



Master Program of Urban Planning and Design

**"The Change of Local Culture and its Effect on the
Sustainability of the Urban Form in Palestine"**

Done by:

Shireen Al Qadi

Advisor:

Dr. Kassem Egbaria

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Done by:

Shireen Al Qadi

Discussion Committee:

Dr. Kassem Egbaria

Dr. Jamal Amro

Dr. Salem Thawabeh

Submitted to get an MA degree in Urban Planning and Design

Forward

To Mom and Dad...

To the glow that has enlightened my way...

Shireen

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Abstract:

Palestine had gone through political, economical, technological changes in addition to social and cultural transformations through the twentieth century. The changes on these different levels left their print on the urban form. This research addresses the effect of the change of the local culture in Palestine on the sustainability of the urban form. Three criteria of the sustainability of an urban form were adapted in order to measure the change of the sustainability within the Palestinian context, which are: density, mixed-use and open spaces. A number of cultural elements were also determined in order to evaluate their effect on the sustainability criteria, which are: family, women's role, privacy, traditions and social interaction. Hebron was taken as a case study, and a comparison between an old and a new neighborhood was made. It was found out that the local culture at the beginning of the century enhanced the criteria of sustainability of density, open spaces and mixed-use. However, by the end of the century, local culture depresses the sustainability in terms of density and open spaces, but developed the mixed-use.

ملخص:

لقد مرت فلسطين بتحولات على المستوى السياسي و الاقتصادي و التكنولوجي و الاجتماعي و الثقافي خلال القرن الماضي، و لقد أثرت هذه التطورات على الشكل العمراني. تبحث هذه الدراسة في اثر التغير الثقافي على استدامة التكوين العمراني في فلسطين. لقد تم تبني ثلاث معايير لقياس استدامة التكوين المعماري و هي: الكثافة العمرانية و الاستخدام المختلط و الفراغات المفتوحة، و اختيار عناصر للثقافة و هي العائلة و دور المرأة و الخصوصية و التقاليد و التواصل الاجتماعي من اجل تحديد أثرها على معايير استدامة التكوين العمراني. و لقد تم اختيار مدينة الخليل كحالة دراسية و عمل مقارنة بين احدهما قديم و الآخر جديد في المدينة. من خلال المقارنة وجد أن الثقافة المحلية كانت تساهم في استدامة التكوين العمراني من خلال تعزيز الكثافة العمرانية و الاستخدام المختلط و الفراغات المفتوحة، بينما حدثت الثقافة في نهاية القرن الماضي من الكثافة العمرانية و الفراغات المفتوحة لكنها ساهمت في تعزيز الاستخدام المختلط ضمن التكوين العمراني.

1. Preface:

1.1.Introduction:

Changes have taken place on the cultural level in Palestine during the twentieth century. Transformations of the political, economical, social and technological systems had contributed to the change of the local culture.¹ For example, in the beginning of the twentieth century, Palestinians were mainly depending on agriculture, family members used to cultivate land.² After the Israeli occupation in 1967, Palestinians were directed to labor sector in Israeli factories and construction work.³ Family members were less interdependent preferring the nuclear family instead of the extended family pattern, thus changing the way of living and local culture.⁴

The change of the local culture was one factor causative to modification of the urban physical structure and form. Referring to the previous example, the urban development pattern in the beginning of the twentieth century depended on clustering.⁵ Family relationships as an economical and social unit in addition to safety requirements played a role in being clustered according to kinship leading to a

¹ Alkam, Nabel (1991), We and our legacy, the Palestinian culture: roots and challenges, ed. Abu Elhadba, Abd Alaziz. p 179 (in Arabic)

² Ibid, p.179

³ Suad and Tamari, Vera (1989), the Palestinian village home, British Museum publications, p 7

⁴ Costello, V.F. (1977), Urbanization in the Middle East, Cambridge University Press, p. 52

⁵ Amiri, Suad and Tamari, Vera (1989), the Palestinian village home, British Museum publications, p7

compacted urban form.¹ Economic revival due to working in Israel and being economically independent from the family was translated on the urban form by the new dwellings away from the core of urban structure and away from the family as well.²

This change of urban structure has affected its sustainability accordingly. Going back to the same example, clustering in first traditional phase and the derived compact urban form guided the conservation of land and enhanced the physical sustainability in contrast to second case. Building away from the core of the urban structure needed more infrastructure and consumed more land than if new buildings were near the core of the urban structure.³

From the previous discussion, one can find a link between local culture and the sustainability of the urban form. This research tries to shed light on the role of the change of the local culture and its effect on the sustainability of the urban form in Palestine through the twentieth century. The research is expected to come up with conceptual recommendations to enhance the physical sustainability through the local culture.

Literature review boosted with a case study of Hebron city will be used in the research. Data will be collected through observations, interviews and documents. This research can contribute to the planners and the policy makers in Palestine who tend to create sustainable urban forms. It helps them to understand the relationship between culture and sustainable urban form in order to invest this relationship in creating a framework to achieve sustainable urban form in Palestine.

¹ Bianca, Stefano (2000), Urban Form in the Arab World, institut fur Orts, Regional und landesplanung. ETH , Zurich.p. 145

² Amiri, Suad and Tamari, Vera (1989), the Palestinian village home, British Museum publications, p7

³ Ibid, p.8

1.2.Context current situation:

The changes that took place in Palestine in the last century have affected several parts of its socio- physical composition. On the social level, a number of changes accrued. For example, the family structure has been transformed.¹ The extended family was the cell that forms the social composition; however, the nuclear family now took this place. The change from extended to nuclear family was a result of economical independency of members from the family in addition to education of both man and woman who tend to have a separate household.²

Even the role of the family, which used to be the basic institute to transfer the values, norms and traditions from one generation to another, has been adjusted.³ This role became more fragile in opposite to the part of the satellite, internet and mobile, which penetrate the family structure presenting an extraordinary way of living and imposing in many cases different values, norms and traditions than the family's.⁴

The change has affected the physical urban structure parallel to the change of the social composition. It was affected on different scales, from the residential unit to the whole of the urban form.⁵ One of the simple and obvious examples is the increase use of cars and the dependency on it for transportation. This change of way of travel played a major role of the urban expansion, encouraging people to live away from the

¹ Alkam, Nabeel (1991), *We and our legacy, the Palestinian culture: roots and challenges*, ed. Abu Elhadba, Abd Alaziz. p 179 (in Arabic)

² Ibid, p. 179

³ Hadawi, Sami,(1990) ,*Bitter Harvest: A Modern History of Palestine*, NY: Olive Branch Press, p55

⁴ Ibid,, p56

⁵ Amiri, Suad and Tamari, Vera (1989), *the Palestinian village home*, British Museum publications, p.8

core of the urban structures, hence creating the problem of sprawl¹ that will be discussed later.

1.3.Problem statement:

Palestine is a small country with limited resources. The Palestinian society had been under changes during the twentieth century. These changes went deep inside the local community affecting several portions of the society including the family as the main core of it as it was explained before. As a result, the change has influenced the local culture in both its physical and non-physical faces, modifying the way of living including values and norms up to house form and then the urban form consequently. This change of the urban form has affected its physical sustainability.

This research puts light on the role of the change of the local culture and its effect on the sustainability of the urban forms within the Palestinian context during the twentieth century. The researcher believes that there is a relationship between the changes on culture and the way of living that took place in Palestine in the twentieth century, and the change of the urban form. The change of the urban form led to verification of the sustainability of the urban form as well.

1.4.Main objectives:

The main goal of the research is to present the change of the Palestinian local culture in the twentieth century and to evaluate its role in the sustainability of the urban form. It first examines the meaning of a sustainable urban form. Then it tries to

¹ Naser, Suad (1991), the change of the Palestinian village form, the Palestinian culture: roots and challenges, ed. Abu Elhadba, Abd Alaziz. p 279 (in Arabic)

investigate the sustainability of the urban forms in terms of density, expansion and infrastructure and their relationship with culture. It also, measures the previous criteria according to the change of the Palestinian local culture. Finally, it comes up with a conceptual framework to enhance the urban sustainability referring to the local culture.

1.5.Main questions:

The research main questions are first what the meaning of a sustainable urban form is? Second, what criteria can be used to measure the sustainability of the urban forms and what is its relation with culture? Third, how did the change of the local culture in Palestine affect the sustainability of the urban forms in the last century in terms of density, mixed land use and open spaces? Finally, how can local culture enhance the sustainability of the urban form in Palestine?

1.6.Methodology:

The research will refer to literature to outline the theories and vision concerning the sustainable urban form and its relation to culture. Moreover, a case study will be also used from the Palestinian local context to enhance the research. Observations, interviews and documents will be used to collect the data of the case study.

1.7. Significance of the research:

The significance of this the research stems from the current pattern of urban development in Palestine. This pattern causes several irreversible damages within the urban structure, like agricultural land consumption, affecting the sustainability of the urban form. Different reasons guided this pattern of development. For example the

economical factor played a role in urban expansion as people had another economic resource than land cultivation.

This research focuses on the cultural factor and its effect on the sustainability of the urban form. It tries to figure out the relationship between culture and the urban form and its sustainability consequently, trying to come up with a framework to guide the pattern of the urban development towards sustainability depending on the local culture.

The Palestinian institutions, planners, professionals and policymakers can adapt the research idea and the coming up framework. It can be one tool to direct the urban development pattern towards a more sustainable urban form. It also fills the gap caused by the lack of resources dealing with urban development and the frameworks to guide such a development in a sustainable way in Palestine.

2. Literature Review:

2.1.Introduction:

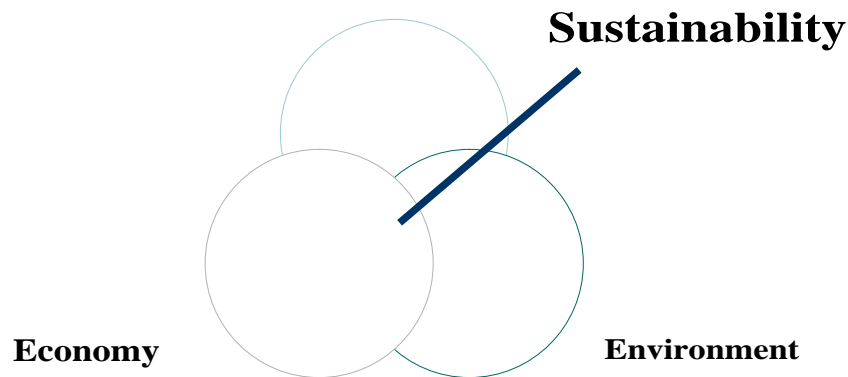
The urban form is considered a main factor in creating the sustainability for an urban structure. For example, it is argued that the compact city is more sustainable than the dispersed city; it preserves land and needs less infrastructure. However, in addition to planners, local communities, their cultures and their way of living play a role in creating the urban forms, thus affecting these forms.¹ This chapter is an overview of the literature regarding the sustainable urban form. It identifies the sustainable urban form, and then it studies the effect of the culture on the urban form. Finally, it finds the link between the urban form and the local culture.

2.2.Sustainable urban form:

In 1987, the World Commission on environment and Development came up with a definition of sustainability that was included in its findings, which became known as the Brundtland Report. It stated that "sustainable development meets the needs of the present without compromising the ability of the future generations to meet own needs".² (See figure 2.1)

¹ Rapoport, Amos (1977) , Human Aspects of Urban Form, Pergamon Press Inc, England, p. 249- 255

² <http://en.wikipedia.org/wiki/Sustainability> , last visited 20th/april/07



(Figure 2.1) sustainability diagram (source: the researcher)

On the other hand, there is a belief that sustainability is influenced by urban form.¹ To realize the "sustainable urban form" there has to be a clear concept of what it looks like and how it functions. Until fairly recently, there was some consensus that compact urban forms offered the most sustainable future.² However, latter researches focused on the complexity of the urban forms trying to find out the relationships between the different urban forms and sustainability.³ Moreover, they tried to investigate whether one urban form would contribute to sustainability more than the other forms.⁴

Several models were proposed in order to identify the sustainable urban form, and to measure the sustainability of the urban forms. Wack (2000) suggested one of these

¹ Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 3

² Ibid, p. 1

³ Jabareen, Yousef (2006), Sustainable urban forms: their Typologies , Models and Concepts, Journal of Planning Education and Research, V 26: p. 37

⁴ McDonald, Geoffrey T.(1996), Planning as Sustainable Development, Journal of Planning Education and Research,V 15: p. 22

models. His model included five elements of the urban structure that could be adjusted in order to insure sustainability of the urban form. According to him, the five elements that make out a sustainable urban form are *density*, *size*, *configuration*, *detailed design* and *quality*.

Jabareen (2006) identifies sustainable urban forms and their design concepts. Trying to investigate if a form contributes more to sustainability than the other forms, his research addresses seven design concepts related to sustainable urban form that are *compactness*, *density*, *mixed land use*, *sustainable transport*, *diversity*, *passive solar design* and *greenery (open spaces)*. He also stresses the part of decreasing pollution and solid waste in addition and having community-oriented human environments.

Frey (1999) was more specific when identifying criteria for a sustainable urban form. The physical sustainability criteria of the urban form that he proposed are the following: some form of *containment*, a reasonably high population *density*, *mixed-use* environments and *adaptability* to change of the socio economic conditions. He also added some conditions relating to environment, socio-economic status and visual quality in order to insure sustainability. One of the main ecological conditions was providing personal private *outdoor space*.

However, this research will adapt three characteristics of the urban patterns to investigate the relationship between sustainability and urban form. It will first use a reasonably high population *density* as a main tool for urban intensification and containment. Second, *mixed land use* specifically a higher concentration around public transport nodes in walking and cycling distance from peoples front doors and finally greenery and private *open spaces*. This model was chosen since these criteria

have a strong relationship with culture within the Palestinian context as it will be discussed in the chapter three.

2.2.1. Density:

A reasonably high population density is needed to ensure a sustainable urban form. It facilitate achieving viable local services and facilities i.e. a high level of activities and interactions and thus vibrant settlement and places and viable public transport.¹ It also promote containment of development to stem or even reverse sprawl and preserve the countryside,² this can be aided through the reuse of underused and disused derelict and contaminated land to make it productive again, to help making the city more compact. This will avoid unnecessary development of Greenfield sites to a tolerable degree.³ Density enhances the social mix increasing safety and quality of life.⁴

However, others argue that urban density has disadvantages. They believe that it is associated to overcrowding, reducing amenity, increase of air pollution and bad neighbor effect.⁵ Williams (2000) thinks that intensification leads to reduce individual privacy. It establishes the social segregation since the rents of dwelling will be high in the city centers and cause lack of affordable housing.⁶ High densities lead to poor

¹ Jabareen, Yousef (2006), Sustainable urban forms: their Typologies , Models and Concepts, Journal of Planning Education and Research, V 26: p. 37

² Northam, Ray M. (1979), Urban Geography, John Wiley & sons, New York, p. 467

³ Frey, Hildbrand (1999), Designing the city: towards a more sustainable urban form, Spon Press, London, p. 32-33

⁴ Stretton, H. (1996), Density, efficiency and quality in Australian cities, in Jenks, M. , Burton , E. & Williams, K. (eds), Compact City, a sustainable urban form?, E & FN Spon, London, p. 45

⁵ Jenks, Mike (2000), The acceptability of urban intensification, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 19

⁶ Van der Valk, A. and Faludi, A. (1992), Growth regions and the future of the Dutch planning doctrine, in Breheny, M.J. (ed.) Sustainable development and urban form, Pion, London

access to green space and increase crime levels and less domestic living space.¹ It leads to traffic congestions, reduce quietness of neighborhoods, loosing traditional character of the local buildings and reducing open spaces within the urban structure.²

2.2.2. Mixed land use:

Mixed land use refers to the diversity of activity, such as presence of retail factions and local industry in residential areas.³ It is recommended to create mixed-use environment specifically a higher concentration around public transport nodes in walking and cycling distance from people's front doors.⁴ It encourages walking and cycling, and reduces to some degree the need to travel and discourages using car.⁵ Hence, mixed use reduces consumption of fossil fuel and production of harmful emissions from vehicles.⁶ It also increases social interaction through using neighborhood facilities and walking trips,⁷ generating a vibrant environment may be even a sense of community.⁸

Nevertheless, mix land use is related to land ownership. Eisenstadt (1923) considered one crucial element in shaping the internal structure of the city is the

¹ Burton, Elizabeth (2000), The potential of the compact city for promoting social equity, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 19

² Jenks, Mike (2000), The acceptability of urban intensification, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 19

³ Masnavi (2000), The new millennium and the new urban paradigm, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 64

⁴ Frey, Hildbrand (1999), Designing the city: towards a more sustainable urban form, Spon Press, London, p. 32

⁵ Van Uyen- Phan and Senior, Martyn, David(2000), The contribution of mixed land uses to sustainable travel in cities, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 139-148

⁶ *ibid*, p. 139-148

⁷ Masnavi (2000), The new millennium and the new urban paradigm, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 64

⁸ Frey, Hildbrand (1999), Designing the city: towards a more sustainable urban form, Spon Press, London, p. 32-33

control of land, and the mechanisms of land allocation. Control of land is important in determining the lot size, street patterns, major public building locations, the extent of the open spaces and their use.¹ The type of ownership makes an impact on spatial growth, efficiency and equity.² Gilman (1984) believes that neither of the rigid systems, individual nor state ownership, contribute to sustainability. He suggests an alternative legal form to promote sustainability that is *land trust*.

Land trust is a non-governmental organization (frequently a non-profit corporation) that divides land rights between immediate users and their community. This system is already used in a number of places like India, Tanzania and the United States. There are a number of types of the land trust. Among them there are conservation trusts, its purpose is generally to preserve some aspect of the natural environment. The community trust, which aims to making land available to those who will use it for the long-term benefit of the community. In addition to stewardship trusts that combines features of both the conservation and community trust, it is used basically by international community and non- profit groups.³

2.2.3. Open spaces:

Open spaces and greenery are important aspect to achieve sustainability. Green space is considered the lungs of the urban structure. It increases urban- ecological

¹ Eisenstadt,S.N (1923), Society, culture and urbanization, SAGE publications ,Inc., page 36-37

²Sapovadia, Vrajlal (2007), The impact of type of ownership on spatial growth, efficiency and equity: a case study of Ahmedabad, India, Fourth Urban Research Symposium, <http://www.worldbank.org/urban/symposium2007/day2.html> ,last visit, 16/06/07

³ Gilamn, Robert (1984), The idea of owning land, in Living with the land, Context Institute, p. 5 <http://www.context.org/ICLIB/IC08/Gilman1.htm> , last visit 16/06/07

interaction and promotes biodiversity.¹ In addition to its environmental and ecological role, it has a psychological influence on the dwellers.² It also facilitates food growing and urban agriculture.³ Frey (1999) emphasizes the necessity of providing family homes with gardens or other form of private out door space like roof gardens and terraces. He also calls attention to the relationship of the urban structure with the country, natural reserves and forestry.

However, Rudlin and Falk (1999) refer to Jacobs who questions the environmental effect of the green areas within the urban structure. She points out that three acres of woodland required to absorb the CO₂ produces by just four people. Moreover, open spaces has disadvantages. Too much of it can decrease the density of the urban areas, reducing the viability of the public transport and increasing walking distances.⁴ In addition, large areas of open spaces can create personal safety problems especially at night.⁵

Hence, sustainable urban areas are not necessarily those who have the largest area of open space.⁶ The size and distribution of the open spaces is a crucial factor in

¹ Newton, Peter (2000), urban form and environmental performance, in Newton, Peter (2000), Urban form and environmental performance, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 68

² Rudlin, David and Falk, Nicholas (1999), Building the 21st century home, the sustainable urban neighbourhood, Architectural Press, p. 165

³ Nunan Fiona. 1999. Urban agriculture in Hubli-Dharwad, India. Birmingham: University of Birmingham.

⁴ Ibid., p. 166

⁵ J Burgess, CM Harrison and M Limb People, Parks and the Urban Green: A Study of Popular Meanings and Values for Open Spaces in the City, Urban Studies, Volume 25, Issue 6 , pp 455 - 473

⁶ Rudlin, David and Falk, Nicholas (1999), Building the 21st century home, the sustainable urban neighbourhood, Architectural Press, p. 166

achieving a sustainable urban form.¹ It can be provided in the shape of street trees, parks, squares, courtyards, balconies, private gardens and roof gardens.²

As we have seen there are several theories dealing with the sustainability and urban form. To achieve a sustainable urban form a number of characteristics of the urban structure have to be adjusted. Adjustment of these characteristics can be applied in different ways, i.e. the force of law or by certain motivations. Unlike the previous approaches, this research emphasizes the role of culture in promoting sustainable urban form.

2.3.Culture:

The definition of culture varies according to the field of study. However, in the field of urban planning and according to Williams (1961), the anthropological definition of culture as a "*particular way of living*" is the most suitable one. Mugambi (1999) established seven pillars of culture that are *politics*³, *economics*, *aesthetics*, *kinship (family)*, *recreation*, *religion and ethics*.

Hault (1969) divides culture into four basic elements that are "passed on from generation to generation by learning alone", which are: *values*, *norms*, *institutions*, the structures of a society within which values and norms are transmitted – including the *family* and school- and finally the *artifacts* which are the aspects of material culture derive from a culture's values and norms.

¹ Ibid, p. 165

² Ibid, p. 166

³ Politics here means rules of deciding, sharing and distributing among a group of people.

Schein (1999) defines culture as "*the accumulated shared learning from shared history*". He believes that Culture helps us understand how it is created, embedded, developed, manipulated, managed, and changed. He suggests another model for culture that includes *norms, values, behavior patterns, rituals* and *traditions*.

In studying the house form and its relation to culture, Rapoport (1969) studied five aspects of culture in relation to the house form. He considered *some basic human needs, family, position of women, privacy* and *the social intercourse* -namely meeting people-. He studied the effect of these cultural elements on the house form, space organization and the relation of house and settlement.

A number of criteria are repeated regarding the previous models, i.e. the family. For the researcher it is an indication of the importance of such criteria. A model consisting of four elements of culture is to be adapted in this research. These elements were chosen since they are suitable aspects to study the effect of culture on the urban form and its sustainability. The model consists of *family structure*- kinship, *role of women, privacy, traditions* and *the social intercourse*.

However, Culture is not static; it grows out of a systematically encouraged reverence for selected customs and habits.¹ It changes according to internal needs or because of external vectors. For example in Europe, after the Second World War and because of the economic crises, the role of women as a housewife has changed

¹ Rothkob,David (1997), In praise of cultural imperialism? effect of globalization on culture, GPF <http://www.globalpolicy.org/globaliz/cultural/globcult.htm> , last visit 20/05/07

entering the field of work and become the only breadwinner for the family in some cases.¹

2.3.1. Family structure:

Family is considered the basic cell in a society; however, there are several types of family structures.² Family type whether nuclear or extended, monogamy or polygamy, number of children and so on, is a significant factor for creating the house form.³ Hence, it has role in creating the urban form as well. Family structure, its needs and its relation to society identifies the space needed for dwelling and its relationship with the adjacent houses and the other elements of the urban form. Further more, family is one criterion that leads to clustering within the urban form in addition to other criteria like ethnicity and occupation.⁴

2.3.2. Role of women:

Women role in the family and society decides a number of aspects regarding the urban form similar to the residential unit⁵, the open spaces⁶, the roads⁷, and the way these elements are organized creating the urban form. The traditional architecture and traditional cities in several places took into account the women way of living.⁸ For example, the Islamic city responded to women's needs through generating specific

¹ Hughes, Kaylene (1992), Women at War,

<http://www.redstone.army.mil/history/women/welcome.html>, last visit 06/06/07

² Elliott, Susan and Gray, Alison (2000), Family structures, a report for New Zealand immigration service.

³ Rapoport, Amos (1969) , House form and culture, Prentice - Hall Inc ,p. 63

⁴ Rapoport, Amos (1977) , Human Aspects of Urban Form, Pergamon Press Inc, England, p. 249- 255

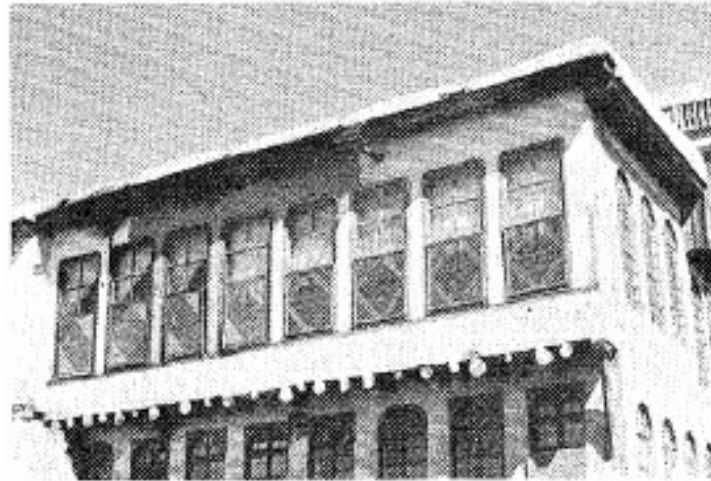
⁵ Rapoport, Amos (1969) , House form and culture, Prentice - Hall Inc, p. 65

⁶ Cranz, Galen(1980), Women in Urban Parks, Women and the American City, V. 5, No. 3, pp. S79-S95

⁷ Secor A. J.(2002), The Veil and Urban Space in Istanbul: women's dress, mobility and Islamic knowledge, Gender, Place and Culture - A Journal of Feminist Geography, V. 9,No.1,p. 5-22, Routledge, part of the Taylor & Francis Group

⁸ Rapoport, Amos (1969) , House form and culture, Prentice - Hall Inc, p. 65

elements, i.e. the *Mashrabiya*¹ (see picture 2.1), and organized the relationship between the elements of the urban form considering women demands.² However, women are being disregarded in the modern planning schemes.³



(Picture 2.1) Mashrabiya (source: Bianca,2000 p.95)

2.3.3. Privacy:

Privacy is the ability to control the unwanted interaction and to organize the information flow.⁴ Preferred environments are those that make such a control possible.⁵ Privacy is being translated by different arrangements. On the scale of house, privacy can be achieved by scheming the shape of house (outward or inward).⁶ (See figure 2.2) It also can be attained by elevation appearance with the size of the

¹ Interlaced wooden screen work, used in the Islamic architecture look through without being seen

² Bianca, Stefano (2000), *Urban Form in the Arab World*, institut fur Orts, Regional und landesplanung. ETH , Zurich.

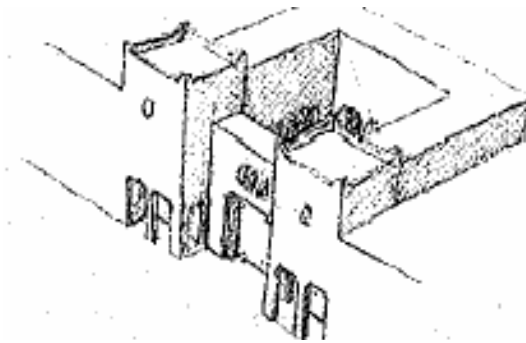
³ Heiler, Ursula and others (1997), *The European Charter for Women in the City*, http://www.cityshelter.org/03.charte/charter_en/charter.htm#AUTHORS , last visit 06/06/07

⁴ Rapoport, Amos (1977) , *Human Aspects of Urban Form*, Pergamon Press Inc, England, p. 20 4

⁵ Rapoport, Amos (1977) , *Human Aspects of Urban Form*, Pergamon Press Inc, England, p. 203

⁶ Matthias, Stephen (1988), *Courting the House*, *Journal of Architectural Education*, V. 42, No. 1 pp. 48-53, [http://links.jstor.org/sici?sici=10464883\(198823\)42%3A1%3C48%3ACTH%3E2.0.CO%3B2-N](http://links.jstor.org/sici?sici=10464883(198823)42%3A1%3C48%3ACTH%3E2.0.CO%3B2-N) , last visit 07/06/07

openings or even being a blank wall.¹ Another way that is used to obtain privacy is using specific elements like walls surrounding the dwellings.² The separation of domains according to certain criteria (especially gender) is a strategy to control interaction, like the Men's zone (*Zalamlek*) and women's zone (*Haramlek*) in the Islamic house.³ It should be also mentioned that a hierarchy from public to semi private then private spaces is noticed in different cultures.⁴



(Figure 2.2) The courtyard house (source: Bianca,2000 , p.148)

2.3.4. Traditions:

Traditions can be defined as information that brought from past to present in a particular social context.⁵ They have the force of law honored by everyone in the collective assent.⁶ This approach of control works since it symbolizes a shared image of life, an accepted model of buildings, a small number of building types and accepted hierarchy leading to customary settlement pattern. He adds, "*Without tradition there can no longer be reliance on the accepted norms and there is a beginning of*

¹ Rapoport, Amos (1969) , House form and culture, Prentice - Hall Inc, p. 66

² Ibid, p. 66

³ Rapoport, Amos (1977) , Human Aspects of Urban Form, Pergamon Press Inc, England, p. 203

⁴ Matthias, Stephen (1988), Courting the House, *Journal of Architectural Education*, V. 42, No. 1 pp. 48-53, [http://links.jstor.org/sici?sici=10464883\(198823\)42%3A1%3C48%3ACTH%3E2.0.CO%3B2-N](http://links.jstor.org/sici?sici=10464883(198823)42%3A1%3C48%3ACTH%3E2.0.CO%3B2-N), last visit 07/06/07

⁵ <http://en.wikipedia.org/wiki/tradition> , last visit 07/03/07

⁶ Rapoport, Amos (1969) , House form and culture, Prentice - Hall Inc, p. 6

institutionalization."¹ However, tradition as a regulator has disappeared notably because of the greater number of buildings types, loss of the common values, and because that our culture puts premium on originality.²

2.3.5. Social intercourse:

The meeting of people is a basic need. What is important for us is where they meet whether in the house, the café, the bath, or the street. The organizations of space in certain ways promote socialization.³ For example in France, the café is the meeting place and guests are never invited into the house. Therefore, the spatial solutions to promote social intercourse and people interaction are important and complex aspects of the urban setting.

Here we see that culture plays a significant role in forming the urban space. This is noticed through creating a common accepted building pattern, for example determining the outward or inward residential unit. Moreover, generating specific elements, similar to using walls surrounding the dwelling and like the Mashrabiya in the Islamic city or through a special type of organization of the urban space, like clustering of family members within the urban fabric or the relationship between the entrance of house and the street. Thus, urban space is used as a tool to regulate the relationships within a society, translating the non-physical culture to a physical one.

¹ Ibid, p. 6

² Ibid, p. 7

³ Ibid, p. 68

2.4. The relation between culture and sustainable urban form:

Sustainability is actually related to culture and the particular way of living. One culture may enhance the sustainability; others may not i.e. the careless spending of resources in the western societies.¹ In this section, we will uncover the relationship between sustainable urban form and local culture. The link between the pre-mentioned sustainability criteria of the urban form and cultural model that was proposed in the first section of this chapter will be found.

We will start with the first criterion that is urban *density*. Urban density is affected with family structure and family size.² The extended family promotes clustering and increases density more than the nuclear one.³ Density is also affected by the women's role. Education and then the work of woman outside the house is an obstacle in bringing up many children thus reducing family size and increasing the area per person in the housing and increasing the density as well.⁴

The relationship between privacy and density is critical. Both visual and acoustic privacy become a major concern for occupiers particularly as densities begin to rise.⁵ Although high density is an important aspect to promote sustainability, there is a requirement to provide safe defensible spaces and problems of overlooking must be

¹ Malitza, Mircea (2000), Sustainability, a new way to look at the world, www.clubofrome.org/docs/confs/malitza_moscow_ac_2000.doc, last visit 14/04/07

² Weissman, Paul R. and Lowry Stephen C. (2006), Size Distribution, Structure And Density, www.lpi.usra.edu/meetings/recon2006/pdf/3025.pdf, last visit 25/04/07

³ Rapoport, Amos (1969), House form and culture, Prentice - Hall Inc, p. 6

⁴ Benni, Basavaraj S. (2004), Socioeconomic Impact Of Role Conflict Of Working Women In Urban Western Maharashtra, Department of Women and Child Development, Ministry of Human Resource Development, New Delhi, www.nrcw.nic.in/shared/report/71.pdf, last visit 16/05/07

⁵ URS Corporation Limited and Patel Taylor, (2006), London Plan Density Matrix Review, Greater London Authority

considered.¹ In high density living, privacy is necessarily highlighted by a strong sense of community responsibility and shared values.²

The second criterion of sustainable urban form that will be discussed is *mixed land use*. There is an interrelated relationship between culture and mixed use. From one point of view, people who favor social intercourse within the neighborhood prefers land mixed-use pattern and the provision of several facilities within the locality.³ In the same time, it is argued that mixed-use neighborhoods encourage social intercourse and community engagement.⁴

The last sustainable urban form criterion that will be discussed relating to culture is the *open spaces*. There is a relationship between privacy and open spaces within the urban form. The characteristics of the provided open spaces like size, orientation and view has to protect the privacy of neighboring residents from overlooking, noise and other intrusions.⁵

These relationships can be illustrated through the following table:

¹ Ibid

² Mulholland Research & Consulting (2003), Perceptions of Privacy and Density in Housing, prepared for the Popular Housing Group, www.designforhomes.org/privacy_and_density.html , last visit 16/06/07

³Sato, H.; Namatame, A. (2001), Co-evolution in social interactions, Evolutionary Computation, Volume 2, pp 1109 – 1114
<http://ieeexplore.ieee.org/Xplore/login.jsp?url=/iel5/7440/20224/00934315.pdf> , last visit 13/06/07

⁴Leyden, Kevin M. (2003), Social Capital and the Built Environment: The Importance of Walkable Neighborhoods, American Journal of Public Health , Research and Practice V 93, No. 9

⁵ Anderson, Soren (2000), The effect of open space on single-family, residential home property values, Macalester College, www.personal.umich.edu/~sorenta/Anderson_openspace_MJE.pdf - , last visit 30/05/07

	Density	Mixed use	Open spaces
Family	Family structure and number of its members affect the area/ person and the overall density		
Woman's role	Working women usually prefer less number of children		
Privacy	Privacy affects density negatively		The need for privacy defines the shape and location of the open space
Traditions			
Social intercourse		Where people meet (cafes, clubs...etc) affects the mixed use pattern	

(Table 2.1) Sustainability criteria in relation to culture (source: the researcher)

2.5.Conclusion:

In conclusion, we find that the culture, *as a particular way of living*, in a community identifies some basic issues that may or may not contribute to sustainability. It should be mentioned here that there are some cultures that intentionally encourages sustainability, i.e. *Sustainable living, permaculture and simple living*.¹ As a result, we can say that culture can be the soft infrastructure to promote the sustainability of the urban form in a community.

¹ <http://en.wikipedia.org/wiki/Sustainability> , last visit 15/03/07

3. Palestinian Context:

3.1.Introduction:

The Palestinian culture, as a particular way of living, in the beginning of the twentieth century affected the urban form. For example, at that time people were familiar with walking and to using animals to move within and between the urban areas. The urban form responded to the means of transportation in term of clustering in order in decrease the walking distances.¹

However, because of the transformations on the political, economical, social and technological levels in the last century in Palestine, the Palestinian culture changed leading to the change of urban form accordingly. Going back to same example, because the technological advance and the availability of cars, people depended on cars as a mean of transportation facilitating the urban expansion that was parallel to enlargement of road networks.²

The change of the urban form responding to the cultural changes affected the sustainability of these forms in Palestine. The change of the pattern of the urban expansion and the increase of the length of the roads networks in the last example guided the way for more land consumption. Long distances within the urban structure increased the dependency on cars resulted air pollution, hence decreasing the sustainability of the urban form.

¹ Eisenstadt, S. N. and Shachar, A. (1987) *Society, Culture and Urbanization*, Sage Publications, p. 216

² Ministry of planning and International Cooperation (MOPIC), (1999), *The Land-use Transportation study on the West Bank*, p.14

In this chapter, the researcher will describe the Palestinian context in terms of the change of the criteria of sustainability including density, mixed use and open spaces. Moreover, it will focus on the change of the local culture during the last century referring to cultural model that was proposed in chapter three.

3.2. The change of the sustainability of the Palestinian urban form:

The Palestinian urban form has changed in the twentieth century in response to different factors. These factors include economy, politics, and technology in addition to the social and cultural vectors. For example, the technological advance promoted large openings using the reinforced concrete, reshaping the house form and the urban form consequently. This section explores the change of the sustainability of the Palestinian urban form during the twentieth century referring to the criteria of the sustainable urban form that was discussed chapter three. That includes density, mixed land use and open spaces.

3.2.1. Density:

Several factors affected the density and the compactness of the Palestinian urban form. The previous urban form used to be compacted and dense for social (family relations), economical (preserving the agricultural land), defense and security reasons in addition to technological barriers the lack of means of urban expansion like haulage instruments.¹ The urban structure built upon the cluster pattern directing the total structure towards a compacted form.²

¹ Amiri, Suad and Tamari, Vera (1989), the Palestinian village home, British Museum publications, p 7

² Bianca, Stefano (2000), Urban Form in the Arab World, institut fur Orts, Regional und landesplanung. ETH , Zurich. P, 145

Conversely, a fragmented pattern in urban development was adapted by the end of the twentieth century. Several factors contributed to the change of the pattern of growth. A number of factors have been already mentioned like the technological change, and using cars that made transporting easier and contributed to the expansion. Moreover, as people were not depending on agriculture for their living they start to use land for other purposes including construction, this development was encouraged by the private landownership.¹

Regulations played a role in shaping the urban form too. Building regulations limited building on the whole lot area by leaving a recess distance from the lot borders without building development and the building ratios influenced the pattern of growth too.² Its goal was to increase privacy and to improve the environmental quality; on the other hand, it increased the distances between houses, the expansion of the urban structure and decreasing the density as well.

After Oslo agreement, the Palestinian land was divided into A, B and C areas according to the difference of control authority and regulations classifications. Most of the development took place in A and B areas. The restriction on building and the limited area for development caused a huge inflation in developable land price within the city boundaries, so people tended to expand away from the existing urban structures since land price there is less causing the phenomenon of urban sprawl, reducing density and increasing urban expansion.³(See map 3.1)

¹ Al Amiri, Suad, a lecture at Birzeit University 24/10/06

² Ministry of local governance , (1996), Palestinian buildings regulations

³ Al Amiri, Suad, a lecture at Birzeit University ,24/10/06

Oslo II, 1995



Palestinian Academic Society for the Study of International Affairs (PASSIA)

(Map 3.1) Oslo 1995 map (source: www.passia.org)

3.2.2. Mixed land use:

Although land use is generally controlled by factors like the kind of soil, availability of water, topography and location, the political factor played a major role

in defining the land use and the type of development in Palestine. Lack of sovereignty and the scarcity of land in addition to the Israeli policy of land confiscation led to random development, for example, we can see harmful industrial activities between the residential areas, moreover using the valuable agricultural land for construction.¹

This research is also concerned with the mix use of the services and facilities within a walkable distance from people's front doors. This distance should not exceed ten minutes walking.² This characteristic used to exist within the urban form in the beginning of last century. There had been a specific commercial area called (the Souq)³, moreover schools were beside or within the mosque⁴ at the center of the urban fabric. Still because the size of the urban structure was limited, the Souq and other facilities were usually within the walkable distance. The mixed spatial structure of the city allowed easy access to all the functions and encouraged integration of the various spheres of the urban activity.⁵

By the end of the twentieth century mixed land use is a usual pattern of development, creating jobs for the local residents. However, the availability of facilities within the residential areas varied, it may exist in some areas; yet, its quantity, and quality and distribution have to be rethought since some areas are deprived from such facilities i.e. some housing projects.⁶

¹ Shaheen, Lubna, (2006), Promoting sustainable urban development in the Palestinian cities, A framework for Physical development, Dortmund University, p 14

² Frey, Hilderbrand (1999), Designing the city, Spon Press, p. 28

³ Hakim, Besim, Selim (1988) Arabic-Islamic City, Kegan Paul International, p 64

⁴ Stefano Bianca (1972), urban form in the Arab world, ORL-Schriften, p 110

⁵ Eisenstadt, S. N. and Shachar, A. (1987) Society, Culture and Urbanization, Sage Publications, p. 215

⁶ Al Amiri, Suad, a lecture at Birzeit university 24/10/06

3.2.3. Open spaces:

Open spaces or public gardens were few and of limited area.¹ The Palestinian urban form in the beginning of the last century can be called as inside out city as Rapoport (1969) describes such urban forms. The urban form used to rely on the courtyard house. Several types of plants were nurtured in the courtyard (*the hush*) and some times, it contained a water element.² This type of buildings reacts to the natural conditions in addition to the cultural values that pay attention to privacy. The main large open space within the urban fabric was the Mosque's courtyard that had a religious, social function.³

The change of the building typology from the inward to the out word pattern adjusted the type of the private open spaces. Outside gardens, balconies and terraces altered the residential courtyard (*hush*). Moreover, the courtyards of the mosques was minimized or sometimes disappeared at all. However, new open spaces emerged because of the new needs. Car parking within the city, especially in the city center is an example of responding to needs through open spaces.⁴

Building regulations in Palestine recommends a 10% of the lot area to be as an open space.⁵ Regulations also facilitate the existing of open spaces through the recess distances which can be used as gardens and green areas.⁶

¹ Eisenstadt, S. N. and Shachar, A. (1987) *Society, Culture and Urbanization*, Sage Publications, p. 216

² Stefano Bianca (1972), *urban form in the Arab world*, ORL-Schriften, p. 88

³ Ibid, p 110

⁴ Al Amiri, Suad, a lecture at Birzeit University 24/10/06

⁵ Ministry of local governance (1996), *Palestinian building regulations*

⁶ Ibid

3.3. Land law and ownership

Land ownership has a significant role in development. Land ownership system in Palestine originates from the Ottoman Land Law that was declared in 1858, which enabled the private ownership of land. This law has classified the land into five categories: privately owned land, the Amiri land, the Waqf land, the abundant land and Wasteland and the Masha' land.¹ It had been implemented more thoroughly during the British mandate,² and then utilized by the Israeli occupation.³

This law gives the right to the private land owner to choose the pattern of development with little limitations.⁴ The Amiri and the waste land were owned by cultivating it through three years.⁵ The Masha' land used to be owned by the whole family, and was reallocated every year according to the number of male children.⁶ People were not interested in developing the land or cultivating trees since they may not have the same plot in the next year.⁷ This type of land ownership did not develop the agricultural sector in Palestine.⁸ The Masha' land formed 70% of the land of Palestine till 1918, but the percentage declined to 40% in 1940.⁹

¹ Naser, Suad (1991), the change of the Palestinian village form, the Palestinian culture: roots and challenges, ed. Abu Elhadba, Abd Alaziz. p 279 (in Arabic)

² Amiri, Suad and Tamari, Vera (1989), the Palestinian village home, British Museum publications, p 7

³ Kananeh, Sharif (1991), the plan of burking the Arabic face of Palestine, the Palestinian culture: roots and challenges, ed. Abu Elhadba, Abd Alaziz. p 77 (in Arabic)

⁴ Hizmawi, Muhammad (1993), land ownership in Palestine (1918 – 1948), Al Aswar association, Akka, p.33

⁵ Ibid, p. 34-43

⁶ Ibid, p. 44

⁷ Ibid, p. 48

⁸ Ibid, p. 48

⁹ Ibid, p. 49

3.4.The change of the Palestinian local culture:

The changes on the political, economical, social and technological fields played a role in the transformation of the Palestinian culture.¹ Moreover, modernity and globalization contributed to the change of the way of living.² Hence, socio- economic structure was altered and particular cultural patterns have been modified. This section will discuss the change of the local culture within the Palestinian context in the twentieth century using the model that was proposed in chapter three.

3.4.1. Family structure:

The social structure in Palestine is related to kinship and family (*hamula*) relationship.³ However, the role of the family within the Palestinian social structure was stronger in the beginning of the twentieth century. The strength of this family based social system stemmed from mainly economical coordination and the political situation.

The province in Palestine in the beginning of the twentieth century was largely based on agrarian economy.⁴ Families used to rely on its members in cultivation who were interdependent economically.⁵ However, this role of the family as an economic unit was weakened. During the British Mandate since the service sector emerged. After the Israeli occupation, the labor market engaged Palestinian workers in the

¹ Farsoun, Samih K. (2004), *Culture and Customs of the Palestinians*, Greenwood Press

² Held, David (ed.). (2000) *A Globalizing World? Culture, Economics and Politics*. Routledge

³ Dwairy, Marwan Adeb (1998), *cross cultural boundaries: the Arab Palestinian case*, Haworth Press, p 6

⁴ Alkam, Nabeel (1991), *We and our legacy, the Palestinian culture: roots and challenges*, ed. Abu Elhadba, Abd Alaziz. p 179 (in Arabic)

⁵ *Ibid*, p. 180

Israeli factories and construction fields.¹ These factors led to the economic independency of the family members who were involved in these systems. This independency was materialized by the alteration of the extended by the nuclear family.²

3.4.2. Women's role:

Among one of the most important changes the Palestinian social structure encountered, was the recognition of the role of the Palestinian woman. In the beginning of the twentieth century most of women in Palestine were given no or minimum education requirements.³ She used to do the housework and sometimes help in cultivation.⁴ However, women position has changed as being educated. She entered the field of work. Because of the economical crises, she works and supports her family financially.⁵ In some cases, she became the only breadwinner in the family.⁶

3.4.3. Privacy:

Privacy is an important aspect in the Palestinian culture. It is interpreted into physical elements starting from clothing to the physical environment.⁷ Islamic laws emphasize the importance of privacy, especially the visual one.⁸ However, the privacy was eased during the twentieth century. This change was because of the effect of

¹ Amiri, Suad and Tamari, Vera (1989), the Palestinian village home, British Museum publications, p 7

² Costello, V.F. (1977), Urbanization in the Middle East, Cambridge University Press, p. 52

³ Rubenberg Cheryl A. (2001), Palestinian Women: patriarchy and resistance in the West Bank, Lynne Rienner Publishers, p 15

⁴ Ibid, 21

⁵ Tamari, Salim (1993), the transformation of the Palestinian society, (ed) Hieberg and Ovensen, Palestinian society, Fafo report 1993 p. 23

⁶ Ibid, p 23

⁷ Hakim, Besim, Selim (1988) Arabic-Islamic City, Kegan Paul International, p 20

⁸ Zeidan, David (2001), the Islamic fundamentalist view of life as a perennial battle, Maria (middle east journal review of international affairs) Journal, Volume 5, No 4.

modernity, followed by globalization and being affected by the western culture and their way of living.¹ For example, the Palestinian women used to wear decent dress in the beginning of twentieth century; however, this attitude was partly affected by the fashion that is presented through satellite channels. New cloth trends did not pay attention privacy as before.

3.4.4. Traditions:

In the beginning of the twentieth century, traditions played a significant role and had the force of law within the Palestinian collective assent. These traditions used to control different socio-physical patterns.² However, such patterns were not valid at the end of the last century as before.³ This decline of the tradition stems from the deterioration of the collective assent symbolized by the extended family.⁴ The political and economical change, in addition to the technological advance contributed to the deterioration of the traditions.⁵

One example to the change of the Palestinian traditions is the model of "*Aloneh*". This refers to the help of relatives, neighbors and friends when a person starts building a new home.⁶ The house model that was built in this way is a commonly agreed upon. Because of the technological advance and the new sophisticated building

¹ Alkam, Nabel (1991), We and our legacy, the Palestinian culture: roots and challenges, ed. Abu Elhadba, Abd Alaziz. p 179 (in Arabic)

² Ibid, p 179 (in Arabic)

³ Farsoun, Samih K. (2004), Culture and Customs of the Palestinians, Greenwood Press, p 27

⁴ Dwairy, Marwan Adeeb (1998), Cross cultural boundaries: the Arab Palestinian case, Haworth Press, p 17-20

⁵ Hadawi, Sami, (1990), Bitter Harvest: A Modern History of Palestine, NY: Olive Branch Press, p55

⁶ Alkam, Nabel (1991), We and our legacy, the Palestinian culture: roots and challenges, ed. Abu Elhadba, Abd Alaziz. p 179 (in Arabic)

process in addition to the social changes this model has almost disappeared from the Palestinian society.¹

3.4.5. Social intercourse:

Social intercourse is a basic need, however, the way in which social intercourse occurs has changed in Palestine during the twentieth century. The political situation in addition to the technological advance played a role in this change. From one point, the Israeli occupation has caused social fragmentation due to migration in 1948 and 1967.² Moreover, the policy of isolation and the Israeli checkpoints reduce the social interaction within the Palestinian society.³ However, technology solved part of the problem by enabling people to communicate by phone or using internet. Communication was provided but in a different way from the one which was previously exercised.⁴

In conclusion, one can see that the Palestinian local culture went through noticeable transformations. What have been presented in this section defined patterns of change of the Palestinian local culture in the twentieth century. We have seen that political, economical, social and technological aspects played a role in changing the Palestinian local culture.

¹ Alkam, Nabel (1991), We and our legacy, The Palestinian culture: roots and challenges, ed. Abu Elhadba, Abd Alaziz. p 179 (in Arabic)

² Sami,(1990) ,Bitter Harvest: A Modern History of Palestine, NY: Olive Branch Press

³ Office for the Coordination of Humanitarian Affairs (OCHA), (2003), The Impact Of Israel's Separation Barrier On Affected West Bank Communities, www.domino.un.org/UNISPAL.NSF/3822b5e39951876a85256b6e0058a478/bdd222df1df3712185256e4c006c1d75!OpenDocument , last visit 30/04/07

⁴A lecture by Dr. Suad Al Amiri in Birzeit University, 17/10/06

3.5.The relation between Palestinian culture and sustainable urban form in

Palestine:

This section is to find the relationship between the Palestinian culture and the sustainability of the urban form. The researcher will link the criteria of a sustainable urban form that includes density, mixed land use and open spaces with the elements of culture that was previously mentioned.

The change of the Palestinian culture affected the density i.e. the change of the woman role from being merely a house wife to an educated working member in the society, changed the family size since she preferred less number of children,¹ then, reducing the density per house and increasing the area per person.

Mixed use also was affected by the change of the local culture. For example, in the past, social interaction used to be at houses, at mosques and in the commercial center (the Suq). Coffee shops were merely used by men.² Nowadays, in addition to house, restaurants and coffee shops are a place for social interaction. Nevertheless, both men and women with different ages, use it.³

The last criterion that is to be examined is the open space. It have been mentioned that the resident's most popular pattern in the beginning of the last century was the courtyard house. This shape was adapted since it suited the culture at that time regarding privacy.⁴ However, the privacy was eased during the last century leading to

¹ Heibreg,Msocial intercourse and Ovensen,G (1993), Palestinian society, FAFO report 151, p. 28

² La'ebi, Shaker (2007), The male architecture, the role of the social and ethical values on the architecture in the arab world, Riyad El-Rayyes Books, p. 133 (in Arabic)

³ ibid, p. 133 (in Arabic)

⁴Stefano Bianca (1972),urban form in the Arab world, ORL-Schriften, p 78

change of the residential unit pattern to be directed outward instead of inward, and replacing the court to balconies and gardens.¹ (see table 3.1)

	Density	Mixed use	Open spaces
Family	Changing from extended to nuclear structure and the decrease of members number decreased the density		
Woman's role	Educated working woman preferred less number of children, decreasing the density	New services were needed when women went to work like nursery	The courtyard used to be a private space for the women to do the house work. When she went to work and relied on technology she disregarded the courtyard.
Privacy	The physical form (inside out form) used to provide privacy and facilitate density as well. The change to the outward form decreased privacy and density as too.		Since privacy was eased the form of the courtyard changed to gardens, terraces and balconies.
Traditions	Traditions used to facilitate privacy through shared laws. But their role has weakened thus reducing density		
Social intercourse		People used to meet in houses, mosques and men in cafes. New services like clubs and cinemas emerged for social intercourse	

(Table 3.1) relation between the change of local culture and the sustainable urban form criteria within the Palestinian context (source: the researcher)

¹ Costello, V.F. (1977), Urbanization in the Middle East, Cambridge University Press, p. 84

2.5. Conclusion:

In conclusion, economic, social and political factors were involved in the change of the Palestinian urban form in the twentieth century. Culture has also played a role in this change. From the previous discussion, one can see that Palestinian culture meaning, *the particular way of living*, has changed during the last century affecting the urban form and the criteria of the sustainability of the urban forms as well

4. Research methodology:

4.1.Introduction:

The research will adapt two main methods for data collection. The first is referring to literature to present the main theories and definitions of the sustainable urban form and to present the models of culture; and the relationship between them. It is also to be used to find out this relation within the Palestinian context. The second method is a case study -in Hebron- in order to enhance the research.

4.2.Theoretical approach:

Literature analysis phase focuses on the definitions and theories regarding the sustainable urban form, models of culture and the relation of culture and the sustainable urban form. The researcher went through books and articles relating to the subject of a sustainable urban form and other theories relating culture with urban form within the context, others beyond the context. Criteria of the sustainable urban form and a model of culture were developed. Through literature, sustainability of the urban forms can be measured in relation to culture.

Literature was also used to understand the Palestinian local context; to identify the changes on the urban form and the change of the sustainability of these forms. In addition, literature is also used to find out the changes on the cultural level to realize the relationship between the change of local culture and the sustainability of the urban forms in Palestine during the twentieth century.

4.3. Case study:

The second is the case study method. The researcher has selected Hebron city as a case study for this research. A comparison of the socio-physical structure between the old core of the city and a new neighborhood will be handled in order to understand the change of the sustainability of the urban form within the city.

According to Yin (1994), a case study is a useful method when the question of the research starts with "how". It is used when "*a "how" or "why" questions are being asked about a contemporary set of events over which the investigator has little or no control*".¹ It is also suitable when trying to understand a process. The case study method will be adapted in aware of its traditional limitations. The major concerns deals with the lack of rigidity of the case study, in addition to providing little scientific generalization.²

4.3.1. Case study selection:

Flyvbjerg (2006) suggested three principles for case study selection which includes: information rich, reasonably accessible and pragmatic case.³ Hebron has been chosen as a case study for this research. Accessibility to site and data resources is the main reason for selecting this case. The existing of several institutes that studied the city socio-physical structure like Hebron Rehabilitation committee, Hebron

¹ Yin, K. Robert (1994), case study research , design and methods, Sage Publications, London, p. 9

² Lipset, S.M. , Trow, M., & Coleman, J. (1956). Union Democracy: the inside politics of the international typographical union, Free press, New York

³ Flyvbjerg, B., (2006) five misunderstandings about case study research, qualitative inquiry, V. 12, No. 2, p. 219-245

University and Riwaq in addition to the municipality of Hebron has encouraged the researcher to choose this city as a case study.

4.3.2. Data collection:

Observations, interviews and documents will be used to collect data.

Triangulation method was applied for data collection using more than one data resource of evidence.

- Observations: by making a visit to the case study sites, creating the opportunity for direct observations. The researcher observed the physical form in relation to the criteria of a sustainable urban form. Observations also covered the current physical in addition to the cultural situation. Observations was documented and analyzed through handwriting, architectural drawings and photographs.
- Interviews: Open-ended interviews were adapted. Interviews can give an important insight of the current situation in addition to providing shortcuts to its prior history. Interviews with residents from both the new and the old neighborhoods were made.
- Documents: documents play an explicit role in any data collection doing case studies. Previous studies, qualitative and quantitative data that had been conducted by the Municipality of Hebron, Hebron Old City Rehabilitation Committee and Riwaq will be useful in this research.

4.3.3. Data analysis:

Theoretical propositions in data analysis were adapted. The major proposition of the research is that there is a relationship between the local culture and the sustainability of the urban form, several propositions can be derived then in relation with the proposed model of culture and the criteria of the sustainable urban form.

Pattern matching strategy is used for analysis. Such logic compares an empirically based pattern with a predicted one. The criteria of a sustainable urban form will be examined in relation with the proposed model of the local culture.

For example, the change of the role of the woman in Hebron and the effect of this change on the physical elements of the urban structure was examined. Then its effect on the sustainability of the urban form was measured referring to the criteria that were presented in chapters three and four.

5. Hebron- Transition of the Socio-cultural and physical Structures:

5.1.Introduction:

The city of Hebron had been through a recognized transformation starting from the nineteenth century. This transformation affected the industrial, technological and institutional in parallel with socio- cultural pattern, ending with change of the physical structure of the city. The purpose of this chapter is to examine the transition in way of life and urban processes in the last century in the city of Hebron. It will shed light on the changes on the socio-cultural level; describe the physical setting at begging of the last century and the transformation on it.

5.1.1. Location:

Hebron or "Al-Khalil" in Arabic, is located 35 km far from Jerusalem in the south of Palestine. It is 926 meters above level. It was built on two main mountains Al Rmida) and (Tel Al Ras).



(Map 5.1) Palestine-West Bank

(Resource: www.osip.org)

5.1.2. History:

Hebron is the second oldest city in Palestine after Jericho. It is 5,500 years of history behind it; including the civilizations of Canaanites, Roman, and Islamic Nation have their traces on this land.

The city of Hebron was first built on a hill called Tal Al Rmida. Then its location had changed beside the Abraham mosque that is the most important monument site in Hebron Old City; the place where Abraham along with his wife Sara and their sons and wives were buried. Because of this Hebron is a holy city for Islam, Judaism and Christianity.

5.1.3. Population:

In 1922, the population of Hebron was 16577 with 2.5% Jews. The following table indicates the population growth in the city of Hebron during the last century. (See table 5.1).

Year	Population
1881	10000
1922	16577
1931	17531
1945	24560
1952	35983
1961	37868
1967	38091
1997	130,533

(Table 5.1) Population growth in the Hebron through the last century
(source: <http://www.pnic.gov.ps/arabic/palestine/town33.html>)

5.1.4. Basic features of economy:

People in the city of Hebron used to depend on agriculture, small scale industry and trade. Farmers in the Hebron region were usually cultivating fruits such as grapes and plums around the city. In addition, local economy relied on handicraft, small- and medium-scale industry and construction. Industries were organized on family basis and the corporate form in its infancy.¹

Hebron is one of the most important marketplaces in the Palestinian Territories. People in Hebron depended for commerce on its surrounding towns as Halhul, Yatta, Dura, Al-Dhahariya, each counting more than 20,000 inhabitants. They also used to export goods including glass and import the needed goods from other cities.

Trade in goods was primarily on a basic personal level. However, the transition from a traditional to a modern economy was far more rapid by the end of the twenty century. Modern Hebron enjoys a reputation in terms agriculture, trade, tourism and industry. New occupations were developed and overseas trade was strengthened after being governed by the Palestinian National Authority after Oslo Agreement.

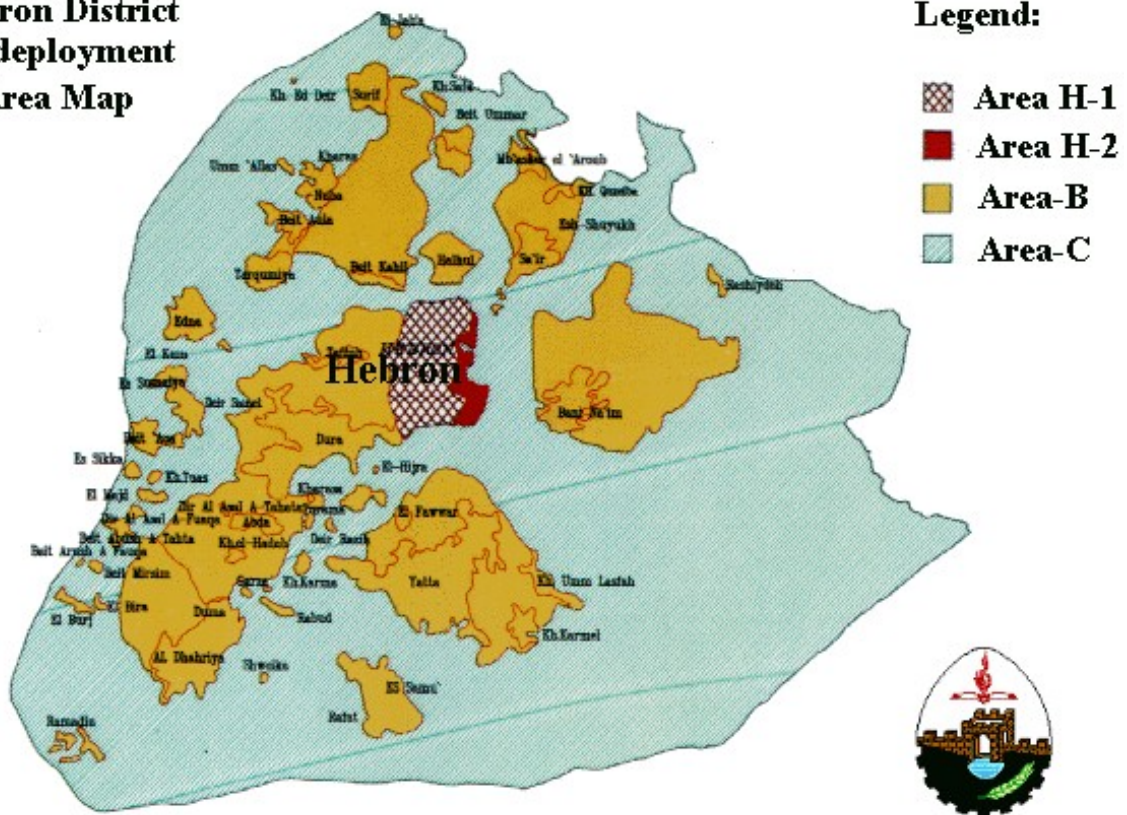
5.1.5. Political situation:

Since 1967, Hebron was occupied by the state of Israel and under its control. During the years, Jewish people have settled near the city and in the heart of Hebron Old City. This causes many problems and makes Hebron a special case in the Palestinian Israeli conflict. Hebron has been divided into two parts – H1 and H2 – according to Hebron Protocol signed between Palestinians and Israelis in 1997. H1 area constitutes 80% of the city and is under full Palestinian Authority. H2, the

¹ Fitzsimmons , Thomas (1958), Jordan , its people, its society , its culture, HRAF Press, USA, p 86

remaining 20% of the city, continues to be under Israeli military control.¹ (See map 5-2 and 5-3)

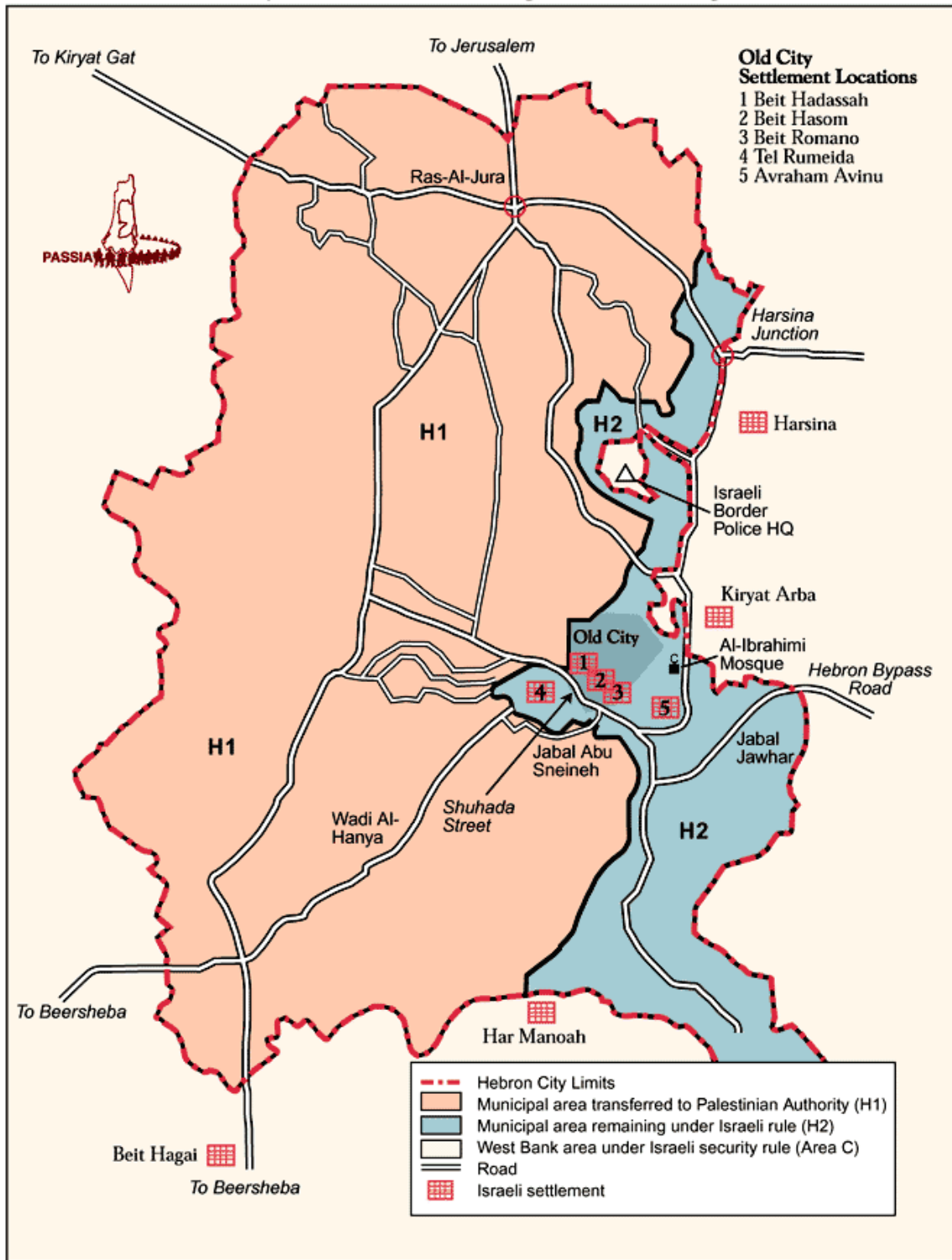
Hebron District Redeployment Area Map



(Map 5-2) H1, H2, B and C areas of Hebron district (source: <http://www.areej.org>)

¹ <http://www.areej.org> , last visit 15/5/2007

The Divided City of Hebron, Following the Hebron Agreement, 1997



Palestinian Academic Society for the Study of International Affairs (PASSIA)

(Map 5.3) Division of Hebron city (source: www.passia.org)

5.2.Socio-cultural structure in transition:

The mold of the older Hebron is cracked but not broken. Western influences, migration, media...etc. influenced the intensity of the city. New ways of work and social forms compete with traditional ways and forms that have served the needs of the population. For example, Workman and employer alike in one of the industrial plants find it difficult to deal with each other in the old paternalistic and personal way. This section put light on the basic changes on the socio-cultural level in Hebron.

5.2.1. Family:

The basic principle determining the membership in the family is kinship reckoned in the male line. The typical household of an extended family in the traditional pattern consists of a man and his wife (or wives) and their unmarried children along with the married sons and their wives and children.¹ The married brothers and their wives may also live in the same house or nearby and cooperate in economic activity. The essential bond is blood relationship to the father.²

Despite the high fertility rate and marriage in very young ages at the beginning of the twentieth century, the average number of children for the family in Hebron was six, which is low relatively.³ This is mainly due to the poor health services, that many infants died because of diseases.⁴ Moreover, the average age of the population was low too because of the unpretending level of the health services. The society was young in general and the difference between the generations age was limited.

¹ Fitzsimmons , Thomas (1958), Jordan , its people, its society , its culture, HRAF Press, USA, p 96

² Ibid, p. 96

³ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 320

⁴ Ibid, p. 321

The economic role of the extended family is no longer as great as it was once. Under the impact of the western influences and new economic activities, there is a growing tendency for married sons to set up separate residences. Despite the loss of some of the functions of the extended family, however, the mutual ties and the obligations of the members remain to a large degree intact.¹

5.2.2. Education system:

There had been two governmental schools in the city in the beginning of the last century, the Rushdiya School and the School of Jews. The education system was divided into five levels. Students could only study the first two levels in the city schools. Education was only dedicated for boys; girls were prohibited from getting education.²

However, mosques and the other religious institutes played a role in education in parallel to the governmental schools, especially the Abraham Mosque that was a committed to religious learning.³ Some teachers studied in Al Azhar in Egypt then come back to teach in the Abraham Mosque , teaching in the Abraham Mosque was an honor for his whole family.⁴

However, the increase in population demanded better quantity and quality of education. Schools for both boys and girls were established in addition to the

¹ Nasir, Rosina and Kalla, A. K. (2006), Kinship system, fertility and son preference among the muslims, University of Delhi, India

² Abu Baker, Amin(1994), Hebron City, Jordan University , Jordan, p. 325

³ Ibid, p. 338

⁴ Ibid, p. 338

University of Hebron. The University of Hebron when was established gave an opportunity for the girls get a B.A. degree without having to travel to other cities.

Moreover, the university graduated union (UGU) was created in order to help the students and the education system, one of its main steps was to setting up three schools and the polytechnic of Palestine that became a university later.

5.2.3. Healthcare systems:

It had been mentioned that the healthcare systems were poor resulting to diseases and high death rate especially between the infants. For example 16% of the population of Hebron suffered from the typhoid in 1912.¹ There had been two main healthcare centers in the city, the Karantina and the Scottish society hospital that contained one pharmacy. However, these hospitals were not enough for Hebron population that were forced sometimes to travel to other cities like Jerusalem and Al Ramla for therapy.² In addition to these systems people also depended on the primitive ways of remedy including druggist and jugglers.³

Today the health situation is better; there are two governmental and three private hospitals. Moreover, there are specialized clinics, pharmacies and child and mother centers. Most of the houses are now connected to a sewage network. There is an increase awareness of the importance of the personal and environmental cleanness in avoiding diseases.

¹ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 359

² Ibid, p. 360

³ Ibid, p. 360

5.2.4. Values and patterns of living:

People in Hebron share a common heritage of Islamic values. Quran and Hadith form a comprehensive guide for life, which gave coherence to the mosaic of the families within the society. The social life was regulated by religious concepts and social values were largely indistinguishable from religious values.¹

Social segregation of men and women within the society is part of the Islamic traditions.² In most of the times, women were deprived from education, and she had to get married in very young age. Her main duty was doing the housework and bringing up children. Gradually restrictions on women were weakened.

Today the seclusion of women became restricted to the most conservative families. The impacts of western influences directly and through the relatively emancipated women has greatly speeded this process. Girls can get education; their role is not only limited to housekeeping and raising children. Professional opportunities for girls have been increasing.³

Western thought and technology have affected segments of the population of Hebron in varying degrees. Most middle and upper class people have accepted the technology and the educational methods and have tended to espouse many of the western especially the secular patterns of thought. Western influence has affected economy and general patterns of life in matters ranging from recreation to dress.

¹ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 361

² Fitzsimmons , Thomas (1958), Jordan , its people, its society , its culture, HRAF Press, USA, p 115

³ Ibid, p. 117

5.3. The physical setting of the city in the beginning of the last century:

The physical setting of Hebron city was a result of the interaction between the residents and their environment. They responded to the climate, topography and the available building materials, taking into account the socio-cultural pattern and the way of living when generating the urban structure. This section clarifies the physical setting of the Hebron city in the beginning of the twentieth century, illustrating the main elements of the urban fabric including houses, quarters, streets and open spaces.

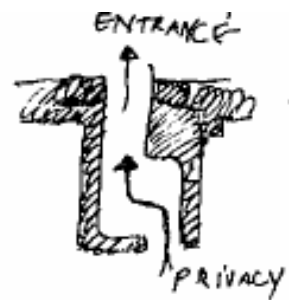
5.3.1. Houses:

Most houses consisted of more than one story since extended families used to live within each house. The entrance of the house was indirect using the broken-access concept in order to prevent overlooking inside the house.¹ (See figure 5.1 picture 5.1)

The entrance guides to a courtyard that is used for family gathering, housework like cooking and sometimes planted with small plants and bushes. (See picture 5.2)

However, in the old center of the city there is houses have more than one courtyard, every storey have a courtyard that are connected by stairs. Women used to cook in the court using a primitive cooker called (Wijaq); it had a chimney that was installed to direct the smoke in away that does not harm the

neighbors.²



(Figure 5.1) Broken access concept
(Source: Bianca, 2000)

¹ Amiri, Suad and Tamari, Vera (1989), The Palestinian village home, British Museum publications, p. 10

² Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 361



(Picture 5.1) Broken access: an entrance of an old city house (source: the researcher)



(Picture 5.2) A courtyard of a house in the old city (source: the researcher)

The ground floor also contained a guest room and (Iwan) which is opened towards the courtyard (see picture 5.3), in addition to the rooms on the first and second stories. Openings and windows were limited using curtains to insure both privacy and security.¹ (See picture 5.4)



(Picture 5.3) An Iwan that is closed by stone (source: the researcher)



(Picture 5.4) Small openings for safety and privacy (source: the researcher)

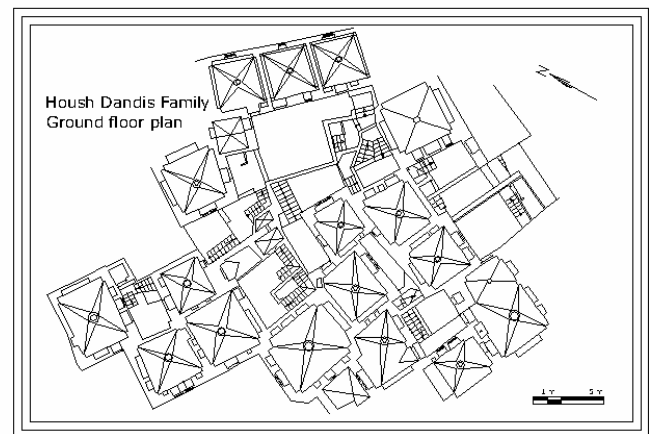
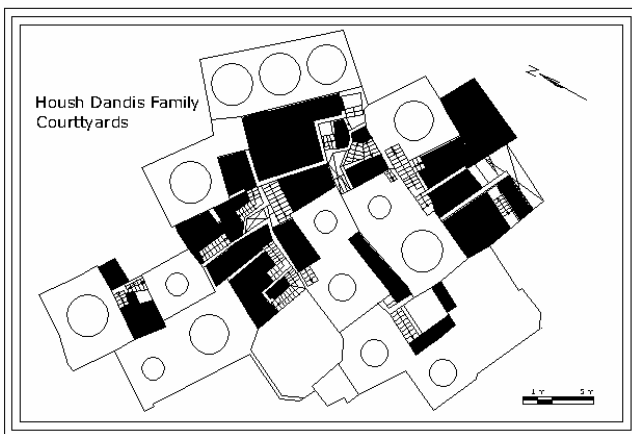
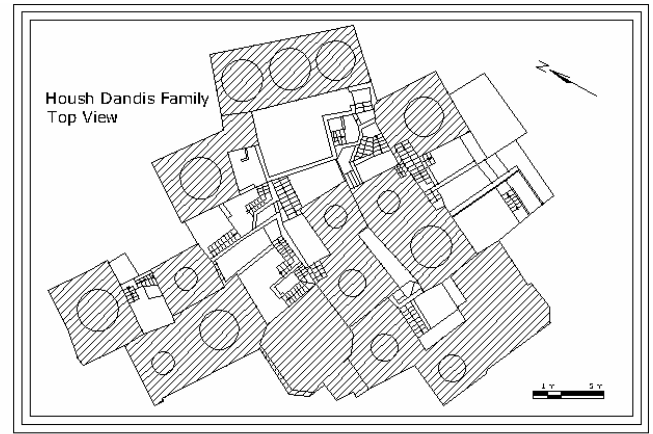
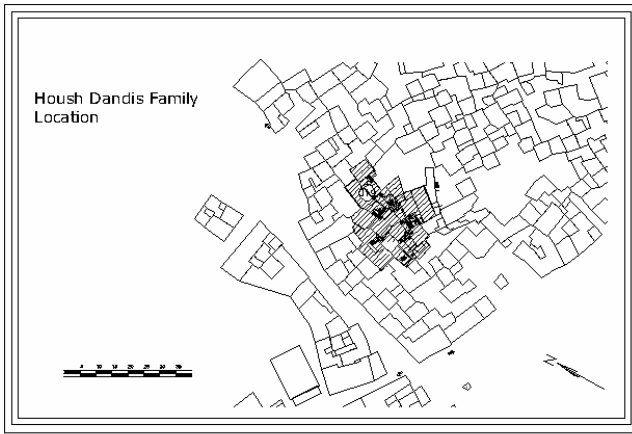
¹ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 70

On the ground level rooms for animals were built they were called (Bawaki) and were mainly used when the residents depended on agriculture. An architect in Hebron Rehabilitation Committee explains:

"The animals rooms (Bawaki) were built as people depended on agriculture, when the economy transformed towards commerce, these rooms were transformed into marketplaces if they were on a main street and sometimes became a store". (See picture 5.5)



(Picture 5.5) An animal's room (bakyeh) that was transformed into a market place (source: the researcher)

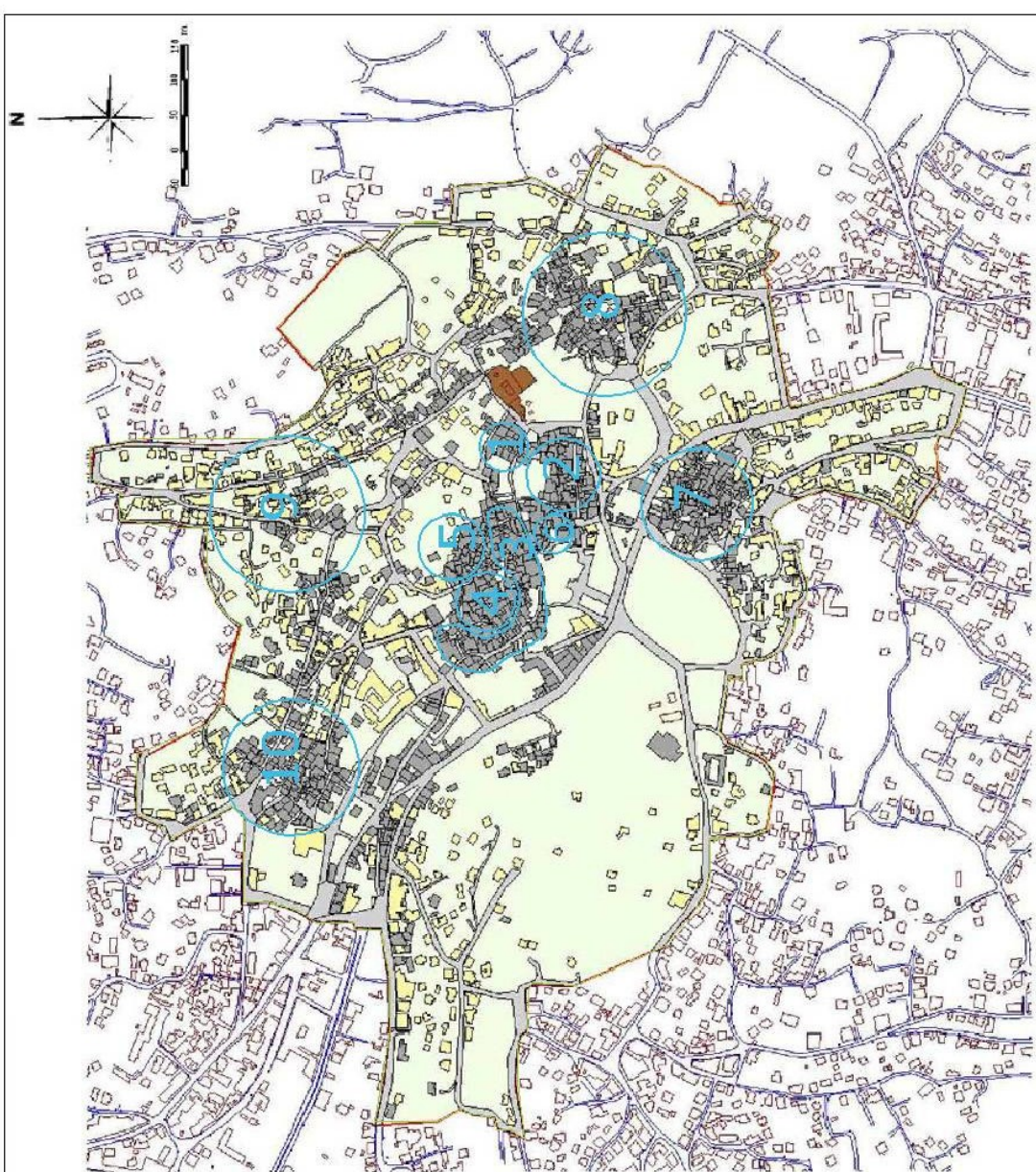


(Figure 5.2) An old residential unit, housh of Dandis family (source: Hebron Rehabilitation Committee, edited)

5.3.2. Quarters:






In the beginning of the twentieth century, Hebron city was divided into quarters (haras). Extended families were grouped into lineages and city quarters tend to be occupied by a particular lineage or lineages. For example, the family of Al-Natsheh occupied the quarter of Al Sawakneh, and Al Jabari, Jaber, Da'na and Hashlamon families, occupied the quarter of Al-Masharqa. One more result of the traditional urban residence pattern of particular ethnic and religions groups congregated in special quarters as the quarter of Jews.¹ (See map 5-4)

¹Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 55



Old City of Hebron

Legend:

-  Old City Boundaries
-  Old Buildings
-  New buildings
-  Roads
-  Al Ibrahimimi Mosque

Neighborhoods:

- 1 Al Muhtisben
- 2 Bani Dar
- 3 Al Qazazin
- 4 Al Sawakneh
- 5 Al Aqabeh
- 6 Jweish quarter
- 7 Qitun
- 8 Al Masharqa
- 9 Al Ja'bari quarter
- 10 Al Shaikh quarter

(Map 5.4) Quarters of the old city of Hebron (source: Hebron Rehabilitation Committee, edited)

During that period, the members of the family used to build new dwellings within the empty places or replacing the ruined buildings within the quarter of their families. They also adapted the vertical expansion when the extended families grow.¹ Most of the houses had three stories, thus increasing the density of the neighborhood. Clustering and vertical expansion led to overlooking between neighbors; however, this did not lead to many problems since people are committed to Islamic regulations and due to the strong relationships between the residents, which were mostly relatives.

5.3.3. Streets:

The quarters of the city was connected by streets and allays. Streets also connected the quarters with mosques, marketplaces (Suqs), public open spaces and squares (Sahat), schools, water resources (Birak and Oyon), the baths (Hamam), the gates and the main entrances of the city. However, because of clustering of the buildings the streets used to be narrow and sometimes dark. (See picture 5.5) People sometimes used to build (Qantaras) which are rooms spanning street Creating shadowed areas beneath them and resembled as a gate for the neighborhood.² (See picture 5.7)

¹ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p.78

² Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 65



(Picture 5.6) Narrow dark street in the old city
(source: the researcher)



(Picture 5.7) Qantara in a street in the old city
(source: the researcher)

5.3.4. Public squares and open-spaces:

Despite the cluster pattern of the dwellings within the quarter and the narrow linking streets due to the limited area, each neighborhood used to have a public square (saha) which worked as a junction between the streets and allays of the neighborhood.¹ The square (saha) used to have the name of the quarter to which it belongs. (See picture 5-7) The square was used sometimes as a simple marketplace on the neighborhood level and a place for social interaction.



(Picture 5.8) A public square
(source: the researcher)

¹ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 69

Public squares also existed in front of a significant building like mosques like the lake square (Sahet Al Birka) beside the Abraham Mosque which was an open space with greenery and a water feature.¹ (See picture 5.9)



(Picture 5.9) A picture that was taken at the beginning of the last century showing the Abraham Mosque Lack and the green areas in the old city (source: Hebron Rehabilitation Committee)

5.3.5. Market places (Suq):

Market places have been created gradually.² (See figure 5.3). They used to be in the shape of two opposite rows along a roofed street with some openings for lighting like Suq Al Laban (see picture 5.10), or in the shape of a court with markets surrounding it like Suq Al Bazar. The marketplaces may have a specific service like Suq Al Skafiya, which is specialized in shoe making and repairing, (see picture 5.11) or it may not be specific like Suq Al Magharbeh that brings in several services.

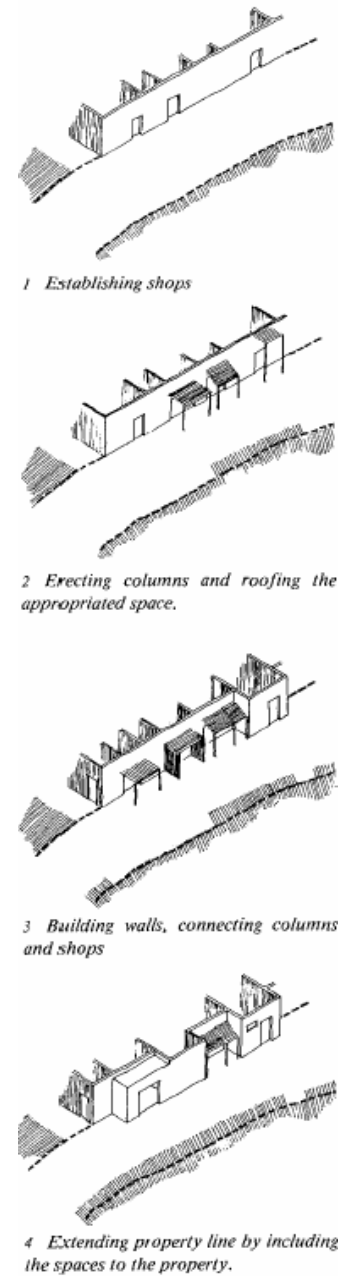
¹ Ibid, p. 72

² AN interview with the architect of the Hebron Rehabilitation Committee in 5/7/2007



(Picture 5.10) The old Suq in the city (source: the researcher)

Besides, there are particular shopping buildings known as (khan or wakala). It consists of a gate leads to a large court surrounded by the markets and stores and rooms for the animals, as well as rooms in the upper floors for the rest of the merchants like the khan of Al Sayed Al Khalil.¹ (See picture 5.12) The upper floor may also serve as a dwelling for the family that owns the khan like the (wakaleh) of Al Dwaik family.



(figure 5.3) The old Suq creation (source: the researcher)

¹ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 95



(Picture 5.11) Shoe making market place (source: the researcher)



(Picture 5.12) The Khan (source: the researcher)

In addition to the previous components, the city used to have several religious buildings like mosques specially the Abraham mosque (see picture 5.13), the Ribat and Takiya of Al Khalil (places for feeding the poor), in addition to the Zwaya and Maqamat (mosques that consists a grave for a religious educator) within the quarters of the city. The city also contained governmental buildings like the court, hospitals, and Swaqi (public water facility) and graveyards. (See picture 5.14).



(Picture 5.13) The Abraham Mosque (source: the researcher)



(Picture 5.14) The Graveyard (source: the researcher)

It should be mentioned that there had been two baths in the city that were not enough relative to the population. The limited number of the baths in the city is due to the traditions that do not prefer having a bath outside the house, especially women.¹In addition there had been a café (Qahwa) a recreational space for men which is still used today. (See picture 5-15)



(Picture 5.15) Men at a traditional café (Qahwa) (source: the researcher)

Although the city was exposed to the attacks of the nomadic tribes, it did not have a city wall like Jerusalem or Jaffa. This is because the neighborhoods were located in a linear way, and some of them are away from the city center.² Therefore, the dwellings were built in a defensive architectural style. The outward facades had small openings and were connected with each other creating a wall that surrounds the neighborhood. Each quarter had a wooden gate creating an independent defensive unit.

5.4.The physical setting in transition:

The physical setting of Hebron city that was described has transferred during the twentieth century. This was due to population growth, economic, political technological and socio- cultural changes in the city. This section describes the modes of urban growth concerning expansion, land use and greenery.

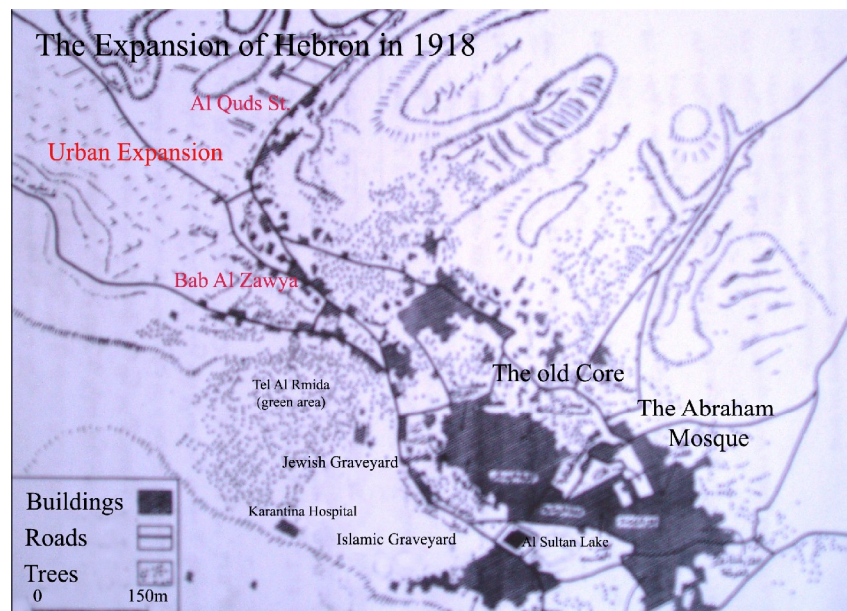
¹ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 64

²ibid, p. 65

5.4.1. Expansion:

As it was mentioned before, in the beginning of the twentieth century people used to expand within the old quarters, being beside the extended family.¹ However, because of population growth and the limited areas within the quarters of the city, people started to build in the empty places in the nearby neighborhoods creating a mixture of the families that was not conventional before.²

Then they started to expand outside the existing neighborhoods. The expansion was mainly to the north and the northwest because of the good climate, the presence of the agricultural land (Kurom) in that area and the presence of water resources. In addition, the existence of the roads specially (Al Quds road) facilitated the expansion and guaranteed the contact of the residents with the core of the city. (See map 5.5)

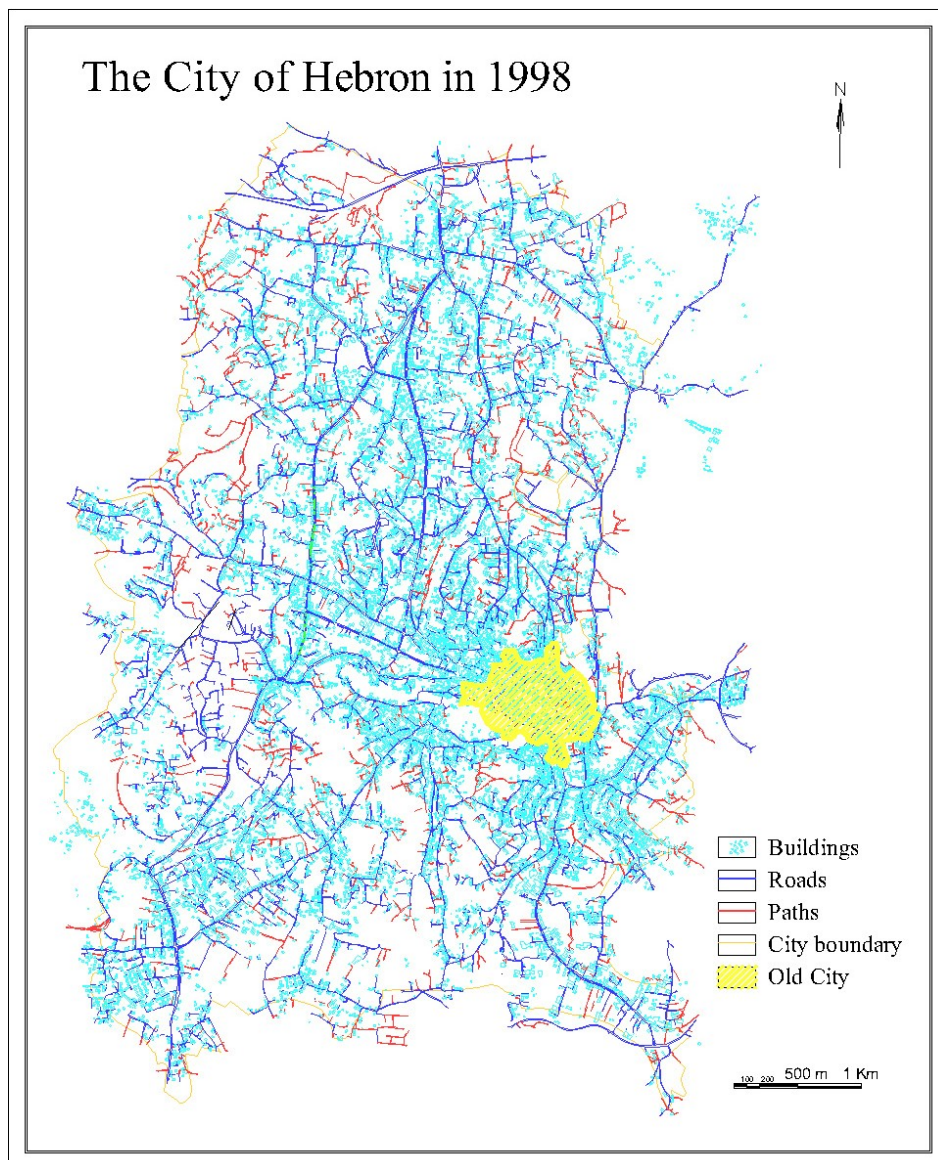


(Map 5.5) Urban Expansion of Hebron in 1918
(source: Abu Baker, 1994, Edited)

¹ Ibid, p. 75

² Ibid, p. 76

By the end of the twentieth century, the urban structure expanded in all the possible directions and reached the boundaries of the city, escalating the problem of the urban sprawl. This type of expansion converted the peripheral land to urban centers that has previously been used to non-urban uses -specially the agriculture- to one or more urban uses. In addition to agricultural land consumption, urban sprawl is an inefficient attitude for land use and the decrease of *density*. (See map 5.6)



(Map 5.6) Urban Expansion of Hebron in 1998
(source: Hebron Municipality , Edited)

5.4.2. Land use:

The form of the old city of Hebron responded to the residents' needs. It had been mentioned that the city depended on the first place on agriculture as a mean of living. The house at that time reflected the need to have a place for animals. The change on the economical level, depending on commerce and handcrafts, transformed the animals' room into a marketplace, hence creating a *mixed use* form, where the marketplaces and workshops were on the street level and the residences were above.

In the beginning of the last century, the core of the city was mainly utilized for urban uses. Residential buildings created 85% of the city, where the marketplaces and workshops in addition to the mosques, schools, hospitals and baths and the other public buildings created 15%.¹ Streets and allays were needed to connect the components of the city, and to link Hebron with the other cities.

The mixed-use pattern of development retreated. When people started expanding to the north parallel to Al Quds Street, they tended to build purely residential units (villas) within the agricultural land and avoided the mixed-use pattern. However, the increase of land price and the limited developable land especially after Oslo agreement and the economic revival in the ninetieths forced some people readapt the multi-storey buildings and mixed-use pattern.

5.4.3. Greenery and open spaces:

The compact urban structure of the city was surrounded by agricultural land. People used to spend the summer time in the fields (kurom) and to get back to the urban core as they finish fruit gathering. Moreover, every quarter had a public square that belongs to the community but for public use. Besides, there used to be an open

¹ An interview with the Architect at Hebron Rehabilitation Committee, 08/07/07

space near the important buildings, for example Birket al sultan was one of the main open spaces of the city beside the Abraham Mosque.¹

In addition, the house in general included a courtyard that was considered as a private open space for the family. The residential unit used to have a private courtyard. In courtyards women used to do cooking and cloth washing in daytime. However, at night family it was a space for family gathering. The courtyards were sometimes planted by small bushes and other small plants.

The new neighborhoods were built on agricultural land. They were established parallel to the modern paved streets in a linear way in contrast to the old clustered houses that created a public courtyard. In the recently built residential projects the intimate private courtyard was replaced by a small balcony or a terrace. However, some separated residential units (villas) may have a garden which is planted.

5.5.Land ownership and control:

One main factor in defining the land use and urban expansion is land ownership and control. The pre-mentioned ottoman land law made private ownership of land possible in Hebron city. The land institute (Tabo) controlled Land ownership and taxes.² The new system promoted ownership of large areas to be concentrated by a limited number of individuals, since peasants could not pay taxes in certain seasons as a result of dry weather conditions and had to sell their land to the rich.³

¹ Our land Palestine encyclopedia (1990), part 2 p. 152

² Hadawi, Sami (1975), Land ownership in Palestine, the Palestinian Arab Refugee office, p. 52

³ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p. 189

Land ownership is linked with the inheritance system. Inheritance in Palestine is regulated by the religious community to which the family belongs. Inheritance for Moslems is guided by a Koranic prescription which stipulates that when a man dies his estate first pays his debts, then certain share wife and the for the sons (who get a full share) and the daughters (who get a half share).¹ This system leads to dividing land lot repeatedly. Although it insures equality but it reduces the opportunity to develop the land in a proper way.²

After Oslo agreement, the West Bank was divided into three main categories. Area A that are under the Palestinian sovereignty. Palestinian authority has a civil control on areas B but have no control on C areas. However, the situation in Hebron is more complicated due to existence of settlers in the core of the city. Hebron has been divided into two parts – HI and H2 – according to Hebron Protocol signed between Palestinians and Israelis in 1997. Lack of sovereignty and fragmentation of land in the described way are determining factors that shape the type of urban development.

5.6. Conclusion:

The main objective of this chapter was to understand the context of the city of Hebron. It was an opening for the next chapter as it was an overview on the socio-cultural structure and how it has changed as a result of education, better living conditions and the western influences. It also demonstrated the change of the physical structure and the morphology of the city.

¹UN Habitata(2005), Islamic land theories and its applications, land and property research series

² A lecture by Dr. Suad Al Amiri at Birzeit university in 15/10/2006

6. Sustainability between Past and Present and its Relation to Culture – a comparison between an old a new neighborhood in Hebron

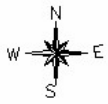
6.1.Introduction:

The city of Hebron is one of the oldest cities that were continually occupied. It consists of an old core in addition to new surrounding neighborhoods. This chapter will focus on the change of the sustainability of the urban form of the city and its relation to the cultural transformation. An old a new neighborhood within the city were examined, trying to inspect the criteria of sustainability that are density, mixed use and open spaces and their relation to the change of the local culture.

6.2. Identifying an old and a new neighborhoods:

In studying the sustainability of the urban forms and the effect of the change of culture upon it a neighborhood in the old city was chosen as an example for the old urban form, and (Ras Al Jora) neighborhood as an example of the new urban forms (See map 6.1). The first neighborhood is located in heart of the old city; however, the new neighborhood is to the north boundaries of the city.

Neighborhoods Selection



Ras Al Jora
(A New Neighborhood)



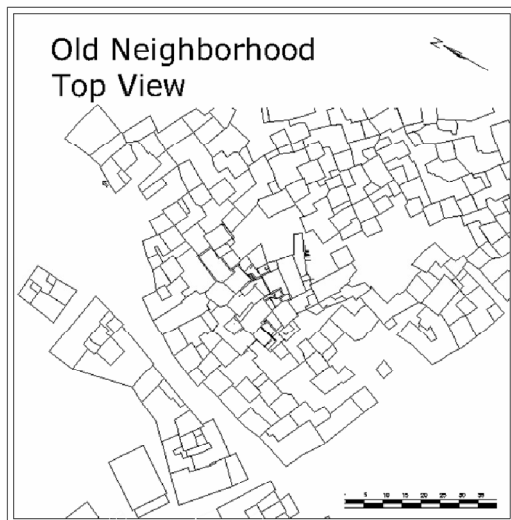
The Old Core
(An Old Neighborhood)



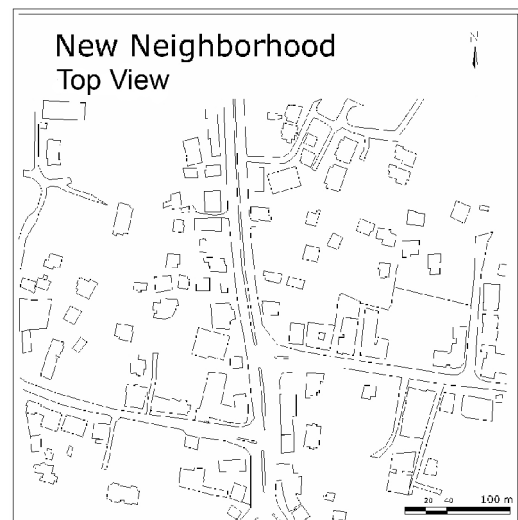
(Map 6.1) Neighborhood selection (source: Hebron Municipality, edited)

6.3. Defining the sustainability of two neighborhoods and its relation to culture:

The researcher refers to the criteria of sustainability that were discussed in chapter two that are density, mixed use and open spaces in order to compare the sustainability of the two neighborhoods. (See maps 6.2 and 6.3) The previously mentioned elements of culture that are family, women's role, privacy, social intercourse and traditions are also presented to investigate the relationship between culture and the sustainability of the urban form.



(Map 6.2) The old neighborhood-top view
(source: Hebron Rehabilitation Committee, edited)



(Map 6.3) The new neighborhood-top view
(source: Hebron Municipality, edited)

6.3.1. Density:

A considerable high population density is a main criterion for achieving sustainable urban form.¹ It conserves land and insures containment of the urban structure.² Density facilitates achieving viable local services and enhances the mixed

¹ Frey, Hildbrand (1999), *Designing the city: towards a more sustainable urban form*, Spon Press, London, p. 32-33

² Northam, Ray M. (1979), *Urban Geography*, John Wiley & sons, New York, p. 467

use.¹ It increases safety and quality of life.² However, social cohesion is needed in order to achieve the density advantages.³ A density of twelve residential units per acre (about 50 persons /acre) in urban areas is recommended to support the services, markets and public transport.⁴

- The old neighborhood:

In the old neighborhood people adapted the clustered structure. The dwellings were adjacent to each other, and took the style of the multi storey courtyard house. Clustering of dwellings and vertical expansion consumed less land and facilitated urban containment. Urban expansion was within the boundaries of the urban structure.⁵ Moreover, people depended on walking to move from one place to another in the old city, narrow streets were adequate, thus consuming less land and increasing the density of the neighborhood.⁶ (See picture 6.1)



(Picture 6.1) Narrow street in the old neighborhood (source: the researcher)

¹ Frey, Hildbrand (1999), *Designing the city: towards a more sustainable urban form*, Spon Press, London, p. 32-33

² Stretton, H. (1996), *Density, efficiency and quality in Australian cities*, in Jenks, M., Burton, E. & Williams, K. (eds), *Compact City, a sustainable urban form?*, E & FN Spon, London, p. 45

³ Frey, Hildbrand (1999), *Designing the city: towards a more sustainable urban form*, Spon Press, London, p. 28

⁴ www.gcbl.org, last visit 06/07/2007

⁵ Abu Baker, Amin (1994), *Hebron City*, Jordan University, Jordan, p. 75

⁶ *ibid.*, p. 67

People used to build with stone as a local material. They used to cut stone of the outer shell of earth.¹ This process retrieved land for agriculture and afforded them with building material as well.² Stone was reused when old building collapsed.³ It should be mentioned that using stone as a building material conserves heat energy of day time to be radiated at night.⁴ In addition, clustering form and multi storey building contributes to this process by decreasing heat losses and reducing the surface area that is exposed to the cold atmosphere in winter and visa versa in summer.⁵

The clustering form was a result of a number of basis including safety, privacy and climatic motives. Moreover, this form is a response to the extended family structure, where the man and his wife live with their sons and families as well. An average of seven family units used to live on one donum.⁶ This means a density of about 140 persons/ acre which is considered a high population density.

In addition to the previous motivations for the high population density, women used to get no or limited education.⁷ They used to get married at very young age, and then were dedicated for bringing up children and doing the house work. Besides the existence of the monogamy family system were main factors in bringing more

¹ Amiri, Suad and Tamari, Vera (1989), *The Palestinian village home*, British Museum publications, p. 10

² Ibid, p. 10

³ Abu Baker, Amin (1994), *Hebron City*, Jordan University, Jordan, p. 78

⁴ Ministry of local government(2004), *Energy efficient building code*, p. 40

⁵ Wright, David (1978), *Natural solar architecture, a passive premier*, Van Nostrand Reinhold company, p. 88

⁶ An interview with the architect at Hebron Municipality in 19/7/2007

⁷ Abu Baker, Amin (1994), *Hebron City*, Jordan University, Jordan, p. 295

children and increasing family size.¹ The increase of the family size led to decrease of the area per person in the house and increase of the density.²

The disadvantages of the high population density like the bad neighbor effect and lack of privacy³ were overcome by several factors including traditions, values and Islamic laws that conserves the neighbor's right and insures his privacy.⁴ In addition, the social cohesion was assured since residents in one neighborhood were mainly relatives and belongs to the same family.⁵ Poor access to green areas and open spaces as a result of intensification⁶ prevailed over since most of the dwellings had a private open space and due to the existence of the agricultural land around the city structure.

- **New neighborhood:**

The new neighborhood is considered as the north entrance of the city. Buildings are scattered there and almost reach Halhoul village to the north of the city.⁷ (See picture 6.2) most of the buildings of the neighborhood are two to three stories. (See picture 6.3) The estimated density of the neighborhood is ten persons/ donum⁸ which equals 40 persons per/ acre.

¹ *ibid*, p. 388

² *ibid*, p.389

³ Williams , Katie (2000), *Does intensifying cities make them more sustainable?* , Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), *Achieving sustainable urban form*, E & FN Spon, London, p. 30

⁴ Hakim, Besim, Selim (1988) *Arabic-Islamic City*, Kegan Paul International, p 19

⁵ Abu Baker, Amin (1994), *Hebron City*, Jordan University , Jordan, p. 155

⁶ Burton, Elizabeth (2000), *The potential of the compact city for promoting social equity*, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), *Achieving sustainable urban form*, E & FN Spon, London, p. 19

⁷ An interview with the architect of Hebron Municipality, 19/7/2007

⁸ *Ibid*



(Picture 6.2) Urban expansion in the new neighborhood (source: the researcher)



(Picture 6.3) Two to three story buildings (source: the researcher)

Unlike the walkable old city the residents of the new neighborhoods depend on cars whether private or public as a main way for transportation. Thus they need an infrastructure for such a system including an increase of width of the streets (see picture 6.4) in addition to the need of parking space in private and public domains. (See picture 6.5) Such a system of transportation consumes more land and does not boost the sustainability of the urban form.



(Picture 6.4) using cars needed to increase the width of the streets (source: the researcher)



(Picture 6.5) space consumed for car parking (source: the researcher)

Building laws contribute to building fragmentation since it requests a recess distance of the boundaries of the building lot.¹ The recess distance varies according to the location of the lot.² The recess distance is usually used for car parking, tiled open spaces or for greenery and urban cultivation. (See picture 6.6) However, this area is sometimes neglected and became a place for throwing rubbish. (See picture 6.7) Moreover, there is a considerable area of undeveloped land within the urban structure of the new neighborhood. (See picture 6.8)



(Picture 6.6) House garden in the new neighborhood (Resource: the researcher)



(Picture 6.7) Neglected spaces surrounding the dwellings (Resource: the researcher)



(Picture 6.8) Undeveloped land within the new neighborhood (source: the researcher)

¹ Ministry of local government(1998), Palestinian building law

² Ibid

Cement blocks, concrete and reinforced concrete are used for building the new neighborhoods. These materials insure a small amount of energy consumption and limited heat loss¹, however, a considerable attention should be given when constructing the roofs and terraces in addition to the openings including windows and doors.² Yet, stone is used as an outer shell to cover the buildings, it has no structural role nevertheless, building consumes large amounts of stone.³ However, the fragmented urban structure increases the exposed area to the cold atmosphere the heat losses and leads to consume more energy especially in winter.⁴

Contrasting the social structure in the beginning of the twentieth century, the nuclear family is the basic unit of the society. Family in average consists of a man, his wife and from four to five children.⁵ They tend to live in a separate dwelling away from the grandparents. However, there is a noticeable approach recently to build a house for the son above the family house because of the high land price. Some dwellings were built as a multistory building for the father and mother and their sons' families. (See picture 6.9) multi storey family dwellings might be built incrementally or all at the same time. Such an approach increases the density and contributes to urban intensification. However, it should be controlled to assure having adequate sun light and ventilation of the dwellings.

¹ Ministry of local government(2004), Energy efficient building code, p 40

² Ibid, p. 60

³ An interview with the architect of Hebron Municipality, 19/7/2007

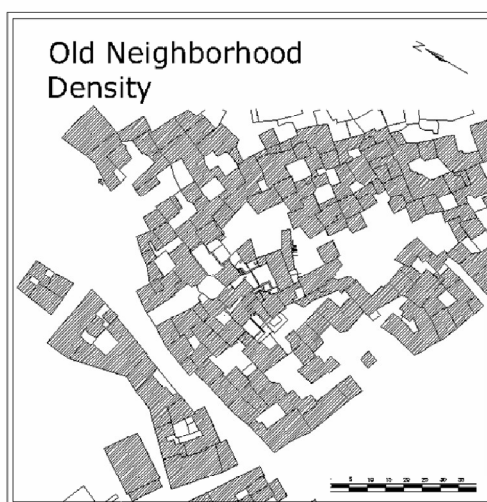
⁴Wright, David (1978), Natural solar architecture, a passive premier, Van Nostrand Reinhold company, p. 88

⁵ Fitzsimmons , Thomas (1958), Jordan , its people, its society , its culture, HRAF Press, USA, p 110

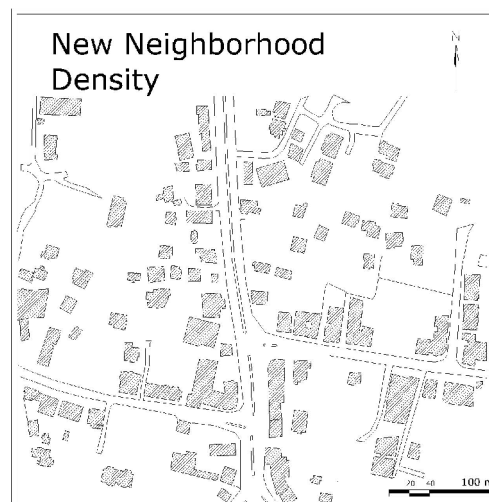


(Picture 6.9) A multi storey residence
(Source: the researcher)

Hence one can see that density in the old neighborhood is more than in the new neighborhood. It differs due to the house style and dwellings distribution which reflects the local culture and the way of living of residents. Social cohesion, intimate relationship between the residents (which were mostly relatives or friends) and safety requirements encouraged clustering and increasing the density. However, in the new neighborhoods the individualistic way of living neighbors is part of the cause to the decrease of density. (See map 6.4 and 6.5).



(Map 6.4) Density in the old neighborhood
(source: Hebron Rehabilitation committee, edited)



(Map 6.5) Density in the new neighborhood
(source: Hebron Municipality, edited)

6.3.2. Mixed use:

Diversity of activities and mixed use is recommended to obtain a sustainable urban form. The presence of retail functions, basic services, entertainment facilities and local industry supports sustainability.¹ It decreases the transportation distances reducing the air pollution, increases social harmony and the sense of community.² It is suggested that basic needs and services like a grocery, pharmacy and kindergartens should be provided in a distance of ten minutes of walking³, meaning about 400 m, and taking into account the children, old people and handicaps.

- **Old neighborhood:**

The city of Hebron depended in the beginning of the twentieth century on agriculture as one main economic resource.⁴ The physical fabric of the city reflected the economic activity at that time.⁵ The dwellings contained rooms for animals that were called (bawaki), they were changed into market places when people were directed towards trade and small scale industry.⁶ The new functions were in between the residential units enhanced the mixed use. (See picture 6.10)

¹ Masnavi (2000), The new millennium and the new urban paradigm, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 64

² Van Uyen- Phan and Senior, Martyn, David(2000), The contribution of mixed land uses to sustainable travel in cities, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 139-148

³ Frey, Hildbrand (1999), Designing the city: towards a more sustainable urban form, Spon Press, London, p. 30

⁴ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p.249

⁵ ibid, p.249

⁶ An interview with the architect at Hebron Rehabilitation Committee in 5/7/2007



(Picture 6.10) Mixed use in the old neighborhood (source: the researcher)

Family was one economic unit and its members used to have a craft that is inherited from one generation to another.¹ Their workshops were on the ground level and the residences were on the upper floors. (See picture 6.11)

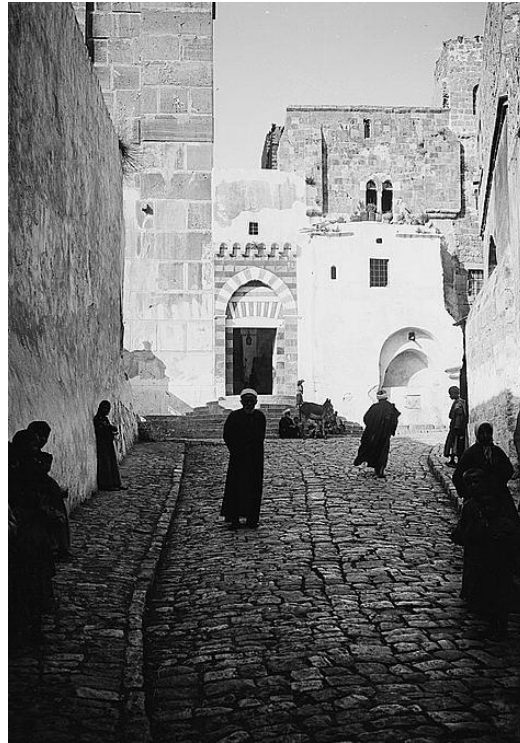


(Picture 6.11) Markets on the ground level and residences on the upper floors (source: the researcher)

¹ Alkam, Nabel (1991), We and our legacy, the Palestinian culture: roots and challenges, ed. Abu Elhadba, Abd Alaziz. p 179 (in Arabic)

People used to meet in the public spaces like the mosques (see picture 6.12), the café (Al Kahwa) and the baths which were in between the residential quarters.

However, women used to meet mainly at houses.¹



(Picture 6.12) The Abraham Mosque was a place for social interaction (source: www.palestineremembered.com)

- **New neighborhood:**

The new neighborhood is a mixed use area like the old neighborhood. It includes different functions in addition to the residential units. (See pictures 6.13 and 6.14). As women became workers as well as men, they do not have time to do all the activities and housework that their grandmothers used to do, hence, new services were needed²

¹ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p.250

² Rubenberg Cheryl A. (2001), Palestinian Women: patriarchy and resistance in the West Bank, Lynne Rienner Publishers, p 15

like baby incubations, restaurants and dry-cleans. Restaurants and cafés also reflect the change toward social interaction outside homes for both men and women.¹



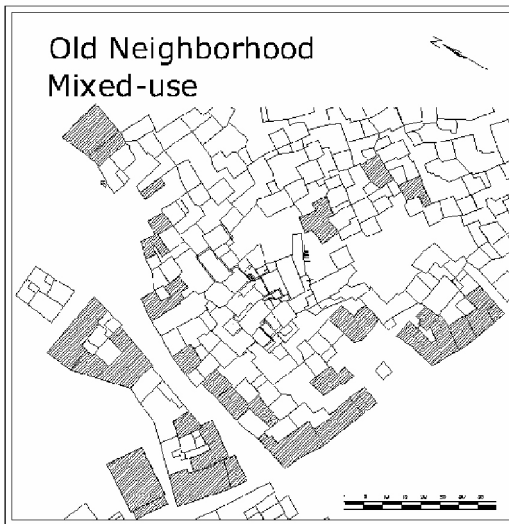
(Picture 6.13) Residential and commercial uses (source: the researcher)



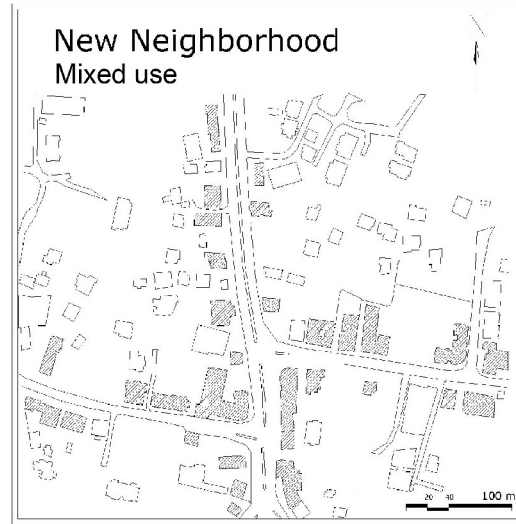
(Picture 6.14) A workshop for repairing cars within the new neighborhood (source: the researcher)

In conclusion one can find out that both the old and the new neighborhoods include the quality of mixed land use. They both offered the basic needs for the residents, within tolerable and walkable distances. Nevertheless, the offered services in the two neighborhoods differ due to the change of needs and the pattern of living. Yet it should be mentioned that the residents of the new neighborhood depends on cars even if the travel distance is not long. (See map 6.6 and 6.7)

¹ La'ebi, Shaker (2007), *The male architecture, the role of the social and ethical values on the architecture in the Arab world*, Riyadh El-Rayyes Books, p. 133 (in Arabic)



(Map 6.6) Mixed-use in the old neighborhood (source: Hebron Rehabilitation committee, edited)



(Map 6.7) Mixed-use in the new neighborhood (source: Hebron Municipality, edited)

6.3.3. Open spaces:

Open spaces and greenery are important aspect to achieve sustainability. It reduces the air pollution¹ and promotes biodiversity². However, important issues should be taken in to consideration when dealing with open spaces like their form, size and distribution.³ Since outthought open space distribution increases travel distances, decrease density⁴ and reduces safety⁵. One significant matter to be taken when planning is the residential units' proximity of one quarter mile (about 400 m) to open spaces.⁶

¹ Rudlin, David and Falk, Nicholas (1999), Building the 21st century home, the sustainable urban neighbourhood, Architectural Press, p. 165

²Newton, Peter (2000), Urban form and environmental performance, in Williams, Katie, Burton, Elizabeth and Janks, Mike (2000), Achieving sustainable urban form, E & FN Spon, London, p. 68

³ Rudlin, David and Falk, Nicholas (1999), Building the 21st century home, the sustainable urban neighbourhood, Architectural Press, p. 166

⁴ Rudlin, David and Falk, Nicholas (1999), Building the 21st century home, the sustainable urban neighbourhood, Architectural Press, p. 166

⁵J Burgess, CM Harrison and M Limb People, Parks and the Urban Green: A Study of Popular Meanings and Values for Open Spaces in the City, Urban Studies, Volume 25, Issue 6 , pp 455 - 473

⁶ www.gcbl.org , last visit 7/6/2007

- **The old neighborhood:**

Within the old neighborhood open spaces were limited to the courtyards of the houses, (see picture 6.15) and the neighborhood square (Saha). (See picture 6.16)



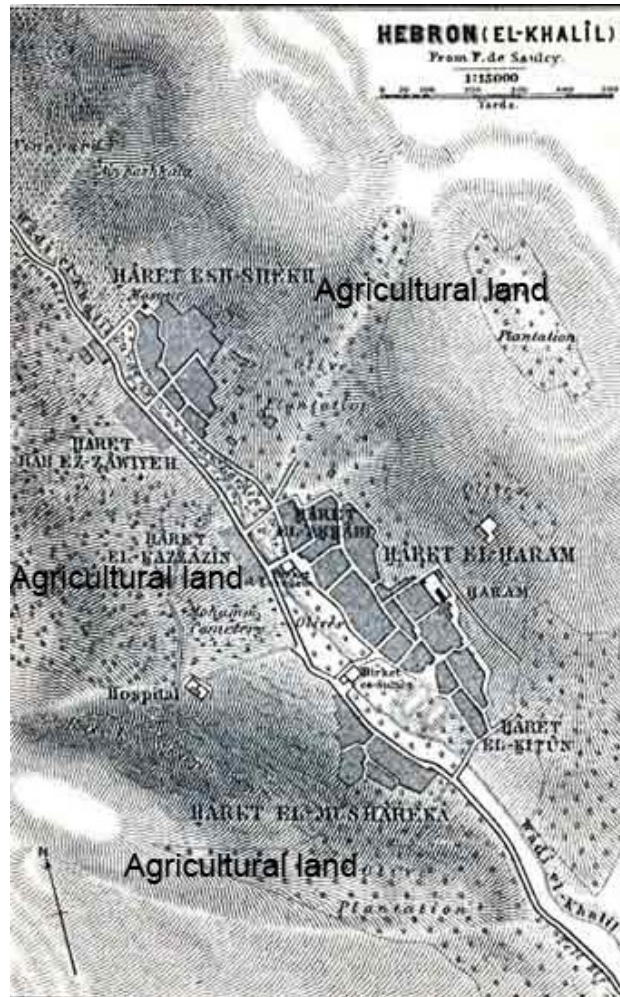
(Picture 6.15) A courtyard of a house (source: the researcher)



(Picture 6.16) a common open space (source: the researcher)

However, the old city in general had a strong relation with surrounding agricultural land.¹ People used to go to the surrounding agricultural land (Kurom) every summer to pick the fruits including grape and fig. agricultural land encircled the old core of city. (See map 6.8)

¹ Abu Baker, Amin (1994), Hebron City, Jordan University , Jordan, p.252



(Map 6.8) The relation of the agricultural land with the old city of Hebron (source: www.palestineremembered.com)

More over the lake of the Abraham mosque (Birket AL sultan) and the surrounding open space is considered as a main open space within the old city contributed to sustainability. (See picture 6.17) since the old city is compacted and with limited area, the Abraham mosque lake or (birket AL Sultan) was approximate to the neighborhoods of the city. It is about 400 m from the furthest neighborhood of the core of the old city.¹

¹ AutoCAD calculations



(Picture 6.17) The Abraham Mosque lack
(source: www.palestineremembred.com)

The open spaces in the old neighborhood are related to the way of living of the residents at that time. The courtyard within the house was an intimate private open space.¹ Women used to do most of the house work including cooking, cleaning, cloth washing in the courtyard, in addition it was the favorite place for meeting of women at day time, and it was also the place of family meeting at evenings.²

- **The new neighborhood:**

Gardens created by the recess distances replaced the courtyard of the old house, (see picture 6.18) and some times it became a parking space (see picture 6.19), yet the area of recession is some times treated as a waste negative area. (See picture 6.20)

The open space in the house is in the form of a terrace or a balcony in some

¹ Bianca, Stefano (2000), Urban Form in the Arab World, institut fur Orts, Regional und landesplanung. ETH , Zurich, p. 77

² Ibid, p.76

residences, most of them are short of greenery. People in villas tend to plant trees in their gardens; however, in some dwellings the space around the building is used as a parking, a store and some times a useless area (See picture 6.21)



(Picture 6.18) A garden in the recess distance (source: the researcher)



(Picture 6.19) Parking within the recess distance (source: the researcher)



(Picture 6.20) Negative area within the recess distance (source: the researcher)



(Picture 6.21) Terraces as private open spaces (source: the researcher)

Vacant private plots creates green spaces in the neighborhood, however, it can not be used by the public. (See picture 6.22) One can not find a common open space that belongs to the community. There are no public gardens or even children gardens in

the neighborhood, there are some trees planted in the streets but it is not enough to decrease the pollution of cars.



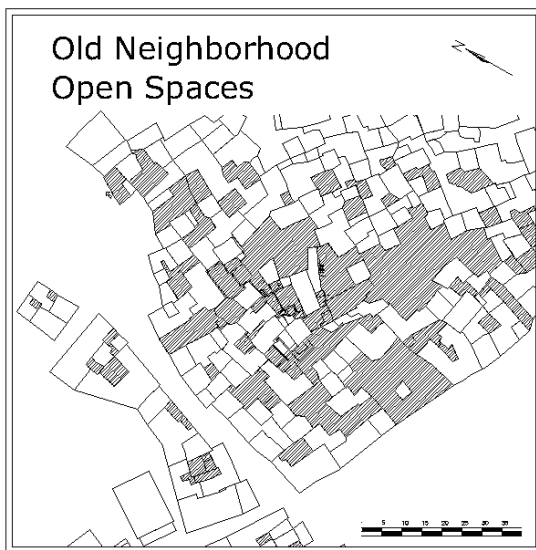
(Picture 6.22) Private open space within the neighborhood (source: the researcher)

When women had to work outside the house and used the new machines like the cloth washing machine to do the house work they abandon the space of the courtyard. Moreover the need for a complete privacy that the courtyard provides had been weakened through the century;¹ hence the courtyard was replaced by a garden or a terrace.

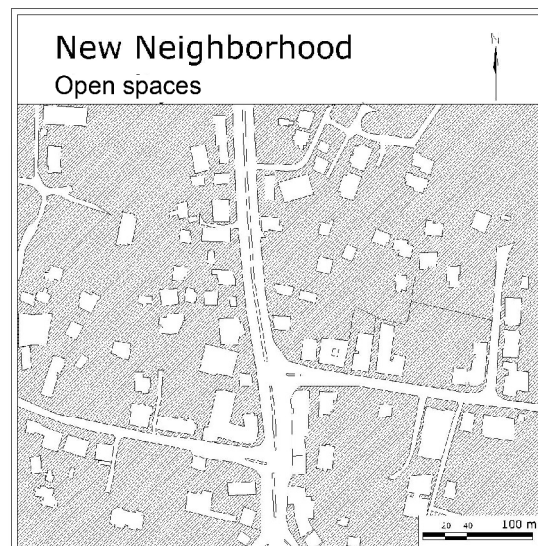
Although the open spaces in the old neighborhood were limited to houses' courts and squares of the neighborhood. It was sustainable at that time since it satisfied people's needs and respected their values. Furthermore they didn't depend on cars, thus didn't have the pollution in the new neighborhoods. It also had a strong relationship with the surrounding agricultural land.

¹ Hakim, Besim, Selim (1988) Arabic-Islamic City, Kegan Paul International, p 56

However, the new urban structures are not sustainable concerning the open spaces, the current setting of the open spaces do not satisfy people's needs. Although there are open spaces within the urban structure they are private property and cannot be used by the public. The new neighborhood does not offer a place for social interaction or solve the problem of air pollution. (See map 6.8 and 6.9)



(Map 6.8) Open spaces in the old neighborhood (source: Hebron Rehabilitation committee, edited)



(Map 6.9) Open spaces in the new neighborhood (source: Hebron Municipality, edited)

6.4.Conclusion:

Hence, the sustainability of the urban form has changed during the twentieth century. One factor that affects the sustainability of the urban forms is culture as a particular way of living. The previous comparison shows that the density in the new neighborhood is less than the compact old quarter. The mixed use presents in both neighborhoods, however, the offered services varies according to the residents needs. Finally the limited open spaces in the old neighborhood contributed more to sustainability than the large vacant areas in the new neighborhoods.

7. Conclusion:

7.1.Main Findings:

The research addressed the problem of sustainability within the Palestinian context and the effect of the change of local culture on the sustainability of the urban form during the twentieth century. It has been found out that the urban form has changed. New models of urban growth have been adapted. Moreover, traditional cultural patterns have been adjusted in response to changes on the economical, political, technological and social levels.

Three criteria of the sustainable urban form were examined, that are density, mixed-use and open spaces. The change on the cultural level was studied by exploring the change on family, role of women, privacy, social interaction and traditions. The role of culture in enhancing the three criteria was investigated through defining the effect of the pre-mentioned elements of culture on them, and whether the change of the local culture boost the sustainability of the urban form.

Hebron city was taken as a case study, and compared the criteria of sustainability according to culture in an old and in a new neighborhoods. The researcher found out that local culture used to enhance the density, mixed-use pattern and the open spaces within the old fabric. However, the new way of living decreased the urban density and unelaborated open spaces and green areas. Yet, the mixed-use pattern is encouraged as it was in the old structure but with new services.

7.2.What have been learned:

It has been learned how local culture contributed to the sustainability of the urban form in Palestine. Moreover, how to measure the sustainability of an urban form and whether the old and the current urban forms in Palestine are sustainable or not. The researcher also learned how local culture has changed during the last century in Palestine, and how the change of the local culture affected the sustainability of the urban forms.

7.3.Recommendations:

This study can give a new insight of how to attain the sustainability of the urban forms. The sustainable culture is common slogan that invites people to a more sustainable way of living. However, the researcher thinks that the culture of sustainability should not be imposed in Palestine since it used to exist as a particular way of living that has respected the nature, strengthens social relationships and enhances economy.

Sustainable development is an urgent need for the Palestinian society. However, achieving a sustainable urban form is one aspect of such a development. A sustainable urban form can be achieved through the cooperation of the formal level, including the government and the non governmental organizations and on informal level including the community. The researcher recommends the following:

The government:

- The government should try to get hold of areas within the urban neighborhoods to provide the residents with playgrounds, schools and other services.

- Delegating some control for the community to develop their neighborhoods
- To rethink about building rules like recess distance

The Non Governmental organization:

- To increase the knowledge of people on the sustainability in general and their role in contributing to the sustainable urban form to guarantee better future for their children

The residents:

- The neighborhood residents should have a kind of local autonomy in the neighborhoods because they know better what they need taking into account the general guidelines of development
- Forming community based organizations within the neighborhoods and to adapt the coordination with the other neighborhoods in the city

The private sector:

- Providing the basic services within the neighborhoods to demonstrate the mixed use pattern that decrease travel distance.
- To develop the new housing projects to be open ended, adaptable to the changing needs of the residents. New housing projects should respect the local culture; traditions and values in addition to should take the environmental and economical issues into account.

7.4.Future research:

Other aspects of sustainability like public transport, social mix... etc should be examined in relation to culture. Future research should also concentrate on how to readapt the old sustainable culture but within the modern atmosphere in order to come up with a sustainable *local* culture in Palestine.

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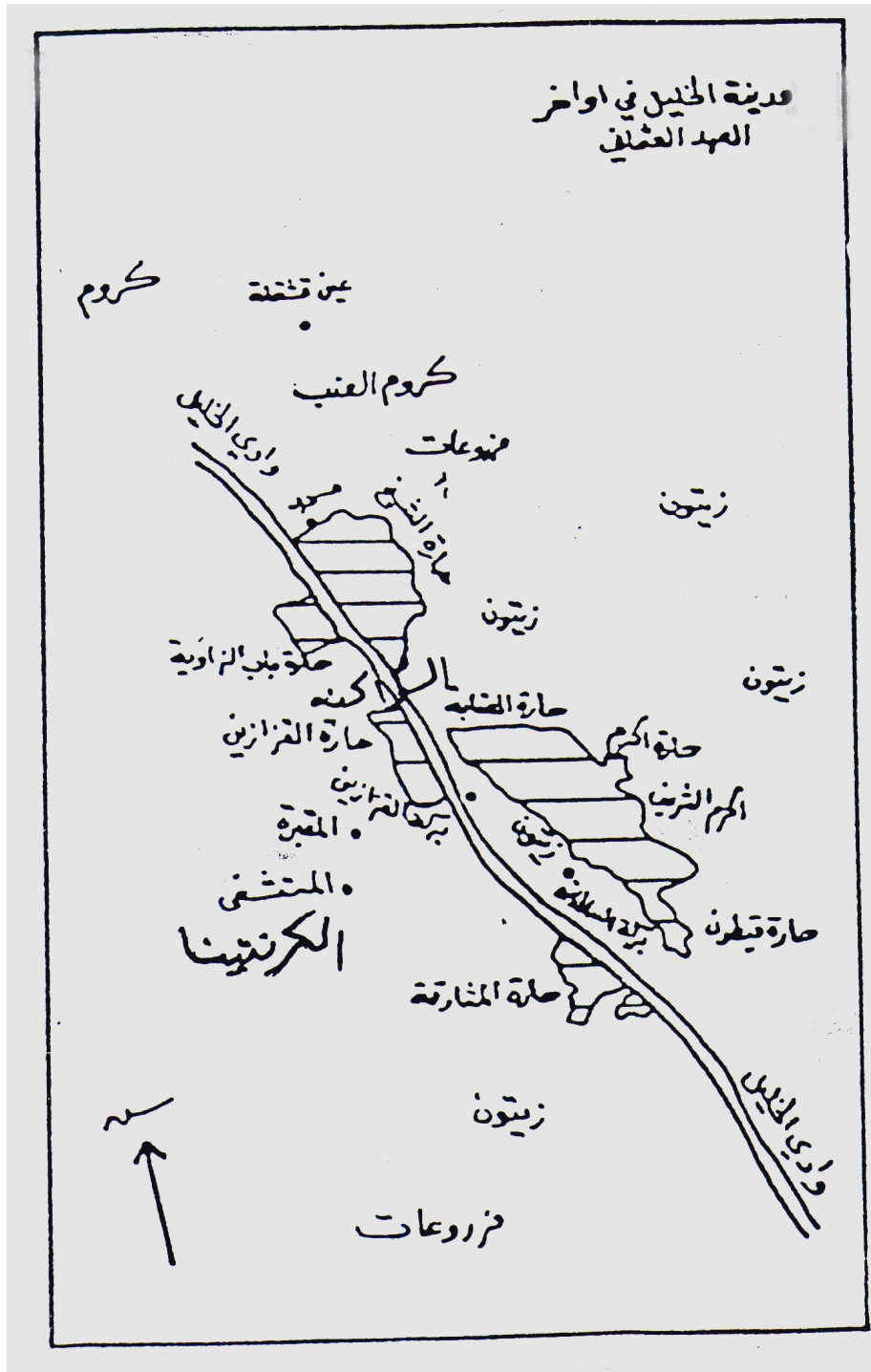
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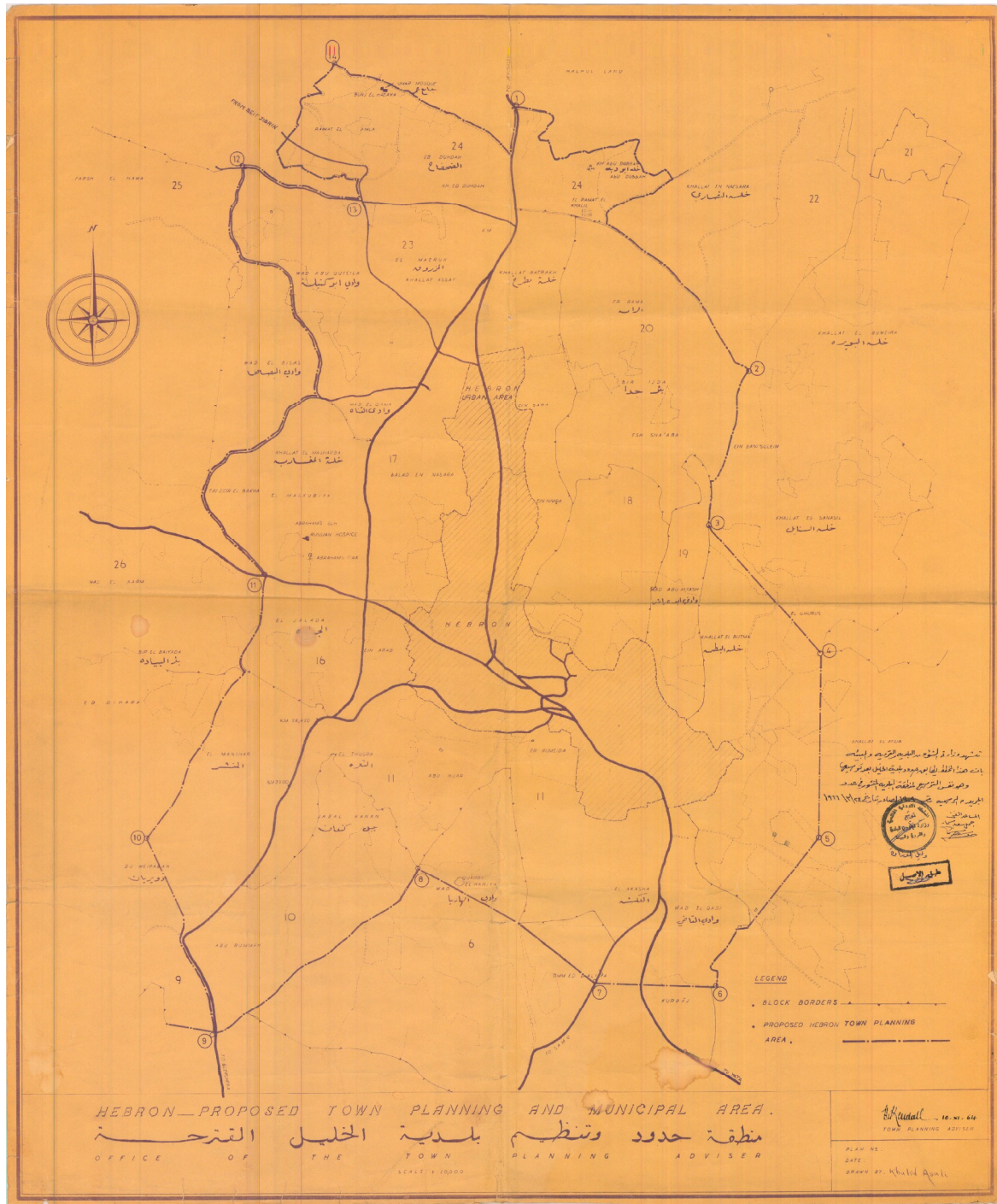
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Appendix

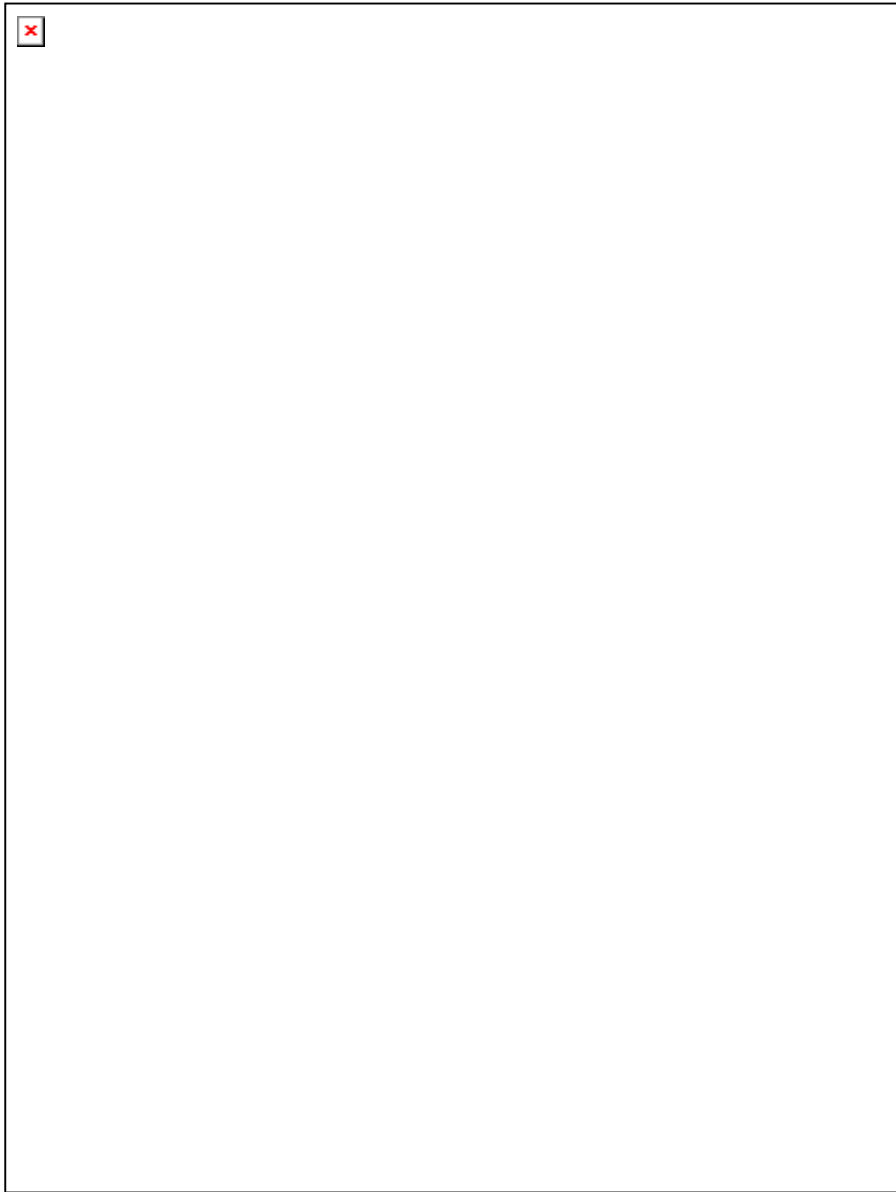
Maps



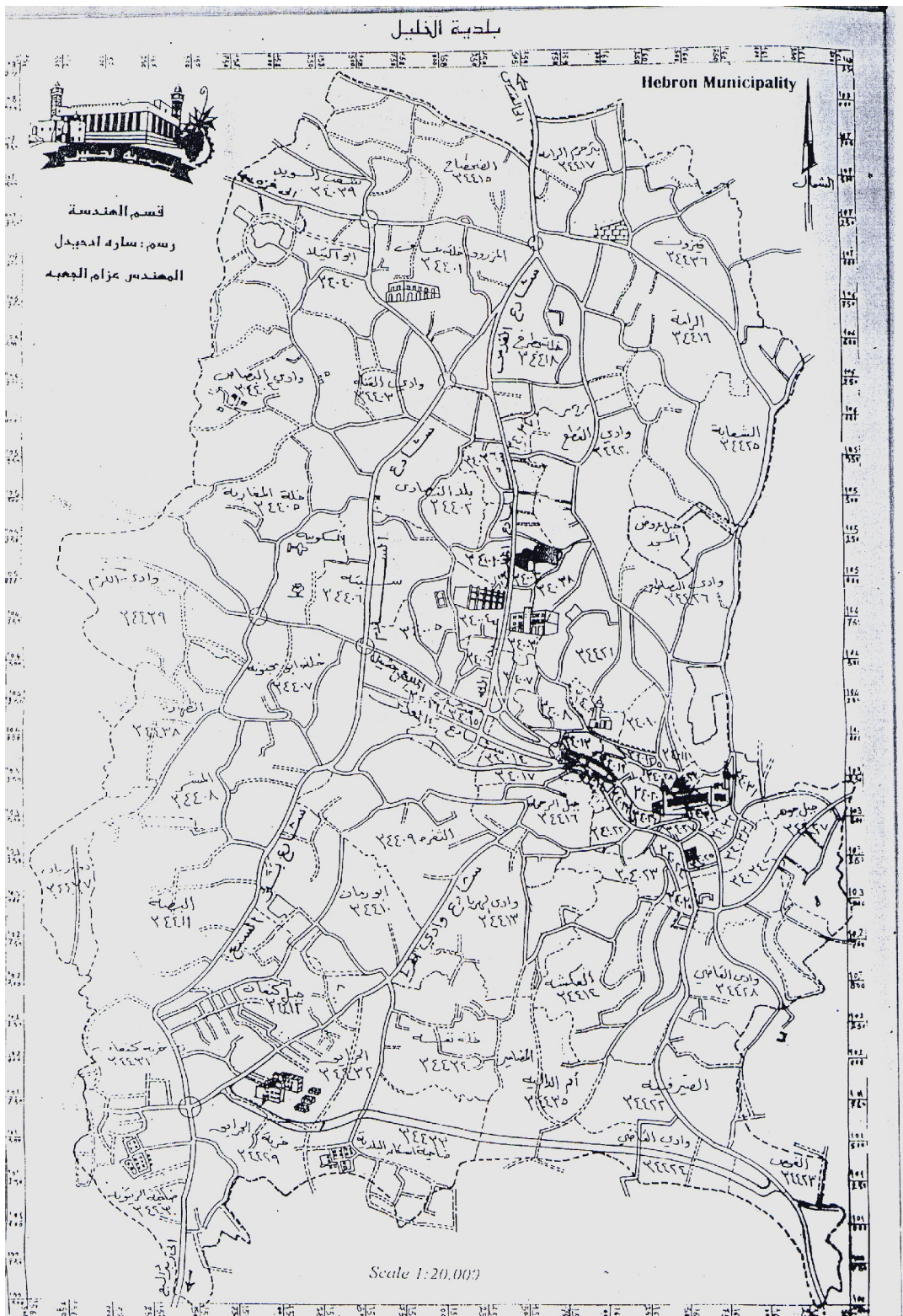
Hebron city map in the beginning of the last century
 (recourse: Abu Baker ,1994)



Hebron city borders in 1944 (recourse: Hebron Municipality)



Hebron city borders in 1966 (recourse: Hebron Municipality)



Hebron city neighborhoods in 2000 (recourse: Hebron Municipality)