and the researcher's influence. The qualitative data analysis strategy used in this case study, combined elements from aforementioned approaches; interpretive and theory-building (i.e. how events are structured or influenced by how social actors perceive situations), using as its main tool, 'thematic analysis'.

Themes, categories, or patterns within data can be identified in qualitative thematic analysis either in an inductive way, a deductive way, a theoretical approach, or a holistic approach. Once themes/patterns have been developed, the researcher can proceed to more integrated interpretations of the key categories which emerge through this process (Kvale & Brinkmann, 2009). This study is based on the theoretical and epistemological assumptions which evolved through a theoretical thematic analysis. Thematic analysis can be used to report participant experiences and meanings, or it can be closer to constructionism, examining the ways in which events, realities, meanings and experiences are the effects of social discourses, uncovering associations and developing theoretical explanations (Tuckett, 2005).

In this study, the analysis started with the text transcriptions by which the key words, phrases and paragraphs relevant to the enquiry are marked and highlighted. Identifying the relevant themes and organising ideas, opinions and experiences into themes by coding scheme, for example (see Fig.4.5). Creating coding categories in which the themes are grouped into subjects under a particular title or heading. Choice quotes are also presented to elucidate common positions, divergent ideas, or to articulate individual experiences of home/use/gender/privacy/shifts in socio-cultural values and so on as a resident or an architect. The findings from the interviews, survey and documentation are used to extend the analysis, argument and discussion presented in the literature chapter. Further explanations of how each method was analysed and reported are presented in the upcoming findings chapters.

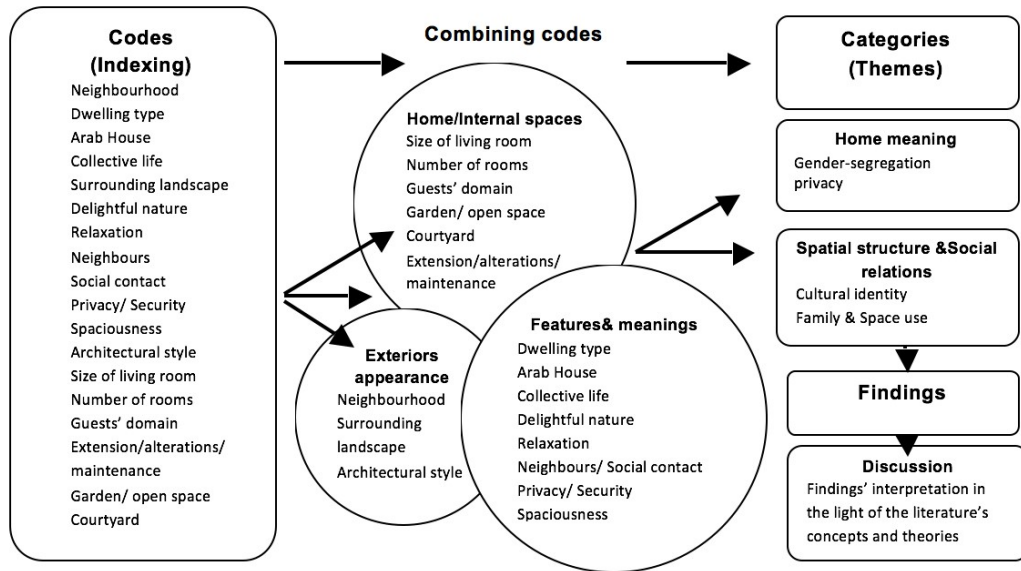


Figure 4.5: The process of qualitative thematic analysis

Source: Author based on Kvale & Brinkmann (2009)

4.5 Ethical considerations

This section reflects on key issues that affected the conduct of the research, including the impact of the civil war on the fieldwork, owing to the 17th Feb. revolution, 2011. Appropriate frameworks were carefully considered to avoid any ethical issues while conducting the research. Measures were adopted and to ensure that when conducting interviews/focus groups and/or collecting questionnaires there was no harm to subjects and no misrepresentation or bias. For interview/focus group purposes, approval was sought from relevant authorities. Having obtained approval from the organisation of interest, a formal request was provided to the representatives of the organisations, seeking consent for the interviews which were recorded on an electronic device.

A consent section was included on the introductory page of the occupants questionnaire. Informed consent of participants was obtained prior to the commencement of questionnaire administration. The documents/reports/maps used in this thesis were acquired from the relevant authorities directly or retrieved from their websites. All data drawn from documents is properly referenced and acknowledged. The photographs/visual-materials that

are illustrated in this thesis were collected directly during the fieldwork and consent was obtained before taking any pictures.

The photographs produced by respondents for photo-elicitation analysis were taken to ensure that all respondents participated voluntarily with their comments/stories on the back of the prints. Moreover, the study was subject to review and approval by the departmental research ethics committee. The fieldwork undertaken by the researcher was consistent with the ethical framework set by Sheffield Hallam University, including a research ethics policy and participants' information sheet which includes sample consent forms. These forms were accompanied by a covering letter written by the researcher, explaining the reasons for carrying out the study, and highlighting the purpose.

The impact of the civil war in Libya on the fieldwork, particularly for the second fieldwork resulted in some obstacles, that faced the researcher in terms of gaining access to the relevant data-sources. As a result of this disruption, some organisations were not functioning properly, also movement within Tripoli was restricted, because of armed clashes that occasionally occurred. Due to the civil war and tense situation, the researcher needed to assess when she could safely visit Tripoli and ensure her personal safety. Finally, the confidentiality and anonymity of the respondents was properly observed during the analysis and the discussion. For the interview responses/focus groups, initials were adopted to represent the names of the respondents. The responses/home-photos of participants were used for the purpose of this research only. Safety and security were fundamental criteria for the researcher.

4.6 Conclusions

The discussion of the ontology and the epistemology explained a range of assumptions on which a research project may be founded. However, the assumptions merely suggest directions in which to see how the world is perceived (the way of framing and understanding social phenomena) rather than providing description of what to seek. Justifying logical methods for data collection and analysis has not only helped in generating relevant, pertinent and interesting data for the thesis, but has enhanced the reliability and validity of the findings. Holding on to ethical guidelines was essential in the conduct of this research. While my positionality has shaped the process of the research, it helped in overcoming difficulties

of identity. The gender of the researcher and the research participants was of particular significance in this study, as the study was conducted in gender-segregated Muslim-society (i.e. addressing these meanings within the users' perspectives, especially the female).

Overall, the argument of this chapter reveals that epistemology influences ontology and vice versa. The chosen methodology also has a reciprocal relationship with ontology and epistemology. For example, relating the integrated theoretical framework of Fathy and Lefebvre's approaches to this research. Notwithstanding the interrelations, it can be observed that: the ontology is based on Fathy's (1973), traditional essentialist view of Arab culture and that Fathy's assumptions are subject to critical examination within this thesis; the epistemology and broad research strategy is based on Lefebvre (1991) and Lefebvre and Boudon (1972) and that this leads the researcher to structure the empirical section of the account through a contrast between different levels of society, notably the levels of ideas and ideology and the concrete reality of residents; and the detailed methodology is influenced by interactionism and social constructivism as represented by the protocols of qualitative grounded theory research (e.g. Corbin and Strauss, 2015), and the perspectives of Western feminist writers (e.g. McDowell, 1983; Smith, 1987; Madigan *et al.*, 1990; Bowlby *et al.*, 1997; Mallett, 2004; Marcus, 2006) whose views are also subject to critical assessment and testing in this account.

Finally, the basic research philosophy is interpretive in the sense that the researcher is working within a circle of ideas that starts and ends with the researcher's position as an Arab women architect, studying her home society, and using a variety of different approaches on a pragmatic basis to deal with different aspects of the research. Taking all the above into account, the researcher is not only working within any single philosophy of research such as constructivism, interpretivism etc. However, weaving together different approaches within a broad framework that is set by her position as a researcher. The two analysis chapters following intend to enable the methodological model to examine how the courtyard house was designed with a gender and lifestyle in mind, particularly in an Arab context.

Chapter 5: The professionals' conceptions of the Libyan homes

5.1 Introduction

The analysis in this chapter corresponds to the abstract level (professionals' theories/perspectives and housing assumptions/ideologies) of the social reality theory. It enables the epistemological frameworks of Lefebvre (1972: 1991), (e.g. the levels of analysis of social reality theory), and the methodological model of Boudon (1972), in terms of the distance/correlation between the architects and workings of government in relation to housing design and the relevance of the user's perspective. The main argument in this chapter is based on the statements/perspectives of the professionals and architects. Major themes emerged from the professionals'/architects focus-group/interviews, and diverse discussions revolving around cultural, architectural/spatial and planning issues. The purpose and focus of this chapter is to identify the conflict between tradition and modernity, modernisation and Westernisation in housing design and space use. This includes the administrative role of government in regulating housing policy and plans and the participation of architects in housing development.

This chapter is structured into two main categories: *theories/perspectives of professionals: issues facing Libyan housing design*, this identifies spatial, use and cultural adaptability considerations, and the shift from tradition to modernity; and *the role of government as an obstacle to the housing innovation programmes*, this draws out the gap between the modernisation and Westernisation and highlights the negligence of the modernised/advantages of courtyard housing. The study involved a focus group with five architects, and an urban planner, and semi-structured interviews with thirteen professionals, including architects, urban planners, and housing policy managers. The study sought to identify key predetermined themes (emerged from data and literature), which based on underlying opinions expressed by individuals.

5.2 Theories/perspectives of professionals: issues facing Libyan housing design

The main argument in this section, from the architects' perspective is that appropriate housing layout design is achieved when cultural values are adequately represented. In other words, the internal layout needs to draw adequate attention to space use which reflects and presents local cultural values. However, internal contradictions were evident within the

abstract level of professionals' theories and government ideologies, which indicate the role of the government and specifically its lack of vision regarding the current design/architecture/function of housing in Tripoli. Culture was not only the most discussed but was also mentioned in many views by architects.

5.2.1 Cultural identity

As previously illustrated (Fig.1.3), the changes in the society are physically expressed in the buildings. Libyan society has witnessed different modes of social space production (i.e. traditional forms of production; colonial/Western forms of production; petroleum-based society; and boom society). Social structure, family, and gender, however, are bound to the social norms, religious and cultural values. These values can be seen as modifying factors to create a system of spatial organisation. This, in turn, identifies the conflicts between tradition and modernity in relation to the use of the social space as the architects commented:

“In the modern movement, I would use something to express myself...culture is number one...how we want to express our culture. The house was sustainable [indigenous forms] ...what they are doing now in housing design is not that and in the future we are going to lose more of our identity”

“Culture came from the needs of the people in their houses in past times. Now people have different needs but some of them are the same like they still have *Marbouahs* [male guests' room] that have some cultural aspects but at the same time how they use the space [forms of consumption] in the modern homes”

They supported the ontology of some previous social theories (e.g. Fathy & Rappaport) that are critical of the Westernisation/modernisation forces, which undermine the indigenous forms and culture:

“...Social aspects are very important...if we are just saying identity we may not see the other aspects of it like functionality...Social and behavioural aspects...I would look at, for example, H. Fathy and A. Rappaport models and how they analyse culture because they address it through identity, social values...”

Architects also recognised the importance of the traditional house and how it socially and environmentally played an important role in terms of lifestyles:

“In my view, there is ambiguous information in the debates about the appropriateness of traditional courtyard houses...socio-cultural and environmental factors...when we talk about the past, we say that this form was environmentally and socially appropriate...when we talk about the ‘past’ and ‘now’, social, lifestyle, and environmental aspects have radically changed, so the traditional house is no longer appropriate nowadays...traditions, socio-cultural and lifestyle of the Libyan family have not radically changed, and nor have the environment or climate...as this form was fit for living in in the ‘past’, it can also be a satisfactory form of housing for the ‘present’ and ‘future’...”

This implies that there was close interrelation between living in traditional houses and sociocultural aspects. The use of the terms ‘past’ and ‘present’ indicates that the traditional courtyard house’s ‘past’ is still valid for contemporary life’s ‘present’, though, it may have to be adapted for modern domestic technology. The house and user’s living aspects have aged together, but resist change. This statement thus indicates the distinction between Westernisation and modernisation. It does not exclude modernisation of the courtyard house to incorporate modern domestic technology such as a kitchen, bathroom, and air-conditioning. Although the houses have aged, their occupants regard this type of structure as ideal. A fascinating relationship exists between the family-domain and privacy and how it relates to the traditional form. Architects noted:

“The principle idea of the traditional courtyard house, here the traditional *Trabelsi* house [Tripoli house], was based on privacy and suitability, and the key issues that promote the design are privacy, security, and *control of access to spaces*...”

“...even in the modern forms, there’re a lot of windows but they’re screened, like a woman with *veil*...”

Such a focus on privacy was attributed to the need to protect family members’ sanctity, particularly female members and keep them away from strangers’ public gaze. The spatial arrangement of the dwelling can affect family interaction and privacy of individuals as well as dictate space use patterns to family members. Architects asserted that space dimensions and size of a family have bearing on interaction and privacy in relation to family patterns:

“Things are not like they used to be, there is a change in family structure and patterns. Although the extended structure [traditional family] offers many advantages, including stability, coherence, and support, the privacy however of the individual may be affected”

“Nowadays the opportunities with respect to individual freedom offered by a nuclear family structure far outweigh any benefits of living in an extended family, but if we go back to the traditional designs we would have problems with privacy of individuals but I will feel the richness and complexity of living within extended family networks which is more important”

It is important to note that after the oil boom Libyan society underwent a dramatic transformation creating a kind of tension between current and past cultural and social practices. For example, today some family gatherings have two forms; they either socialise together or have some sort of gender segregation. In the past, men and women in larger families would usually socialise and have lunch separately as acknowledged:

“past culture is more tradition and norms than religion...Today for family gatherings there are temptations to embrace modernity in terms of growth of *gender privacy/segregation*. For me in part of my family we sit together and then for other gatherings [having guests] we sit *separately*”

However, the rigour of this division in the domestic space varies between rural and urban locales, but it is prominent in all Arab countries. In Libya, the interaction between women and men from the non-mahram/non-kinship is restricted in public as well as within the home domestic space. Such a social pattern which promotes gender-segregation and space access control. This was acknowledged by architects:

“A major characteristic in the Libyan home is that there’s separation between the family living quarters and the space allocated to male guests—*El-Marbouah*. Male guests are entertained away from the centre of the home, while female guests are entertained in a *special room inside the home*. When such female guests are present, *the males’ movement is restricted* while women have full freedom”

These two statements reveal that physical separation with regard to gender and privacy of the family and visitors imply deep understandings of the persistence in religions and cultural values. This is another illustration of the conflicts between tradition and modernity.

5.2.2 Spatial configuration: form and function

Another theme closely related to culture and society is how people perceive the space in Libyan house architecture. One significant point made by architects and planners is that today unlike in the past, the significance of space use flexibility/cultural adaptability, privacy, and gender-segregation in modern Libyan homes are hardly maintained as anchors for religious/identity/culture. Space is usually associated with people's strong demand for amenities/adaptability that for them are considered as requirements for modern life/society. Maintaining these anchors, however, seems to make it possible for Libyans to embrace modernity and at the same time resist change to the fundamental cultural values encoded in Arab-Muslim homes.

The physical form of the courtyard-house in Tripoli seems to be regarded as having vanished, although the architects suggest an increased interest in this form for Libyan homes' design. Their views show rehabilitating features used in the spatial-structure of the traditional models. Different types of housing form have been developed in Tripoli over time (see Sec.3.4.3). These changes influence the socio-cultural values to adhere to contemporary principles of home design. Architects understood that housing forms have always been based on needs and in order to meet these needs, people face alterations to the arrangement of their homes, such as homes introduced during the Italian-colonial-1930s, and then during the independence-1960s. The latter was publicly provided, known as courtyard-house/Arabic-house/town-house, as it was developed in line with the traditional courtyard houses of the Medina:

“...the Italian house was not preferred by the Libyan family because of its spatial-structure. Public-houses/Arabic-houses/courtyard-houses covering an area of 120m² to 144m² were found in Ras-hassan, Gourje, Tareg-elmatar, Elhadba-elkhadra, Elderaybe, Fashloun, and Adou-sleem [Arabic-house districts]. This form was adopted and altered by the occupants...this type was used from the 1950s to the 1980s, it was capable to alter and extend by users”

Architects stressed that people today demand more space, and the use of space in Libyan houses has evolved to adapt to various social, economic, and political changes over time. The following quotation describes architects' understandings of how these changes directed people's desire for more space/alterations:

“Current houses are a mixture of different representations of identity, the house is more of a sign of status than a functional space for personal comfort...for example, extensions/additional floors as family member increase, or to be rented out”

There is a desire to not always express the user's needs and comfort, but rather to meet societal perceptions of what one should have in one's house i.e. to meet modern requirements and contemporary living standards. The town-house/Arabic-house/public-house, for example, was converted by users. Architects claimed that alterations have been made with minimal intervention by the planning authority:

“...lack of planning laws and regulations...allowed people to exceed the limit of the conversions, for example, the users thought how to change their homes... a family home surrounded by open space, this open space gradually disappeared to build up floors for the extended family, convert the garage into a shop and build extra shops overlooking the main street [socio-economic motives]...this was irrational thought... transforming the property to a multi-story house [container] that will, in their opinion, guarantee them a comfortable life...”

The response of the architect was supported with a sketch (Fig.5.1), illustrating the transformation carried out by occupants:

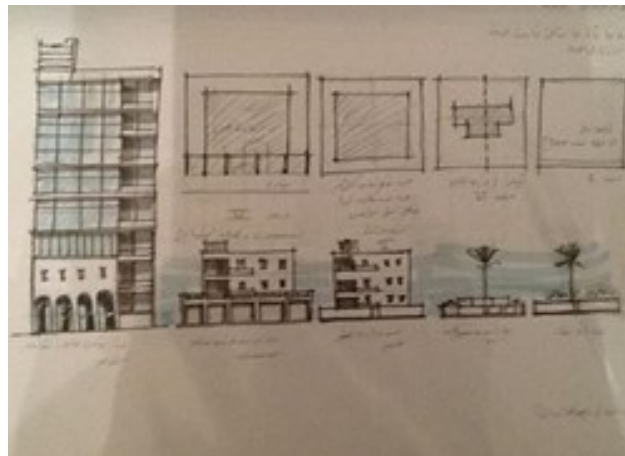


Figure 5.1: The typical transformation in the physical form of the Libyan homes

Source: A.B. Focus-Group

This indicates that people tend to have more internal space, and therefore, there may be no room for the external space/open domestic space i.e. the courtyard. This may also suggest something about what kind of domestic space is valued by contemporary society (Fig.5.2). The

courtyard provides more space, but maybe not the kind of space that is desired. The analysis's second follow-up stage explores these relations to further understand the space use in relation privacy and gender.

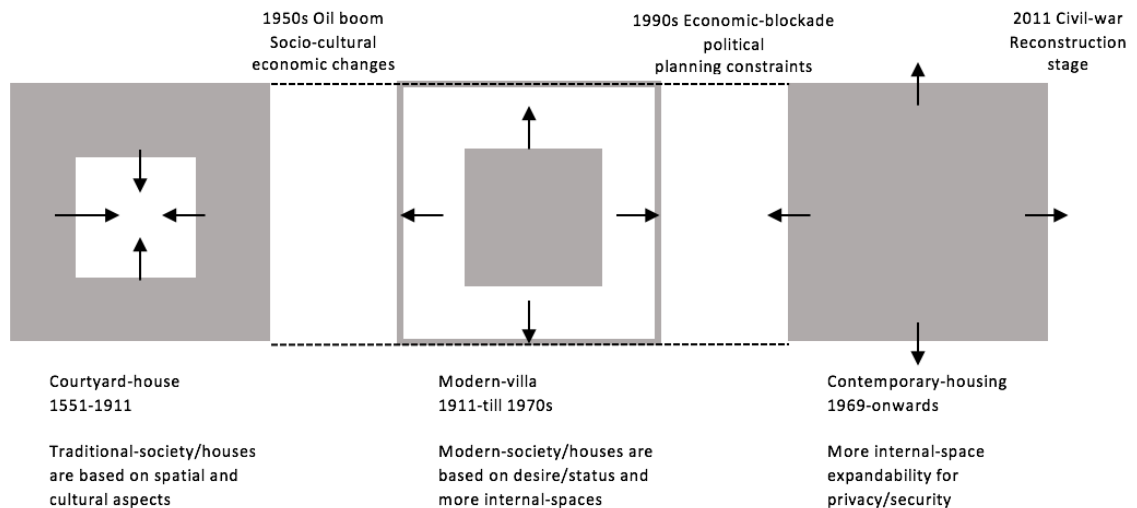


Figure 5.2: The relation between the spatial organisation/housing form and socio-cultural, economic and political realities in Libya

Source: Author

The concept of the courtyard-house was evident through the architects' observations as well as in their designs and proposals. Key conceptions highlighted by the architects of how cultural, religious and environmental values are resistant to change in relation to people's understandings towards their homes. One architect suggested the need for precedent forms; an example of how traditional vernacular elements may be assimilated and/or employed in contemporary houses:

“...the idea of proposing a new home layout need not apply the exact layout of the traditional courtyard house where the courtyard is positioned in the centre...the courtyard-house can be developed, without having to impose the old because of the requirements of the modern life...understanding...user needs for privacy, providing private open-space for natural light and air/courtyard with flexible access to other home spaces...”

Another architect noted the future potential of placing the courtyard within the home layout as a private/domestic open-space and its responsive role in the return to collective life:

“...in terms of creating desirable residential environments, a courtyard can be developed and placed within contemporary houses...the collective life around the inner-courtyard is one of the key planning and social constituents of the Arab society, where the courtyard provides flexible usage, a buffer zone between the private and semi-private domain within the house, and promotes privacy...”

5.2.3 The role of Fathy’s approach in modernising the Arab house

Based on the structural mass of indigenous buildings, Fathy incorporated traditional courtyard forms to provide a cultural identity to the vernacular environment (see Sec.3.5). It is a prescriptive approach, asserting how Arab cities and Arab buildings ought to develop. As part of this, Fathy favours traditional dwelling forms, notably the courtyard-house. The relevance is the cultural adaptability, women space, privacy and gender relations within the traditional Arab house, and how it can be justified as an alternative modernism. However, the experiences of the architects confirmed a lot of issues that constrain the adoption of Fathy's ideas in Tripoli:

“As a vernacular architect, Fathy offers the basis of the Arab house design from the perspective of cultural inheritance within modernism, or rather colonial modernism...nevertheless, his ideas have not been applied in Tripoli...he relied on certain construction techniques, using local building materials...but...in my opinion, he was always creative...”

“His ideas were raised for discussion, particularly when he considers the house as a place for cultural succour...he appropriated the spatiality of the Arab house as a response to the environment, climate, and culture...these concepts were taken into account within the architects’ debates but they were not applied in relation to his techniques for using local building material i.e. mud...but his works showed that he was a pioneer concerning the spatial structure of the Arab house in a period of housing transformation...”

These responses confirm that the most important contribution of Fathy to twentieth century Arab housing architecture probably lies in his commitment to regionalism. Vernacular ideals and values, therefore, were to prove fundamental to Fathy, who sought more direct confrontation with modernism, and emphasised the cultural continuity of Arab physical environment and identity. Most importantly, the notion of

the Arab-Muslim home as a domain of the woman, which is strongly held by Fathy's ideas, is evident within the architects' observations:

“...Privacy and religious considerations have always been taken into account in traditional Libyan homes. This reflects people's lifestyle and values. Being respectful of Islamic religious values has influenced architecture in Arab countries as well as the use of space...The physical form of the traditional homes reflects the privacy concept, like a woman with a *veil*, she can see but cannot be seen”

There is no permeability or internal link between the centre of the house (woman domain) and the male domain (male social room):

“...there's separation between the family living domain and the spaces allocated to male guests...”

Such separation, also implies that gender relations are controlled. The interior of the family home is, thus, regarded as the most private part of the domestic space, which symbolises the women. Yet, in respect to local environment and regional culture/traditions, Fathy's ideas may partially be applied, this view was expressed:

“I have used his ideas as a narrative context, but not as a reference, although his work emphasised the Islamic-identity of the Arab...however, the Libyan architect sees that every environment has its own culture that differs from one region to another...in fact, Arabs share a religion and culture, but every society has its own customs and traditions...it depends on the nature of the environment...in my opinion, the architecture of Fathy is 'Nubian' architecture to be placed in 'Nubia' [a region along the river Nile, located in northern Sudan/southern Egypt]...so the environment is a factor which makes the architecture differ from one place to another and obstructs its application because of the character...in general, the Arab house shared the privacy and gender-segregation values of the Islamic-Arab house”

This response reveals the tendency of the architects to reconsider the socio-cultural values embedded in the Arab home. The next section observes their conceptions of the spatial-structure and cultural adaptability of the Libyan homes. The response also suggests that government ideology deals separately with the empirical issues of housing design to highlight an internal gap within the theoretical/abstract level at which the professionals'/architects theories should emerge:

“...there was a lack of the urban and planning process...the main implication of that is environmental and cultural considerations for the proposed housing schemes over the last fifty years...this process was only concerned about the quantity rather than quality production...using/imposing foreign staff with scant regard to the socio-cultural context...inability of local staff [architects/planners] to participate in the development process...”

5.2.4 The Libyan home: spatial restructuring, space use and cultural adaptability

The following responses reveal the tendency of the architects to conceive the domestic spaces of the Libyan family home as attached to a private open space. They suggest thoughts about, and plans and solutions for the Libyan family home in a flexible way in terms of space-use and lifestyle. The typical layout of the Libyan family house includes: a male reception, women’s reception; guests’ toilet; living room; kitchen (includes storage area); bedrooms; toilet; bathroom; and garden/courtyard/patio/veranda. Architects claimed that the spatial arrangements of the Libyan house are perceived in relation to usage-flexibility, adaptability and privacy values:

“I live in a house with a central courtyard that allows the house to breathe...if we merely rethink the area of land and the exterior layout in relation to the layout of the streets and car access...we will see a new urban vision of gardens’ houses...and why not? ...”

“...I have proposed layouts that address the concept of reviving the traditional family house as a model of the contemporary Libyan house...my proposal perhaps enriches the discussion of what can be excluded, what can be added, and what can be retained...”

The architect continued, with images to support his opinion about the proposed layout (see Fig.5.3):

“In this house, the central area is considered as a courtyard which has a roof containing skylights to manage changes in the weather in summer and winter. The female reception was omitted, a studio (a quiet area for office work) was added. The living room and male reception overlook the home’s garden. A traditional feature was used to screen the windows [*Mashrabiyya*/wooden lattice] to reduce the sun’s glare and increase privacy”.



Figure 3.5: The use of the traditional courtyard-house features in contemporary housing

Source: B.S. Focus-group

The illustrations of the traditional layout employed in the contemporary homes shows the future intentions and approaches towards the design and use of the Libyan homes:

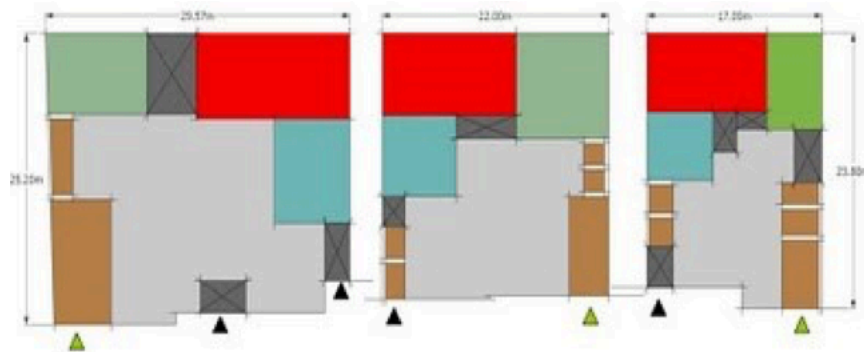
“In this proposal, the house roof was used to add an extra kitchen, room, and toilet...a semi-open space for sitting, roofed with an arbour, was added as well...to maintain privacy, the roof wall was raised up to 1.70 m to increase the flexibility and comfort...”

The experiences of architects confirmed a lot of issues that constrain space design, use and gender:

“The alterations and extensions carried out by the occupants, in most cases, were according to changes in the family structure and its needs, such as a growing family...there is a social aspect to the Libyan house structure which is the guests’ area...in the typical Libyan house, guests occupy their domain even if they aren’t present. Half of the house’s area is devoted to entertaining guests...to be used only for guests. From the social perspective, the Libyan family preferred not to be encroached on by others, especially their private living domain...”

One architect developed three models of urban homes in different sizes according to family size (Fig.5.4):

“The proposed urban homes provide a functional efficiency in terms of spatial structure and privacy. The position of the courtyard in different corners of the house offers flexibility, to avoid crossing the courtyard when moving between house spaces during wet weather in winter or hot summer. This design provides flexibility regarding using the courtyard beside the privacy needed”.



Spaces key:

Blue: Courtyard Brown: Exterior access Green: Garden
Red: Guest room Black: Roof access Grey: Other spaces

Figure 5.4: The proposed design for the Libyan family home

Source: J.A. Focus-group

These statements reveal the architects’ experimentations/innovation in housing design, rehabilitating the features of the traditional courtyard house in a contemporary context. The architects reconsidered the spatial structure of the ‘Libyan-house’ for the Libyan-Muslim family, and favoured courtyard-house design values that are missing in today’s housing designs. Their responses also confirm that the original layout of the modern-house allows its users to make alterations to make their houses become more private. Hence, these suggested ideas (what spaces can be added, omitted, or retained) by architects can be promoted/justified. One of the traditional features appropriately used by the traditional Libyan family, for example, is the courtyard and *Elsida* (Fig.5.5) in enhancing usage flexibility:

“In my opinion, the different areas of the Libyan house are often large, especially the bedrooms and kitchen...any extra area can be minimised to be added to other necessary spaces, for example, guest spaces for sleeping but not as a separate room, which can be included in the male reception room as an *Elsida*, the female reception room can be excluded and the user can benefit from expanding the living and dining area, so the female reception room becomes integrated with the living room with *Elsida* added for female guests to sleep in...also the courtyard can be placed within the internal home spaces as a private open space for leisure and domestic use...”

The *Elsida* is a mezzanine sleeping and storage area, perceived as a space which was an ideal solution for small areas. The users can accommodate a built-in wardrobe to provide flexible use of space, as well as flexible use of furnishing.



Figure 5.5: The use of *Elsida* in the living room: Traditional courtyard-house

Elsida: as a furnishing element

Source: J.A. Focus-group

This traditional feature is contained within the main living area, which is used for female-guests as well. This concept indicates the importance and centrality of women within the Arab-Muslim home. The architects see and conceive this relation as the connection between the abstraction and reality of space use and users. This connection within space consists of different dimensions: structural, functional and architectural/physical/form which shape different relations in space in different socio-cultural contexts. This also suggest that a deep understanding of space is reached between the architects and the users because the layout/design is seen as the effect of the actual space-used and vice versa. Further to this, the architects add:

“...for the Libyan house to be a well-planned contemporary conception, we might need to apply the following spaces: create a space for children to read, work, and play (small library); define a quiet space for praying and reading the Quran (developing religious practice); place a courtyard within the home spaces (green, natural light, airy) ...Promoting these spaces within the spatial structure sustains the cultural, religious, and social behaviour motives of the family...”

“...added to this, minimizing the wasted area, avoiding using levels and stairs which would lead to multi-spaces because the family pattern has changed from the extended to the nuclear family...a client agreed to omit the female reception room from the layout plan, and integrate the space with the living and dining area...”

“...In the Libyan house, spaces were not taken into account within the design process or even within the conversion plans of the users, perhaps a small space for praying, a space to accommodate a small office and library for quiet work...spaces to be retained, the courtyard, private back garden...will also maintain the privacy over the guests’ domain and sleeping area...”

Design considerations involve the control of the family/women’s domain through the privacy level and gender-segregation. for example, combining the female reception with the living area was found to be undesirable as a result of the social norms:

“I don’t think that Libyan women like their living room, where the place is in use by family members and/or sometimes is messed up...being observed by strangers/guests...it is a family domain, where the family socially interacts in private...as far as I know, people will always make changes...because no matter who moves in, they won’t like things the way they are...every new owner who moves in changes something or rebuilds according to their desire...”

Some of the architects clearly appreciate the changes made. These were perceived and justified because space needs to change as living aspects/behavioural patterns change:

“If the home spaces were not changed over time, they would become aged and dead...spiritless, because living aspects change...so spaces that allow users to apply their personal taste according to their activities will bring pleasure to users, and a sense of being at home...”

Architects’ responses also placed functional features within home-spaces in order to achieve the flexible use of space and furniture:

“Solutions were developed for certain spaces in the house to define their function, by using the flexibility in furniture organisation...so users can efficiently benefit from space usage, and the furniture can be employed to define the space and its function...for example the use of wall storage, built-in corner seating with storage underneath, and the use of buffer zones in the house for storage...also, the unused

under stairs space can be employed for built-in shelves [home library]”

“Of course, instead of closed and unused spaces unless we have guests, we can re-employ these spaces by using furnishing elements so the users can use the space well (enrich and animate space) especially in the kitchen and living room...”

Some perspectives advanced the environmental and social values, using the private domestic open space in the house for multipurpose:

“...The space efficiency depends on the amount of light streaming into it...the bedroom is a space of limited use, whereas the living and dining area, guests’ area, and private open space are used much more frequently...”

“There was a new concept in relation to considering the significance of the courtyard as a special feature to be added with some modifications by using *Elfinar* [skylights] in the central courtyard house...as a source of natural light and ventilation...this idea has been applied in the proposed designs and was well liked”.

However, the conversions made to the courtyard were perhaps not justified, where the courtyard was roofed with a skylight *Elfinar*. These changes to the courtyard concept might affect its functional, environmental and aesthetic aspects:

“The secret of the good spaces is the natural lighting, where pleasure can be brought in...”

“In this sense...the courtyard climate is different from the external weather. Most of the time, the atmosphere inside the courtyard is good and moderate, whereas the weather is relatively warm in the winter and cool in the summer...during the summer, the sun moves constantly to maintain and define the shaded area...the ventilation is lightly flowing...”

Other open spaces in Libyan-homes can be enriched for leisure domestic use instead of being wasted space, such as the house roof which is accessed by a staircase:

“The roof is also amongst the most important components in the house that is widely neglected which should at least be enriched by adding an upper garden for leisure use...especially in houses without a balcony...”

“I consider the exclusion of balconies or verandas from the layout as an advantage rather than a defect...they are wasted spaces...which don’t work...or rather we can say that we couldn’t employ them

properly, so we benefit from using them without causing any disturbance to neighbours or being disturbed by any sights or sounds...”

Other concepts were observed, concerning the use of different kinds of open spaces in the house:

“...regarding the house roof, it is a space with a reasonable area, and shouldn't be excluded from the design thoughts...it could be used as a semi-open space, where it can be easily reached via the living room, accessible staircase, provide it with toilet and small kitchen, and raise the roof wall for privacy...”

The architects placed social values in relation to the changes made by the residents to their homes, in which they reflect cultural identity and religious aspects. One architect sees that the users lack cultural conscious, and this would be tackled by developing some spaces in terms of aesthetic and functional aspects. The absence of cultural consciousness leads to the unfavourable copying of layouts, which is understood as a failure:

“Our Libyan society is often characterised by copying, just like fashion...so it's the architects' role, role of the architectural consciousness and finding the most favourable form which reflects users' identity...reasons behind this unfavourable phenomenon are mainly because of government policy, the architects' role and the authorities of housing and urban planning...these three bodies should be worked together, proposing the ideal model...”

“...the dominant housing forms in present Tripoli (flat/detached/publicly provided), didn't follow the expectations of their users in relation to spatial and functional aspects...”

In general, the architects' responses place the emphasis on the cultural values, privacy, and most importantly the spatial and functional/use aspects. These considerations in the Libyan homes are largely related to the requirement for regional architectural identity. Architects also noted that people are not aware of the advantages of the courtyard house as a consequence of the obstructive role of government in housing design.

5.2.5 Implications: cultural adaptability

The responses of the architects reveal the commonalities and differences in the ways used, by for example Muslims users, to adhere to the anchors of their identity i.e. privacy, modesty, gender-segregation and hospitality. These principles provide architects with a guide that can be drawn upon when dealing with Arab-Muslim clients, and influence the

architectural forms and use of space within the Libyan homes in different ways. Moreover, awareness of the influences of these principles and values on the Muslim-user' perception of home and the use of space is evident in the architects' conceptions.

When assessing the spatial structure of the Libyan homes, architects asserted that the changes carried out within home by users need to be considered: why and what they are for, and the consequences that would be brought out if the individual components that make up the house were analysed in the light of living aspects, for example, corridors, wide windows, verandas and balconies. These features were modified by many occupants, thus, users need to know what spaces can be adapted to their activities that require extra space. And, users need to know what spaces can be omitted, according to what has been changed in their lifestyle (activities and customs that are no longer practised).

The architects' statements suggested that there were some spaces which enhance the private domain in Libyan house, such as the master bedroom (parent's bedroom), boy's bedroom (male), girl's bedroom (female), kitchen, living and dining area. It was suggested that the guest's domain might be divided into two separate rooms according to gender-segregation. Others proposed using one space to welcome both male and female guests but, to avoid gender mixing, different visit times might be arranged. In a flexible way, the kitchen space can be integrated with the living and dining area to provide greater flexibility and comfort for the family. In terms of spaces to be added, reconsidering the concept of the courtyard as a private open space was proposed with various types of spatial structure. A multipurpose space for praying, children activities, and/or a studio/office was also proposed to be added, according to the family's needs.

In summary, the responses were generally focused on space value such as functional, flexible and adaptable issues and were adequately interconnected to the local culture. The lack of focus on concept of family privacy was conflicting in the architects' responses. The research findings showed that the majority of responses were linked to functional, flexible, and adaptable demands in terms of the cultural values in the Libyan society. For example, private spaces were reasonable due to the religious demand and to the structure of the Libyan family; semi-private spaces and semi-public spaces were created in response to the privacy needed between male-guests and the women of the house, and between female guests and the inner family. This type of social/behavioural pattern led the local architects to design two

sections in the house: male guests' reception with toilet, and reception room for females, with living room and kitchen located in the centre of the house.

5.3 The role of government as an obstacle to the housing innovation programmes

Another major theme intensively examined by the architects, planners and housing policy managers, was the role of government and specifically its lack of vision regarding the current design of housing production in Tripoli. When professionals were asked what the problems were facing the contemporary Libyan house, they stated that the government, i.e. the municipality/planning authority is both the problem and may also provide the solution:

“The municipality should have better regulation to begin with. It already produces poor regulations”

“It is a lot of corruption. Some sections shouldn't be there, the municipality approved it and we didn't approve it...disruption and discrepancy...”

However, housing policy managers put the blame on people violating the building law:

“The planning authority is not the problem; the violations of people are the problem”

This is clearly evident in the design and building process. After engagement with the planning authority to obtain their building permits, some homeowners alter their house designs. This issue has been strongly identified by architects:

“...the biggest challenge we have today is the client requirements for alterations/changes to the original layout. The first few years I refused to do that but now you have the planning authority work and what ends up in reality. Now if we don't do it clients will take their plans somewhere else. The problem is when you say it's against the planning regulations. And when we go there, we find the minimal intervention by the planning authority manager regarding these alteration and changes”

However, some architects' response to that is that these violations are due to archaic laws that need to reflect the changing times, requirements and needs of space and society dynamic. They continue to assert that there is a disconnect between current laws and reality:

“These violations are as a result of the poor codes of the planning and housing authority and public demands. How should people live and conceive their homes?... Who has the right to choose how to live and

how you want your house to be? There is a big communication gap between the government policy and the public. People do not accept the codes as rules to follow strictly”

Architects and urban planners recognised that the government needs to be more proactive in their role. The most highlighted discussions revolved around the need to update existing laws to reflect and to be consistent with people’s current needs in relation to domestic housing architecture and identity. In addition to this, professionals’ responses suggest another blame of the economic aspects. The failure of state government to focus on the housing design during 1980s till 2000s economic blockade raises concerns for architects and planners, and the developers.

The impact of the economic blockade was then followed by the collapse of the oil price owing to economic and political aspects that resulted in the decline of housing quality and increased production of mass standardised housing during the 1980s up to 2000. This was evident in the housing policy managers’ responses, and the spread of high-rise mass housing, using Western concepts/models:

“...housing policy has been developed by the government on the basis of the housing shortages, population growth, household size...due to the land shortage, the state decided to create high-rise housing...in order to develop housing policy, people could be granted loans to buy plots, as a result of which there was a shortage of plots provided for housing construction...several factors influenced housing provision, such as sites, costs and plots...financially, the institutions that support housing schemes’ construction are housing sector [implementation], real estate and investment banks, and the urban development sector...”

Urban planners have concerns about housing policy in terms of the housing programmes and incapacity of the local authorities to implement these programmes satisfactorily. Moreover, the disruption of housing policy and programmes during the 1980s led the government to adopt the investment housing schemes, which has failed to satisfy the socio-economic needs of the users. The loans granted to people enabled them to buy a plot and erect their own house. Economic aspects of the state, however, remain a key determinant of housing policy and design:

“The economic aspect of government is the main influential factor in developing housing policy, and the government made strong efforts from the 1980’s onwards, as no clear housing policy, plans, or even concerns

about the residential areas were considered...there was some attempts during 1990's to provide a kind of mass housing, but low-income people couldn't afford this, and it wasn't socially appropriate to accommodate Libyan families..."

"Planning and housing regulations need to be developed and revised in the light of housing design data, such as household size, household income, and area needed, so they can help in providing efficient housing plans that will suit the nature of the Libyan family's life, religion, and culture..."

However, case study schemes such as Al-Ghadamsi are not typical developments as they are low-rise, so a mixture of high- and low-rise was built during the 1980s. The scheme was a rare development during this period as it has the features of the Medieval Ghadames city. Different values were placed on these schemes (i.e. Al-Ghadamsi and Ka-Zalanges) in terms of their architectural conception, social and aesthetic value:

"Although the courtyard house concept was prevalent in southern Italian houses, housing schemes developed by Italians in Tripoli were based on the corridor house, villa, and walking-up flats concepts, where the house spaces looked outwards to the street...Ka-Zalanges district was a distinctive Italian development. The occupants seemed to feel satisfied about living there, and greatly like the style of the district, but the dwelling unit itself was designed to accommodate only a small family of 4 persons, so the layout would not be in the line with the average Libyan family size..."

The architects favoured the idea of the collective concept in housing development, in terms of the layout of Ka-Zalanges and Al-Ghadamis layouts:

"These are proper neighbourhoods. They have a special character...a precise concept, it's a composition between collective and individual which has an exterior aspect, a semi-public aspect, an interior aspect and a private aspect...this is ideal for embracing the urban component as well as a friendly social structure..."

"The overall sense of enclosure seems to strengthen the sense of security, belonging, and interaction among the residents of this development...the way in which the houses incorporated together and the use the semi-public communal space has determined the success of this housing environment..."

A senior architect presented a sketch (Fig.5.6), illustrating the future potential of the use of repeated configurations such as ‘L’ and ‘U’ shaped houses to create a set of dwellings, or even a combination of these two shapes for low-rise collective-housing development.



Figure 5.6: The use of repeated ‘L’ and ‘U’ shaped: Architect proposal

Source: A.B. Focus-group

The following observations illustrate the gap between sectoral-policies, including housing sector/government ideologies/urban planning, and the architects and urban planners’ conceptions. With reference to the social reality, this gap was evident as town planners commented:

“...there was no mutual relation between urban planning and housing sector policies...there was no urban planning ideology since 2000s, which negatively impact on housing policy, I think they should link and work together and work as one entity...”

“In Libya, especially Tripoli, there were periods of disruption between 1980-2010 in both housing policy and urban planning...from the 1960s till the 1980s, there were clear housing policies, especially the remarkable role of Doxiadis in setting urban plans for cities... there were periods of disruption between 1980-2010 in both housing policy and urban planning...housing schemes implemented during this period lacked quality and didn’t match Libyan lifestyle...”

“...the period 2000-2010 there were urban plans set out for the different zone of the city. This resulted in the appearance of own-built housing, which was developed out of the urban plans and made a negative impact on the residential urban pattern...”

“...also during this period housing policy has failed to set out planning control and/or housing design criteria...indiscriminately/individually applied own-built housing based on plans produced by housing authority and/or copied by a building contractor...”

Architects also claimed that beside this instability, their role as local architects has been neglected by the state and the planning authority in relation to housing development:

“I have proposed an urban form of Libyan family house. It is an economic house for the extended family, but this was an attempt as an individual project...it would have been better to apply this idea in a large scale neighbourhood...obstacles were faced owing to the urban policies, when the government institutes, urban and housing policies, architects and urban designers should be involved in this urban process...”

“...Libyan users appreciate privacy and spaciousness within the home...in high-rise tenements people feel that they are temporary residents...they are looking forward to settle...”

These are important statements as they strongly reveal a lack of innovation/experimentation in housing design with a significant regard to the culture and the identity of region. This architect has been frustrated by building regulations, as a result of this he now designs privately. Different schemes were built in Libya over the last fifty years (Gaddafi era) in an attempt to satisfy the ever growing social and economic needs of society in addition to the huge population growth. To some extent, there were constraints on the housing strategy in Libya in relation to decision-making strategies for future housing policy on a sequential basis. At present, a reconstruction stage is taking place after the civil war-2011. There were some plans regarding housing schemes' contracts and uncompleted projects that were agreed to be carried out during the Gaddafi era. A representative from the Libya Housing Association described the intended role of the public and private sector in housing production:

“...new government legislation to encourage the private sector to work in parallel with the public sector...so the aim was to clear the ground of failed housing policies and strategies...and start over again. Apart from anything else, it was extremely wasteful and destroys the potential of producing a place...”

The architects spoke unfavourably of the recent appearance of housing developments (1969 onwards) in terms of their aesthetic, spatial and functional aspects:

“The Architecture concept is a reflective mirror, which reflects the policy grounded by the estate...the city fabric has witnessed changes in the urban patterns, including housing developments...where the mass housing (high-rise housing) schemes have increased, whereby the urban visibility and accessibility of the city were destroyed...also in this period planning control, housing policy, and housing design criteria failed, resulting not only in mass housing production, but also in indiscriminately applied owner-built housing schemes (built individually) based on plans produced by housing authorities...”

In light of this observation, the judgments and criticisms formulated by the architects were somewhat sarcastic. The architect continued:

“In my opinion, behind this gap between the user and its place, there was our ‘rich’ country the ‘government’, producing poorer quality, ‘cheap’ mass housing and imposing it as a prototype to be applied through individual or mass produced houses...I believe that we could overcome this failure if we are keen on the ‘diversity’, ‘privacy’, ‘spaciousness’, ‘integration’ and ‘aesthetic’ concepts in our future housing developments and neighbourhoods”

Many of the professionals' responses tended to regard the recently emerged housing forms as a failed design:

“It seems that these architectural forms of housing have not been integrated, but appear out of place and strange to their users...I think it is a sort of imported architecture...very often, and the use of urban housing that might be western models, or rather the hybrid models were applied in districts where the climate, traditions, lifestyle, and culture of the Libyan environment require a quite different typology to match these facts...”

“...a kind of mass-housing...that wasn't socially appropriate to accommodate Libyan families”

“Libyans don't like to live in flats. In a flat users lose their sense of privacy with the common entrances and lifts. People are also restricted, especially women movement. It is very important that women are protected in Arab-Muslim society...it is key consideration how important it is in our culture”

“...traditionally, the Libyan family as a Muslim preferred not to be overlooked by adjacent houses...against these regulations, users made alterations such as to balconies, exterior open spaces that intruded their privacy...”

These are significant statements as they imply central issues linked to the tensions of tradition, modernity, and westernised society. The aforementioned contradictions between the responses of architects and planners on one hand, and housing policy managers and state ideologies on the other, can draw out justifications of the *disappearance of courtyard housing* in Tripoli, and highlight the *distinctions between Modernisation and the impact of Westernisation*. The architects and urban planners argued that the courtyard house was abandoned by its occupants for socio-cultural and planning reasons:

“...the exclusion of the courtyard house concept affected the socio-cultural and privacy values of the Libyan house...the widespread of high-rise housing schemes in order to allocate people on high-density less-space sites for less costs, has increased crime and anti-social behaviour...”

In addition, a variety of dwellings’ spatial structures were developed during different times, within which the courtyard housing concept was abandoned:

“I have conducted a study on aspects of the courtyard in the traditional *Trabelsi* [Tripoli] house...I found that the courtyard was gradually abandoned...because firstly, the Italians introduced new housing concepts [villa, walking-up flats] the Libyan family preferred the Arab house that was developed in a line with the traditional ones...secondly, during the independence period, the courtyard concept was clearly absent, replaced by a central roofed room with other home spaces on each side. The courtyard was positioned at the back...the villa concept was similar to the Italians’ villa, but with some socio-cultural considerations, where home spaces are separated into domains, the men’s reception was segregated from the women’s reception...thirdly, after independence up to recent times, the courtyard concept was completely absent from housing developments...foreign developers have applied housing schemes...using features that Libyan users regarded as wasted space such as balconies...”

One architect mentioned the socio-cultural and environmental aspect, as well as the future potential for reconsidering the concept of the courtyard house in contemporary housing schemes:

“Courtyard houses have almost vanished, because people don’t see the benefits of them but, on the contrary, regard them as a waste of space and, to be fair, they are right but they are only right because the available gadgets in our modern life have prevented them from enjoying the healthy lifestyle offered by the courtyard. If you haven't seen how good they are, if you haven't lived in one of these houses, you can never understand what it can add to your life. We think that our role as architects and planners who are aware of the Environmental Friendly Design is to start showing people how this can benefit them, and we have already presented some ideas about courtyard housing in the south of Libya and they were well accepted, and some have even started to be implemented. As for the future, we have a strong feeling that Courtyard housing along with all the solutions it brings will be the future of housing in the area, but of course that will need a lot of work and it have to be done gradually”

The urban planners commented that the planning and building regulations have excluded courtyard housing development from housing plans:

“...building regulations included clauses such as S1, S2, S3, S4...etc....these regulations have set out specifications in which the courtyard house was not included ...in terms of plot area, density and building rise...”

Reasons behind the demise of the courtyard housing concept may also be attributed to the decision makers, and the housing design regulations were mainly influenced by the government’s ideology. Despite the existence of housing design regulations, however, these have not always been properly applied:

“Law No 5 on housing designs/regulations was set in 1969...included detached, semi-detached and high-rise building...according to government decision...developed and implemented by foreign companies who were not completely aware of the users’ and region’s identity... Libyan architects were not involved, and preferred to work privately for some clients”

The reasons given for the disappearance of courtyard housing developments over the last forty years focused mainly on the imposed mass production of housing:

“There were implications that have led to the lack of urban planning and construction methods in Tripoli...the main reason for this was that the applied methodology for the proposed housing schemes over the last forty years was only concerned about the quantity rather than the quality of production, using foreign staff with scant regard for the social and cultural context, and the inability of local staff

[architects and planners] to participate in the development process...”

After the civil war (2011), however, the architects and urban planners seemed to play a more effective role in the reconstruction stage and even in setting out certain housing design criteria:

“We need to take into account these reasons by reconsidering the traditional form of courtyard housing and analysing its components in terms of their values and validity, so we can have a base for housing, planning and design criteria. Then, the developed criteria and standards can be included within planning regulations being applied for the proposed schemes according to the needs and identity of different regions and cities in Libya”.

“...The Arab house was excluded from housing plans due to social, economic, and environmental factors...as well as the implemented housing developments which have a hybrid character, and generalising [for economic motives] the same schemes in different regions [coastal, mountain, desert] where each region requires a different typology of housing...”

5.3.1 Implications: tensions between modernisation and westernisation

The architects’ statements held a strong distinction between modernisation and Westernisation. This was as a result of the internal contradictions between the government ideologies and housing assumptions and the architects’ conceptions of modernising the courtyard housing. There was some criticisms of the architects and planners towards government in relation to courtyard-housing being superseded because of the imported Western models/regulations. Consequently, people are not aware anymore of the advantages of the courtyard-housing.

Government housing policy acts as an obstacle to housing innovation and to the development of courtyard housing. Architects attempt to innovate in housing design and they get frustrated as their proposals find no way to implement these ideas for large-scale development. The Libyan government has been borrowing models from the West and also been designing building regulations based on the West and applying them into Libya. Yet, it has not allowed innovation from within, the modernisation and westernisation, therefore, are in tension. And there was no attempt to bridge this gap through the home-grown housing innovation programmes. The architects thus got stuck between westernised housing

assumptions and modernised courtyard housing. The architects' conceptions in modernising the Libyan courtyard home also maintained the use perspective and cultural adaptability. The Architects, and the residents, therefore, were unable to constitute and adapt home components for flexible use and arrangements.

The lack of a government response to satisfy public need for housing, has meant that sometimes in order to make changes/alterations, homeowners violate the law by adding another floor or making significant adjustments to their plans. These reactions are people's way to adapt within the problems generated from years of governmental neglect towards the housing issue. Therefore, this situation indicates people's current priorities towards their houses, which has transformed as they adapt to the current political, economic social changes in the Libyan society. Furthermore, as a result of progressive modernisation, for example, from the 1950s to 1980s, people have gradually recognised the side effects generated from the government's early policies creating housing environment, which encourages the conflict between the traditional cultural values of space and user and the modernity influx.

5.4 Conclusions

This chapter has highlighted the tensions between modernisation and westernisation in housing design and cultural adaptability in Tripoli. The findings confirm the effective role of the architects to understand local cultural values and connect them with their conceptions. Internal contradictions, however, have been evident between the architects' conceptions and the government's approach to housing design and identity. This is different from the comments and analysis in Lefebvre & Boudon (1972), whose work has otherwise provided a methodological model. They identify the universality of modernisation/standardisation, whereas the architects of this study argue the differentiation of modernisation/westernisation and the differentiation of culture and region.

There is also a sense of distance and criticism between the architects and the workings of government. Courtyard housing has been neglected, not because of the views of users, but because it has been hindered by obstructive building regulations and potential purchasers/renters are unaware of the advantages. There has also been a lack in home-grown innovation in housing design, and the architects have been discouraged by this. It was found that a number of cultural values were appropriately identified, functionally considered, and satisfactorily planned into the internal layout of the traditional forms. These values (i.e.

lifestyle, family structure/gender, religious, and privacy) were combined with space value; private/family-domain, semi-private/female, and semi-public/male-guests.

However, there was an omission of gender within the architects' focus group, and it did not appear as a theme, although they implicitly included the gender issues. Further, the research supported the investigation regarding the housing assumptions and government role in terms of the discontinuity of the concept of courtyard housing. It was confirmed that inappropriate standardised housing is created when local cultural values are not embedded in the layout design. This was evident in the findings that family privacy related to public areas was inappropriately considered. The fragmented meaning of the family privacy concept suggests that there was a significant degree of difference between actors' understanding of the value of space associated with local cultural values.

For example, the value of space in the modern layouts did not sufficiently reflect the family privacy related to public areas. The local actors within the housing development process have varying degrees of responsibility for integrating cultural values in the internal layout design of Libyan homes. These actors, particularly architects, have a general awareness of the Libyan cultural values, which were clearly reflected in their conceptions/proposals. Nevertheless, the impact of the economic blockade and ongoing government deficiency resulted in increases in standardized housing, which adversely affected housing consumption and users' cultural values.

The findings from this chapter reveal conflicting aspirations and understandings at the theoretical and ideological levels towards Libyan homes within the socio-cultural, and planning dynamic. The findings also suggest the extent to which traditional homes have a potential role today within the context of cultural values. Change and continuity in the physical form of the Libyan homes, and space use/users perceptions are examined in the next chapter.

Chapter 6: The concrete reality: space use and users' perceptions

6.1 Introduction

The analysis in this chapter explores the concrete reality of residents, and uses the methodological model of Lefebvre & Boudon (1972), including the social reality analytical levels of Lefebvre (1972) to explore how people perceive and understand change and continuity in the concept and use of the home. The main aim of this chapter is to identify the confrontation between tradition and modernity, the shifts in the socio-cultural values, and the change and continuity in space use and layout from the response of users.

The argument in this chapter is organised around three main categories: *space use and privacy; socio-cultural values and woman domain; and gender segregation and control of access*. When investigating each dimension, a mixed-methods approach was employed (i.e. evaluation/satisfaction survey, focus-groups, interviews, photo-elicitation, and socio-spatial/space syntax analysis). The analysis is structured around these predetermined/predefined themes/categories as a means of bringing together mixed-methods to understand the study phenomenon/context.

These themes/categories thus been chosen on the basis of both the literature and the empirical data. They were determined by the literature (Chapter 2&3), also emerged through the interviews. For example, *space use*, as the architects were interested in the use of home and determinants of housing form. There was also the way that can men play (gender-segregation, access control) to reflect uses/activities within the home. *Privacy*, came/emerged very strongly within the interviews. *Socio-cultural values and woman domain*, emerged from the discussion of the home in the Arab society. *Gender-segregation and control of access*, emerged from Western and feminist theories of home as well as from the female perspectives and space syntax.

6.2 Space use and privacy

This section brings together the key findings about residents' satisfaction with their homes in the three courtyard housing schemes in Tripoli. It considers factors that are related to the physical form and function (i.e. home features, neighbourhood, open domestic spaces, and privacy). This analysis examines the users' perceptions and identifies the qualities and capacities of the courtyard housing that people value. This was investigated by an occupancy

evaluation/satisfaction questionnaire (see Sec. 4.3), and a number of 150 respondents from traditional courtyard houses, 60 respondents from Ka-Zalanges residence, and 12 respondents from Al-Ghadamsi residence took part in the survey study.

6.2.1 The traditional Libyan home: concept and spatial structure

In general participants discussed socio-cultural issues more than environmental issues regarding the traditional Libyan house (Fig.6.1). They discuss aspects of the traditional home such as: *'hospitality'* *'design of adjacent houses built to strengthen social'* *'extended family and neighbourhood bonds'* *'built to provide basic needs: shelter/comfort, food & water storage, privacy, accessibility'* *'simple design'*.

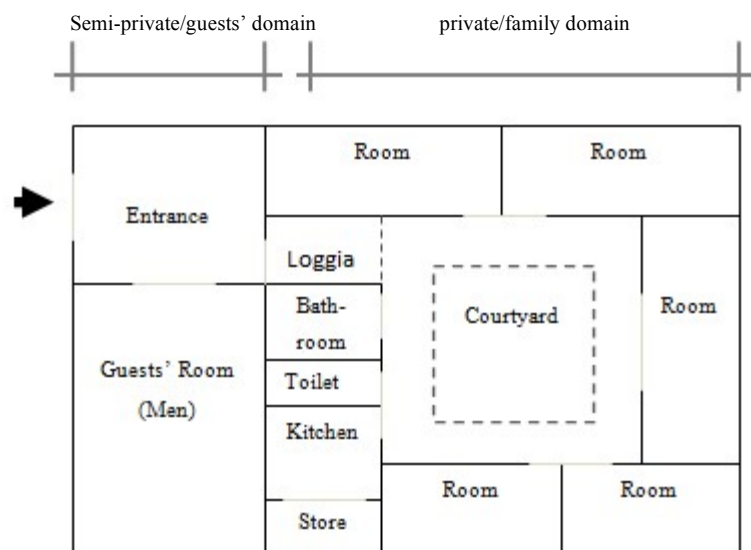


Figure 6.1: The concept of the traditional Libyan courtyard-house in Tripoli (case study-1)

Source: Author

The first question was designed in two parts, the first part to understand general perceptions of the respondents about their homes: liked and disliked features; usage flexibility in home spaces and arranging furniture; storage space; and having and entertaining guests at home while maintaining privacy. The second part was a Likert scale question, to see how important specific home features/qualities were when rating their current houses, circling one of six numbers from (not important, important, slightly important, fairly important, very important and extremely important). The results show that all respondents like the layout of the traditional courtyard house, including usage

flexibility (enough rooms for multiple-usage), overlooking a private open space (light, airy, and planted). By using the Likert scale where 1=not important and 6=extremely-important, participants showed how they perceived the traditional courtyard-house. On this scale a mean score of 3 or less can be interpreted as negative or not-important and a mean score of more than 3 can be interpreted as positive or very-important (see Sec.4.4.2). Design/layout, enough number of rooms, male reception, storage area, private open spaces/patio/courtyard, adequate living room, privacy, and car parking access all received a mean score of 6 (Fig.6.2). This indicates that residents perceive that qualities of the home layout can be achieved through these particular determinants in their current or future house designs (e.g. privacy, guests' domain).

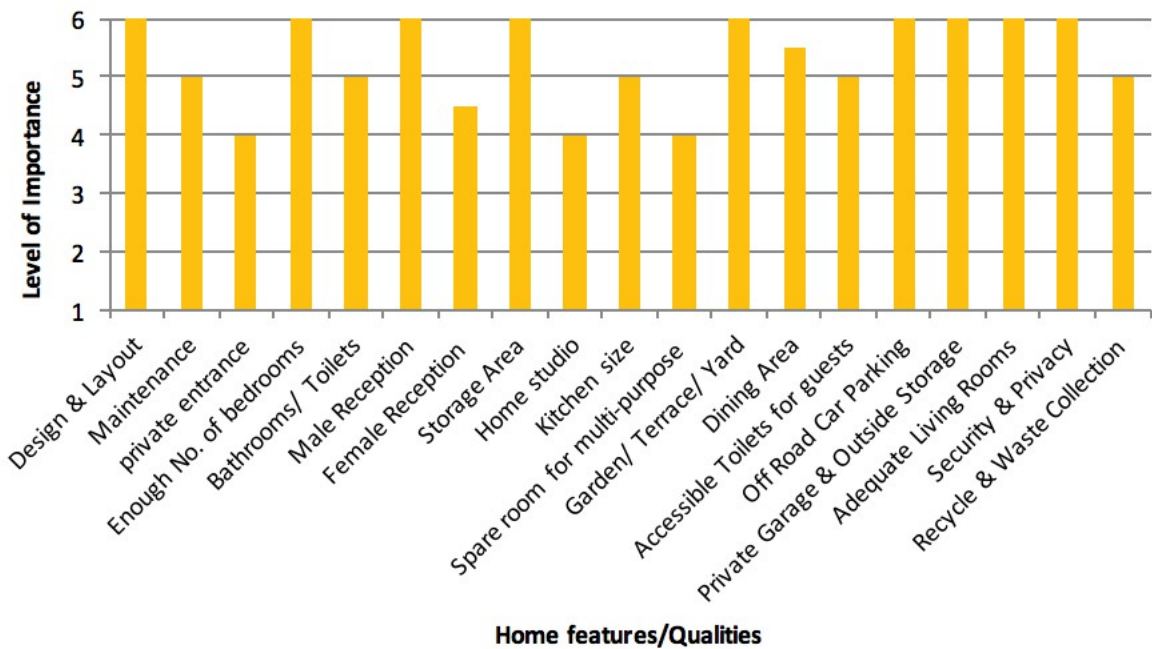


Figure 6.2: Traditional Libyan home: Level of importance of home features/qualities

The second question was also a Likert scale question, used to see to what extent the respondents were satisfied with the arrangements of their home spaces. By using a 1 to 6 points-scale, where 1=not satisfied and 6=extremely satisfied (Fig.6.3) the results revealed that all inner-spaces, including the courtyard received a mean ranging from 5-6 out of 6. This suggests that residents of the traditional homes are most satisfied/very-satisfied to use the inner-space/family attached with open domestic space/courtyard.

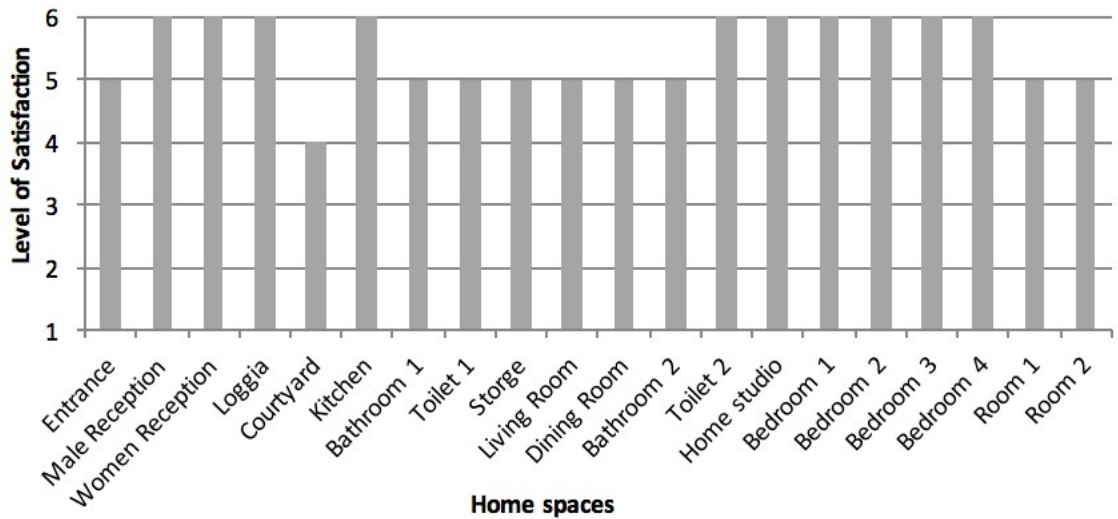


Figure 6.3: Traditional Libyan home: Level of satisfaction with home spaces

The third question was also designed in two parts, the first part asked the participants about: liked and disliked features in their neighbourhood; car access to home; and safety. The second part was a Likert scale question, which dealt with how people rate their neighbourhood's features/qualities, where 1=not important and 6=extremely important. All respondents who live in traditional homes believe that their neighbourhood was good and a safe area to live in.

Respondents highlighted that the neighbourhood includes semi-enclosed location and semi-public communal spaces; feeling safe for children to play outside, low traffic, convenient location close to city centre and local services. The neighbourhood also allows social mix and good relationships with neighbours as well as sense of community. However, the dense residential quarters tend to swallow the street space and convert it into private access corridors.

Parking consumes most of the space and creates dangers for pedestrians (Fig.6.4). In this regard, Goodchild (2007:43) argues that 'Access by car is some obvious prerequisite for an adequate housing scheme. However, the traffic generated by easy access is also a problem, moving vehicles deter parents from letting children play outside. They cause problems of noise, polluted air and dust. They sever pedestrian movement, safety from house

to local shops or local parks. They consume valuable urban space and are visually intrusive'. Traditional streets provide space for a variety of activities, including journeys on foot or by bicycle, and social interaction as well as children's play and meetings



Figure 6.4: The use of road and car park access within traditional courtyard houses quarters

Source: Author-fieldwork

Figure 6.5 shows the responses about what makes the residential environment more desirable to live in. The top six features of neighbourhood qualities: good roads, pedestrians' access, low traffic, low crime rate, sense of community, quiet environment, and good view/appearance were all rated by respondent as extremely-important with a mean score of 6. These qualities were related to reasons that respondents highlighted in relation to safe places for children to live and play. All respondents have their concerns over things that can be improved for the neighbourhood such as footpaths, road tarmac, lighting, exterior wall painting, private car parking for the neighbourhood (off road linked to residential quarters), landscape for the semi-public spaces in the neighbourhood (green areas, trees) for better aesthetic quality.

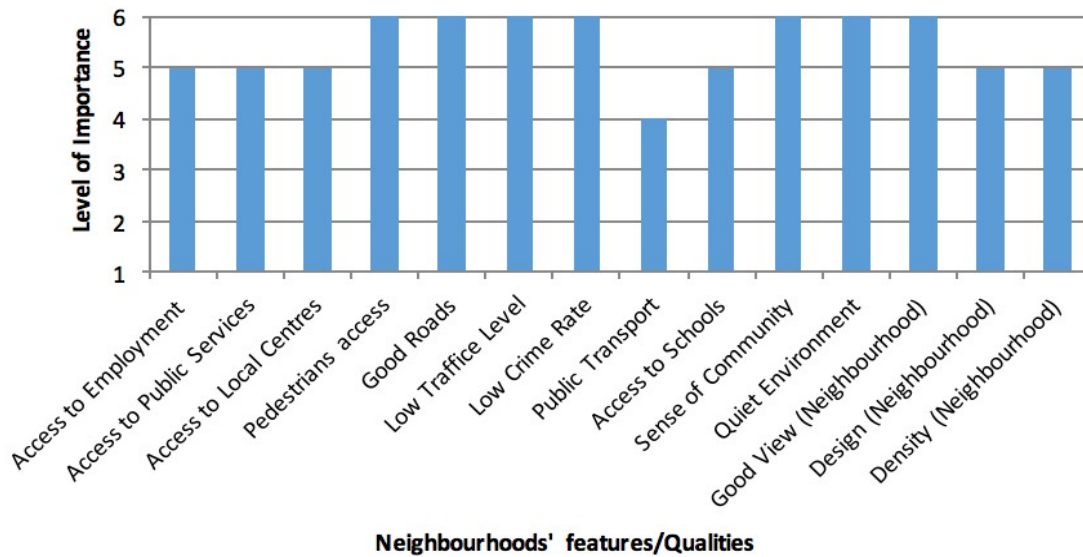


Figure 6.5: Traditional Libyan home: Level of importance of neighbourhood features/qualities

The fourth question aims to understand the respondents' perceptions about the type and use of domestic open-space(s) in the home and the out-door communal space in the neighbourhood. The traditional neighbourhood was designed with semi-public squares which are provided with sitting area, mosque, and shops (Figure 6.6). All respondents perceived the public squares in the Medina as semi-public communal open-space to meet their neighbours for praying at the mosques, gathering and sitting. At home, respondents believe that the private open space/courtyard is adequate for family gathering in summer, water feature and plants, sitting and dining (Figure 6.7).



Public meeting point



Masjid/mosque

Figure 6.6: Traditional Libyan home: Communal open space

Source: Author field-work



Figure 6.7: Traditional Libyan home: Private open-space/courtyard

Courtyard: Water feature, plants, and sitting

Source: Author field-work

Generally, the open spaces in the home are used for domestic and leisure purpose, and the courtyard is used for domestic purposes. All respondents agree with having semi-private open space in the home and it is used to bring light and air. Other respondents used another private open space in the home (i.e. roof-patio) for washing lines, sitting and barbeque, especially in summer (Table 6.1). This suggests that the private open-space/courtyard in the home is most important compared with the semi-private open-space/balcony/veranda.

Table 6.1: The use of open space(s) in the home: Traditional courtyard house

Description	Traditional courtyard houses		
	Extended family	Single family	Multi-occupied
Use of open space(s) in the home			
Private open space/courtyard			
Semi-private open space/ roof patio			
Domestic purposes	67	60	23
Leisure purposes: sitting/kids toys	80	50	20
Others: barbeque, gardening, washing line	70	55	25
Usage average	72.4	55	22.7

The fifth question was designed in two parts, the first part intended to understand the respondents' perspectives of **privacy** and how their homes provide the required level of privacy. The second part was a Likert scale question, which dealt with how people rate privacy by using a 6 point-scale, where 1=not satisfied and 6=extremely satisfied. All

respondents, living in traditional courtyard-houses showed that the layout of neighbourhood and homes provide the level of privacy they need. They indicate that privacy was achieved within the layout of the home. The home also, was not overlooked by adjacent neighbours or by passers-by. The use of small openings towards the street screened with wood lattice/*mashrabiyya* increases the sight-privacy. Colquhoun (2005) suggested four main aspects of privacy within the home (e.g. security, space, sound, and sight). Also Allafi (1997) suggested that privacy could be achieved in three main aspects: sight, sound, and space (enough number of rooms to maintain segregation between gender).

Table 6.2 illustrates the satisfaction of respondents towards these aspects of privacy within home spaces. Respondents were extremely satisfied with sight-privacy (not to be overlooked by others) to be achieved in the home, and space-privacy (having enough of rooms) to maintain gender-segregation within the family domain as well as the guests' domain. Other privacy aspects; security and sound-privacy (not being overheard and protected from outside noise) were rated as satisfied with a mean score of 5.9 and 5.3 out of 6.

Table 6.2: Traditional Libyan-home: Level of satisfaction of privacy concept

Meaning of Privacy		Level of satisfaction 1=not satisfied 6=extremely satisfied		
		Extended family	Single Family	Multi-occupied family
Security	Feeling safe in the home: (Protected from break-in)	5.80	5.90	6.00
Space	Having enough rooms: (Gender Segregation, Not encroached by others)	6.00	6.00	5.50
Sound	Not overheard: (Protected from outside noise& not being overheard)	5.00	5.50	5.50
Sight	Not overlooked: (Protected from unwanted sights)	6.00	6.00	6.00
Average		5.70	5.85	5.75
Total Average			5.76	

In general, these findings suggest that the urban pattern of the traditional courtyard-houses' neighbourhood has economic (infrastructure), social (good opportunity for neighbourly relations), and ecological (adjacent fabric/less exposing to sun-light) value. In addition, the overall attitudes of respondents towards traditional-courtyard-house can also indicate that privacy, space use and gender are perceived to be affected when those houses

become multi-occupied. Table 6.3 presents the overall satisfaction on homes-spaces, neighbourhood, open space(s), and privacy. For single-family, the home, private open space, and privacy were rated at very high level of satisfaction. Followed by extended-family respondents as the home-spaces, courtyard, and privacy received a mean score above 3. In contrast, respondents from multi-occupied homes rated the home-spaces, open-spaces within home, and privacy as dissatisfied.

Table 6.3: Traditional Libyan-home: overall satisfaction with home and neighbourhood

Themes	Level of satisfaction 1=not satisfied 6=extremely satisfied		
	Extended-Family	Single-Family	Multi-Occupied
Residential-environment	3.50	4.60	4.00
Home: internal-layout	6.00	6.00	3.00
Open-space(s): Semi-public	4.50	4.00	5.00
Private open-space/courtyard	6.00	6.00	3.00
Privacy	6.00	6.00	3.00
Average	5.60	5.32	3.00

6.2.2 The Libyan home: colonial/Western concepts

This section demonstrates the residents' opinions/attitudes towards the layout/spatial organisation/neighbourhood/domestic open-space use/courtyard of Ka-Zalanges homes. The design of the housing units provides a layout of spaces for contemporary lifestyle. All spaces are connected by central roofed area/corridor with semi-private open space (balcony). Fig.6.8 reveals the level of importance rated by respondents towards the home layout and the availability of the home-design qualities considered. The design of the housing units provides a layout of spaces for contemporary lifestyle.

All spaces are connected by central roofed area with semi-private open space (balcony). By using a Likert scale, respondents rated the home layout that may affect the type and design preferred by people. Home layout/design/inner-spaces such as guests' area (gender segregation with accessible toilet for guests), living and dining area (family domain),

minimum number of bedrooms/3, terrace/garden/courtyard, and car-park access received the most important score of the home qualities.

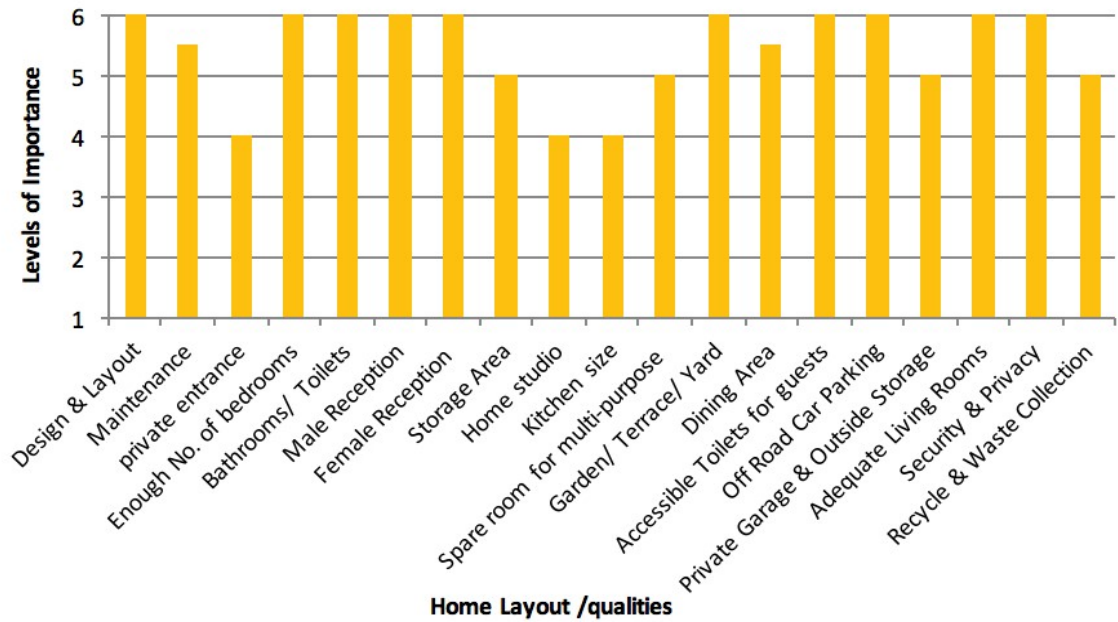


Figure 6.8: Ka-Zalanges: Level of importance of home features/qualities

The 60 respondents from Ka-Zalanges residence were accommodated in three dwelling types, and these are discussed below.

6.2.2.1 Ka-Zalanges: Type-A

Respondents liked the organisation of spaces as suitable for a small single-family (Fig.6.9). However, respondents have problems with storage spaces and extra accessible toilet for guests. Respondents also reported that there was no difficulty in having guests privately in the home as the guests' room is well defined/segregated, especially for male-guest despite the small area of the house. This indicates that Arab-home design/use strengthens socio-cultural values such as hospitality.

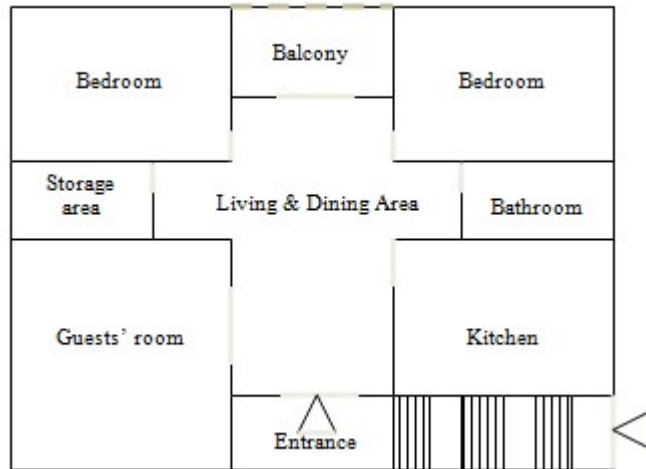


Figure 6.9: Ka-Zalanges/Type-A: Floor layout

Source: Author field-work

Fig.6.10 illustrates the respondents level of satisfaction with the spatial organisation. Guests' and family domain received a mean of 6 out of 6. Respondents preferred private entrances such as through kitchen. The central roofed space of the home was used as a dining and living area (family gathering, setting, watching TV). The home was provided with one guests' room for male reception (used as living room in the original Italian design), (Fig.6.11). Respondents were concerned about car-access and the central communal space. A better use of space would have provided more friendly residential environment (Fig.6.12).

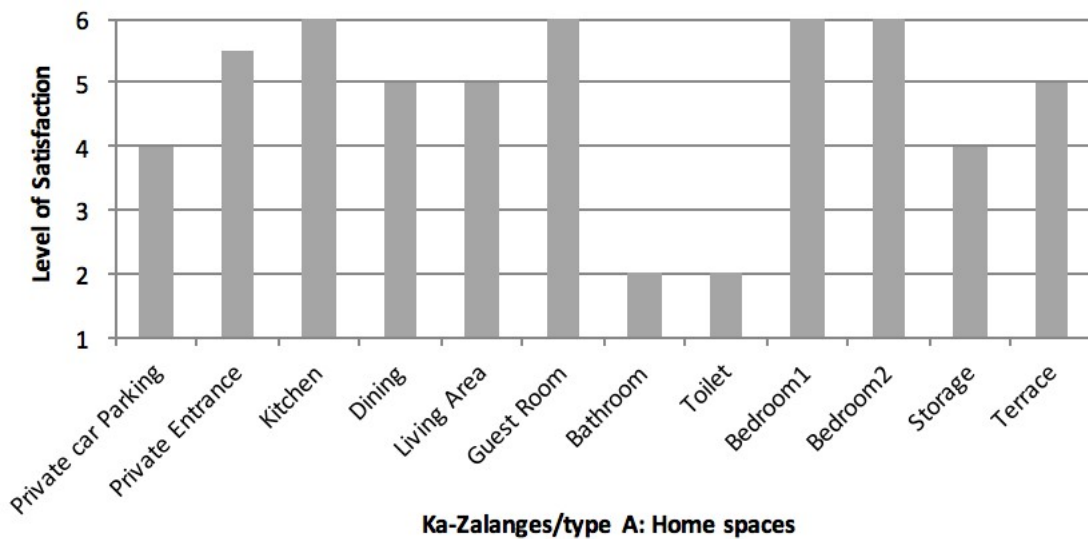


Figure 6.10: Ka-Zalanges/Type-A: level of satisfaction of home spaces



Entrance through a central corridor



Creating a guest domain



The use of the central area as living/dining space

Figure 6.11: Ka-Zalanges: adapting the space to the Libyan lifestyle

Source: Author field-work



Figure 6.12: Ka-Zalanges: Car-park access

Source: Author field-work

Privacy was also a main concern within the colonial homes, for example, windows overlooking the semi-public space were screened with wooden-lattice/*mashrabiyya* (traditional solution to provide privacy and to reduce sun glare) (Fig.6.13).



Figure 6.13: Ka-Zalanges/Type-A: The use of wooden-lattice/*mashrabiyya* for sight privacy
Source: Author field-work

6.2.2.2 Ka-Zalanges: Type-B

This unit was originally designed with two bedrooms, a roofed central corridor, and living/dining room. According to the Libyan user alterations, the private family domain (bedrooms and bathroom) was separated from the living and guests' domain using buffer zone (Fig.6.14). The basement was altered and used by the occupier in response to socio-cultural requirements, such as extended family, extra space for guests/female reception with extra toilet, and home studio/multipurpose room.

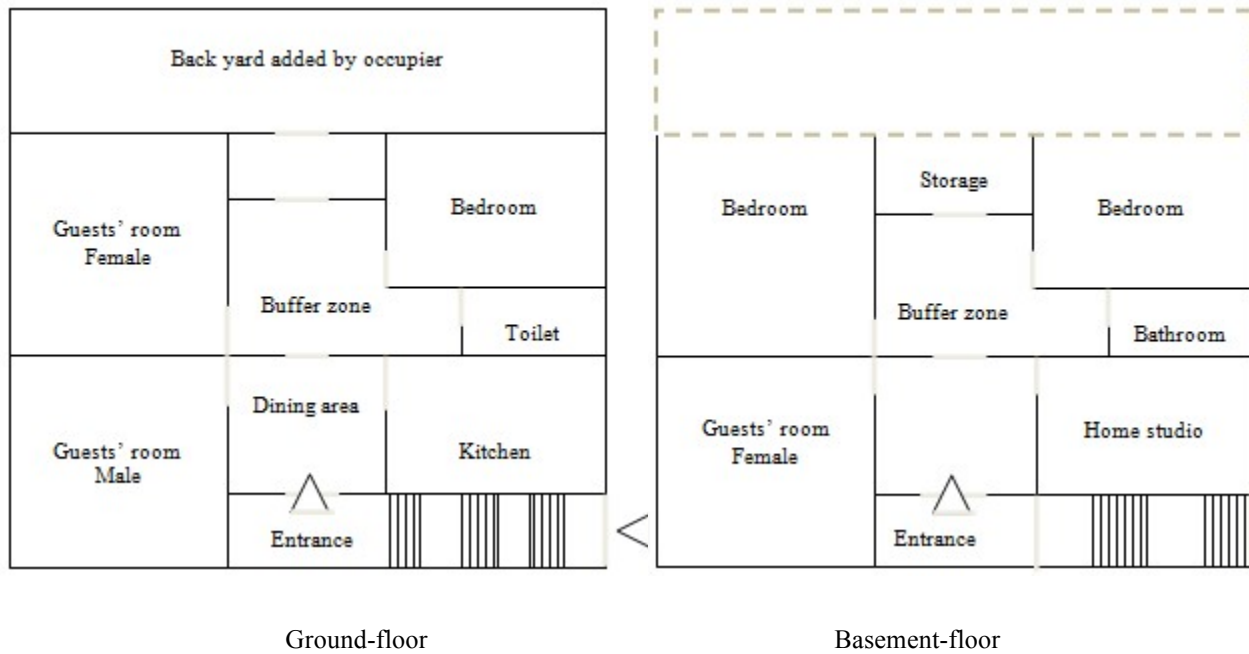


Figure 6.14: Ka-Zalanges/Type-B: Floors layout
 Source: Author field-work

Some spaces in the home have received the lowest level of satisfaction i.e. bedrooms which were placed in the basement due to lack of light and ventilation. Buffer zones on both floors also reduce daylight and ventilation. Respondents used the central space of the home in the ground floor for dining, this was perceived as small space. Respondents claimed that open-space/yard/patio would have been much better for plants and sitting out (Fig.6.15).

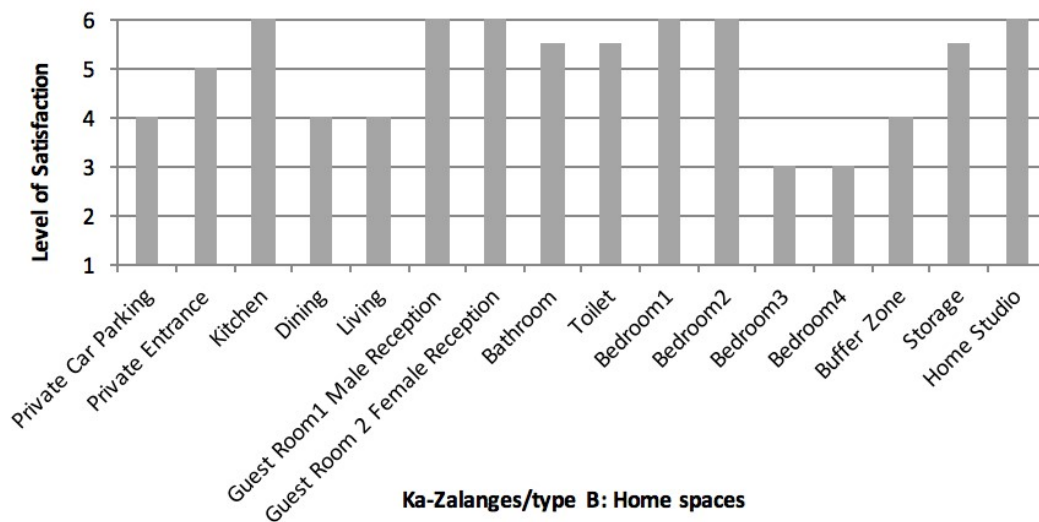


Figure 6.15: Ka-Zalanges/Type-B: level of satisfaction of home spaces

Such alterations suggest that customs/traditions/social norms of the Libyan family influence the uses and layout of the home, in which for example the guests' rooms were provided to entertain visitors. This also indicates that spaces added create flexibility of space-usage.

6.2.2.3 Ka-Zalanges: Type-C

This layout was also reorganised and improved according to the users' social desires (Fig.6.16). There was difficulty in entertaining guests privately in the home. Respondents had sufficient storage spaces and an extra toilet, and adequate space to receive guests privately within separate rooms.

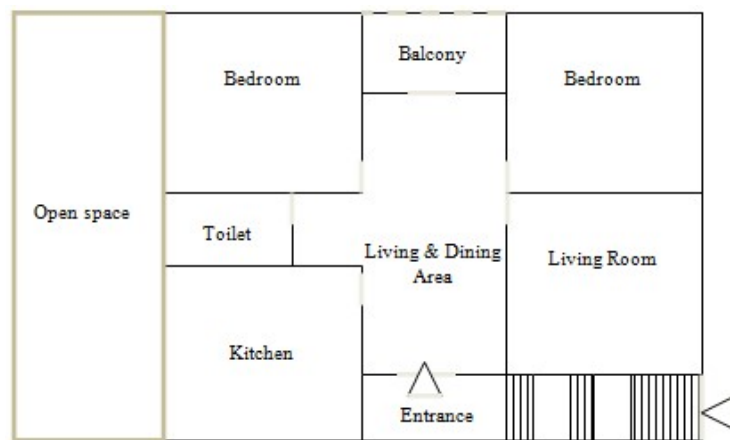


Figure 6.16: Ka-Zalanges/Type-C: Floor plan (Original Design)

The added extension over the garden includes kitchen, extra toilet, and storage area (Fig.6.17). The original kitchen was replaced by female reception close to the entrance. The spaces added define a courtyard which was well liked by respondents for privacy, leisure and domestic use. Fig.6.18 illustrates the level of satisfaction of home spaces according to the altered layout. Open spaces and guests' room received the highest level of satisfaction, followed by bedrooms, toilet, bathroom, kitchen, storage, dining, and living area. In contrast private entrance and private car park access (Garage with outside storage) received the lowest level of satisfaction.

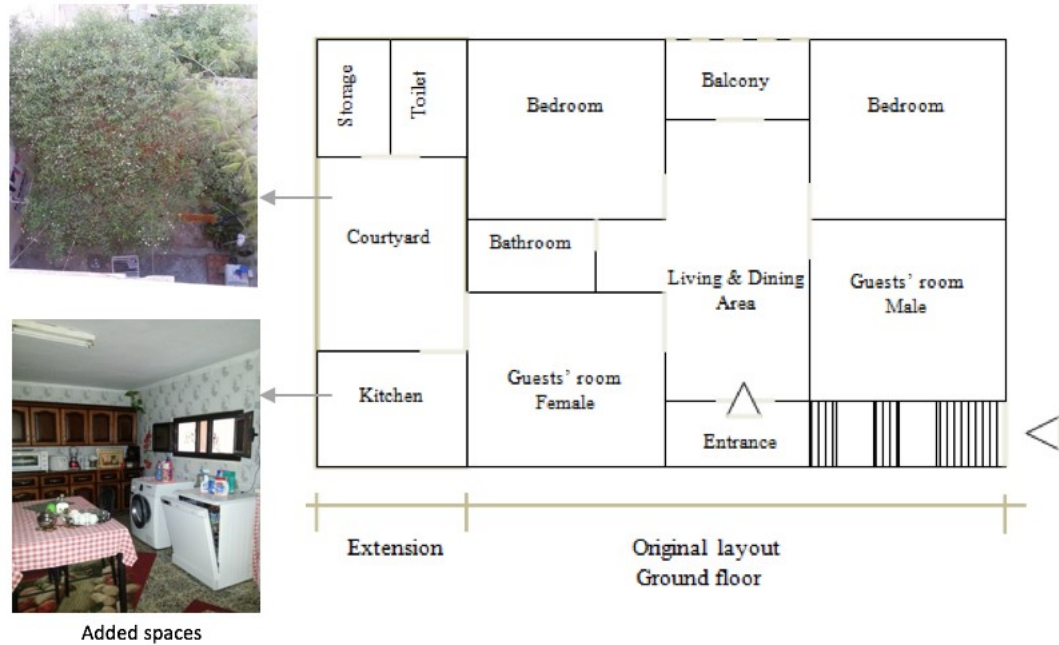


Figure 6.17: Ka-Zalanges/Type-C: Floor plan (Altered layout)

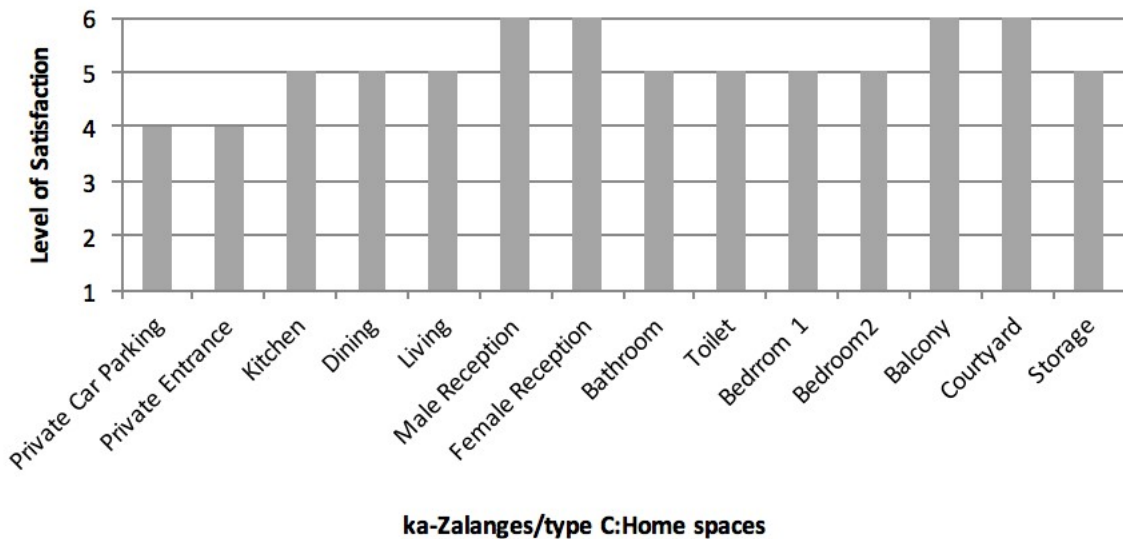


Figure 6.18: Ka-Zalanges/Type-C: Level of satisfaction of home spaces

Respondents from Ka-Zalanges like the appearance, design and location of their residences. The central communal space was well liked as it provides a safe environment for their children to play in. Fig.6.19 illustrates how respondents rated their neighbourhood features and qualities. Safety and low crime rate, access to public services, low traffic, good

roads, pedestrian access, access to local centres, quiet environment, sense of place, sense of community, and good view were all rated as very important within neighbourhood qualities.

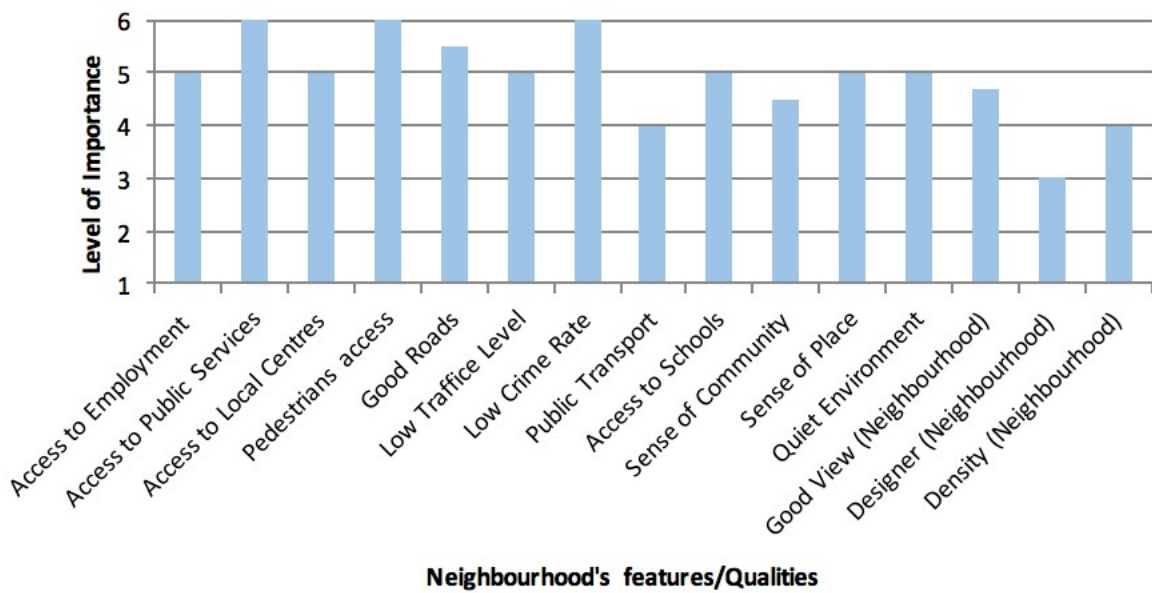


Figure 6.19: Ka-Zalanges: level of importance of neighbourhood features/qualities

All respondents believed that home should have more than one domestic open-space. They perceived that the reasons of having domestic open-spaces is to provide usage-flexibility such as for leisure and domestic use. Table 6.4 demonstrates how respondents rated the type of use of semi-private and private open-spaces in the home.

Table 6.4: Ka-Zalanges: The use of open-space(s) in the home

Description	Ka-Zalanges		
	Type A	Type B	Type C
Usage of Open Spaces in the Home			
Semi-private: Balcony			
Private: Courtyard /Garden			
Domestic Purposes	16	9	22
Leisure Purposes: Sitting out, kids toys	0	14	26
Private access to the Home	0	13	15
Others: Barbeque, gardening, washing lines	10	18	26
Usage Average	6.5	13.5	21.5

In terms of privacy, all respondents highlighted that the layout of the dwelling units provides adequate privacy (Table 6.5). They also illustrated that the use of screened window/wooden lattice offers sight-privacy. Respondents were invited to rate the different aspects of privacy, as a result, space-privacy received the highest level of importance (having enough rooms, not being trespassed by others, and gender segregation).

Table 6.5: Ka-Zalanges: Levels of satisfaction of privacy concept

Meaning of Privacy		Level of satisfaction		
		1=not satisfied 6=extremely satisfied		
		Type A	Type B	Type C
Security	Feeling safe in the home: (Protected from break-in)	5.80	5.90	6.00
Space	Having enough rooms: (Gender Segregation, Not encroached by others)	6.00	6.00	6.00
Sound	Not overheard: (Protected from outside noise& not being overheard)	5.00	4.80	5.50
Sight	Not overlooked: (Protected from unwanted sights)	6.00	5.70	6.00
Average		5.70	5.60	5.87
Total Average		5.72		

6.2.3 The Libyan home: modern concept

This section provides the views of the 12 households who live in the Al-Ghadamsi neighbourhood towards home, neighbourhood, domestic open-space, and privacy. The house includes four bedrooms, bathroom, living room/central roofed area, guests' room, toilet, kitchen with storage-area, and entrance, which includes a staircase leading to the roof provided with washing room and patio (Fig.6.20). The organisation of spaces, the functional relationship between spaces, and the adequacy of the homes spaces were well perceived/liked by respondents.

Fig.6.21 demonstrates the level of satisfaction given by respondents towards the internal spaces of the home. The guests' room was located near the entrance lobby, with an accessible toilet for guests' use. The use of a buffer zone enhances the sight and sound privacy for the family, provided by door access to the guest room. Family living area, bedrooms and guest area received a higher level of satisfaction of 6 out of 6. However, there was a concern about the central roofed-area used by family for dining/sitting because it lacks

direct daylight and good ventilation. This indicates the importance of the private domestic open-space role.

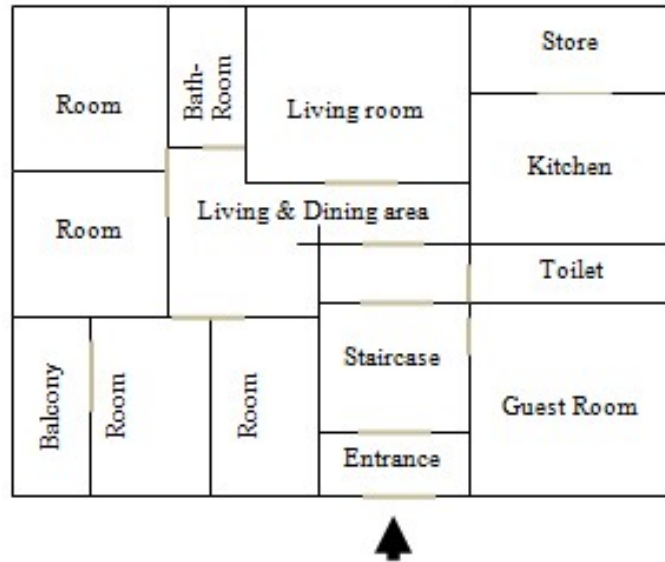


Figure 6.20: Al-Ghadamsi: plan layout

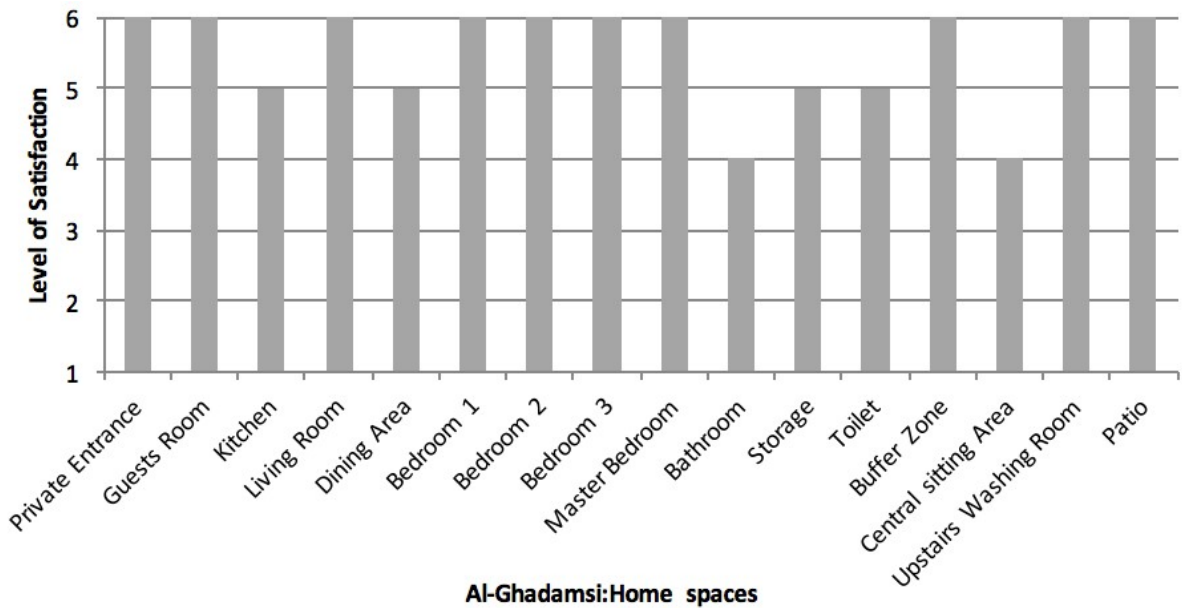


Figure 6.21: Al-Ghadamsi: Level of satisfaction of home spaces

All respondents like the neighbourhood appearance/design. They believed that the neighbourhood is good and safe for children to play and live in. Fig.6.22 shows the levels of importance rated by respondents towards the neighbourhood's features/qualities that may affect their attitudes about the residential environment in relation to neighbouring-relations and the built-form. The top five qualities, rated 6 out of 6 were residential environment

design, accessibility, good roads and footpaths accesses, low traffic, low crime-rate and feeling secured, sense of community and good social-relationships between neighbours with a mean of 6 out of 6. A semi-public outdoor communal space/playground provides a pleasant and safe place for better social-mix, and for children to play (Fig.6.23).

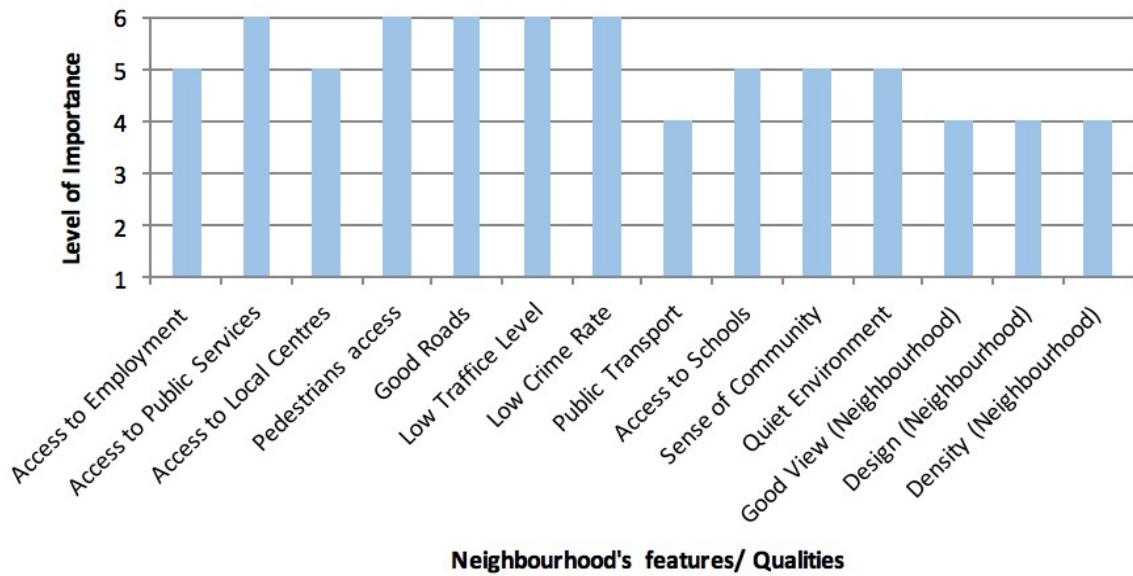


Figure 6.22: Al-Ghadamsi: Level of importance of neighbourhoods features/qualities



Figure 6.23: Al-Ghadamsi: Central communal-space

All the respondents agree with having private open-space within the home. There were two types of semi-private open spaces in the home such as terrace/patio/balcony. There was no private open-space (i.e. courtyard) included within the home-spaces. The terrace/balcony was accessed through the bedrooms, and the roof-patio was accessed through stairs. All respondents believe that the home should always be designed with at least one or two private or semi-private open spaces, especially for domestic use (sitting out/planting/storage for outdoor kids toys) The majority of respondents (11 out of 12 respondents) normally use the open spaces in the home for domestic purposes, four out of 14 respondents use the terrace for leisure purposes such as sitting out/storage for outdoor kids toys (Table 6.6). Nine out of 12 respondents use the terrace and roof patio for other purposes such as planting, washing lines, and barbequing.

Table 6.6: Al-Ghadamsi: The usage of open space(s) in the home

Description	Ground Floor Houses	First Floor Houses
Usage of Open Spaces in the Home Semi-private: Terrace Patio		
Domestic Purposes	7	4
Leisure Purposes: Sitting out, kids toys	3	1
Others: planting, washing lines	4	5
Usage Average	4.6	3.3

The layout of the neighbourhood, including the homes, provides adequate privacy for users. All homes in the neighbourhood have good positioning. The pattern of the neighbourhood, the way blocks were attached together, and the use of screened windows achieve the required sight and sound privacy. Ka-Zalanges and Al-Ghadamsi provide basic layout of the tenements organised around open-space based on street layout. These patterns in general, provide footpath access and a central semi-public yard, with the medium dense development, however, the layout lacks car-access/park (Fig.6.24).

All respondents in the traditional homes and Al-Ghadamsi liked the spatial organisation, design (good, flexible, and spacious) which maintain privacy. Ratings given by respondents from Ka-Zalanges show dissatisfaction with the layout in terms of number and size of the rooms, storage area, and open space (Table 6.7). This led some respondents

to add an extension/alterations. These alterations indicate that these homes were formerly designed for departing Italians.



Figure 6.24: Collective housing schemes: Car access

Table 6.7: Level of satisfaction within the three courtyard housing schemes

Housing features/qualities	Scheme-1 Traditional courtyard houses			Scheme-2 Ka-Zalanges Residence			Scheme-3 Al-Ghadamsi Residence		
	V. Satisfi ed	Satisfi ed	Dis-satisfi ed	V. Satisfi ed	Satisfi ed	Dis-satisfi ed	V. Satisfi ed	Satisfi ed	Dis-satisfi ed
House Design (Form & Function)	80%	13%	7%	14%	29%	57%	66%	34%	0%
Maintenance	59%	25%	16%	86%	10%	4%	83%	16%	1%
Enough No. of Bedrooms	64%	27%	9%	6%	46%	48%	40%	60%	0%
Bathroom/Toilets	59%	32%	9%	29%	57%	14%	42%	58%	0%
Male Reception	59%	25%	16%	13%	21%	66%	46%	54%	0%
Female Reception	62%	36%	2%	43%	17%	40%	20%	71%	9%
Storage Area	20%	33%	47%	27%	34%	39%	11%	47%	42%
Kitchen Size	13%	20%	67%	37%	43%	20%	45%	50%	5%
Spare room for multi-purpose use	53%	37%	10%	0%	0%	100%	12%	37%	51%
Garden/Terrace/yard /Patio	77%	20%	3%	63%	31%	6%	76%	15%	9%
Dining Area	93%	5%	2%	33%	31%	36%	77%	21%	2%
Accessible Toilet for guests	51%	40%	9%	6%	28%	66%	32%	68%	0%
Off road car parking	0%	20%	80%	21%	18%	61%	12%	30%	58%
Private Garage & outside storage	0%	0%	100%	9%	14%	77%	3%	9%	88%
Adequate living room	60%	37%	3%	36%	21%	43%	61%	39%	0%
Privacy	91%	0%	9%	51%	33%	16%	37%	47%	16%
Security & Safety	27%	67%	7%	58%	34%	8%	34%	25%	41%
Energy Consumption	60%	38%	2%	17%	27%	56%	12%	27%	61%
Recycle & Waste Collection	0%	2%	98%	20%	24%	56%	19%	33%	48%

Guest rooms (male & female reception) are the main spaces in the Libyan house which enable segregation of gender. These spaces were equipped to host and reside guests only. Most respondents highlighted the importance of these spaces within the house, and they were satisfied with this feature. All respondents commented that a spare room for multipurpose use was needed to be added among the internal spaces of the Libyan family's house. Living room and dining area were the most liked features for all respondents in terms of size and flexibility of furniture. Other important features and qualities, however, were not considered in the design such as off-road car parking; private garage and outside storage; recycle and waste collection.

6.2.4 Implications: movement from tradition to modernity in the physical form of courtyard housing

The characteristics and **home-spaces** of the traditional home are recognised as a reflection of local social structure and patterns of the family. The results show that participants are content with their home-spaces/spatial-structure and perceive that home reflected their personality in some ways. This was higher amongst old and middle aged people who have a greater desire for the life-style symbolised by the traditional house. In this sense, it can be concluded that modernity has a limited impact on life-style. However, the majority of the respondents in the colonial neighbourhood felt that their homes did not express their personality. This overall negative response was due to the fact that the form and function of these homes generally serve and reflect life-style of Italians and not the Libyans. The local social values and family patterns of the Libyan society hardly relate to these buildings, even now, many years after the departure of the colonialists. This radical gap highlights the differentiation of westernisation and the tension between the tradition and modernisation.

A strong sense of common identity comes from a strong coherent bond between the people of the neighbourhood. The satisfaction of residents' needs such as that related to quality of facilities in the neighbourhood, will motivate individuals and groups to seek, for example, long residency and develop a sense of attachment/community to other people and their neighbourhood. Thus, residents usually become more self-consciously aware of the sense of community when certain needs such as facilities, safety, presence of relatives and friends, good neighbours, and a sense of association exist. For example, when residents use

local shops and recreational facilities/activities, there will be more chances for them to meet each other to develop a sense of attachment/community, and to participate in community activities. The strong sense of place among all participants in traditional neighbourhoods was due to long periods of residence, and the presence of extended-families and positive values attached to these communities such as good relationships and a sense of social continuity.

The issue of **privacy** is always an important factor associated with home and family. This indicates that the concepts applied in the design of the colonial and contemporary home did not reflect the local society and family structure, where some essential features of the traditional home such as the courtyard have been discontinued. A general level of privacy among the respondents living in the colonial and modern homes was not well achieved because the concepts and principles applied in designing these homes were not based on local conditions.

The meaning of privacy, for example in Italian/Western society is completely different from the meaning of privacy in Libyan society. Individual privacy and mix of gender are some of the main aspects of the Italian family's daily life but not of Libyans. The Libyan family home, which is primarily the women's domain, is usually farther back with high perimeter walls surrounding the property to limit visual access. This structure to ensure certain level of privacy with the absence of inward-concept of the traditional homes, which indicates a decrease in privacy level.

The presence and use of the **domestic open-space/courtyard** was essential in order to provide family-privacy within the traditional-homes. The majority of the respondents in colonial/modern homes were also in favour of using the courtyard. This indicates that the courtyard is socially and functionally sustainable. Their tendencies also revealed that the courtyard is suitable as a temperature regulator (cool in summer, warm in winter). And most importantly, the courtyard offers a suitable/private place for women to work. This indicates that the courtyard is still very important for most Libyan families. Other issues (i.e. *socio-cultural values and woman domain; and gender segregation and control of access* are discussed in the following sections.

6.3 Socio-cultural values and woman domain

This section identifies the role and growth of gender privacy in the Libyan home and society, which in turn highlights the cultural differentiations to Westernised/modernised modes. The study involved a focus group with seven women, semi-structured interviews with fifteen home-owning Libyan families living in Tripoli, and visual elicitation (based on photographs of various areas of the home) to examine a meaningful use of space and objects. The study focused primarily on the women in these families, but male participants were involved in the interviews as well. The interviews discussed the meanings of home, women areas of the home, *privacy*, *cultural identity*, situations in which these spaces are used, favourite objects within the home, the meanings of these objects, and *usage patterns* in relation to *gender*.

Home was perceived by the respondents as a place of adaptation and self-expression. They associated positive feelings and memories when they described the meanings of home. In general, their responses indicate that the characteristics of the home are recognised as a reflection of local social structure and patterns of the family in Libyan society. The home expresses the personality of its residents and they identify domestic feelings with their home strongly, as a female respondent expressed:

“the home is a place of domestic tranquillity; and I feel that in mine”

“spaciousness”, “relaxation and distraction from work”, “being privately indoors”, “a place of family, a meaning of collective life”, “home means a world, a private and own world. It is a place where I feel satisfied”, “a place where I socially perform and privately entertain my guests”

Other responses drew on the feelings of security, privacy, and family continuity through the intergenerational relations. They also bring meanings associated with family history as well as social contact with neighbours and relatives. Male respondents said:

“When I moved into my house, and because I own it, home grows as my family grows”

“When I got married, my father paid first payment for me to buy this house after I had my two children. Yet, home is a place where I have been brought up and had my special experiences”

A male respondent living in traditional courtyard house, which people of Tripoli call *houshArbi* [indigenous type] which means the Arabic-house asserted:

“Home is where my parents lived, and it’s been a place that I’ve lived in after my marriage as well... It would be offered to my children, and it is a place they still live and come to”

A female respondent from an Al-Ghadamsi home placed the meaning of home, as where the family roots:

“It is *housh-Alaila* [family home]. Home spaces, even the changes we made in the home would reflect our family history”

A female respondent from Ka-Zalanges also identified the notion of the home as:

“The setting where family social relations of support, help, and unity took place”

Family roots, history, memories and experiences are also symbolically represented through details and objects in home, particularly for long-time residents. A female respondent from a traditional home expressed how desirable features add to the home identity:

“...the more the house was filled up with details the more it is rooted in memory. Homes rich in interior objects and spatial details are much more lived, much more liked. I think the house reflects what we do what we keep, and what is coexistent in our memories. A lot of things, objects, personal attachments and belongings are meaningful, they are part of the house, part of life. The house wouldn’t be belonged without its details”

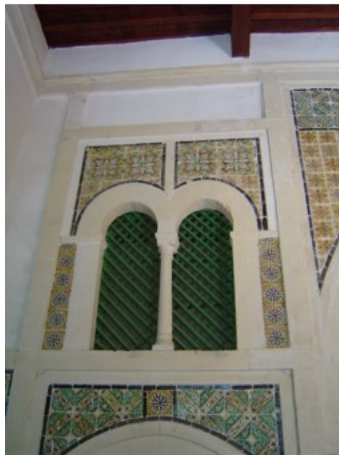
These observations reveal that the *home meaning* is traditionally as a place of peace and collective-life in Libyan society for both males and females. Responses also indicate that *attachments* and *continuity* are directly related to the symbols common to a history of home and family. They are very significant in bringing about a sense of *identity*. People's memories of physical elements/attachments/objects imply the impact of the meaning and image of a place. Physical elements such as traditional features that have continuity points from the past are a source of individual memory and social history. Some respondents illustrate (Fig.6.25) the social meaning and cultural identity through their pictures of some traditional symbols:



In the living room: the tea-set



Traditional kitchen: tools



Internal-openings towards the courtyard



Living-room: Traditional furnishings and objects



Traditional homes: Door-knocker



Exterior-openings: window screen

Figure 6.25: Libyan-home: symbols of identity

Source: Field-work/focus-group

These illustrations about home are to convey, and symbolically show, the family history. Respondents favourably linked cultural values with their home details and admitted to strong feelings of domesticity and belonging. This was expressed by a male respondent:

“I used to live in *housh-Arbi*...I liked the central yard that opens to the sky, where my family used to gather, eat, and play...I liked my room...my room’s window...details and entrance-door, the *Tqtaqa* [door’s knocker]. I used to recognize who was knocking, the way my dad when he was knocking the door using the *Tqtaqa*...so I know that the treats are on way...and I made sure that my current house includes these details...it’s the culture that forms our homes and identity”

Respondents reveal this pattern of domesticity and collective-life through their use of space for example, the use of the family room. They perceived this social-space as a place that provides the family with pleasure and comfort:

“We really appreciate the fact that we do have a place where all family members look forward to gather around, especially when mother sits behind the tea-set, which we find extremely valuable, it creates a sense of being at home, and tranquillity”

“...*housh-alaila* [family home] gathers family with a high level of privacy...enriches interior details and adds landscape...”

The interrelation between the users and the living space in home reflects a social quality in the way they traditionally perform their domestic relations and practices (Fig.6.26), taste and style:

“The tea-set is a social side of my family, which takes place in the living room *Dar El-Maqaad* [sitting-room/female reception]. This is an evening activity...but yes this is a normal activity, a tea time, where family gathered and relaxed around the tea set, drinking green tea with mint...”

“I think the meanings of some spaces in the home that make the most difference; are comfort and most important adaptability, we love the sitting-room when the tea-set is prepared that means family-time is started...it’s a special time, and it’s essential in the Libyan-house...with soft furniture (carpet, rugs, low-rise mobile matters, cousins), so everything has to be organised into place and comfortable, where a nice and private place for family to put yourself laid back and rest...”

“Spending quality time with family means a specific place in the house, where you could introduce combinations of manner and activities, and where you could perfectly feel content and pleased. I can then install my personals that create the feeling about where I lived what we call a home...our personal space that carries our identities...”

These observations indicate that users make their home, including the modern ones, adaptable to their social practices. This was achieved by the traditional pattern of space and furnishings as exhibited by family. The family room in the Libyan homes is a symbol of cultural identity and status when family members seek privacy and desire to socialise.



Sitting/living room: family gather and tea-set

Figure 6.26.: Libyan-home: living room and daily activities

Source: Field-work/Photo-elicitation

Family spaces provide private-hospitality associated with family gatherings, for example extended family. These occasions and gatherings provide extended family members times for entertaining, sharing food (Fig.6.27), performing various rituals, and having other forms of relaxation in a place of protection and privacy.



The family living domain: arranged in a traditional way with perimeter seating and large carpet, where family integrates/performs their daily activities.

Figure 6.27: The family-domain in the Libyan-home: the collective-life

Source: Field-work/Photo-elicitation

Spatial issues have emerged as important findings, which shed light on people's perceptions towards past and present domestic homes. Spatial aspects and specifically the *use of space* to meet modern requirements have been identified as a key feature in the contemporary Libyan house. Perspectives on home meaning were varied, but the concept of the home as a physical organisation seemed to be significant to respondents. A male respondent from Ka-Zalanges praised the history of this residence, however he claimed that the interior of the house lacks privacy:

“it's a nice neighbourhood, well designed and well built, it's been built by the Italians...well known in Tripoli because of its location and name 'Casa La Incis' as named by the Italians 'Casa' means home 'La incis' means engraved...I own this house for 15-years...it's a bit small for us. Only bedrooms are good in size, but we have concerns about guest-domain, but, anyway we are all right here”

The traditional-house was described as being “*hospitable*” and design of adjacent houses served to build and strengthen social fabrics through family and neighbourhood bonds. In contrast when describing the contemporary house, residents expressed a negative tone referring to the modern houses as being “*unfriendly*”. Another respondent from Ka-Zalanges commented about the unfamiliarity of the layout:

“I have 4 children and we are expecting our fifth. Now we do maintenance and had our living room and the kitchen altered as we have been allocated a ground floor house, so, the small land on the side of the house was occupied by the new extension”

She added:

“The Italians designed and built in Tripoli. Externally, it looked nice but internally it does not fit...what I don't like about the internal layout is that you have to pass through the living room to enter the other rooms as we use the central roofed space as a living and dining area”

The occupants of Ka-Zalanges found the inside of the houses to be Italian in style and had altered some of their features to make them more meaningful and less strange to them. Respondents from Al-Ghadamsi homes also placed some concerns in relation to adequacy of spaces:

“The internal spaces aren't adequate, especially the living-area and storage area...I had to modify the balcony into a storage-space... Spaciousness is a key quality of home-spaces that any Libyan family likes, especially in the living space and guests' area”

“...open space in the house is a very necessary space; it's where people are close to nature and green sights when they're at home...I can't imagine a house without open space, especially a private open space”.

Unlike the observations on the modern homes, respondents found the traditional homes were designed in a regional style, in which users find their history and identity. An elderly female noted:

“I've the home I need... all space I need...my private yard...I live here with my son and my grandchildren for over fifty years, I love my house my neighbours who I grew up with...no alterations, no modifications were made. As you can see, we've some maintenance work in progress, so the home looks fresh and ready to celebrate and enjoy Eid with family”

She emphasised:

“...I'd rather live in my courtyard-house than live in a palace ...”

The respondents from the traditional courtyard-houses tended to offer similar responses towards the internal spatial-structure, particularly the original owners:

“The Arab house layout is an original pattern...these houses [traditional] came [introduced] first...came right...symbolise the *housh-Trabelsi* [Arab house of Tripoli], where, in general Muslim family appreciate the spatial and cultural values...”

“The house has special features which make it pleasant. Visitors feel at ease when they enter the house, they entertain themselves privately sitting in the courtyard, enjoying the sun while feeling protected from being overlooked or overheard”

“...from inside out...looks impressive...ideal...pleasant...with private domain...guests' area is privately accessible...[courtyard-home]”

As a result of these attributes, the traditional courtyard house has not been altered:

“...no modifications have been carried out since I moved into my house, only some regular maintenance work”.

However, there were exceptions to these observations as these houses lose their socio-spatial value when they become multi-occupied, gender awareness, therefore, presumably is breaking down. Respondents claim that the Arab idea of gender-segregation and family privacy breaks down in the context of overcrowding:

“the large house is occupied by more than one family; it's been transformed according to the need for privacy. There was no family relationship between the people who share the house, as the house is occupied by different nationalities”

The absence of traditional features, for example the *courtyard*, is one of the major weaknesses of the contemporary homes, because people lose the domesticity of the social-space, where they can share some points of reference and memories. The courtyard-house is not only enhancing the uniqueness of the Arab-Muslim identity but also strengthening social integration:

‘I’d describe this open space as a spacious open room; I like the feeling of integration in this place where we enjoy sitting, sunshine, greenness, and even my cat and my birds are part of our yard...’

The residents associated positive feelings when they described this space (Fig.6.28). For them it gave a sense of belonging emphasising culture, tradition, and identity for others it conveyed the essence of connecting with the environment and sustainable living, and for people who live in modern homes, it did not have any meaning for them:

“...open space in the house is very necessary space, it’s where people are close to nature and green sights when they’re at home...I can’t imagine a house without open space, especially a private open space”

“The patio surrounds the house from four sides, these balconies, all made for a lot of wasted space...people don’t like being overlooked by neighbours or passers-by...for unwanted sights, you might change the whole character of the house...if you close these balconies off and provide support for roofing the outer open space, you destroy the facades’ features and characters”



Figure 6.28: The traditional Libyan-home: the courtyard

Source: Field-work/photo-elicitation

Despite these diverse understandings of the courtyard as a space, it was and still is essential in how people understand Libyan's traditional domestic social-space. This analysis also finds an explanation for the growth of *gender privacy* in the Libyan-home, despite the effect of

the modernisation. Gender-differentiated spaces in the home have received strong response, particularly from the perspectives of the females in the case study:

“I value my home, especially the private spaces...my bedroom, where I can read, pray and relax quietly, my family room, and most important the female visitors room which provides me and my guests with privacy. We provide this room for guests and not to be for family use only prepared to receive and entertain guests...”

“...we wanted to feel freedom throughout the house move freely between rooms, I feel uncomfortable when men present at home, especially non-kin, because they would violate the house’s privacy...Men are only allowed to enter only *marbouah* [male social room], while the rest of the house ensures privacy. I lose privacy when men are at home”

“My home is my kingdom and the important thing is to have my freedom, because we need the private open space i.e. courtyard attached to the closed spaces as well. In many houses the open-space is exposed to street and neighbours, which means without freedom. The courtyard provides being outdoors, plus I enjoy both freedom and privacy”

“At home I feel in control, my favourite place to sit and spend time with family is the family living room. It’s the centre from which I can see the whole house and whoever comes in...”

Female responses reveal that the family-home is the women’s domain and symbolises the domesticity and family *hurma*/sanctity (privacy for women and home in the Arab culture) and the men’s room/home entrance is the public facade of the family *hurma* (Fig.6.29). Thus, gendered spaces in the Libyan homes constitute a complementary relation and reflect the rigour of religion and social norms:

“I feel comfortable at home, which I don’t do in a public place. Clothes are different. I use a complete veil in public. I feel relaxed here without the *Veil* and *Abaya*. There’s more freedom at home”

“...to relax and have privacy and to be on my own, I stay in my home. There is no place better to stay in to satisfy my religion and respect my position as a Muslim woman...My bedroom is where I stay with myself. I have in the room a small sitting area. It’s quiet too, no noise. Every day I must sit by myself for one hour... when everyone is asleep, after I pray. I like to pray and reflect on the day, children matters, home, work...”

“...here in this society and as an Arab Muslim society, to be always out and in public presence/places and/or to mix up with men, is against Islamic and social norms...not acceptable unless women go out for work or education...so home means a lot to woman, mirror of safety and protection...”

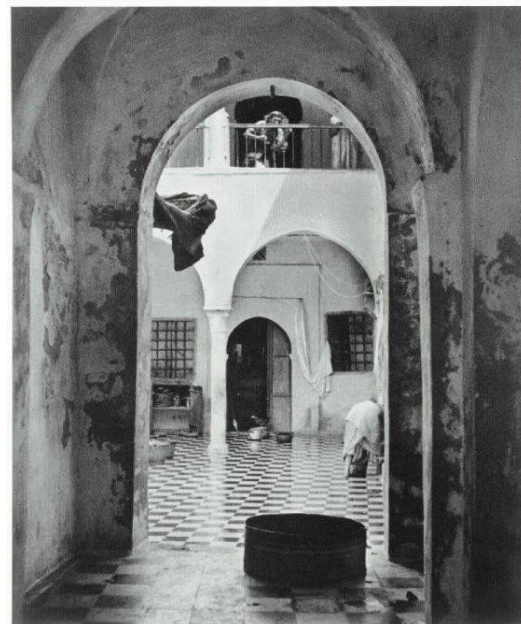
Women’s observations also reveal men’s presence in their domestic space as a transgression. Men, however, perceive women’s presence in their domain as inappropriate. Male respondents commented:

“...a separation between the family space and the space designated for male guests—*El-Marbouah* is key feature...Male guests have their room away from the centre, from where the women reside...”

“yes...it is very important that women are protected from public gaze [non-kin/strangers]. It is our duty as men to do so. You know how important it is in our culture”



Libyan woman: Outside cover/veil/hijab



Woman domain: freedom with privacy

Figure 6.29: Female privacy in the home and Libyan society

Source: Author-fieldwork (female focus-group)

These physical separations indicate a strong distinction between gender spaces and imply the cultural and religious symbolic importance of these designated spaces. Perhaps demarcating both male domain and women domain creates patriarchal relations/spaces. However, females' statements suggest that women symbolise virtue in Arab-Islamic culture. Their respected privacy is essential to the reputation of the family/tribe. Therefore, from

their perspective the underlying meaning of privacy is respect for religious values/gender and not a seclusion:

“...I use a complete veil in public...feel relaxed here without the Veil and Abaya...more freedom at home...”

“...There is no place better than to stay in to satisfy my religion and respect my position as a Muslim woman...”

“...to mix up with men, is against Islamic and social norms...”

The male social room is seen as an essential part of male hospitality rituals:

“The *Marbouh* [male reception] is a place of prestige and a place of hospitality. It has traditions surrounding it. This place should be spacious to accommodate as large a number of guests as possible. Its significance is reflected in the way of treatment and generosity embodied in it, as well as implied cultural heritage and values”

The reception rooms: female-reception/*Dar El-Maqaad*; male-reception/*marbouah* are the users and visitors' spaces (Fig.6.30). They seek both gender-privacy and desire to socialise with their friends and family. It is a cultural symbol of Arab hospitality and pride. It is a space that expresses feelings of cultural, authenticity, modesty, hospitality, and status.



Female guest room: The use of traditional pattern of furnishings



Males reception: The use of traditional and modern furnishings

Figure 6.30: The Libyan family home: Gendered-spaces

Source: Field-work/photo-elicitation

The *alterations* could imply new design concepts conceived by the occupants in terms of their own ideas. They modified their houses in response to their socio-cultural needs. The design of the Arab-house was adaptable to its users' desires. This was clearly brought out in the respondents' observations in terms of socio-spatial, functional and aesthetic aspects. Kazalanges' occupants, had their homes altered/extended, however, to what extent these houses are capable of being altered, a male respondent stated:

"...when it comes to the need for a space in which things can suit their users; converting these houses was possible. The Italian-style/corridor-house' because the central space of the house is a corridor with the other home spaces arranged on the both sides. But we could certainly rearrange the space to suit ourselves... we tried to adapt the house to our living requirements... the entrance to the house used to be a small-lobby that opens directly onto the main corridor... the room next to the entrance was converted to guests' room it was a living and dining room

[in the original design]. We isolated bedrooms from the other spaces by creating a small corridor [buffer zone] to create a private zone in the house...we found the conversion ideas quite interesting...we took what we're given, or rather found...and had it successfully altered in line with the Libyan family's home design"

Converting the Italian houses was possible due to the size of the rooms. The different dimensions of the rooms gave the occupants ideas about altering them. According to occupants, there were always things that needed to be changed, added, or converted:

"...many people say: 'What a small house' when they first enter it, but the size of the rooms allows altering, which makes the spaces more responsive to our needs. We made extra space by dividing the room into two, or transferring some of the space to another space; for example, creating extra space for guests, especially men...these flats differ in the layout but all of them were altered as the Libyan needs and wishes..."

From the perspectives of the users, the interiors of the Italian development lack *spaciousness*, and the quality of those houses is partly determined by their adequacy. However, the occupants found ways to adapt these houses to their changing needs. They introduced new components into a domain of spaces that was not designed for them, and tried to accommodate themselves as best they could:

"...the house has a potential where you could make new elements to be much more responsive, especially to define private family zone...we found these balconies wasted space, because we don't use them...we blocked the balcony off...converted it into an extra storage area...but open space should be placed within the home structure"

Occupants of Al-Ghadamsi did not seem to have conversion-plans over the spatial-structure of their homes. Some occupants, however, have alternative plans for rearranging the spatial-structure, in which spaces are brought in to line with the traditional-concept (defined spaces such as family zone/private domain, and guests' zone/semi-private domain):

"These houses are pleasant and strong to live in...spacious and comfortable..."

One can argue that participants' responses are a reflection of Libyan's socio-cultural reality, where people are constantly adapting to the conflict between traditional concepts/values and modern practices of space.

6.3.1 Implications: The persistence of the socio-cultural values

On the basis of the respondents' perspectives, the emphasis on privacy and gender-segregation in the Libyan home is largely perceived as anchors for religious and identity, particularly for women. As such, privacy in the home aims to provide women with the convenience of being uncovered and away from the public. Respondents' responses exhibit a pattern of strong adherence to traditional values and social norms, as seen for instance in the hijab of the Arab-women. Maintaining these anchors seems to differentiate the Libyans from Western concepts and reflects a desire to assert Libyan identity and distinction.

The physical separations imply a sharp visual distinction between private and public spaces and indicate the symbolic importance of the home in defining public and private domains. The interior of the family home is thus regarded as the most private part of the domestic space, which is also regarded as a woman domain, and the male-room the most public space. This also reveals that women dominate domestic space in the home in different ways, as women perceive men's presence in their domestic space as an intrusion.

The family home thus is observed to be a domain of control and freedom for the women of the house as they are in charge of the household within the private domain. As such, physical considerations in relation to privacy, gender-segregation and direct visual contacts between male and female or/and visitors and women have, therefore, been performed in a way that shows the centrality of the private spaces, and indicates a deep understanding of socio-cultural and religious values. The use and conception of internal and external domestic spaces, as evidenced by changes in the design of the home and respondents' observations indicate a persistent and distinctive pattern in the use of space in the Libyan house. The courtyard, for example, reappears even if absent from the layout. It reappears in respondents' remakes and even in their future plans/alterations, also in the form of a walled exterior area and notably in the case of a covered central room.

There was therefore *persistence and continuity* in the space use patterns for example in some cases the guests' reception in modern homes exhibits furnishing in a modern way (some of the furnishings have been modernised, for example: dining-set table). Whereas users maintained the living-space as more traditional, multi-purpose space with flexible arrangement for example mattresses/cushions and moveable tray similar to the space use in the courtyard-house. It is important to point out that the symbolic tendency of exhibiting a

contemporary layout, whether in furnishing or in the spatial-structure integrated with the persistence of the traditional space use pattern reveals an evident conflict. This in turn, illustrates how cultural values are resistance to change over space and time.

6.4 Gender segregation and control of access

The section also examines gendered-spaces, however, it deals with gender and access control from a different perspective. The socio-spatial analysis is considered as part of the discussion of women's privacy and gender as it analyses the internal access. This analytical tool was adopted from Hillier & Hanson (1984:93-94), and follows the sequence of: firstly, defining the space system as 'convex-spaces'; secondly, representing the spatial system in the form of 'axial-map', and transcribe permeability and relations within the spatial system; thirdly, analysing the 'syntactic-system' relations in terms of basic aspects of symmetry-asymmetry and distributedness/non-distributedness.

The procedure of applying of 'Space Syntax' as an architectural-analytical tool (See Appendix-VII: Procedure of analysis/applying the theory to traditional and modern Libyan homes). For the traditional courtyard-house, the permeability graph of the convex-analysis is justified from the exterior (Fig.6.31). Spaces are numbered according to their integration order from being the most integrated (13, 2, 3, 1) to the exterior and being most segregated. This reveals that the most integrated spaces are the central courtyard with spaces linked directly to it such as living room kitchen and female reception-room, and the private family space which connected to the loggia/semi-open space via a staircase which leads to the roof (open space for domestic use). Following in sequence are males social-room connected to the single entry point, which is most segregated.

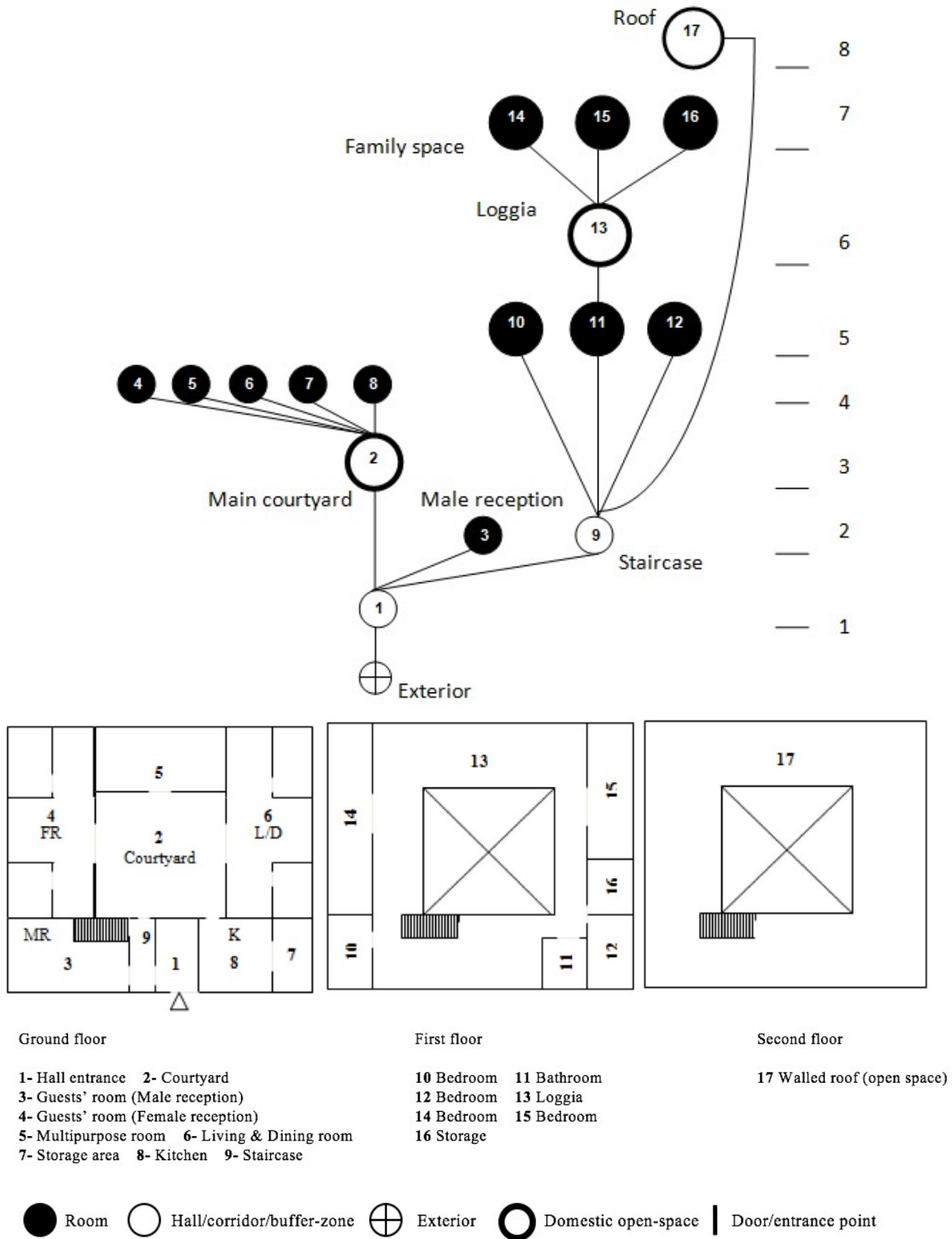


Figure 6.31: Permeability graph justified from the exterior (House1): traditional courtyard house

Source: Author, based on Hillier & Hanson (1984)

In terms of the layout/arrangement (Table 6.8) the traditional layout receives a main depth (MD) of 4.588. For Al-Ghadamsi layout, the mean-depth of the systems cells from the ‘root’ space is 3.438. This indicates that the traditional layout implies a hierarchy/branched arrangement, and shows a symmetric of sequence, which refers to spaces connected directly to the original space/root-space. In contrast, Al-Ghadamsi layout appears in asymmetric order, and refers to all spaces that are arranged in a linear sequence away from the original-space.

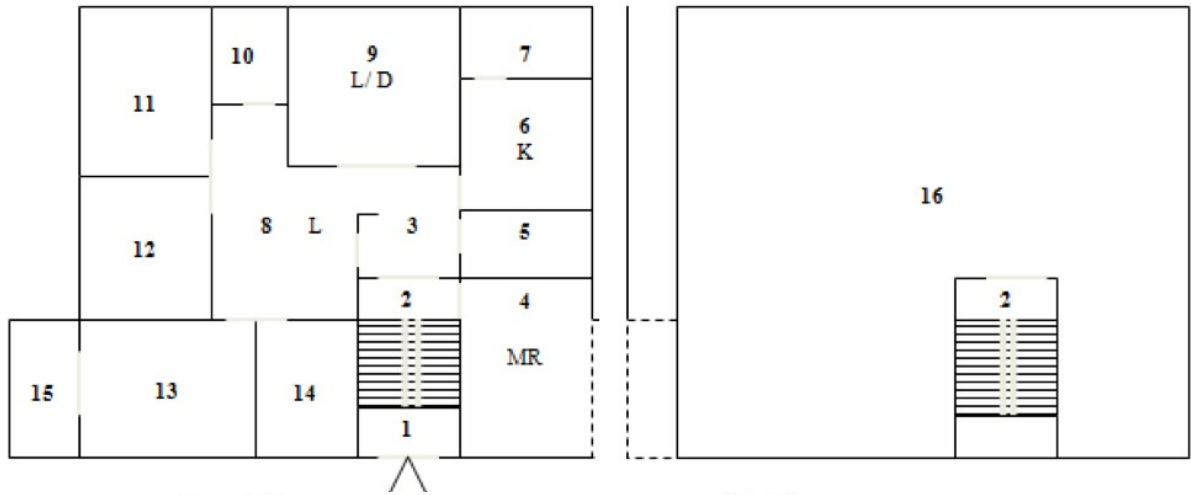
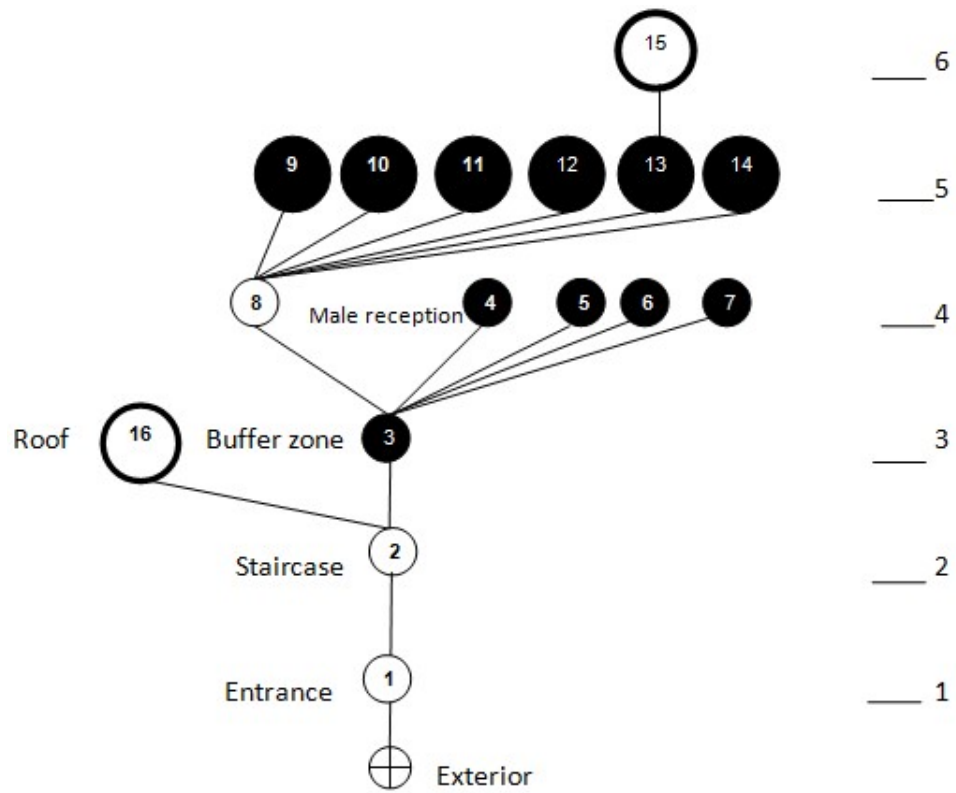
Table 6.8: Syntactic data of traditional courtyard house and Al-Ghadamsi-house

House type	Number of cells	MD	RA		RRA	
			With exterior	Without exterior	With exterior	Without exterior
House1: Courtyard house (Traditional)	17 From the ‘root’ space exterior	4.588	0.449	0.478	1.895	1.959
House2: Al-Ghadamsi house	16 From the ‘root’ space exterior	3.437	0.325	0.348	1.426	1.386

Source: Author, based on Hillier& Hanson (1984)

In the case of the traditional-house, the overall spaces are more segregated (more privacy) than the overall spaces in the case of modern-house (more integrated spaces/less privacy). This is supported by a high mean value of relative asymmetry (RA) of traditional courtyard house with 0.478, which refers to the system tending to be more segregated/private/controlled. Al-Ghadamsi layout carries a low mean value of (RA) with 0.325, which indicates that the spatial configuration tends to be more integrated through the whole cells’ system, including the domestic open spaces.

Fig.6.32 illustrates the permeability graph of the convex-analysis justified from the exterior for Al-Ghadamsi modern-home, where spaces marked according to their integration sequence from most integrated (8, 9, 4, 5, 1) to the exterior. A different pattern to that of the traditional-home shows up, in which the most integrated spaces are those in the circulation areas that are the 'shallowest' from each other or from the 'root' original space, such as family living area. This implies that the most integrated spaces are the central roofed living area and circulation spaces connected to it such as kitchen and dining area, following the private sleeping space of the family integrated within the buffer zone. The males-reception is quite segregated but not most segregated while entrances vary (modern homes may include more than one entry point) in their integration values. Entrances in the Al-Ghadamsi-house provide a path of movement through, from the exterior to front of the house/ back or/and surround open space.



Ground floor

First floor

- 1- Entrance 2- Staircase
- 3- Buffer zone
- 4- Guests' room (Male reception)
- 5- Toilet 6- Kitchen
- 7- Storage area 8-Living area
- 9- Living & Dining room 10-Bathroom
- 11- Bedroom 12-Bedroom 13-Bedroom
- 14-Bedroom 15- Balcony

- 16 Walled roof (open space)

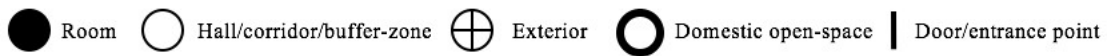


Figure 6.32: Permeability graph justified from the exterior (House2): Al-Ghadamsi-house

Source: Author, based on Hillier& Hanson (1984)

In terms of space-function Table 6.9 identifies the key functions of different spaces in each house and sets them in a sequence, each according to its integration-value as follows:

The integration sequence for House 1 is:

Family space > Main courtyard > Reception > Entrance (mean) > Exterior

The integration sequence for House 2 is:

Roof > Living area > Sleeping Zone > Reception > Front open space ‘Veranda’ > Entrance (mean) > Exterior

It can be noted that in the traditional courtyard-house, the courtyard in the lower floor and the loggia in the upper floor are most integrated, followed by the entrance (linked to the passageway and staircase). These spaces provide the core of movement/activities, thus, the integration-values indicate a scale of the relationship between spaces within the spatial system.

Table 6.9: Sequence of integration of spaces’ functions

Functional aspects of main spaces: integration values							
House 1	Family space >	Main courtyard >	Reception >	Entrance >	Exterior		
With exterior	0.725 >	0.875 >	1.025 >	1.466 >	1.825		
Without exterior	0.828 >	0.933 >	1.093 >	1.493 >	1.946		
House 2	Roof >	Sleeping zone >	Living area >	Reception >	Balcony >	Entrance >	Exterior
With exterior	0.304 >	0.305 =	0.305 >	0.380 >	0.381 >	0.609 >	0.914
Without exterior	0.326 >	0.327 >	0.337 >	0.408 =	0.408 >	0.653 >	0.979

Source: Author, based on Hillier & Hanson (1984)

Integration-values of the courtyard-house layout reveal the deep meaning associated with it, in which the spatial-configuration can be divided into integrated and segregated spaces. Integrating spaces appear in the courtyard/semi-open spaces, family living and the circulation spaces connected to them. These multi-purposes spaces imply ‘movement hub’, where different activities/daily activities of family can take place, such as family-living and female-reception room. Segregated spaces appear in entrance, reception, and guests’

domain. This system implies 'static-activity', in which the user(s) occupy the space(s) for certain activities/time only such as male-reception. The hierarchy arrangement of the traditional courtyard house shows black and white spaces (totally segregated) defined by gendered-use. Certain space to be used and accessed only by males of the family, and male's guests such as male reception *El-Marbouah* which is integrated within the entrance hall. The central courtyard and the living spaces connected to it are the spaces that symbolise and are used by the women of the family and to be accessed only by the men of the family (spaces for daily activities).

The social pattern of space-use and arrangement has started to change the most modern homes to be totally integrated, although the segregation concept is maintained. Comparing the above integration sequences for the key spaces in each spatial-configuration within each house, highlights dissimilarities. This indicates that the spatial configurations of both houses are very different to each other, especially in the way that those key spaces are organised in relation to each other to make up the spatial-pattern, although within both layouts privacy and gender segregation are highly considered as important aspects.

The traditional-layout suggests that the space arrangement is highly influenced by the user's privacy. This is clearly revealed in the hierarchy of the living spaces, particularly, those mainly used by women. Home spaces, therefore, are divided into three parts according to the basic functions and activities that take place within them (entertainment/ guests, living/ sleeping and services/kitchen). However, spaces and functions change and overlap according to the need of time and activity. Unlike the exposed open-spaces, the inner-courtyard by its inward nature could keep the privacy of the family maintained.

In the arrangement of the inner-spaces of the modern-home (i.e. Al-Ghadamsi) most concern is related to the entrance-hall, as it is the key link between the outside and the inside. It was perceived as inappropriate when the entrance door is located directly open onto the corridor leading to the family spaces as this allows direct visual access to these spaces. As corridors are the dominant feature in Ka-Zalanges homes, a preference for a central space was strongly emphasised for several reasons. Using this middle space as an extra living space for family activities, such as watching TV, and having meals as well as for children to play in, are among the mentioned reasons for preferring such a focal space.

Yet the level of privacy provided in these spaces determines the way in which, and by whom, they are used. It is also found that the use of space in the modern Libyan homes is changed from that assumed by the designer, especially when homes in these projects offered a degree of privacy different from what is desired. Thus, as a result, it is observed that users alter the use of space by adding some physical features and extensions. Implications of the socio-spatial analysis can be concluded as follows.

6.4.1 Implications: The hierarchy of spaces (Problematizing the home: a focus on gender-divisions and the household)

Utilising ‘Space Syntax’ technique in this study has strongly illustrated the aspects of gender, access-control, and privacy of the female within home. As a supplement tool, it also provided deep understanding of the essence and character of the spatial structure of the Libyan homes, their functional and socio-spatial meanings. This has revealed that usage-flexibility, accessibility and adaptability are critical if spaces are designated to be used for a range of purposes. Unlike the modern spatial-system, the traditional is organised in hierarchical domains and neatly interacted. These points of interaction are controlled in order to maintain privacy for the inner-spaces, where the heart of the home is located. The inward-looking (the orientation of residential spaces is focused inwards) of the traditional homes ensures the hierarchy and centrality of the private domain/woman domain. The space-syntax analysis has also revealed the reference to one single point of entry, which indicates a strong pattern in the traditional homes, where the males’ social room is located in the entrance zone than the modern homes.

Moving on to examine the modern spatial-system, it has been observed that, firstly, the central courtyard was superseded by a roofed living room, which is treated as a distribution hall and is mostly located in the middle of the house. However, due to the acute shortage of space in the modern-house, this space has become closer to the main entrance and guests’ spaces/males room. Despite this limited area, users show a strong tendency to separate the guests room from the living area. Secondly, the separation between the living area and the bedrooms has nearly disappeared, and the modern-home spaces have become more integrated/less privacy. Besides, not providing, for example a small toilet in the guest-area may disturb family privacy as guests are required to enter a private domain in order to use

these facilities. These physical changes, however, and particularly the central roofed-living domain implied cultural and functional values, for example the role of woman remains substantially traditional in relation to gender-relations and norms. A functional implication is that the central roofed living domain in the modern-homes occupies the same role as the courtyard in a traditional home. This in turn, revealed a degree of continuity of the traditional values in the interior layout in relation space use.

In addition, a functional aspect of the modern layout revealed that the spatial-organisation contains user-labelled spaces used to carry out static-activity. Whereas, the functional aspects of the traditional layout appeared to include movement-spaces, in which different activities can take place within space. However, what can be observed from the socio-spatial analysis is the hierarchy traditional spatial-system, in which space use and access are rigorously distributed/interacted. This may imply a potential of dark-side of the home in a way that could exclude the occupants of the home, and use the home as a practice of control. Nevertheless, the principles of privacy, modesty, and hospitality are central, and each principle has a significant effect on the design of Muslim-home, as well as on the organisation of space and domestic behaviours within each home (traditional or/and modern). Yet, this hierarchical system of the traditional home is a socially adaptable form as it was designed with gendered-roles and spaces in mind.

6.5 Conclusions

This analysis has drawn on established approaches to symbolic/cultural meaning and interaction in home studies, sociology and architecture. Through greater attention to the experience and understandings of people, this study explores the phenomenon of home and social voice, particularly the issue of gender and how people perceived their homes in the context of the tension between tradition and modernity. The respondents of this study show how knowledgeable people are about their homes, especially the women of the case study. In Tripoli, for example, home design and gender segregation can be perceived as forms of noticeable consumption that resist the influence of modernisation and westernisation. The domestic voices have more traditional referents, asserting, symbolically the powerful cultural values embodied in the Arab-Muslim homes. More importantly, this analysis has drawn these observations from a perspective of an Arab-female researcher, which enable me to gain access to an important domain of urban society: the domain of the women and

domestic relations. Being an indigenous/insider researcher with my field experience and role flexibility helped understanding norms governing female behaviour in a gender-segregated society.

For Arab-Muslim society, privacy and gender-segregation play important factors in strengthening and accommodating social interactions which, in turn, strengthens the ability of space in achieving an identity. The notion of the traditional courtyard-house was conceived by dividing the space according to the social nature/norms/religion and the degree of privacy. Therefore, this concept socially classified the spaces, the public/private, and functionally, transitional spaces to define best arrangement for interior/exterior spaces, women/men spaces. However, only people who live in this kind of housing appreciate these advantages. The openness towards modernisation/westernisation in its all impressive aspects has affected the physical and spatial arrangement of the house and the use of the social space, including the socio-cultural values of society to adhere to contemporary principles of the home environment. However, this analysis revealed that the spatial/architectural aspects and the differentiation of modernisation and westernisation in the space use and privacy concept have been influenced by the socio-cultural and religious factors.

In Tripoli, the colonial/western homes, including the modern housing development have lent themselves to the analysis of such contradictions between tradition and modernity, and westernisation and modernisation that occur within the levels of social reality. Consequently, occupants modified/altered/converted/extended their homes to meet for example usage flexibility, privacy, and socio-cultural adaptability, by doing so, this suggested that occupants realise how those socio-cultural values resist change by modernisation flux. In accordance with the methodological model of Boudon and Lefebvre (1972), this analysis also suggested that the contradictions between the concrete reality and the abstract level of professionals' assumptions imply Lefebvre's social reality concepts. These assumptions were based on modernisation, standardisation, functionalism and architectural symbolism, which were centrally planned. In Tripoli, the analysis did not hold the same kind of contradictions, as people in many cases have been allowed to alter/build their home with a minimal intervention as a result of an unestablished government and unstable public policy.

In addition, Lefebvre argues that changes in the organisation of a society influence the social space, which is likely to override design theories for specific culture/society i.e. Fahty's cultural perspective of Arab-home design. Notwithstanding, according to respondents' observations, the courtyard-house concept is a socially appropriate form that suits the Arab lifestyle, including gendered-roles and spaces. In this regard, the study also reveals that there is a persistence in the traditional-use pattern of home spaces in the modern homes as occupied in the traditional ones, especially spaces used by family members. There is also a pattern of domesticity that implies, traditionally, how people perform their daily activities and domestic relations.

The hierarchical arrangement of social spaces in the traditional home is an effective spatial-system in response to the changing needs of the social group. This was revealed, using a socio-spatial analysis (space syntax), which in turn, highlight gendered-roles, social space and activity/function that take place within. This reflects the sustainable aspects of the social activities/interactions within the home through maintaining privacy and gender-segregation. This spatial-system is also used in achieving the transitional spatial sequence in traditional context (i.e. access-control and the reference to the single entry point).

Nevertheless, the socio-spatial analysis suggests a kind of dark/negative side of the home because of such relations/access-control/social-behavioural by the men of the house. This, in turn, reveals the patriarchy, exclusionary, oppressive and very hierarchical spaces. There was a reluctance, evident from the observations of the women in the case study, to reveal this dark aspect of the home. However, from their traditional-perspectives, the underlying meanings, social norms and privacy is respect to the cultural/religious values and not seclusion. The next chapter brings together the analysis/findings at both levels of social reality to link them with theories of home meaning, space-use and gender, culture, privacy, and the Arab home concept.

Chapter 7: Interpretation of findings

7.1 Introduction

The emphasis on privacy and gender-segregation in Libyan homes is largely related to the requirement of the modest self-presentation/mirror for users, exclusively for women. As such, privacy, space-use and gender in the home aim to provide the centrality of the women's space of being separated from public/non-kin encroachment. Whereas, the social male room, for example, is the space where traditions are sustained, and family identity is enacted by men. Although the family home, as women's domain, is increasingly adopting a modern structure e.g. flat/villa/detached-house, and uses modern interior designs and furnishings, both spaces in the Libyan homes offer elements of stability, Islamic-cultural values and resistance to change. This continuity bridges the gap and reconciles the conflicting tensions between the need to remain connected to one's roots and maintain cultural identity, on one hand, and the increasing movement/demands towards the modernity that the country has been undergoing, on the other.

This chapter brings together the findings, thematically-presented within the two previous chapters, and integrates them with the theatrical-framework. It presents a discussion structured around three key categories of knowledge/literature: *The reference to the epistemology of Lefebvre and ontology of Fathy*; *The discussion of Western housing and feminist studies of home and gender*; and *Arab studies/perspectives of the Arab courtyard-house*. The themes intend to develop understandings, and complement ideas that have emerged consistently throughout the analysis and findings. Thus, from this point, the discussion demonstrates how these findings are contrasting/ complementing the existing studies, which are defined/discussed under those categories in chapters 2 &3.

7.2 The reference to the epistemology of Lefebvre and ontology of Fathy

Chapter 1 set out the research perspective to the meaning of the home, reconsidering the courtyard-house as a socio-spatial process, which is realised in a concrete world through the narratives that people tell about experiences and the ways in which they interact with the home/urban-space. The interconnection between social reality and space has been conceptualised as a sequential process of change by which the urban space is produced and identified by institutional society (Lefebvre, 1991). The spatial-relations are also identified

by Lefebvre as they are, historically permeated by the social relations. This social theory combines a concern for the social constructions of space with the importance of the concrete reality (Merrifield, 1993; Dovey, 2008). The following section relates the assumptions about housing in Libya, and in particular the architects' conceptions, to Lefebvre's different levels of space and society analysis (i.e. the levels of social reality).

7.2.1 Courtyard housing demise: Internal contradictions, innovation programmes and obstacles

This study adopted the social reality triad to examine the different levels of this social phenomenon (i.e. home design/ideologies, space use). The reference to levels implies a criterion for judging the success of a design in relation to its ability not just to meet needs but its flexibility in supporting different and changing lifestyle (Boudon, 1972). In this study, the overall effect of utilizing the social reality levels of analysis suggested a distinction between the intentions of architects and the state policy/housing assumptions on one hand, and the way that users respond to their homes. It also has a methodological implication, suggesting that the reconstruction of these levels according to the different levels of society involved e.g. professionals' theory, housing assumptions, and users, this analysis therefore focuses on practices and events at each level.

Likewise, the findings of this study suggested a discrepancy between the actions and intentions of the state policy in relation to housing development on one hand, and the statements/behaviour of the residents on the other. However, here in this study the differentiation is that the architects emphasize the aspects of the modernization/standardization in terms of local culture and environment. In other words, they are talking about a conflict between the assumptions of designs borrowed from the West and local culture and environment. There is another difference, Boudon's case study (1972) was based on an innovatory scheme. In this study, case studies are based on typical housing forms and so raise broader issues about the relation between residents and the context in which the built environment is designed and produced.

In this study, however, findings suggested that internal contradictions were evident at the abstract level of the professionals' theories, between architects' conceptions and the government (housing policy and assumptions), which is acting as an obstacle to the

innovation programmes in housing design. As a result, architects noted a conflict between modernization and Westernization:

“...it is a sort of imported architecture...very often, and the use of urban housing that might be Western models, or rather the hybrid models were applied...where...traditions, lifestyle, and culture of the Libyan environment require a quite different typology to match these facts...”

“...a kind of mass-housing...it wasn't socially appropriate to accommodate Libyan families”

“...using/imposing foreign staff with scant regard to the socio-cultural context...”

“...the dominant housing forms in present Tripoli (flat/detached/publicly provided), didn't follow the expectations of their users in relation to spatial and functional aspects...”

Housing programmes/policy formulated to maintain efficient housing stock were failed from the perspectives of urban planners and architects. This was as a result of political and economic influences such as the economic blockade, and the collapse of the oil price. Urban planners' statements raised concerns about housing policy in terms of regulating housing, and incapacity of the local authorities to implement these programmes sufficiently:

“...there were periods of disruption between 1980-2010 in both housing policy and urban planning...housing schemes implemented during this period lacked quality and didn't match Libyan lifestyle...”

“...there was no a mutual relation between urban planning and housing sector policies...there was no urban planning ideology since 2000's...they should link and work together...”

Azlitni (2005) found that many problems arise regarding the implementation of new urban plans in Tripoli, as a result of many reasons: the insufficiency of local professions in urban planning and urban design; the majority of urban plans prepared by foreign-companies that have limited knowledge about Libyan Society and the local conditions of the country; the lack of qualification of local administration, regarding the implementation process; the long time-gap between the planning and implementation process; and the lack of direct public participation in preparing development plans.

Moreover, the disruption in the housing policy/programmes during the 1980's has led the government to adopt the investment housing schemes, which in turn has failed to satisfy

the socio-economic needs of the users. The loans granted to people, therefore, enabled them to buy a plot and erect their own house with minimal intervention in relation planning control. Housing policy manager noted that:

“...housing policy has been developed by the government...the government decided to produce high-rise mass-housing...people could be granted loans to buy plots...”

The response of the housing policy manager did not suggest any new development. As far back as 1980's the government's contribution has resulted not only in high-rise mass-housing, instability in housing policy/planning control/housing design criteria, but also in the spread of indiscriminately applied detached housing. Town planners and architects responded to this in terms of the aesthetic, spatial and functional implications of adopting this type of development:

“...also during this period housing policy has failed to set out planning control and/or housing design criteria...indiscriminately/individually applied own-built housing based on plans produced by housing authority and/or copied by a building contractor...”

“...the period 2000-2010 there were urban plans set out for the different zone of the city. This resulted in the appearance of own-built housing, which was developed out of the urban plans and made a negative impact on the residential urban pattern...”

The instability of the housing programmes in Libya has been also highlighted by other Libyan housing-policy scholars (e.g. Awotona, 1990; Hudana, 1995; Omar & Ruddock, 2001; Sheibani & Harvard, 2005). This was attributed to the economic aspects of the Libyan government (i.e. economic blockade) during 1990's, which led to stagnation in the housing sector, declined the government participation with a scant participation of the private sector to in housing development (Sheibani & Harvard, 2005). The development process in the housing sector during these earlier periods 1980's & 1990's depended on the Government's efforts in the field of building and construction (Hudana, 1995). The housing sector has not been performed well when measured against either economic growth or social shelter objectives. This is due to a combination of a malfunctioning housing-market, and policy constraints impacting on housing supply and demand (Omar and Ruddock, 2001).

The Libyan government adapted housing design and building-regulations based on the West, but there were no experimentations/attempts in housing design, considering culture

and region to bridge the gap (tensions between modernization and westernization) through innovation programmes. Architects were frustrated about this and essentially they found this way blocked:

“I have proposed an urban form of Libyan family house...but this was an attempt as an individual project...it would have been better to apply this idea in a large scale neighbourhood...obstacles were faced, owing to the urban policies...”

“...Libyan users appreciate privacy and spaciousness within the home...in high-rise tenements people feel that they are temporary residents...they are looking forward to settle...”

This revealed the lack of home-grown innovation programmes in housing design in Tripoli. For this study and generally in Libya, the implication of these innovations is that they are a product of a sustained programme of research and development, which should be initiated by government. Shawesh (2000); Gabril (2014) have argued that the evolution of the design and type of the modern housing in Libya has been influenced greatly by the adaption of standardized trends. Many homes in contemporary neighbourhoods were designed by foreign architects/companies, where neither their function nor form relate to Libyans' culture/life-style and climatic conditions. The vast number of commissions/tasks were given to architects from Europe, while the contributions by Libyan architects remain insignificant and disregarded. This has created a discrepancy in establishing an architectural identity.

In addition, the introduction of the setback regulations changed the front part of the traditional Arab house in both spatial organization and access aspects. The detached-villa completely ignored the traditional way of accessing the house and instead the front setback was used to define the male social room. This is clearly seen where the spaces in the front are occupied by the guest domains and separated from the family domain by a door that like to some extent the central family zoon in the traditional house entrances (Emhmed, 2005; Almansuri, 2010). These planning and building regulations formulated by government has yield different clause, according to family size and plot are as architects argued:

“...building regulations included clauses such as S1, S2, S3, S4...etc....these regulations have set of specifications...in terms of plot are, density and building rise...”

“Law No 5 on housing designs/regulations was set in 1969...included detached, semi-detached and high-rise building...according to government decision...developed and implemented by foreign companies...”

Accordingly, this indicates the exclusion of the courtyard-housing form the modern development. This distance/discrepancy between architects and system of government, being obstructive in one way or another, and the criticism of the architects who work with the government, also revealed two points in the context of the tensions between tradition and modernity: the negligence of courtyard housing because of the imported Western models, and type of housing/building-regulations; and therefore, as a result of this people were not aware any more of the advantages of living in courtyard-housing. The criticisms by architects suggested that these homes (modern layouts), in fact, have been strange to their users:

“Libyans don’t like to live in flats... Living in a flat users lose their sense of privacy...People are also restricted, especially women movement...it is key consideration how important it is in our culture”

“...traditionally, Libyan family as a Muslim preferred not to be overlooked by adjacent houses...against these regulations, users made alterations to such as balconies, exterior open spaces that intruded their privacy...”

“...Libyan family preferred the Arab house that was developed in the line with the Medina’s ones...”

Only people who live in this kind of housing (courtyard-house) appreciate the advantages, for example respondents live in courtyard house commented:

“...I'd rather live in my courtyard-house than live in a palace ...”

“...I’ve lived-in what we call a home...our personal space that carries our identities...”

In addition to that the demise of courtyard-housing was owing to the decision makers/regulations, which were mainly influenced by government’s ideologies, mass-housing produced post-1969 had a negative impact on the socio-cultural structure and social behaviour. Architects claimed:

“...the exclusion of courtyard house concept affected the socio-cultural and privacy values of the Libyan house...the widespread of high-rise housing schemes in order to allocate people on a high-density less-space sites for less costs, has increased crime and anti-social behaviour...”

“...the courtyard was gradually abandoned...firstly the Italians introduced...villa and flats...courtyard positioned at the back...replaced by central roofed room...recently...foreign developers have applied housing schemes...using features that Libyan users regarded as wasted space such as balconies...”

Awotona (1990) concluded that high-rise blocks developed in Libyan, reflect neither the traditional Islamic planning concept which stresses the idea of close interrelation between the various aspects of life, nor the Islamic concern for privacy in the residential quarters. Since the design of mass housing/high-rise blocks was stimulated by industrial aesthetics, and hence controlled by the criteria of standardised/modernized architectural products and of mechanised urban life. Factors influencing the appearance of courtyard housing, particularly in the Arab region have been concluded by (e.g. Bada, 2006; Bianca, 2000; Hassan, 1982).

Changes in socio-cultural and urban planning aspects have influenced the courtyard-housing concept in the North-African cities: the changes in family structure from extended family to single-one; housing policy has imposed small plots, making the introduction of courtyard space a difficult task; the reorientation of the house to the street (urban planning regulations have encouraged this effect); and the individualization of rooms has undetermined the collective life of the family (Bada, 2006).

It has been also pointed out that one of the most important factors influencing courtyard housing's appearance was the European-colonialism 19th-20th century, which led to a creeping westernization of architecture, without much local creativity going into the transformation process (Bianca, 2000). Housing and streets laid out according to Western design patterns and a host of new housing form on the grounds of modernism (Emhemed, 2005).

In summary, based on Lefebvre's analytical components: the abstract/theory/ideology; the operational; and the concrete, and of these three, the distinction between the abstract and concrete was the most important. The operational is mostly about how design relates to specific site and scheme. Neither Boudon's study nor this study have much material relating to the operational. However, the architects have their own ideology/conceptions/innovations whether based on industrialisation or Islam. In this study, the implications of adopting the methodological approach of Lefebvre & Boudon (1972) is that: they address the

contradicting/complementing between these levels in terms of the universal standardization/modernization.

This study, examined in the light of this theory, the cultural differentiations/gap of Westernization and modernization from the perspective of the Libyan architects; this in turn revealed the distance/contradictions between the ideology of government as an obstructive to the architects' conceptions/theoretical-considerations/innovation-programmes; and therefore the government has not bridged the gap/tensions between modernization and Westernization. This was resulted in the imported Western models and regulations on one hand. On another hand, the negligence of the region and socio-cultural context as well as the courtyard-housing; this study also examined the tendencies of the architects to identify the spatial arrangements of the Libyan homes in terms of functional/usage flexibility, cultural adaptability and privacy values, for example, architects suggested:

“...reviving the traditional family house as a model for the contemporary Libyan house...”

“...there is a social impact of the Libyan home structure...guests occupy their domain even they aren't existent...”

“...spaces to be retained...courtyard...maintain privacy over the guests' domain...”

“...central area is considered as a roofed courtyard...”

“...the position of the courtyard in different corners of the house offers flexibility...”

“...female reception room becomes integrated with living room...”

The use perspectives and adaptability as are evident within the architects' statements, but nevertheless there was an omission of gender, particularly in the architects' focus-group. When they discussed the socio-cultural aspects of the Libyan society, they implicitly included the gender issues:

“...privacy and religious considerations have been always taken into account in the traditional homes...”

“...separation between the family-living domain and the spaces allocated to male guests/*El-Marbouah*...”

“inside the home...when female guests are present, the movement for males becomes limited while women have full freedom...”

“I don’t think that Libyan women like their living room, where the place is in use by family members and/or sometimes is messed up...being observed by strangers/guests...”

In this study, the discrepancy was also as evident by distinctions made by the respondents, particularly the female respondents. They stated, for example, different views towards their homes in relation to changes they made in order to maintain for example privacy, identity, usage flexibility, and spaciousness. The changes in the spatial organization was partially imposed by the government and partially imposed by people’s actions/alterations (Sheibani &Harvard, 2005; Amer, 2007). Because people selected what was adaptable to their lifestyle:

“...it has been transformed according to the need for privacy...”

“...even the changes we made in the home would reflect our family history...”

“...Now we...had had our living room and the kitchen altered...”

“...I had to modify the balcony into a storage-space...spaciousness is a key quality of home-spaces that any Libyan family likes, especially in the living space and guests’ area”

The foregoing discussion revealed how the physical transformative conflicts in the Libyan society have affected the socio-cultural values and the associated behavioural aspects to adhere to contemporary principles of the home environment, by means of Westernization and modernization/standardization. The physical and spatial arrangement of the house and the use of the social space in a modernity context, therefore, became metaphors for the invisible image of the social and cultural values of society.

The spatial differentiations in the Libyan homes concept have influenced the categories of socio-cultural, religious and privacy factors. In this sense, Fathy’s cultural approach provides the idealistic and prescriptive way, of which the Arab-society should move. This approach asserts how Arab-city and urban development, notably courtyard-housing should develop in accordance with religion, culture and environment. The relevance of his ideas to the sociocultural context of this study, particularly the aspects of gendered-spaces, culture and privacy is discussed below.

7.2.2 The idealistic approach of Fathy in Arab home design

Fathy's approach is in contrast to that of Lefebvre. Starts from broad prescriptive tendencies rather than from the analysis of interactions between residents and the development process. His approach is deeply theoretical and ideological. As illustrated (Fig.1.3), the aspects of the general observation of Lefebvre's social theory (1991) suggested that the structure of the urban spaces is subject to the logic and change of society.

In the Arab society, however, Fathy (1973) argued that there is a strong gender-segregation, culture and religion that seem to persist despite the changing traditional context. Fathy has been critical of the forces of development, and the effects of modernization that undermine local culture and traditions. He argues that industrially developed societies have weakened the craft developed societies through increased communication (Fathy, 1986).

Fathy's work is a 'complex duality' of eastern and western influences, and contradictions between them (Steele:1997:6). The relevance of Fathy's approach to this study is how the traditional form of the Arab house has been developed, and how can it be justified as an alternative modernism. This prototype seems to have been conceived to produce the same variety of contacts with open space (Fathy, 1972). This was discussed with the architects in terms of bringing his ideas in practice, in relation to modernized/Westernized the housing design. However, from the perspectives of the architects, Fathy does not offer an appropriate model as was reflected in the comments:

“I have used his ideas as a narrative context..., but not as a reference, the architecture of Fathy is ‘Nubian’ architecture’...”

“...in general, the Arab house shares the privacy and gender-segregation values...”

Findings in this study, however, revealed that the Arab communities shared the privacy and gender-segregation of the Islamic-Arab house. Substantially, respondents expressed the same tendency and love of tradition and cultural-identify that Fathy argued was the root of Arab approach to building and to the Arab-home:

“I used to live in *housh-Arbi*...it is the culture that forms our homes and identity...”

“...The house wouldn't be belonged without its details”
“...reflect our family history...”

“...from outside to inside...look impressive...ideal...pleasant...private domain...guests' area is privately accessible...”

“...these houses *traditional* came *introduced* first...came right...symbolise the Arab house of Tripoli *housh-Trabelsi*, where Muslim family appreciate spatial and cultural values...”

“...*housh-alaila family home*...gathers family...high level of privacy...interior landscape...”

Some architects, implicitly related the traditional aspects of the Arab-house, such as privacy and gender-segregation with the impact of the modern movement, which is consistent to that of Fathy:

“...culture is number one...the house was sustainable *indigenous* forms...how we express our culture...now...housing design is not that...in the future, we are going to lose our identity...”

“...Now...people are the same like they still have *Marbouah male guest room*...but at the same time how they use the space in the modern homes...”

“A major characteristic in Libyan home is that there's separation between the family living domain and the space allocated to male guests ...”

“...understanding, for example, user needs for privacy, providing private open space for natural light and air, i.e. courtyard with flexible access to other home spaces...”

The great majority of environmental designs are adaptations of solutions previously used. Forms that are a model to be emulated become prototypes (Lynch, 1989). The precedents of courtyard housing for example are viewed as a tool to assist in developing generative strategies and conceptual ideas that can mediate between what is commonly defined as traditional and specific contemporary conditions (Mitchell, 2010). Reinterpreting the past, therefore, in a way that is useful and suitable for the present will re-establish a sense of continuity and eliminate the rupture and sense of alienation being voiced as a result of the introduction of a contemporary environment (Fathy, 1974).

From these roots, Fathy identified architectural and cultural adaptation as a model of the Arab-Islamic house, and all-encompassing Islamic conception of domestic space (Rabbat, 2012; Noor, 1991). In relation to the conservative side, Fathy (1973:57), explicitly, claims that woman symbolises the internal space of the ideal Arab house ‘femininity, womanly inwardness’. This study reinterpreted the physical and social aspects of the courtyard house from the perspective of users in terms **Privacy and woman domain**. The notion of Arab-home is related to role and space of women, which Fathy (1973) argued, home is a domain of women. The women responses, in this study revealed that woman symbolises the centrality and domesticity of *housh-Alaila* [family-home]:

“...My home is my kingdom...courtyard attached...I enjoy both freedom and privacy...”

“...At home...my place to sit and spend time with family is the family living room. It’s the centre from which I can see the whole house and whoever comes in...”

Privacy and gender-segregation were and still are of great importance in a Muslim's household. Rules of *Shari'a* based on *Qura'an* and *Sunnah* contributed to unify the character of the Islamic Arab architecture. Social behavioural/social customs of Arab family such as the concern for privacy, in turn, persist itself in the built form configuration (Hakim, 1994; Al-hathloul, 1998). The courtyard offered a perfect solution to maintain privacy adhering to religious and traditional values (Edwards *et al*, 2006; Ragette, 2003). On the basis of the participants' views, religion and family structure/kinship in Libyan society are very strong factors that determine how people perceive/use their homes:

“...I feel uncomfortable when men present at home, especially non-kin...men are allowed to enter only *Marbouah* [male social room] ...the rest of the house ensures privacy...”

“I value my home, especially the private spaces...most important the female visitors room...provides me and my guests with privacy...”

The inward-looking-ness of the courtyard house, with no view to the outside world, may have stimulated the concern for privacy. Just as the house was always screened so women were always veiled in public. Like the women the house was a private preserve and as such protected (Warren, 1982:86- 94). This form of privacy and social behavioural, especially for Muslim women is translated into reality in the built form (i.e. courtyard-

house). It is clearly visible, for example, in the daily dress of Saudi-Muslim women in the form of *hijab* (Bahammam, 2006).

Architectural form of the house is totally veiled from the outside, giving complete privacy to its components and spaces whilst also providing protection to its inhabitants against outsiders. The forms of privacy shown by this study are in line with those of (Warren, 1982; Bahammam, 2006). The way the Libyan women dressed up when she goes out to the public domain also reflects the concept of the Arab-house. The study findings revealed a hierarchy of privacy that influenced the layout and use of space in the Libyan home despite the effect of the modernization. Respondents' statements indicated two forms of privacy: family privacy; and female privacy, which is identified by cultural and religious values:

“...guests with privacy...” “...*Marbouah* [male guests room] ...”

“...Visitors...entertain themselves privately...” “...private spaces...my bedroom, where I can read, pray...family room...female visitors room *Dar el-Maqaad*...”

Architects confirmed: “...being respectful of Islamic religious values in Libya has influenced the form and use of space ... There're a lot of windows but they're screened, like a woman with *veil*...”

“...The physical form of the traditional homes reflects the privacy concept, like a woman with veil, she can see but cannot be seen...”

Findings to emerge from this form/code/symbol of social behaviour is that the interior/centre of the Libyan family home is regarded as the most private part of the domestic space, and the male guests room the most public space. The comments of the respondents are fully in line with the cultural references (e.g. Lawrence, 1984; Baskaya, 1996; Mazumdar & Mazumdar, 2001) that highlighted that the degree of people's interactions affects the space and transition used. There is a significant perceived need for privacy by females' respondents, reflected in the design, and the use of domestic spaces. In all visited homes, the space designated as private was for the family (husband, wife, and children) and close male relatives, as well as female visitors. The public or communal areas were for men and their male visitors (male social room), separate spaces are designed to serve these functions. All these physical separations, visually encode a sharp visual distinction between private and public spaces and indicate the symbolic importance of this liminal domestic space in defining public and private domains.

The most important of these traditions is kinship ties/social structure and the extended family concept. There was a tendency to separate extended family members and relations within the modernized homes/flats compared with traditional houses where families live within proximity to each other. These values correlate favourably with Elbendak (2008), asserting that although the extended family is the primary element of the social structure in Tripoli, traditional family structures have become less common with many young couples choosing to live in smaller nuclear family groups. However, this study observed that the change of attitudes and practices towards the internal/ external space distinction implied that the emergence of the nuclear family leads to a smaller house, but not a different type of house.

It is fundamental to note that religion is regarded as a key factor in shaping the Arab-Muslim home. Also there are many determinants (e.g. social structure, social norms/privacy) that create a system of spatial configuration (e.g. hierarchical levels of spaces), which in turn affect the use of these spaces. The Libyan home designs therefore might become more modern, however, the use of home seems to remain much as before. Space form and use are strongly dominated by religious and social values, albeit in the context of the nuclear family. A modern design therefore implied points of continuity with past and those of cultural and identity values:

“...I used to live in *housh-Arbi* [traditional courtyard-house] ...my current house includes these details...culture forms our homes and identity...”

“...it’s been a place that I’ve lived in...would be offered to my children...”

“...its significance is reflected in the way of treatment and generously embodied in it...implied cultural heritage and values...”

The residents' comments are fully in line with your earlier interpretation of the meaning of home from *Qur'an*'s perspective (Sec. 2.3.1). Gender-segregation, maintaining women's privacy are considered as major feature of Islamic-culture. And further support the notion of space use patterns, family/social relations/culture, and privacy, which form a hierarchy spatial structure (Rapoport, 1969; Baskaya, 1996). This also supports that the Arab-Muslim home is a product of cultural and religious factors (Altman, 1984; Oliver, 1987). The spatial structure of the traditional Arab-homes was conceived into two domains: the public (male domain); the private (women domain), which highlights the aspects of the centrality of

women spaces and a patriarchy system (Auguste, 1983; Moghadam, 1993; Alhathoul, 1998). In this study, although the contemporary concept of women's role and home design, the traditional views of the respondents, especially the female of the case study confirmed the continuity of this socio-cultural pattern, and showed a respect to the Islamic-values:

“...clothes are different. I use a complete veil in public. I feel relaxed here without the *Veil* and *Abaya*. There’s more freedom at home”

“...I have in the room a small sitting area. It’s quiet too, no noise. Every day I must sit by myself...I like to pray and reflect on the day, children matters, home, work...”

“...to be always out and in public presence/places and/or to mix up with men, is against to Islamic and social norms...home means a lot to woman mirror of safety and protection...”

For these women, the woman domain and/or bedroom, as an extension of self, is not just a place to sleep, but a place where they can enact their most inner selves and pursue spirituality. It is where they pray and recite the Quran. This substantiates previous findings in the literature that of the home is a woman domain (Fathy, 1973). In Arab-Gulf countries and Saudi Arabia, particular emphasis is placed on privacy through the segregation of male and female spaces; this requirement affects the layout and design of these homes (Mortada, 2011; Sobh &Belk, 2011), and further supports the conceptions of the architects:

“...Privacy and religious considerations have always been taken into account in traditional Libyan homes...”

“...it’s very important that women are protected in Arab Muslim-society...”

“...Libyan family home reflects people’s lifestyle and values...”

This confirms that women embody morality and virtue in Arab-Islamic culture (Othma *et al*, 2014). These distinctions extend the objective of the present analysis to suggest how to bridge the gap between the differences of Westernization and modernization, past and present, or tradition and contemporary/modernity. The next section reflects on the influence of Western values, and mainly identifies the aspects of the Western tradition, for example, the idea of home and role of women.

7.3 The discussion of Western housing and feminist studies of home and gender

The key aim of drawing on the Western housing and feminist studies is to examine in a different culture the Western, predominantly UK literature on the role of women in the

home. As discussed in (Sec.2.2 &Sec.2.3), both perspectives of home meaning, the western and Arab, acknowledged that the home is a place of self-expression, however, the latter places emphasis on the physical, religious, and social values, which reflect the womanly domain, tranquillity and centrality in relation to privacy and gender. From the Western perspectives, privacy can be about autonomy and control. Controlled space is culturally conceptualized as an extension of self-identity (Gurney, 1999; Marcus, 2006).

The right of the individual to non-intrusion (Madigan *et al.*, 1990). For Arab women it is both a right and an exclusive privilege. This is reflected in dress, space, architecture, and proxemics behaviour (El-Guindi, 1999). It can be also interpreted as an attempt to establish boundaries and affirm identity (El-Guindi, 1981; Mortada, 2011). Based on the concrete reality of residents, the emphasis on privacy in Libyan homes is largely related to the requirement of modest self-presentation for Muslims in public, particularly for women. As such, privacy in the home aims to provide women with the convenience of being uncovered and away from the public gaze, as a male respondents pointed out:

“...Male guests are entertained away from the centre of the home, while female guests are entertained in a special room inside the home. When such female guests are present, the males’ movement is restricted while women have full freedom”

“...it is very important that women are protected from public gaze [non-kin/strangers]. It is our duty as men to do so. You know how important it is in our culture”

This social pattern correlates favourably with the idea that women embody morality and virtue in Arab-Islamic culture (Othman *et al.*, 2014). As noted in the foregoing discussion, the inward-looking of the Arab-house, is the domain of woman. It is therefore of great importance that this enclosed space with the femininity it contains should not be broken (Fathy, 1973; El-Safty, 1981). This is consistent with the traditional perspectives of the women focus-group, which confirmed family home is primarily a woman’s domain in terms of privacy and control. This does not include the male's area, since it is usually separated from the family space and does not undermine the privacy of the female of the family. Woman in the case study perceived men’s presence in their domestic space as a transgression:

“...Men are only allowed to enter *marbouah* [male reception] ...the rest of the house ensures privacy [for the female of the family and the

female visitors] ...I lose privacy when men [the non-kin and/or male guests] at the home...”

From this point, the positionality of the researcher was of particular significance in this study, as it being conducted by an Arab female architect in a gender-segregated Muslim society. This gave the researcher privilege of rich insights into their perspectives and understanding of the domestic space that a male researcher would not have. Recent interpretations point out that the inward-concept house highlights the seclusion of woman and gender-segregation spaces, representing the differences between Arab-Muslim residences and European houses (Chowdhury, 2010).

Western culture has ambivalent attitudes to privacy. Most architectural literature considers the issue of privacy within the home in terms of the segregation of adults and children, quiet and noisy domains (Chermayeff & Alexander, 1963). It is often equated with being alone, although family ideology asserts a form of ‘togetherness’. Privacy is considered, yet being confined to a private sphere is seen as a form of deprivation. For some women the private sphere is a source of strength even when it has been defined by traditional domestic boundaries, while for others the house is a prison in which they are tied to domestic duties and social (Madigan *et al.*, 1990: 632).

Spatial and gender segregation aspects of the Western tradition have been taken up by the feminist writers (e.g. McDowell, 1983; Smith, 1987), have argued the implications of the internal structure of housing, for example, the idea of the home having a negative side to such a degree that women trapped in the domestic environment. The Victorian town-houses, for example, reflected the internal hierarchy of domains with the public ‘masculine’ domain at the front of the house and the private ‘feminine’ domain confined to the rear (Madigan *et al.*, 1990: 629). Patriarchal relations and inequalities in power between men and women and children are created, maintained, and reproduced within home (Bowlby *et al.*, 1997; Morgan, 1985).

The position and culture of Western feminism, considerably differ from those assumptions and social reality of the respondents to this study. Patriarchal relations and spatial hierarchy within Arab homes are key features of family and home ideology (see e.g. Elsaty, 1981; Othman, 2014; Sobh & Belk, 2011; Bahammam, 2006). In the context of Tripoli as an Arab Islamic city, it is found that gendered-spaces are relational and appreciative in nature and that their persistence shows how Libyans perceive conflicting

cultural pressures that the current modernized society has increasingly experienced. Architects acknowledged this persistence in the traditional pattern of space and socio-cultural values:

“...in the typical Libyan house, guests occupy their domain even if they aren’t existent...the Libyan family preferred not to be encroached on by others, especially their private living domain...”

“...major characteristic in Libyan home is that there’s separation between the family living quarters and the space allocated to male guests...”

Socio-spatial analysis findings in this study have also revealed this patriarchal side of the home in relation to gendered spaces and roles within the household. From the perspective of gender awareness, ‘Space Syntax’ analysis, therefore, revealed that the traditional form of courtyard house gives a priority to formal social interactions. It is strongly controlled by the man of the family, especially the entrance area (single point of entry) with the social male-room, whereas women are all in the inner domain. It also triggered that the home could be used as an exercise of control through a hierarchical/oppressive/patriarchy/exclusionary spaces.

The dark side of the home is related to gender-division, internal layout and family. There was a reluctance in the women views to reveal, explicitly this negative side of home/patriarchy control, which upheld the adherence to social norms/religion in relation to role/space of women. The female perspectives, therefore, implied that the underlying meaning of privacy is respect and not a seclusion:

“...I feel comfortable at home, which I don’t do in a public place... There’s more freedom at home”

“...to relax and have privacy and to be on my own, I stay in my home...” “...home means a lot to woman mirror of safety and protection...”

“...There is no place better than to stay in to satisfy my religion and respect my position as a Muslim woman...”

“...we isolated the bedrooms from other spaces by creating...buffer zone...we took what we are found and had it altered in line with Libyan family home...”

Respondents' observations also revealed that a persistence in the traditional pattern of space use appeared in several different ways to indicate that the **cultural identity is resistant to change**. The guests' domain in the Libyan homes is well defined and symbolises culture, hospitality and honour of the Arab Muslim family. It is the domain that has kept what is perceived as its traditional style, structure, and meaning, social practices and furnishings also implies the traditional patterns. Objects and traditions have been applied in meaningful context from the past. They can be an important part of the display in the Libyan homes, for example, *Dar El-Maqad* (females' guest room) and/or *El-Marbouah* (Males' social room). Many antiques, and traditional items are visible, such as doors in the traditional style, and windows *rawashin* (special places to keep objects), antique coffee and tea sets, and traditional arrangement of furnishing. These patterns implied social and domestic meanings, which were held by the respondents' statements:

“...the more the house was filled up with details the more it is rooted in memory...”

“...Homes rich in interior objects and spatial details are much more lived, much more liked...”

“...lot of things, objects, personal attachments and belongings are meaningful they are part of the house, part of life. The house wouldn't be belonged without its details”

“The *Marbouh* [male social room] is a place of prestige and a place of hospitality. It has traditions surrounding it. This place should be spacious to accommodate as large a number of guests as possible. Its significance is reflected in the way of treatment and generosity embodied in it, as well as implied cultural heritage and values”

“The tea-set is a social side of my family, which takes place in the living room *Dar El-Maqad* [sitting-room/female reception] ...”

Such observations confirm that the home is an interrelation of objects, spaces and practices (Boudon, 1969). The impact of these relations on home design, of social structure, nature of kinship and the modes of interaction among the members of society have a great influence on the level of privacy and gender in it (Altman, 1984). Moreover, in this study, the activities of the female within the household remain the traditional role, even though they are employed, the woman space likewise remains unchanged.

7.4 Arab studies/perspectives of the Arab courtyard-house

It is claimed (e.g. Noor, 1991; Edwards *et al.*, 2006; Rabbat, 2012; Fathy, 1972; Hakkim, 1994) that the Arab courtyard houses were designed as functional domains, which socially suits users' aspirations. Socio-cultural, religious and lifestyle of people are key factors in giving the Arab home architecture its identity and character (Rapoport, 1969; Oliver, 1997; Fathy, 1972). On the basis of the survey study and interviews, findings confirmed that the inward-concept of the **traditional courtyard house** is believed to have more than one advantage. Functionally, it makes it easier to benefit from the use of the inner open space as well as spaces connected to it, which are mostly used by the household.

Socially, it creates a private outdoor area for domesticity, comfort, and safe outdoor area for domestic and leisure use. The courtyard house illustrates that the spatial arrangement is highly influenced by the user's privacy. This is because of the hierarchical spatial organization of the living spaces, particularly those mainly used by family members such as living, dining, kitchen and sleeping areas. The whole space inside the house is divided into three zones according to the basic activity carried out there; namely, (entertainment/ guests), (family living/ sleeping) and (services/kitchen) Within the spatial unity it is found that there are interlinking functions.

These findings corroborate with that the hierarchy system of spaces reflects an individual behavioural and physical patterns also modes of social interactions (Hillier & Hanson, 1984; Lawrence, 1984). In the Islamic societies religious and social norms create a system of spatial configuration. The way Muslim communities control their private space/family-privacy is to separate the public realm from the private realm, and the way gender interaction in these spaces is bound to be influenced by Islamic beliefs (Baskaya, 1996; Mazumdar, *et al.*, 2001). In fact, the spaces and functions change and/or overlap according to changing needs and situations. It offers an outdoor space to fulfil the occupiers desire for privacy, this outdoor open space was conceived as a social component. This supports "The significance of the courtyard is evident in the central role it often plays in private life" (Rabbat, 2010:223).

The distinction between the different domains and spaces within the **modern home layout** seemed slight, although the privacy of the household and visitors are still preserved. The arrangement of the home spaces is bound to be considerably influenced by the area

available. The central roofed living area and the spaces connected to it are also key features of the modern Libyan home. There was a strong tendency amongst the respondents from the three courtyard housing schemes to provide guests' room separated from the living room and other home spaces, despite the acute lack of space in some dwelling units (i.e. Al-Ghadamsi and Ka-Zalanges homes). This pattern supports that boundaries/transitional points are used to define our daily affairs and restrict and regulate the interactions of people and the use of spaces. Spatial meaning is therefore expressed by unwritten social rules (Lawrence, 1984), and a focus on boundaries helps us to understand the way in which people use social space.

In this case, one of the bedrooms is used as a traditional living space with flexible arrangement of mobile furniture (mobile mattresses, cushions and dining tray). The persistence and continuity of the traditional use patterns in the modern home is well illustrated in the living and family domain (the central roofed living room) to maintain traditional/multi-purpose, and flexible use of space. This concept occupies the same function as in the courtyard in the traditional Libyan homes (see Fig.6.26). Traditionally, no space in the Arab house has an explicit function assigned to it. This confirms that shifts in use of the rooms according for example to changing in family structure and climatic conditions (Bianca, 2000; Ragette, 2003).

Respondents of this study showed how their homes were capable to adapted to their identity:

“...when it comes to the need for space in which things can suit their users, converting these houses was possible...”

“...creating extra space for guests, especially men...these flats were altered depending on needs...”

The conception of Italian/colonial style lent itself to such alterations in order to become more in line with the traditional typical Libyan house. These alterations were carried out to promote, particularly the segregation between the family and guests' domain. To define, also a central living area where the daily family activities are taken place. Nevertheless, in modern Libyan homes, it is evident that the central courtyard returns, fulfilling the same function as the central living roofed room. In other words, the courtyard has become an internal feature of the home and hence is quite similar to the traditional home in relation to space use, but is no longer in the middle of the house.

The contemporary home has new relations to the street through large openings, a walled exterior outdoor-space, and a roofed central living area. Notably, the courtyard reappears as central a roofed area. Within the three courtyard housing schemes, a variety of domestic open spaces used according to the home layout. These domestic open space(s) were defined by socio-cultural and use aspects. The respondents were asked how important would they use the domestic open space in their homes. The private open space/courtyard received a mean=6 out of 6 which indicates that the private open domestic space is a very important component in the Libyan homes.

Findings also showed how respondents rated the type of domestic open space(s) and the way they use it (See Tables 6.1, 6.4 &6.6). The sense of enclosure that is provided by the courtyard has three dimensions: environmentally; socially, it provides a privacy and comfort; and functionally, it can be adapted to any use for the daily activities and occasions. On contrary, modern housing development illustrates how the different spaces of the house are organized central roofed spaces such as living area (used for gathering and dining) or long corridor. Type of use (e.g. leisure and/or domestic use), define each domestic indoor/outdoor open space. Notably, these spaces are attached to the kitchen and the family living area. The area of these open spaces depends on the activities carried out, whether it is for sitting, drying clothes, or just for getting more light and fresh air for the spaces nearby.

Residents from Ka-Zalanges feel that the balconies in their dwellings do not offer sufficient space to accommodate the essential outdoor activities, or they cannot use them for such activities as they are visually intruded. This is also the case in the modern single-family house Al-Ghadamsi, where the open spaces are situated in front of, behind or around the house. Women interviewed also noted that they find it difficult to use their front yards as these spaces are subject to visual intrusion by neighbours and passers-by. These spaces (i.e. front yard) are more likely to be used by male members of the family to meet male guests and for children to play, but are not likely to be used for performing domestic activities. In addition, it is found that the back yard, to be often used when screens/protecting devices are provided, otherwise, as some interviewees, especially women expressed that to consider certain dress code such as hijab to be worn while using these open spaces (walled exterior area).

The concept of the courtyard has disappeared from the housing design, and replaced by exterior open spaces such as balconies and verandas, which are hardly used due to lack of privacy and functional role, as they are exposed to street and public (Table 7.1). Respondents from Ka-Zalanges and Al-Ghadamsi homes perceived that the balconies do not offer sufficient space to accommodate the essential outdoor activities, or they cannot use them for such activities as they are visually overlooking to street which breaks their privacy:

“...we found these balconies wasted space, because we don’t use them...we blocked the balcony off...converted it into an extra storage area...”

Table 7.1: Social definition of the domestic open-spaces in the Libyan homes

Domestic open space type	Activities	Occupation frequency/Usage	Privacy level	Symbolic position	Possibility of reference
Traditional courtyard-house Courtyard	Female domestic activities Family gathering Eating Female guests are received Children playing	All liveable diurnal and nocturnal time	Domestic private open space for family members use, open only for guests female	Centre of the house very important symbolic position	Traditional Arabic model
Veranda/ Terrace Colonial-Style	Receiving male guests Having coffee	Certain times of the day and night	Social space, open to family friends & neighbours especially male’s members	No specific position No symbolic importance	Mediterranean (Italian) model
Altered Arab house Courtyard Post-colonial style	Domestic & Leisure activities Family gathering Eating Gardening Children playing	All liveable times during summer	Private family domestic indoor open space, open only to family members	Moved to the rear part or corner of the house Important symbolic position	Derived from Traditional model concept
Balcony Post-colonial modern-house	Seldom used space Altered space to storage area Altered space to expand rooms	Hardly used as a semi-private outdoor space	Semi-private outdoor open spaces overlooked by public, lack of privacy	No symbolic importance	Western model

Source: Author, based on Abdelmalek (2006:47)

A central point is that the respondents want fully private open space that can be used by the family as an outdoor room:

“...open space should be placed within the home structure...and in inhabited way”

“...I can't imagine a house without open space, especially private open space...”

Which is to some extent different to Western expectations in terms of privacy (i.e. women and family). This private space comprises whether an interior courtyard/patio or an exterior yard surrounded by a wall. Western ideas (e.g. Colquhoun, 2004; Lynch & Hack, 1984) treat open space as an exterior to the home and as necessarily involving a lower level of privacy. Design of the private outdoor spaces must be carefully considered in respect of how spaces are likely to be used, and they should be intimately related to the unit, with suitable size and good orientation. The use, size and the degree of enclosure thus are the main factors determining the use of the domestic open space(s). But the essential determinant is the presence of other users (e.g. visitors). Also the type of use of the open space (e.g. leisure and/or domestic use) and the energy consumption define each domestic indoor/outdoor open space (see e.g. Sibley & Goh, 2009; Goh, 2010).

According to the survey findings (see Table 6.7), a total of 70% of the respondents from the three courtyard housing schemes were satisfied with the spatiality and flexibility/adaptability of their homes design. This includes the modern layouts that have been altered to maintain privacy and segregation between family and guests' domains. This indicates that the Libyan society's traditional ways of living illustrate the choice of housing style and forms of the building. The situation is different in the Western world, where industrialisation, rationalisation efficiency, and new types of social organisation determine the design and style of housing.

The different pattern of housing is a reflection of socio-cultural factors and people's choice of dwelling, which invariably form the built environment (Madanipour, 2003; Goodchild, 2008). This highlights the gap/shifts/conflicts/cultural-differentiations between Westernisation and modernization. In particular, the cultural differentiation lies in the separation between the private and public domains within the home which is based on gender manifestation. The Arab house involves a different way of treating the interior/ exterior distinction, public and private, male domain and female domain (Mazumdar *et al.*, 2001).

This study found a supplementary socio-spatial theory (Space syntax, Hillier & Hanson, 1984), to understand these physical separations and visual destination between private and public domains in home. In this study, spatial patterns of a selected sample of houses

(traditional, modern) were subjected to analysis by means of space syntax, which attempt to extract hidden social aspects (i.e. access control/gendered-spaces/roles). Spatial organisation can be analysed in terms of gender and function, therefore the analysis was based on gender domains, and the relation within the house between inhabitants and guests (see Sec.6.4).

The domestic space configuration of the traditional Libyan homes introduces a link between the design of the dwelling and their social consequences. Nevertheless, they were changes in the use of the spaces in those traditional houses. However, privacy remains the key in the organization of the space. The family rooms, for example, become functionally single, instead of multiple purpose, space for sleeping, living or/and receiving female-guests as a result of the changes in family structure and position of woman. In the traditional houses the guestroom *El-Marbouah* (male room) was mainly used by the male-guests only, female guests used the living room. Therefore, adding a guestroom for women meets the new needs of women for social-interaction. The Libyan social structure, family and gender hence are bound to the social norms. The inclusion of religion and the rigorous system of kinship influence gendered-roles and spaces (Mazumdar, *et al.*, 2001). This in turn emphasizes the male role to maintain rituals, and more importantly the home becomes the focal point of women's religious and social practices (Mazumdar *et al.*, 1999).

Significant/focal/central spaces and/or activities at home, hence, are defined by religious ideals and contribute to women self-identity and family-social roles. This adherence and respect to these familial roles, which connect the women to the private space are also enhanced by a physical allusion in the Qur'an (24:30) see also (Sec.2.3.1). The idea of the veil/hijab is seen as physical reflection of the concept of privacy. The entrance, for example, tightly related to the entrance/access point and separation internal from external as a first access. the second access to separate kin and non-kin male and female (Bahammam, 2006; Webster, 1984).

The changes can also be related to the role of women in the family and society, which remains traditional. As the role of woman is slowly changing, the informal social interaction is taking a slightly higher priority in the modern home, where informal social activities are taking place in the open space, such as sitting and chatting in the courtyard. In this regard, respondents' observations also revealed that despite the changing traditional concept of the women's role, and their wider movement, the key determinant of traditional and modern

Libyan homes design maintains gender-segregation and privacy. The socio-cultural aspects that form the Libyan house, therefore, can be considered as a modifying factors. Since Space Syntax holds a lot of potentials for meaningful objective socio-analysis of the built form, and shows how the architecture elaborates the social space. This might lead to more insightful interpretations of the essence and character of the Arab courtyard house, and its socio-spatial values.

It can be concluded that there is a different conception of the relation between the interior and the exterior. However, the difference is not the direct product of culture, but only an indirect product. The crucial influence is how space is used where users reflect their cultural identity. The preference for a courtyard house is, therefore, a modern as well as a traditional phenomenon. The use and conception of internal and external domestic spaces as evidenced by changes in the design of the home and respondents' perspectives show a persistent and distinctive pattern in the use of space. The courtyard, for example, keeps reappearing even if it absents from the layout. It reappears in respondents' comments and also in the form of a walled exterior area and in the case through a covered central room. This concept offers elements of stability and resistance to change. However, tensions between the need to remain connected to the house form's roots and preserve cultural identity, on one hand, and facing the demands of modernity, on the other, are embodied.

7.5 Conclusions

This chapter discussed how homes of Arab-Muslims, and their meanings are defined in the contemporary Tripoli. What remains from past/traditional patterns and cultural meanings, and what has been changed by modernization (Change and continuity). The dual influences of Lefebvre and Fathy provided a theoretical basis, which suggested contradictions between the abstract level of ideology/professionals' theories and the concrete reality level of residents on one hand. On the other hand, internal contradictions were evident between ideology of government/housing assumptions and the professionals' theories/architects' conceptions. This highlighted the tensions between modernization and westernization, and showed the conflicts between the fundamental and symbolically cultural values encoded in Arab-Islamic homes and the influence of modernity.

Referencing to social reality concepts suggested that the consistency between architects' conceptions and residents' response seemed to have drawn towards the spatial

structure, space use flexibility and cultural adaptability of both traditional and modern homes. Architects' statements, also highlighted the changes over space and time. Space changes as living aspects change, which would tie up with what Lefebvre (1991) argued, each society produces its own space. However, Lefebvre was talking about the distinction between a preindustrial and an industrial (capitalist society). This study deals with the distinctive spaces produced by an Arab society that is itself being transformed and modernized. Nevertheless, the Libyan society has undergone rapid transformation and is changing towards a modernized/westernized models, social traditions values are still strongly upheld.

On the basis of the respondents' remarks, the courtyard house is socially sustainable that fits in with Arab life-styles, including traditional gender relationships and roles. The arrangement and the inter-relations between home spaces emphasise the centrality of the private spaces/woman space. Guests' domain is well defined to designated areas in order to ensure gender do not mix. With differing standards of socio-cultural adaptability, the segregation between interiors and exteriors is promoted. The hierarchical classification of home spaces (public, semi-public, private), where the entrance, guests' domain, family domain, gender segregation, access control over spaces, functional role of the domestic space, and privacy are key determinants in Libyan homes' design. A degree of continuity appears in the use of interior layout, notably how the central roofed living room in the modern homes occupies the same role as the courtyard in a traditional home. A further qualification is necessary.

The courtyard house represents an ideal, to residents in Tripoli and to architects. Residents express that ideal even when living in accommodation that does not conform and it also has a religious dimension that is especially important in Arab society. However, the courtyard house is not necessarily unique to Arab, Muslim societies. The occasional examples of courtyard homes in the West, including recent experiments with this type of home in Adelaide, Australia (Berry, 2014) suggest its suitability for people of other faiths or no faith, albeit with a different type of internal layout. The meaning of the home, at least in ideal terms and the physical form of the dwelling do not necessarily coexist with one another. On the other hand, the form of the home, in this case, the traditional courtyard house may serve to reinforce and embody cultural values and practices, including those of a religious character.

Western feminist writers and housing studies (e.g. Smith, 1987; Saunders, 1989; McDowell, 1999; Marcus, 2006; Gurney, 1999; Easthope, 2004) have acknowledged the values of home meaning rather than its physical implications, and dealing with international comparison. However, they have strongly drawn out the discourses about the meaning of home as a self-mirror and raised the implications of housing production, reproduction and consumption with regards to gender and space use, the main focus of this study. The relevance however is that the argument of this study has gone beyond a specific case-study because it dealt with the themes of modernization and westernization, tradition and modernity which have been encountered in the western world as well as in the Arab city.

The assumptions and implications of the Arab literature widely recognize the notion and value of the courtyard house and its socio-cultural aspects, including the gender issues. However, they have not previously been explored from the perspectives of users, especially women. This study has provided conclusive findings in the light of the integrated theoretical frame work of Fathy and Lefebvre, which has not been done before. Most importantly, this study has been undertaken from the perspective of an Arab female architect. This study investigated the cultural aspects that form the Libyan homes, and revealed the house element that have been formed by cultural requirements. It explored the courtyard house structure influence on the gendered-roles/spaces, especially the women of the case study, and how it was valued and perceived by its users. The next chapter draws the conclusions, and the study's contribution to the knowledge, based on the study findings. It also reflects on the limits of the study, and follow-up studies to explore the emerging themes in more detail.

Chapter 8: Conclusions, reflections and future research

8.1 Introduction

The aim set out at the beginning of this thesis was to develop a profound understanding of the Libyan home meaning from the perspectives of users, in a socio-spatial context. Reinterpreting the concept of courtyard house has not only been essential in highlighting the challenges associated with modernisation and Westernization, but also necessary to explore the change and continuity in the physical form and space use. Therefore, the outcomes of this research, as presented in Chapter 5,6 & 7, is embodied in the spatial structure of the Libyan homes design, space use, gender-segregation, privacy, women space that can be seen as forms of striking consumption that both observe the persistence of culture and at the same time resist the confrontation of modernisation/Westernization. This was possible because of the symbolically powerful cultural values embedded in Arab-Islamic homes. These distinctive spaces in the Libyan home and society have been transformed and modernised, yet still respect Islamic culture and traditional values. This chapter draws the study conclusions into three main sections: summary of the key findings; contribution to Knowledge; and limits of the study and future research.

8.2 Summary of the Key findings

The role of religion and socio-cultural norms in defining home spaces has influenced the notion of the Arab dwelling as a spatial and social unit. This notion ideologically, therefore, is considered in a socio-cultural and religious context. The Libyan family home concept is based on maintaining privacy and gender-segregation. In a traditional context, however, this concept is intertwined with the idea of the centrality of women in the private domain. As gender segregation is a significant feature of Islamic culture, the female pattern of activities and movement, both at home and in the public areas is greatly influenced.

It is found that the organization of home spaces, in both traditional and modern form, entirely reflects this particular pattern. The findings also revealed that the arrangement and interrelationship between these spaces emphasize the centrality of the private spaces (women's spaces) in the traditional concept, applying a hierarchal classification of home spaces in order to maintain privacy. Moving on to examine the contemporary layout, it has been observed that certain changes have become more evident as a result of the socio-

cultural and economic changes, which have rapidly influenced most Arab-Muslim societies. The social structure of the society and issues of gender relations are bound to change in relation to people's norms. A key implication of these changes is the alterations over design patterns of the living space. In fact, the role of women, however, remains substantially traditional in Libyan society, and the courtyard house fits that traditional role. The courtyard house, therefore, is adaptable form and was designed with gendered roles and spaces in mind. To achieve the aim of this thesis and make a contribution to knowledge, the research questions (set out in Sec.1.3) were pursued. These questions were investigated, firstly through the review of literature in (chapter 2 & 3), and then empirical data analysis and findings are, specifically presented in (chapter 5 & 6):

- First question: *Why has courtyard-housing declined in the new development?* This question contributed to creating a clear understanding about the main contradictions between the state ideologies/housing assumptions and how people perceive/value/use their homes on one hand. On another hand, there was an internal tension between the state ideologies/housing assumptions and the architects' conceptions. The discontinuity in the physical form of the courtyard house, therefore, was attributed to the instability of housing policy and economy, and the adoption of the imported Western models/planning and building regulations. The structure of the Arab-Libyan society has increased access to technology and been exposed to a new system of modernization that emerged due to increasing contact with the West (e.g. colonial influence).

The government has imposed new/modern housing designs in dealing with housing demands to produce forms that are socially and environmentally inappropriate. This emphasizes the discrepancy between past and present built environment, and further highlights the larger effects of Westernization/modernization. Changes in the layouts (i.e. shifts from centrality of spaces and women space to integrated spaces), in turn, have affected the socio-cultural values (i.e. women privacy, gender-segregation), which significantly play an important role in shaping the spatial-organization in such a way to meet users' need. Nevertheless, stability in the socio-cultural views of respondents, irrespective of whether they lived in a traditional or Western style of home.

Moreover, these contradictions within the abstract level of professionals' theories introduced different implications to that of the methodological model of Lefebvre and Boudon (1972), in terms of housing assumptions and universal standardization/modernization. The implication of this model is that the Libyan government acting as an obstacle to the role of the architects' conceptions and to the home-grown innovations programmes in housing design and criteria. This, in turn, revealed the gap of Westernization/ modernization and tradition/ modernity conflicts. The Architects' perspectives further confirmed that the differentiation of Westernization/modernization in relation to housing design in Libyan is a differentiation according to culture, region identity and climate. This further highlighted the negligence of courtyard house, and therefore, people do not know any more the advantages of it.

This part of the study also revealed that the whole basis of architects' conceptions (strongly held cultural-adaptability and use-flexibility that of the same concerns of the residents), and residents' perceptions tends to standardized the form of space used (valued and/or altered). The architects, the residents, therefore, were able to constitute and adapt to home components for flexible use and arrangements. On the basis of residents' views, and to identify, namely, whether Arab societies can modernize without becoming Westernized, the different meanings of modernization- sociological and technological can be promoted. It is possible, for example, that the application of modern technology to the Arab city as already created life-styles that are unlike either those in the West or those of the past and that the continued application of technology will have a similar impact.

Second question: ***How can courtyard housing be justified in present Tripoli in relation to gender, perceptions of use, and meaning of the home?*** This question contributed in highlighting the extent of satisfaction of the residents towards homes spaces and privacy, using an occupancy-evaluation questionnaire. Due to its relatively small sample size, a generalization of users' perceptions cannot be treated as a conclusive in terms space use. It is intended to specifically identify the qualities and capacities of the courtyard housing that users value. Interviews, focus groups and photo-elicitation were conducted to gain deeper insights. Nevertheless, the survey study provides some glimpses of users' perceptions in terms of spatial, functional, and privacy.

The results suggested a correlation between the spatial structure/space/privacy of the home and the cultural adaptability perceived by the residents. Home design and private entrance with the guests' area segregated are most important qualities of the home that may affect the privacy and women domain in the Libyan home. The results also revealed that the Arab courtyard home fulfils the needs of privacy, moreover, with access to natural light and air, as opposed to just within the home, an advantage that was noted in particular by some architects. This further emphasises the importance of the design dimension of courtyard house in promoting the cultural identity of the domestic environment.

Third question: *To what extent do modern Libyan homes express points of continuity and change from traditional patterns in terms of socio-spatial and cultural values?* The current state of knowledge revealed that, compared with the modern style, the traditional Libyan homes (courtyard-home) are more appropriate for Libyan households on one hand, and the local environment of Tripoli on the other, where, at the same time, it expresses Islamic culture/identity. However, a degree of continuity appears in space use and spatial organization in relation to gendered-spaces/roles, even more in the modern Libyan homes. Notably, how the central roofed living room in the modern homes occupies the same role as the courtyard in a traditional home.

knowledge gained is to understand how people dealt with and adapted to the effect between traditional concepts and modernity. For example, how the courtyard has been replaced by the family living room. Illustrations of residents' pictures stories about the interiors of their homes, however, revealed a persistence in the traditional use pattern of home spaces. This appears in the modern homes same as the traditional ones, particularly spaces used by family members. This, in turn, identifies the significance of women domain, privacy, gendered spaces and roles within the Arab home as a fundamental base for identity. Also emphasises the need for privacy and comfort, and enhances the sense of attachment and expresses the identity and socio-cultural values of its inhabitants. Conversely, non-Arab conceptions of the courtyard home of the type that lacks a central area may not be as well suited to Arab life-styles. Detached villas, surrounded by high walls, are another means of expressing the same desire for privacy in using an external space but in a new form.

Forth question: *How, as part of this, are they embedded into contemporary lifestyles and patterns of family life, particularly role and space of women?* This question contributed to establish clear insights into the essence of the hierarchal arrangement of the Libyan homes. The Socio-spatial analysis of selected samples of the Libyan homes revealed that identified the significance of privacy and gender-segregation as anchors for identity. The inclusion of religion within social practices and gender relations can be seen also as a modifying factor in the Libyan homes, and more importantly, the women symbolize this private domain. Maintaining these anchors seemed to help Libyan households observe cultural tensions and conflicts to which they faced in home consumption and society. This part of the study, however, suggested a kind of patriarchy, oppressive and very hierarchical spaces, particularly those of traditional configurations. This makes the layout indicated a strong level of access control by the men of the family, which might indicate a potential of a dark side of the home. This gender implication clearly came out in the space syntax/socio-spatial analysis, albeit the women of the focus group were reluctant to reveal this negative side because of religion and social-norms. Yet, Libyan family is like any Arab-Muslim family, in which gender division expressed as domestic spaces ensured that social and religious norms are rigorously maintained.

8.3 Contribution to knowledge

The current state of knowledge makes a contribution to the home research in a number of ways. Firstly, contribution to the methods of housing user research, as the study utilized mixed methods that combine the space syntax (socio-spatial analysis) with qualitative research. Secondly, contribution to understanding the production of courtyard housing in Arab countries. The study applies the epistemological frameworks of Lefebvre (1972: 1991) and the methodological example of Boudon (1972), integrated with the cultural prescriptive approach of Fathy (1973), in an Arab context. In doing so, it provides an original perspective that has, hitherto, received little attention in the literature, particularly within the Arab housing studies. Thirdly, contribution to understanding the use of the home from a women's viewpoint.

The research has been undertaken from an explicitly female, Arab and architectural perspective. The most subtle characteristics of the Muslim-Arab home, for example, come mainly from its configuration of elements that were tested by people's traditions and culture. It is, therefore, very different from Western writings on the home, including feminist writings

of the home, gender and space use. It is also different, however, from Arab studies of the home as these have been undertaken predominantly from a male perspective. Finally, a positional contribution as an Arab woman architect. The involvement of a woman as an insider/indigenous researcher provided access to a domestic world that it is not possible for male architects or housing experts.

8.3.1 Contribution to the methods of housing user research

Unlike previous home research (e.g. Shawesh, 2000; Amer, 2007; Goh, 2010; Abubrig, 2012; Al-Haroun, 2015), this study used an original mixed-methods approach that integrates two types of designs. It juxtaposed a social qualitative approach, utilizing a visual method (i.e. focus groups, interviews, photo-elicitation) and architectural qualitative approach, using space syntax. This was instrumental in gaining richer insights within a dual stage of how people understand and perceive their homes. ‘Space Syntax’ is one of the most recent theories that establish a strong link between space and society (Hillier & Hanson, 1984).

Several studies have adopted a methodology of Hillier *et al.*'s to examine the evolution of the domestic built-form (e.g. Zako, 2006; Brown & Steadman, 1991; Khattab, 2005; Al-Bahar, 1996; Al-Sayyed, 2012). However, these studies seem to offer very little towards understanding the physical layout in relation to its socio-cultural meanings or at extracting hidden themes (i.e. gendered roles/spaces, access control, the hierarchal/patriarchal spaces). This study applied this social theory to such a different background, society and culture, which has not been done before especially by Libyan housing studies. In Tripoli, the field study was conducted among urban Libyan-families. The researcher's ascribed role based upon gender and studying own society was instrumental in forming people's perceptions. Being an Arab female allowed greater flexibility (for example, more access to the female sphere during the one-to-one interviews and focus group discussion).

8.3.2 Contribution to understanding the production of courtyard housing in Arab countries

This study is also original in drawing on the epistemological frameworks of Lefebvre (1972: 1991) and the methodological example of Boudon (1972) and applying these in an Arab context. The home, understood as a place is indeed, as Lefebvre suggests, a particular

mix of social relations and one whose physical structure is a reflection of the historical era in which it was produced. However, this study adds a different theme. The case study, undertaken by Boudon and covering the local impact of modern architecture in 20th century France, noted a tension between the local, vernacular traditional image of the home and the modernist visions of Le Corbusier. In Libya, the tension is much sharper, between a traditional life style strongly linked to religion and the twin forces of modernisation and Westernisation. Moreover, in Libya, modernisation and Westernisation have become entangled with one another in a way that did not apply to the case study undertaken by Boudon (1972).

Modernisation and Westernisation are not the same, if modernisation is understood as the application of modern technology (Lal, 2000; Abdel-Azim, 2012). Because modernisation and Westernisation are distinct, the application of modern technology to the Arab home and the Arab city has the potential to create life-styles that are unlike either those in the West or those of the past. In this sense, Lefebvre (1991) and Massey (1994) argued that social space become changed, contested and multiple in relation to time, historical change and ever-changing social relations. the identity of a place thus is a particular mix of social relations. In relation to housing design, however, modernisation and Westernisation in Libya remain more or less the same as each other, owing to a lack of local experimentation and innovation.

Even in dwellings designed to Western principles, however, the lifestyles, the expectation and views of the women respondents remain traditional. There are also the key aspects of the postmodern as: a) a state or condition that comes after the modern; b) a state or condition that allows more freedom, less standardisation and so allows more variation in life-style and architectural style, including regional variations. Most commentators state that Libyan society is traditional rather than either 'modern' or 'postmodern'. Postmodernism originates in attempts to the discussion of historical changes in Western culture- art, architecture, literature, music and so on. However, the discussion of postmodernism does suggest that the application of modern technology does not necessarily lead to a single lifestyle or single culture, that diversity is possible and that the retention of traditional life-styles is also possible (Allaf, 1993; Abdel-Azim, 2012; Al-Naim, 2014).

Another contribution is emerged in reflecting on Fathy's theories and practices that dealt with the transitional relationship between modern and vernacular built form in the Arb city.

Clarification of the interaction between modernisation and Westernisation helps, in turn, to synthesize and rediscover what Fathy's ideas have meant to the architectural discourse, particularly home design in a modern context. The pattern of results support Fathy arguments for linking the past with a present that needs a history to become coherent for its people (Steele, 1997; Guitart, 2014). Fathy's principles stem from respect for local culture, trying to find the roots of the original architecture while keeping up with the time. These principles correspond to the logic of modernising the built environment and the equipment in the home without imposing Western models (Fathy, 1973; Nabil, 2003).

The comments of the respondents also support Fathy's thinking about the basic elements that integrate architecture and society in the Arab home: first, is the 'privacy' and seclusion which were integral parts of the reflection of tradition, social lifestyle, and being part of the Islamic world. Second, it was most important in residential architecture where both the domains of family and guests are defined (Steele, 1997). Third, the inwardness/centrality of the Arab house as a womanly domain (Fathy, 1973). In addition, the observations of the architects correlate favourably with Fathy (1972) that certain changes have taken place in the process of building and producing housing architecture, and further support the notion of: the change from inwardness to outward-ness in home design, where the former is purely Islamic and indigenous in concept, whereas the latter is Western. Hence the modern Arab architects, according to him, is facing a challenge while designing in a contemporary Western-like urban fabric in Arab countries (1972). The analysis of the study confirms that courtyard house is socially appropriate to the Libyan lifestyle, and shows in particular how it suits the woman of the case study.

8.3.3 Contribution to understanding the use of the home from a women's viewpoint

A further contribution to knowledge emerged in drawing on and examining the feminist housing studies in a different culture. McDowell (1983); Smith (1987); Madigan *et al.* (1990); Bowlby *et al.* (1997); Mallett (2004); Marcus (2006), for example, provide a valuable link on meaning of home and its relation to gender, particularly women role. Such feminist theories, analyse the relationship between gender and the meaning of home, and generally, focus on issues of work or production, consumption, spaces including house design, and/or housing tenure and the house as an expression of status. Early feminist writers

on gendered perceptions of home (e.g. McDowell, 1983), identify home as a site of oppression, tyranny and patriarchal domination of women. Accordingly, it is in this private realm that women are consigned to a life of reproductive and domestic labour.

Thus, early work on gender and space (shows the traditional aspects of home) argued that certain rooms or space in the family home were gendered (e.g. the kitchen was a female space, the shed a male one, etc.). House designs reflected stereotypical gendered-relationships peculiar to a given social and historical period. More recent discussions of gender and space have argued for a more sophisticated analysis of the ways space is negotiated and lived in the family house/home. There is, for example, increasing recognition that rooms or spaces in the family home are not effectively gendered even when they are designed to meet the requirements of a man or a woman (e.g. height of kitchen benches). Rather it is the activities that are performed in these spaces at given times and in given relational contexts that reflect and/or subvert particular ideas about gender, age, and role (Mallett, 2004; Bowlby *et al.*, 1997; Massey, 1994; Saunders, 1998; Gurney, 1997).

The argument of this study, however, goes beyond that, as it is not only deals with tradition and modernity aspects of the Arab homes, privacy and gendered roles, but also considers the particularities of the Arab women, which has not been addressed within this literature. This was investigated from a socio-spatial perspective/theoretical framework to reveal how the negative and positive aspects of the courtyard home affect its inhabitants, especially women in an Arab context. Even though when new form became a symbol of social status, they integrated it with a traditional pattern. Respondents persisted in the traditional use patterns and lifestyle. The role of women also remains substantially traditional in Libyan society, the courtyard house fits that traditional role. Such pattern, in turn, highlights the distinctive character of the Arab home.

Another contribution is reflected in highlighting (the role of Islamic and cultural values) in the design and use of the Arab/Libyan homes. From an Arab context, home is understood as a product of socio-cultural and religious factors (Altman & Chemers, 1984; Lawrence, 1984; Bahammam, 2006; Mortada, 2011; Sobh & Belk, 2011; Othman *et al.*, 2015). For example, the principles of privacy, women space, religion, gender relations and hospitality have a significant influence on the design, organization of space and domestic activities take place within. Most traditional Muslim societies are patriarchal. Patriarchal

relations, thus, in Arab society are key features of family ideology and domesticity. For example, men play an important role in entertaining guests in the public domain of the house.

The male social room represents the masculinity and honour of Muslim-Arab home. This part of the house is the only one that is directly accessible from the street and the main entrance (Sobh & Belk, 2011; Othman *et al.*, 2015). On the basis of the female's views, the emphasis on privacy is largely related to the requirement of modest self-presentation (modesty in dress, speech, and behaviour by both men and women), particularly for women. As such, privacy in the home aims to provide women with the convenience of being uncovered and away from the public gaze. Therefore, from their perspective the underlying meaning of privacy and this hierarchal/patriarchal pattern is respect to the social norms and not seclusion.

Furthermore, the Arab literature review (e.g. El-Guindi, 1999; El-Safty, 1981; Hakim, 1994; Rapoport, 1996; Baskaya, 1996; Mazumdar *et al.*, 2001; El-Menghawi, 2004), indicates that privacy, modesty, and hospitality are mutually valuable. In addition, the role of traditional Islamic teachings in shaping the design of Muslim-Arab homes through adherence to these principles. Thus, a home is conceived as (a) a place for personal and family privacy, particularly women privacy (b) a modest space for religious activities at home and (c) a base for extending hospitality and strengthening relationships with family and society. This study extends to these assumptions from the viewpoint of users, especially female users in terms of space use and gender. It revealed the persistence in the female's traditional perspectives and the continuity in the expectations about Libyan lifestyle and space use patterns.

8.3.4 A positional contribution as an Arab woman architect

A key claim of originality is that the positionality of the researcher as an Arab female architect, looking at the design of the Arab home within a gender-segregated society. The social position as an Arab woman suggests role flexibility which allow more mobility, with conformity to modesty and social norms, governing female behaviour in a gender-segregated society. There was another advantage to being an indigenous/insider to observe the ambiguity manifested in the home design, society and the study findings tradition and modernity. However, factors of change did not, at the time of the fieldwork, affect a re-

identifying of gendered-roles and spaces in the Libyan society. Points of continuity, thus, in the traditional cultural values made evident findings. Moreover, conformity to traditional expectations of the researcher gender role was more effective strategy in the fieldwork.

Beyond that, as an insider researcher gave deep insights and access into an important domain of urban society -the domain of domestic relation and cultural norms, which the Western researcher would not persist. Access to particular locations with these avenues of role flexibility could not be possible which is affected by gender issues, although the changes taking place in the Libyan society. There are particular issues of positionality in relation to gender when conducting research in an Arab society that need to be considered (Ahmed *et al*, 2010). For example, the centrality of the woman space *harem* in the Egyptian courtyard-house with the off-limits to all male outsiders, the access permitted to the female Western author/Sophia become an Instrument by which the concealed women space could finally be accessed and documented.

The male Western researcher/Edward, was forbidden from approaching the *harem* of the courtyard house, and his descriptions and representations have been manifested in the reinforcement of his cultural judgment upon Egyptian society and the Islamic practice of gender segregation (see Chowdhury, 2010). Ryan *et al*, (2011) demonstrated a study about the diversity of Muslim communities and the complex interplay between ethnicity and religion. Matching peer/community researchers with participants can be seen as another strategy for overcoming distrust in highly sensitive areas (hard-to-reach groups).

8.4 Practical impact: Who could use the study findings?

The study findings and consequent discussions also provided a platform to examine the potential for a contemporary vernacular architecture of courtyard housing in Libya in the context of current socio-cultural conditions. It adds to the architects' debate in Libya about courtyard housing which this study, empirically confirms that the courtyard house concept is appropriate to Libyan families/lifestyle. The traditional views of the female of the case study showed a continuity in the expectations about lifestyle and domestic space use. These findings also contribute to the larger discussions towards a contemporary vernacular housing on an architectural approach and design ethos embodied in the work of Arab architects such as Hassan Fathy and other contemporary vernacular movements in the Arab city.

By providing to architects insights into people's understandings towards and perceptions of their homes, space use, constancy/shifts in their socio-cultural values, it may give them direction for these traditional elements to use in domestic built environments. Although courtyard-housing continues to be supported by a minority of architects in Libya, the findings of this study suggest that without stable government and policy framework, sustainable initiatives towards the contemporary concept of vernacular courtyard house may not be possible. This possible impact is very difficult because of the chaotic situation and the internal political disputes. Also as the results showed the ambiguity of the Libyan society which is facing/divided between tradition and modernity, and a profound individual.

Furthermore, in Libya there is no programmes of architectural innovations and experimental housing design, considering society, climate and culture of the region to bridge this gap/conflicts between tradition and modernity. This is as a result of unstable and lack of government effective role. Also crucial is the recognition of the Libyan society's cultural role as means to promote home identity. The full implications of this study, hence, would not be drawn out unless there is more sustained effort with architectural innovation in Libyan and many more links between architectural innovation programmes and the development/industry. Yet, this study contributes to the Libyan urban development and Libyan society. To go beyond the impasse in housing design in Libya, further experimentation within an effective means of implementation, therefore, will be necessary.

Broader lessons have been triggered out that can be pertinent for other Arab cities and contexts, and therefore make this study extrapolates and goes beyond the case study of home design/use in Libya. This study highlights the unique characteristics of house/home design and the issues discussed, providing a complete picture of current housing pattern, which is adopted by Muslims/ cultures of other Arab cities as well. For example, Islam as a code of life provides view points for designing homes, gender interaction and space-use within home and society. One can observe many distinguishing and shared examples of customary architecture of Islamic homes, in different Muslim and Arab countries. The orientation of residential spaces is focused inwards. Privacy being one of the prime concerns in Islamic-house promotes gender based spatial organisation (gender-segregation). This tradition is adopted in almost all the Muslim-Arab countries.

The resulting conflict in the urban forms as a consequence of the modernisation process has increased the gap between users and their urban environment, a phenomenon which has played a major role in the cultural resistance towards built environments in the present Arab city. Arab cities changed only their urban form and physical identity, while the cultural values remained rigorously upheld and in line with traditional society (see e.g. Al-Naim, 2008; Al-Naim, 2014).

8.5 Limits of the study and future research

This study acknowledged the epistemological realities about housing (consumption, production, reproduction) in terms of the physical form and users' attitudes. This illuminates the study direction and allows interrogating the research questions, however, this makes it in some way or another, completely unrevealed empirically. The limitation of this study arose from a non-elaborate uncovering of complex realities around housing assumptions in Libya; hence, there is a possibility for further investigations.

Firstly, in terms of *theoretical framework*, the reference to different levels of society has methodological implications. The evidence from employing Lefebvre's social reality concepts suggested that the architects and residents have consistent attitudes regarding the space use cultural adaptability. An internal contradiction was evident, however, between the architects' intentions and the government ideologies, which in turn highlighted the conflicts between modernized society and cultural differentiation. Lefebvre's classifications, thus, are generally worked and offered means of ensuring that all of levels of society involved. However, there are limitations given the change of context. Lefebvre assumed that capitalist urban development would be centrally planned as the effect of capitalism is state directed with strong planning. This was partially implemented through Le Corbusier's housing scheme in post-war France. The contradictions between lifestyle/concrete reality and the assumptions of housing, consequently, imply the assumptions of Lefebvre.

In Tripoli context, the study did not hold the same kind of contradictions between lifestyle and government ideologies/housing assumptions (simple/unstable public central policy), therefore, as people in many cases have been allowed to build their own home and/or add extensions with a minimal intervention. The architects' conceptions, however, remain the same as the perceptions underlying the residents' experiences in relation to use

perspective and cultural adaptability. *Fathy's theory* of which tradition, religion, housing architecture as an indigenous form, extension of society's culture, and the distinction between modernity movement and Westernized production are key influences on cultural identity the Arab city. In this context, the respondents showed strong tendency to maintain the traditional pattern of lifestyles and space use.

There was a tension between those two approaches; the material forces of Lefebvre and the cultural forces discussed by Fathy, particularly in adding dimensions to the Arab house, cultural basis of Arab society, and making assumptions about women (home symbolized by women). In other words, these theories can be used in a combination, but in fact, there is a distinction between them. What emerged from the findings is that there are two tendencies running alongside each other in Libya. On one hand, there is the shift through the modes of housing production (traditional, Italian-style, oil boom society). Through all of those modes, there is a reference to those control ideas highlighted by Fathy, on the other. However, there is a tension embedded in the Libyan urban development. Further study could investigate this conjecture.

Secondly, the results of the *space-syntax* analysis revealed that the reference to one single entry point indicates a strong pattern in the traditional layout, where the male's social room is in the entrance zone than the contemporary one. It is an architectural tool that effectively examines the social space, however, it showed that the layout of the home could be used as an exercise of control over home spaces by the men of the house. This highlights the potential of the negative side of the home layout as an oppressive space. Nevertheless, the females of the case study were reluctant to reveal this negative side in relation to gendered-roles and layout. This discrepancy could be extended further for more analysis and investigation.

Thirdly, through the *post-Gaddafi situation*, however, it is very difficult to say what is going to happen in terms of housing development and urban form in the reconstruction of Libyan society. Both Fathy and Lefebvre assume the existence of a stable society, with an established government and effective means of implementation. These assumptions do not apply at the moment in Libya. In addition, Lefebvre shows how changes in the organisation of society influence urban space in a way that is likely to over-ride specific design theories. Nevertheless, on the basis of the respondents' remarks, the courtyard house is socially

sustainable form, one that fits in with Arab life-styles, including traditional gender relationships and gender roles. However, will Libyan homes embrace all the varied energy-hungry technologies that characterise Western homes?

The family life, therefore, goes in the middle of the civil war, and it did not have any impact on consumption of the home. The chaotic situation, however, effects housing policy, housing design, and housing quality. As a result of the political context, delivering set of conclusions about the future of courtyard housing goes beyond this thesis and rendered in the chaos, currently in Libya. Further study could come out with a set of guidelines of housing design and criteria. Finally, the *empirical-data* leading to this conclusion is limited to a randomly generated sample of professionals (housing policy managers, urban planners and architects) employed during Gaddafi era and post-Gaddafi local organisations, and respondents of the case study within the geographical boundaries of Tripoli. The methods adopted by this study could be used to replicate the study in other Libyan cities to corroborate the findings, especially for the reconstruction stage after the civil war, 2011.

8.6 Concluding remarks

Being an indigenous/insider as well as female has a number of implications for the Arab woman researcher's access to knowledge in her own gender-segregated society. Based on this situational context, this research posed a number of ontological and epistemological inquiry of why to study courtyard house, how the data were acquired, and in what ways data were analysed and interpreted. Given this perspective, it is appropriate to note that through a growing issue encountered in Arab cities, that of tradition and modernity in relation to home use, culture and gender, this study demonstrated a new social trend within a feminist methodology.

Despite the advantages being an insider researcher, the ability to quickly set up in the field, and familiarity with the people and environment, a number of obstacles also had to be confronted. These included the impact of the 2011-civil war, moving between clashes areas in Tripoli; and overcoming the reluctance of informants to provide me with direct answer, for example, concerning the negative side of home and religious practices. During the course of this study, I provided personal and privileged perspective. It offers insights into the issues involved in various Arab communities researched. It is also a claim to architects in Libya as

well as researchers interested in fieldwork and the subjective/objective dimensions of the research process; an area, particularly pertinent to feminist and gender studies.

Overall lesson, drawn from the qualitative epistemology of this study to reveal that the courtyard home suits a traditional Arab lifestyles and family arrangements. However, these lifestyles and arrangements still persist when living in homes designed according to Western models and rules. The design of the home seemed not to have changed the expectations of the female respondents. Design changes, whilst gender roles remain much as before. As a result, people live in modern houses tend to modify them in line with their traditions and lifestyles. As Boudon (1972) also showed of the model village designed by Le-Corbusier at Pessac.

In Tripoli, since the home is the most significant space for members of the household, the role of gender in defining the domestic space is a key factor. The household and visitors have different relations to home spaces and different patterns of space use to meet their socio-cultural needs. It is found that the notion of privacy is embedded in religious keystones and is one of the main socio-cultural aspects, influencing the idea of the Arab-Muslim home. The entry point, guests' domain, gender-segregation, and usage flexibility are also main determinants of the spatial structure of the Libyan homes. On the other, and more generally, the economic and political aspects of the Libyan government have influenced housing assumptions and design layouts.

Yet, a number of challenges have to be taken on to determine the impact of this study: the huge task of reconstruction faced by Libyan cities, given the experience of the civil war; the continuing lack of a strong central state and the likelihood therefore that urban plans and building regulations will only have limited potential for implementation; and the profound and continuing ambiguities, incorporated into both design of the research and its findings, between modernity in all its various forms and tradition.

In the case of the Libyan home environment, this study demonstrated how people perceive/experience/interact with all imported/Western and local/traditional/indigenous changes to make their homes liveable/adaptable. In general, Arab cities facing the conflict of tradition, modernity, identity, and future urban form, especially in housing architecture. Main question may consider this situation of tension and how it will respond to modernization in relation to the way the concept of 'identity' is understood in everyday life

(practical). Also how Arab intellectuals/architects respond to this debate. This should be rethought in any future urban planning for the Arab city.

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APPENDECIES

Appendix-I: Questionnaire Survey

Consent letter



Faculty of Development & Society
Department of Built & Natural Environment
Unit 9 Howard Street
S1 1WB Sheffield
United Kingdom
Email Contact: Seham.M.Elmansuri@student.shu.ac.uk

Research-title: Courtyard housing in Tripoli: Tradition, Modernity and Users' Perceptions

Dear Respondent,

I would be grateful if you could take part in the above titled study. The study is about the change and continuity in the Libyan homes' layout and use (form & function), considering the courtyard-house concept in traditional and modern context. Data collected will only be used for this study and all information given will be kept confidential. Your anonymity will be also completely considered.

Thanks for participation

Researcher: Seham Elmansuri

Questionnaire (English-version)

Section A: General information about respondents (Please tick ✓ your answer)

1. Length of stay: How long have you living in your house?

.....

2. Ownership: Privately owned Rented

3. Household:

a. Gender: Male Female

b. Age and number of persons in the home:

Children (0-10): Person years old

Adult (11-20): Person Years old

Adult-elderly (30-70): Person Years old

c. Occupation & Economic status:

Self-employed Retired Unemployed

Student House-wife Civil servant

Professional occupation Disabled

Others (Please specify)

.....

d. Marital status:

Single Married Divorced Widow

e. Home Occupancy:

Single family (Nuclear)

Extended family

Multi-family occupancy

4. Number of cars per home:

None One Two Three or more

5. Type of previous home:

Flat

Detached (villa)

Semi-detached house

Arab house (courtyard-house)

Altered Arab-house

Section B: Home layout

(General perceptions about home layout please tick ✓ your answer)

1. Do you like your home?

Yes No

(Please specify): What features are liked?

.....

What features are disliked?

.....

2. Do you have any concerns about usage flexibility (home spaces and arranging furniture)?

Yes No

If Yes, please specify.....

3. Do you have any concerns about storage spaces in home?

Yes No

If Yes, please specify.....

4. Do you have any concerns about having and entertaining guests in home with maintaining the privacy level?

Yes No

If Yes, please specify.....

5. According to certain features and qualities related to the home spaces (identified below), your attitude may be affected towards your home. Using a scale from 1-6 (1= Not-important and 6= Extremely important), please circle ○ your answer to illustrate the level of importance

Features & qualities	Level of Importance					
Design & Layout	1	2	3	4	5	6
Maintenance	1	2	3	4	5	6
Private entrance	1	2	3	4	5	6
Enough No. of bedrooms	1	2	3	4	5	6
Bathroom/ toilet	1	2	3	4	5	6
Male reception	1	2	3	4	5	6
Female reception	1	2	3	4	5	6
Storage area	1	2	3	4	5	6

Home studio	1	2	3	4	5	6
Kitchen size	1	2	3	4	5	6
Multi-purpose room	1	2	3	4	5	6
Garden/Terrace/Yard	1	2	3	4	5	6
Dining area	1	2	3	4	5	6
Accessible toilet for Guests	1	2	3	4	5	6
Off road car parking	1	2	3	4	5	6
Private garage/outside storage	1	2	3	4	5	6
Adequate size living room	1	2	3	4	5	6
Security & Privacy	1	2	3	4	5	6
Recycle & waste collection	1	2	3	4	5	6

6. According to your home spaces listed below, please circle \bigcirc your answer to rate your satisfaction level towards home spaces (please refer to your home floors and spaces as they may vary according to CYH scheme selected). 1= Not-satisfied and 6= extremely satisfied

Home spaces	Level of satisfaction					
Entrance	1	2	3	4	5	6
Male reception	1	2	3	4	5	6
Female reception	1	2	3	4	5	6
Loggia	1	2	3	4	5	6
Courtyard	1	2	3	4	5	6
Terrace/Balcony/Vernanda	1	2	3	4	5	6
Kitchen	1	2	3	4	5	6
Bathroom/toilet	1	2	3	4	5	6
Storage	1	2	3	4	5	6
Laundry room	1	2	3	4	5	6
Living room	1	2	3	4	5	6
Dining area	1	2	3	4	5	6
Home studio	1	2	3	4	5	6
Bedroom1	1	2	3	4	5	6
Bedroom2	1	2	3	4	5	6
Bedroom3	1	2	3	4	5	6
Bedroom4	1	2	3	4	5	6
Multi-purpose room	1	2	3	4	5	6

Garage	1	2	3	4	5	6
--------	---	---	---	---	---	---

7. From your point of view, how do you define the home meaning?

.....

Section C: Neighbourhood appearance

(General perception about your neighbourhood appearance, please tick ✓ your answer)

1. Do you like the appearance of your housing environment?

Yes No

(Please specify): What features are liked?

.....

What features are disliked?

.....

2. Do you have a direct car access to your home?

Yes No

If Yes

Please specify.....

If No

Please specify.....

3. Do you think your neighbourhood is a safe place for children to live and play on?

Yes No

Please

Specify.....

4. According to certain features and qualities related to your neighbourhood (identified below), your attitude may be affected towards your housing environment. Using a scale from 1-6 (1= Not important and 6= Extremely important), please circle O your answer to illustrate the level of importance

Neighbourhood's features& qualities		Level of Importance					
Access to employment		1	2	3	4	5	6
Access to public service		1	2	3	4	5	6
Access to local centres		1	2	3	4	5	6

Pedestrians access	1	2	3	4	5	6
Good roads	1	2	3	4	5	6
Low traffic level	1	2	3	4	5	6
Low crime rate	1	2	3	4	5	6
Public transport	1	2	3	4	5	6
Access to schools	1	2	3	4	5	6
Sense of community	1	2	3	4	5	6
Quiet environment	1	2	3	4	5	6
Good view	1	2	3	4	5	6
Good design	1	2	3	4	5	6
Good density	1	2	3	4	5	6

Section D: Open spaces in Home and Neighbourhood

(Users' perceptions about the use of domestic open spaces in home, and communal open space in the neighbourhood, please tick ✓ your answer)

- What type of domestic open space you have in your home?
 - Private outdoor space (courtyard/terrace/loggia)
 - Semi-private/outdoor-space (Balcony/terrace/veranda)
 - Private open space and semi-private outdoor space (yard/veranda)
- Should homes always be designed with private and semi-private outdoor spaces?
 - Yes No
- What do you use your open spaces in home for? (you may tick more than one answer)
 - Domestic purposes Leisure use
 - Storage area Access to the house
 - Others

(Please specify)
- How do furnish your domestic open space? (you may tick more than one answer)
 - Table & chairs Mobile mattresses
 - Washing line Water feature
 - Plants Bins & shed
 - Others

(Please specify)

5. What type of the open space do you have in your neighbourhood?

- Communal playground
- Communal green and paved areas
- Others

(Please specify)

Section E: Privacy Concept

1. Do you feel that your home’s layout maintains the required level of privacy?

- Yes No

If Yes

Please specify.....

If No

Please specify.....

2. According to privacy aspects defined below, please circle \bigcirc your answer to rate your satisfaction level towards the privacy within your home spaces. 1= Not satisfied and 6= extremely satisfied

Privacy aspects	Level of satisfaction					
Sound (Not overheard/and protected from outside noises)	1	2	3	4	5	6
Space (Having enough rooms/gender segregation/family domain/guests’ domain)	1	2	3	4	5	6
Sight (Not overlooked from outside sights)	1	2	3	4	5	6
Security (Being protected from break-in)	1	2	3	4	5	6

3. From your point of view, how do you define the privacy concept?

.....
.....

Section F:

(Your response to this section is optional). Please provide your contact details if you would like to take part in interview and focus group discussion. Please note that your details will also remain highly confidential.

Name: Contact (Mobile/landline/email):

Thank you for your cooperation

The researcher: Seham Elmansuri

Appendix II: Focus Group: Residents

Consent to Participate in Focus Group:



Faculty of Development & Society
Department of built & Natural Environment
Unit 9 Howard Street
S1 1WB Sheffield
United Kingdom
Email Contact:
Seham.M.Elmansuri@student.shu.ac.uk

Research-title: Courtyard housing in Tripoli: Tradition, Modernity and Users' Perceptions

You have been invited to participate in a focus group discussion as a part of the above titled study. The purpose of the group-discussion is to gain deep insight into the socio-spatial aspects of the Libyan homes in terms of change and continuity in layout and spaces use. The information evoked from the focus-group will help the researcher to understanding home meaning from the perspective of users, and how the role of the courtyard home influences the daily life of women in Tripoli.

You will be in a group of 6 to 9 other residents from different neighbourhoods of courtyard housing in Tripoli. The researcher would like to hear many different viewpoints from everyone, and that responses made by all participants will be kept confidential. The date, time, and place are listed below. Please find the address of a place where the focus-group will be held.

DATE: August/20/2012

TIME: 4:00 pm

PLACE: *Elghazawi's house, Medina, Bab-Elbaher neighbourhood, house-number 21, Elfrinsees street*

Thank you for your willingness to participate in our focus group.

Sincerely

Researcher: Seham Elmansuri

I understand this information and agree to participate fully under the conditions stated above:

Signed: _____ Date: _____

Key themes discussed during the session of residents' focus groups:

- Courtyard housing in Tripoli: the concept of discontinuity
- Why some people have abandoned courtyard housing?
- The residents' response towards the spatial structure
- Form, function, and modifications (alterations and extensions within the spatial structure)
- Socio-cultural aspects, family, space use and gender
- Their pictures' story (photo-elicitation)

Appendix-III: Focus-Group: Architects Consent to Participate in Focus Group



Faculty of Development & Society
Department of built & Natural Environment
Unit 9 Howard Street
S1 1WB Sheffield
United Kingdom
Email Contact:
Seham.M.Elmansuri@student.shu.ac.uk

Research-title: Courtyard housing in Tripoli: Tradition, Modernity and Users' Perceptions

You have been invited to participate in a focus group discussion as a part of the above titled study. The purpose of the group discussion is to gain deep insight into the socio-spatial aspects of the Libyan homes in terms of changing and continuity in layout and spaces use. The information evoked from the focus groups will help the researcher to understand the change and continuity, tradition and modernity in the physical form and use of the courtyard house. You can choose whether to participate in the focus group or not, and stop at any time.

You will be in a group with 6 to 9 other professionals of different interests and backgrounds in urban design, housing and architecture discipline. The researcher wants to hear many different viewpoints and would like to hear from everyone. All responses made by participants will be kept confidential. The date, time, and place are listed below. Please find the address of a place where the focus group will be held.

DATE: August/22/2012

TIME: 4:00 pm

PLACE: JA office, Architecture and planning department, University of Tripoli

Thank you for your willingness to participate in our focus group.

Sincerely,

Researcher: Seham Elmansuri

I understand this information and agree to participate fully under the conditions stated above:

Signed: _____ Date: _____

Key themes discussed during the session of architects' focus-group:

Author: A socio-spatial study

The architectural and urban structure of Tripoli have witnessed four periods of housing development, housing concepts have changed gradually and according to these periods they seemed to appear as follows: **Ottoman era:** The Medina, the traditional dwelling (Arab-House); **Italian period:** the concept of courtyard house has changed, and new forms were produced. Was the Italian design appropriate and consistent with the demands of the Libyan family? Thereafter, **during the period of independence:** the concept of the Italian design continued and new homes concepts were developed (e.g. flats). What was the reaction of users towards the spatial structure of the housing unit? **The current period:** the courtyard house (Arab-house) has disappeared from the urban development. What is the future of the courtyard-housing in Tripoli? And What are the future intentions, for example, the potential of development of this kind of housing?

Author: Libyan Family home: what makes a Libyan family house a **home**?

Spatial Restructuring: what is to be added, what is to be omitted out, and what is to be kept over?

- Different periods of development of Tripoli urban fabric: factors influence housing form changes (space and time)
- Courtyard housing: movement from tradition to modernity
- The traditional courtyard house: what has changed and what is still valid?
- The typical layout of the Libya family's home: spaces reorganizing/what is to be added and what is to be changed?
- Role of government (housing assumption/housing policy)
- Role of Libyan architects (innovation in housing design/design proposals)

Appendix-IV: Key questions during semi-structured interview with housing policy managers in the Urban Planning Authority & Local Housing Authority in Tripoli:

(English version)

Name:

Company:

Position in Company:

Date:

- In relation to housing policy, how do the government regulate housing policy? What do think about courtyard housing?
- What are the main reasons behind the disappearance of courtyard housing in today's urban planning in Tripoli? Do you think it is a type of dwelling that has become out of fashion in Tripoli and other Arab Cities?
- What are the main factors influencing the housing planning?
- How is the physical development/residential-sub-division in the different type of dwellings in Tripoli controlled?
- What are the common types of dwellings in use, what are the common forms of tenure (land ownership)?
- How many new houses are built each year?
- To what extent do you think that the present planning standards and building regulations are appropriate, given the socio-cultural conditions of Libyan families?
- How do you consider the physical changes carried out by residents in their homes, and how do you deal with applications made by residents wishing to extend or alter their homes?
- What are the main reasons behind the widespread of the phenomenon of changes carried out by people to their own houses?
- Based on your experience, what sort of spaces are most frequently subject to alteration or extension in house, and why?
- Do you perceive any obstacles to updating the traditional form of courtyard housing in Tripoli? And what you think they are?

Appendix-V: Key questions during semi-structured interviews with Architects and urban designers:

(English version)

Name:

Institution:

Position in Institution:

Date:

- How have the interior and exterior of Libyan family dwellings developed over the past four decades, and what are the main factors influencing this change?
- How the structure of family and social network has changed in Libya?
- What are main principles that the Libyan family often consider in making the design of a house?
- To what extent do you think that the phenomenon of copying ready-made designs has spread in Libyan society, and why?
- Is it realistic that the government should impose the imported models/regulations in housing design and why?
- Based on your experience, how could housing designs be capable to satisfy the changing needs of Libyan families?
- From your point of view, how do you perceive the phenomenon of changes carried out by people to their original designs, and why?
- How can designers prepare designs that are capable to meet the current and future needs of Libyan families' aspirations?
- Why has the courtyard-home been declined from the recent housing development?
- What are the main determinants of the Libyan homes layout?
- What are the differences between the traditional and modern Libyan homes in terms of design and use?
- How do you justify the change and continuity in the Libyan homes layout in terms of space use and gender?

- Can the traditional form of courtyard house be justified in present Tripoli?
- In terms of Hassan Fathy's ideas on Arab home design and his contribution to the Arab/Islamic architecture, have his approach been applied in Tripoli at all, and why?
- Based on your experience, have you tried to adopt Hassan Fathy's ideas in your personal work of designing houses/proposals?
- Have other architects, planners and urban designers in Tripoli sought to adopt Fathy's ideas in relation to courtyard housing? If so what have they been up to? If not, why?
- Are there any housing design criteria? What kind of criteria is used when design housing units?

Appendix-VI: Key questions during open-ended interview with residents:

(English version)

- How long have you been living in your house?
- Where did you live before moving to courtyard house? Could you describe your previous house conditions?
- What kinds of features do you like about your home and do not like (advantages and disadvantages)?
- Have you any intention of moving from here?
- What do you feel about housing architecture in Tripoli?
- Who made the design of your house?
- Have you made any changes to your house, if so, why?
- Could you tell me about the design of your house?
- Do you think that courtyard house is a good type of dwellings, and why?
- Does your house meet your socio-cultural requirements?
- What kind of significant spaces in the Libyan homes, including the traditional homes?
- How do you use these spaces for formal and informal social activities?
- Do you think the use of the modern Libyan homes carries some points from the traditional use in the past?
- What kind of these spaces and uses? And, what kind of domestic activities that take place in these spaces?
- From your view, what is still appropriate in the traditional form of courtyard house, and what has changed?
- Could you tell me about the domestic open space in your house?
- What kind of open spaces do have in your house? And, what do you use it for?

Appendix-VII: The use of ‘Space Syntax’ as an analytical tool

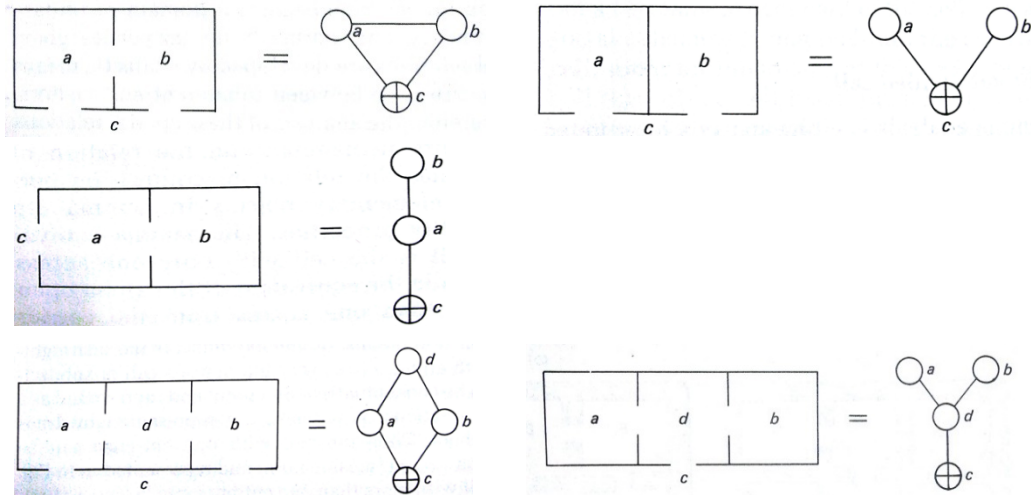
1. Spatial organization frameworks: The ‘Space Syntax’

In order to show how the elementary structures are related to each other in a certain spatial system, scholars have sought to understand the geometrical relationships by which the shape of the building is organized (Brown & Steadman, 1987; March & Steadman, 1971; Hillier & Hanson, 1984). Through morphological analysis, to understand better the relationship between the different plans’ configurations and the forces (social, technical, functional) that shaped them (Brown & Steadman, 1987).

March & Steadman (1971) introduced a method of analysing the spatial organization and reconsidered geometries of the architectural design. Their method, however, was developed in a mathematical pattern and disregarded the social pattern. Hillier and Hanson (1984) developed a method of ‘space syntax’ analysis which gave more insight into social relations within the spatial structure of the building. ‘Social-spatial analysis introduced by Hillier & Hanson deals with the notion of looking at space adjacency and permeability, while considering its function’ (Khattab, 2005: 1). In other words, ‘the space syntax allows a geometrical representation of housing design and housing development’ (Goodchild, 1997:27).

According to Zako (2006), the theory of ‘space syntax’ focuses on the study of the space within the built form or the settlement. A building achieves its function mainly within its spaces and not through its built form. Accordingly, buildings create and order the empty spaces in which their purpose and function take place. Social meaning in buildings take place within spaces of the buildings, and the ordering of spaces in buildings is really about the ordering of relations between people. Hillier & Hanson (1984: 148-149) interpreted the configurational relations of the domestic spaces into graphs or ‘gamma maps’ in which the function of the internal spaces of the house is considered, as well as the social dimension (Fig.1) the divided cell, ‘in which space (a) is linked to space (b) through a gap. The gap creates a ‘relation’ that is called ‘permeability’ between the two spaces’ (Zako, 2006:66).

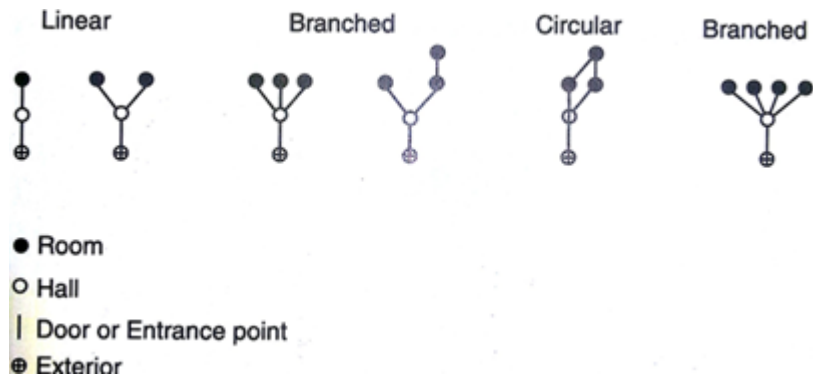
Figure-1: Translation into graphs: configurational relations of the internal spaces



Source: Hillier & Hanson (1984: 148-149)

‘Space Syntax’ theory has been applied to most common housing configurations where the ‘elementary structure’ forms the spatial system and function (Fig.2) shows the elements of the ‘space syntax’. ‘Example of dwellings where the rooms arranged one off each other from front door entrance (a linear arrangement); where the rooms are arranged around a hallway (a branched arrangement) and where the room has double point of entry from adjoining rooms (a circular arrangement)’ (Goodchild, 1997:27-28).

Figure-2: Translation into graphs: configurational relations of the internal spaces

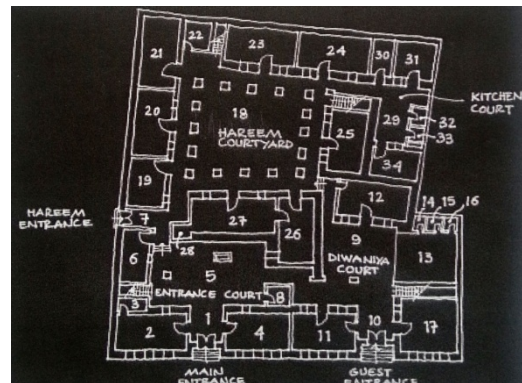
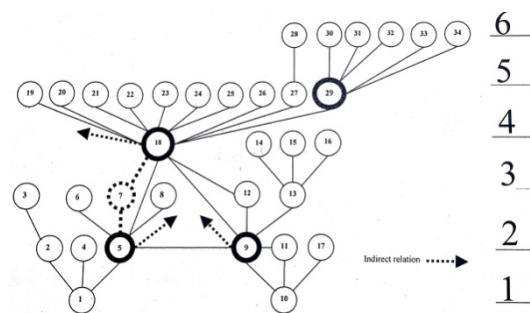


Source: Goodchild (1997:28)

2. The use of ‘Space Syntax’ theory: Examples from Arab regions and Europe

Khattab (2005) has applied Hillier & Hanson’s (1984) technique to a relatively large sample of traditional Kuwaiti houses to show the internal spatial structures of the house, as well as the interface between the residents and the visitors in social context. The study suggested that the privacy, as the key cultural definer of the traditional Kuwaiti house, as well as social, cultural, and traditional aspects are the main forces that generate and shape the form and function of the vernacular architecture. Moreover, the findings of the traditional Kuwaiti houses survey found that All permeability graphs ‘gamma maps’, drawn from the entire sample took branched shape. All courtyards within the house are asymmetric and distributed spaces, while other rooms ‘cells’ around the courtyards are mainly symmetric and non-distributed spaces (Fig.3). There is always more than one entrance to the traditional Kuwaiti house. All non-distributed spaces must have access to one, or more, of the courtyards (distributed spaces).

Figur-3: The use of ‘Gamma Map’: Socio-spatial analysis of traditional courtyard house in Kuwait

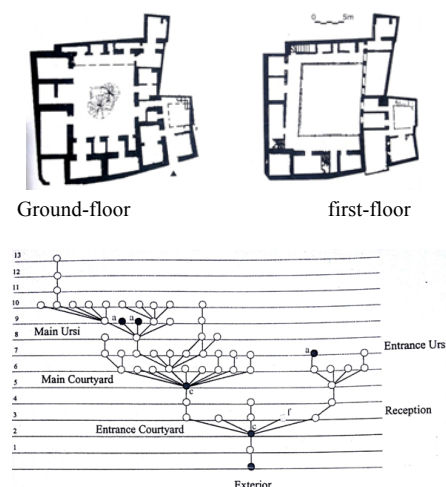


Source: Khattab (2005:13)

Another investigative study has chosen two medium-sized courtyard houses from Baghdad to test the theory of ‘Space Syntax’, and its applicability in different cultures, social relations, and backgrounds (Zako, 2006:65-76). Providing ‘permeability graph of the two houses (Fig.4) has applied the ‘relative asymmetry’ value, and measured the integration sequences of traditional courtyard house spaces, revealed that ‘the most integrated spaces are the main courtyard and circulation spaces connected to it, following in sequence are the entrance courtyard and more of circulation spaces. The *Ursis* (the largest rooms in the Iraqi courtyard house) vary in their integration values while the men’s reception room is quite segregated...in both houses the main courtyard is most integrated, followed by the *Mejaz* (links to the entrance courtyard), then the entrance courtyard. These spaces provide the ‘hub’ of the movement and activity in the house.

There is a combination of a limited permeability into the house combined with an equally limited visibility, and in any case the only (slightly) integrated space a visitor will see or go through is the entrance courtyard. Conversely, the location of the *Ursi* offers a greater variety in terms of accessibility and visibility. The ‘male’ spaces or the spaces that male visitor are invited into are spaces that are very shallow from the outside and are not integrated in the household. Women of the household and their female guests use the spaces that are deeper in the house from the outside especially, in the case of the single entrance’ (Zako, 2006:72-74).

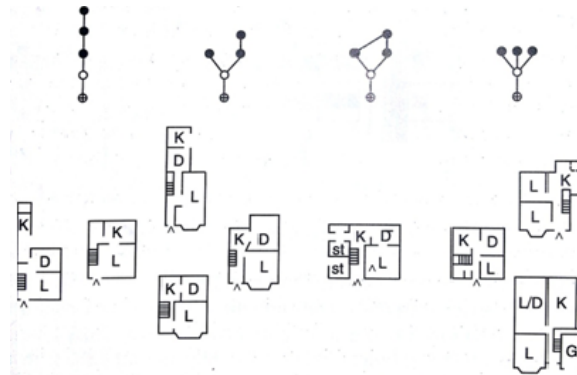
Figure-4: The use of permeability graph ‘Gamma Graph’ of Hillier & Hanson (1984) of Iraqi traditional courtyard house



Spaces coded according to the integration sequence. Source: Zako (2006:68-70)

In Britain, Brown and Steadman (1991) have applied the ‘Space Syntax’ in the house stock in Cambridge (Fig.5). The survey ‘suggests the frontage of the dwelling (the width of the dwelling facing the street) and the number of the rooms on the ground floor are the main determinants of internal layouts’ (Goodchild, 1997:28). In addition, the narrow fronted houses require the need for day-lighting between the front and the back rooms of the houses.

Figure-5: The use of ‘Space syntax’ method: Ground floor layouts of housing stock in Cambridge



Source: Goodchild (1997:29)

3. Procedure of analysis: applying the theory to traditional and modern Libyan homes

The procedure of analysis reported was as follows; firstly, justified permeability graphs were drawn from the living complexes of the layouts selected, using the entrance as a root (the original space). These permeability ‘justified graphs’, with respective plans are as illustrated in (Fig.6.31 & Fig.6.32). Secondly, the syntactic analyses of the spatial patterns were made, considering the mean depth (MD) of the system from the space ‘root’, the integration value (relative asymmetry RA) of the spatial system, and the real relative asymmetry (RRA) to see how deep the spatial system is from certain point. Spaces at the ‘shallowest’ point are most integrated whereas spaces at the ‘deepest’ point are most segregated, syntactic resulted data are tabulated in (Table 6.8). Thirdly, the spatial; pattern of both houses were analysed also in relation to function, to see how a range of functions and activities can take place in any space. Analysed data are tabulated in (Table 6.9).

In Hillier and Hanson analysis, the spatial configurations of the built forms are analysed in terms of space form, function, and its social meaning with the help of ‘justified graph’. This is a graph which a particular space is selected as the ‘root’, and the spaces in the graph are then aligned above it in levels according to how many spaces one must pass through to arrive at each space from the root. Respectively, according to justified graph a space is at depth 1 from another if it is directly accessible to it, at depth 2 if it is necessary to pass through one intervening in order to move from one to the other, at depth 3 if a minimum of two spaces must be passed through, and so on. Depth will be used in a more developed and quantitative form, which is called integration.

The integration value (relative asymmetry) of a space expresses the relative depth of that space from all others in the graph through the formula: measure of integration value (relative asymmetry): **Integration value** = $\frac{2(md-1)}{K-2}$, Where (md) is the mean depth of spaces from the space and (k) is total of spaces in the graph. This gives a value varying between 0 (lower values) for maximum integration and 1 (higher values) for maximum segregation. The integration value of space thus expresses numerically a key aspect of the shape of the justified graph from that space. In most spatial complexes, integration values will be different for different spaces. Such differences are one of the keys to the way in which cultural and social relations express themselves through space. For example, different functions or activities in a dwelling are usually assigned to spaces that integrate the complex to differing degrees.

Functions, thus acquires a spatial expression that can be assigned a numerical value (Hillier *et al*, 1987:364). ‘Symmetry-Asymmetry’ is about the integrating-segregating (less private-more private) effects of a space in relation to the house layout. The MD ‘mean depth’ of space from all other spaces in the configuration (house layout) is integration (RRA), which describes how permeable that particular space is. The mean depth of the system (MD) can be worked out by ‘...assigning a depth value to each space according to how many spaces it is away from the original space ‘root’ point, summing these values and dividing by the number of spaces in the system less one (the original space)’ (Hillier & Hanson, 1984:108).

Within different spatial layouts, integration values will be varied for different spaces, and visually will be shown through the justified graphs. Therefore, D-values for spatial

systems of different sizes, using the transformation are given by Hillier and Hanson (1984:109-113). By dividing that value (D-value) into the value obtained for each of the spaces (RA), this will give the real relative asymmetry (RRA) for the space or system through the formula:

$$\text{Real integration value: } RRA = \frac{RA}{D}$$

Moreover, as shown in Table 6.9, in terms of the integration values of the key spaces of modern house, the low values indicate the spatial system integrates most of spaces to each other. The rear open space is most integrated (to circulation spaces; central roofed living and kitchen), followed by sleeping area. While reception, front open space and entrance are segregated but not most segregated. Considering that spaces identified in traditional courtyard houses consist of both the ‘user-labelled’ spaces (static-activity spaces; male reception room and female’s room) and the ‘movement’ spaces where the family activities converge in (main courtyard and loggia). Whereas, spaces identified in the modern house consist of only ‘user-labelled’ spaces that are quite integrated with the convergence spaces of the family activities in relation to the way the spatial organization of the inner spaces and the domestic open spaces are linked.

In other words, the way these spaces are connected, the activities that take place in these spaces, and their users should be consistent. Therefore, depth among a set of those spaces always expresses how directly the functions of those spaces are integrated with or separated from each other, and thus how easy and natural it is to generate relations among them, whereas the control of ‘actual movement’ that a space has over another depends on the availability of ‘alternative routes of movement’ (Zako, 2006:67).

Table-1 measures the differentiation between the uses of space by different categories of people (male, female, all) for both houses selected. The relative difference factor has been calculated for each house between key spaces (main courtyard, reception ‘male’, and the exterior) for the traditional courtyard house (house1) and between (living area, reception, and the exterior) for Al Ghadamsi (House2). Relative difference factor for the mean depth, maximum and minimum integration values for each house has been also calculated. The figure of relativized difference factor identified ranges between 0 and 1. Values near to 1 are having most entropy or similarity, lower values are having more structure.

Table-1: Entropy-based measure ‘relativised difference factor’ for the traditional courtyard-house and Al-Ghadamsi house

Relativized difference factor (H*)				
Space users	House 1	House 2	H*	H*
	Traditional courtyard house	Al-Ghadamsi	House 1	House 2
H* male	Courtyard/reception/exterior 0.875 / 1.025/ 1.825	Living/M.reception/exterior 0.305/0.380/0.914	0.429	0.338
H* female	Courtyard/Elqaboul/exterior 0.875 /0.725/ 1.825	Living/F.reception/exterior 0.305/0.305/0.914	0.380	0.324
H* all	Mean /minimum /maximum 4.588 /0.725/ 1.825	Mean/minimum/maximum 3.437/0.304/0.914	0.206	0.125

Source: Author, based on Hillier *et al.*, (1987)

4. The procedure of the functional aspects of spaces, and working out (H) un-relativized difference factor for spaces (H*) relative difference factor

If these numerical differences in functions are in a consistent order across a sample, then a cultural pattern exists, one that can be detected in things, rather than just in the way it is interpreted by minds. This particular type of consistency of spatial patterning is the inequality genotype, which is one of the most general means by which culture is built into spatial layout. How strong or weak these inequalities are in a complex or a sample is therefore also of importance. To measure this, an entropy-based measure called difference factor was developed to quantify the degree of difference between the integration values of any three spaces or functions. This is essentially an adaptation of Shannon’s H-measure (Shannon & Weaver, 1984). For transition probabilities, in which the integration value of a space over the total integration for the three spaces is substituted for the transition probabilities in Shannon’s equation:

$$H = - \sum \left[\frac{a}{t} \ln \left(\frac{a}{t} \right) \right] + \left[\frac{b}{t} \ln \left(\frac{b}{t} \right) \right] + \left[\frac{c}{t} \ln \left(\frac{c}{t} \right) \right]$$

Where (H) is the un-relativized difference factor for three spaces; (a), (b) and (c) are the integration values of the spaces; and (t) is their sum. This (H) can then be ‘relativized’ between $\ln 2$ and $\ln 3$ to give ‘relative difference factor’, (H*), between 0 (the maximum difference or minimum entropy) and 1 (the minimum difference, or maximum entropy, that

is all values are equal): $H^* = \frac{H - \ln 2}{\ln 3 - \ln 2}$. An ‘inequality genotype’ with a low entropy value will therefore be ‘strong’ genotype, whereas one that exists, but tends to have high entropy, will be a ‘weak’ genotype’ (Hillier et al, 1987:364-365). According to values of relativized factor calculated for each house in Table-1, it can be noted that there was more differentiation between the spaces when used by all categories of users (mean/minimum/maximum) than that between labelled spaces (guests’ domain and exterior). In the traditional courtyard-house, H^* all is 0.206 which lower than both H^* male and H^* female, as is the case Al-Ghadamsi-house.

Also, it is noticed that the difference factor for the both labelled spaces (H^* male and H^* female) in each house is very similar. For the modern house/Al-Ghadamsi the configurational position, therefore, of the reception (male), or *Elqaboul* room (female reception) between the main courtyard (the core of internal movement and family activities within the circulation spaces connected to it) at one end and the exterior of the house on the other is similar to one another. Whereas the configurational position for the reception or female reception of Al-Ghadamsi between the living area (living and dining space integrated with other spaces of the house) at one end and the exterior at on other is differential. Accordingly, the spatial configuration of courtyard house, especially the labelled spaces (more segregated/more privacy) according to the user’s need, do not discriminate between the users and the internal position of these spaces (consistency between the function of spatial structure and users).

The spatial system of Al-Ghadamsi and its labelling spaces implies kind of informal social interactions between inhabitants of the house, visitors and their domain according to integration and segregation values examined of these spaces. Comparing the different factors ‘inequality genotype’ for the courtyard house layout and Al-Ghadamsi layout, it can be noticed that more differentiation in courtyard house and more similarity in the modern house, especially when comparing between the sets of labelled spaces (H^* male/ H^* female). Spaces will achieve their functions through their order of spaces within the house, where usage flexibility, consistency between socio-cultural meanings and spaces take place in spatial structure.

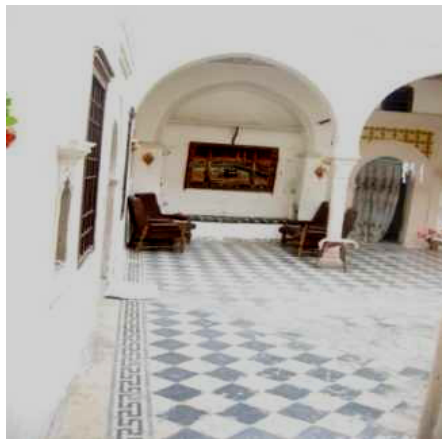
Appendix-XIX: Traditional and modern Libyan homes: Photo-elicitation



Central living area



openings towards a courtyard



Courtyard: Living area



Details: internal screened window



External screened window (*Mashrabyyah*).



Entrance to the courtyard through a lobby



Presenting social relations (Importance of family):
The central domestic space of traditional courtyard house, Tripoli, 1894



Social Space: Snapshot of traditional
Libyan family everyday life
Libyan Arabic *Sida* in traditional
courtyard house (sleeping/sitting/storage
space), Tripoli, 1894



Presenting of self and symbolizing the
internal courtyard: Libyan women in
traditional costume, Tripoli, 1894

Modern homes: Ka-Zalanges & Al-Ghadamsi (social space and everyday life)



Entrance corridor



Kitchen



Female guests' room



Al-Ghadamsi: Male guests' room



Living room: modern furnishing



corridor leads to central living area



Ka-Zalanges: External façade



Ka-Zalanges: Access to a communal shared space



Courtyard: children entertaining



Ka-Zalanges: Block entrance



Female guests room: traditional furnishing



Everyday life and activities: the persistence of the traditional use of space and social activities, modern homes, Tripoli, Al-Ghadamsi residence

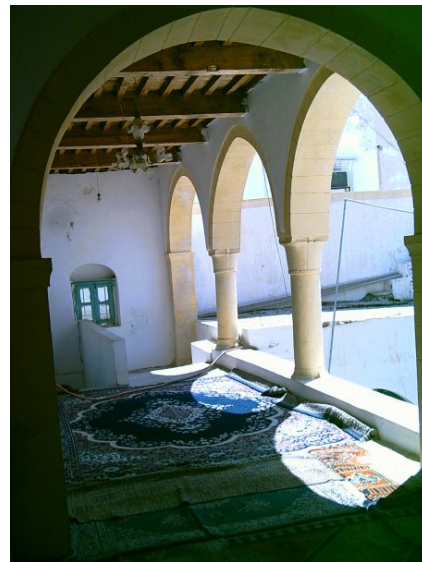
Photo-elicitation: Exterior Libyan housing architecture (shots by residents, Tripoli)



Designed/developed by the Italians (1935-1911)



Photo-elicitation: Courtyard homes of the Medina (shots by residents, Tripoli)



Appendix-VIII: A Glossary of technical and Arab terms

Latin term	Arabic term	Local origin	English translation
<i>Bayt</i>	بيت	Libya	A house
<i>Dakka</i>	دكا	Saudia	A wooden bench near local-shop in neighbourhood for male-gathering/sitting
<i>Dar</i>	دار	Libya	A room
<i>Dar El-Maqaad</i>	غرفه الجلوس		Family living/siting room
<i>Diwaniyah</i>	ديوانيه	Kuwait	Male reception area in the Kuwaiti courtyard house
<i>Durqa'a</i>	طرقه	Egypt	Corridor/hallway/lobby
<i>Eid</i>	عيد	Libya	Eid/festival
<i>El Qaboul</i>	القبول	Libya	The largest room in the <i>Trabelsi</i> courtyard house usually to receive female guests
<i>Elfinar</i>	الفنار	Libya	A sky light
<i>Elsida</i>	السده	Libya	Mezzanine for sitting, sleeping, and storage
<i>Finaa/wast elhoush</i>	فناء/وسط الحوش	Libya	The courtyard
<i>Harim</i>	حریم	Egypt	Women quarter in the Egyptian Arab house
<i>Housh Ataila</i>	حوش العيله	Libya	A family home
<i>Housh Arbi</i>	حوش عربي	Libya	Arab house
<i>Housh Trabelsi</i>	حوش طرابلسي	Libya	Tripoli house
<i>Iskan</i>	اسكان	Libya	Housing
<i>Iwans</i>	ايوان	Egypt	A covered (semi-opened) sitting area opens onto the courtyard
<i>Kojeenaah</i>	كوجينا	Italy/ Libya	A Kitchen
<i>Maawa</i>	مؤى	Libya	A shelter
<i>Mahram</i>	محرم	Libya	Two categories of; a male, whom a woman can never

<i>Malkaf/Badghir</i>	ملقف	Egypt	marry because of close relationship (blood relation), and a marriage relation Wind catcher
<i>Manzel</i>	منزل	Libya	A house
<i>Marbouaah</i>	مربوعه	Libya	Main reception room usually for male guests in the Libyan homes
<i>Mashrabiyya</i>	مشربيه	Egypt	A wooden lattice screen used on widows to provide privacy and reduce glare
<i>Masjid</i>	مسجد	Libya	A Mosque
<i>Maskan</i>	مسكن	Libya	A shelter
<i>Qa'a</i>	قاعه	Egypt	Main hall in the Egyptian Arab house contain <i>Durqa'a</i> and two <i>iwans</i> , usually for male guests
<i>Roshan</i>	روشن	Libya	A widow
<i>Rikkaba</i>	الركابا	Libya	A built-in bench, outdoor/front/entrance of a house for male-neighbours' gathering/sitting/socialising
<i>Sahen</i>	صحن	Egypt	A large courtyard
<i>Sakan</i>	سكن	Libya	A home
<i>Salsabil</i>	سلسبيل	Egypt	cooling decorative fountain usually outside the Egyptian Arab house
<i>Saqiffah</i>	سقيفه	Libya	A bent entrance of the courtyard house
<i>Soggiorno</i>	سوجورنو	Italy	A corridor
<i>Suq</i>	سوق	Libya	Market
<i>Taqtaqa</i>	طقطاقه	Libya	Entrance door knocker in the traditional <i>Trabelsi</i> courtyard house
