BIRZEIT UNIVERSITY

FACULTY OF ENGINEERING

HUMAN BEHAVIOR AND URBAN OPEN SPACES IN HYPER-DENSE AREAS

''Case study: Dheisheh Refugee Camp / Palestine''

السلوك البشري و الفضاءات العمرانية المفتوحة في المناطق المكتظة

" حالة دراسية : مخيم الدهيشة للاجئين / فلسطين "

BY:

BADER .M. ATAWNEH

SUPERVISED BY:

DR.MOHAMMAD ABDEL HADI

2009 - 2010

HUMAN BEHAVIOR AND URBAN OPEN SPACES IN HYPER-DENSE AREAS

"Case study: Dheisheh Refugee Camp / Palestine"

السلوك البشري و الفضاءات العمرانية المفتوحة في المناطق المكتظة

" حالة دراسية : مخيم الدهيشة للاجئين / فلسطين "

BY:

BADER .M. ATAWNEH

SUPERVISED BY:

DR.MOHAMMAD ABDEL HADI

COMMITTEE MEMBER: DR.SAMAR AL-NAZER
COMMITTEE MEMBER: DR.MANAL BISHAWI

This Thesis was submitted in partial fulfillment of the requirements for
the Master's degree in Urban Planning and Landscape Architecture
From the Faculty of Higher Studies
At Birzeit University, Palestine

2009 - 2010

HUMAN BEHAVIOR AND URBAN OPEN SPACES IN HYPER-DENSE AREAS

"Case study: Dheisheh Refugee Camp / Palestine"

السلوك البشري و الفضاءات العمرانية المفتوحة في المناطق المكتظة

" حالة دراسية : مخيم الدهيشة للاجئين / فلسطين "

BY:

BADER .M. ATAWNEH

(CHAIRMAN OF SUPERVISION COMMITTEE):   Signature

DR.**M**OHAMMAD ABDEL HADI   …………………………

(MEMBER OF SUPERVISION COMMITTEE):   Signature

DR.**S**AMAR AL-NAZER   ……………………………

(MEMBER OF SUPERVISION COMMITTEE):   Signature

DR.**M**ANAL BISHAWI   …………………………

DATE OF DEFENSE: ………………………….……01/ 08/ 2009…….

DEDICATION

_____

To the pure spirit , hope, and strong will

(My mother)

To innocence and childhood, (My sons)

To the path consort, (My wife)

To the rare hearts, (My father, my brothers)

To the mines of gold and diamonds, (My friends)

To love and Sense

To olives and jasmine

To Palestine

ACKNOWLEDGMENT

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF MAPS

LIST OF TABLES

ABBREVIATIONS

- **CBO**: Community based organization.

- **CEP**: Camp enemy property.

- **ICRC**: International Committee of the Red Cross.

- **NGO'S**: Non-Governmental organizations.

- **PNA**: Palestinian National Authority.

- **RC**: Refugee camp.

- **UNHCR**: United Nations High Commissioner for Refugees.

- **UNRWA**: The United Nations Relief and Works Agency for Palestine Refugees.

ABSTRACT

Most of the world cities have hyperdense areas within its borders. Hyperdensity can appear in an informal settlement, in a slum area, in an old core, in a city center, or in a camp as in the case of Palestinian refugee camps. Hyperdensity conditions are capable to produce plenty of problems and questions related to the built up environment, quality of life, and people needs.

This dissertation is based on exploring the combination between the physical form of urban open space and human behavior to investigate people's needs in urban open spaces of a hyperdense environment. The focus will be on Dheisheh refugee camp within Bethlehem city borders in the West Bank.

The research is based on qualitative data (observations and Interviews) that help in understanding and analyzing the combination between physical form of Dheisheh camp open spaces and people's behavior there to determine their needs in urban open spaces.

The main finding of the research shows that people needs in urban open spaces of Dheisheh are partially met by the physical form of urban open spaces. This means that some people's needs in Dheisheh urban open spaces are met but the others could not be met. Furthermore, the type of needs differs according to age group and gender.

Key words: behavior, urban open spaces, needs, hyper-density, refugee camps, Dheisheh camp.

مستخلص البحث

إن معظم مدن العالم تحتوي ضمن حدودها على مناطق مكتظة عمرانيا، وهذا الاكتظاظ ممكن أن يظهر في الأحياء العشوائية، في أحياء الفقراء، في المناطق القديمة، في مراكز المدن، أو في المخيمات كما هو الحال في مخيمات اللاجئين الفلسطينيين. إن ظروف الاكتظاظ العمراني قادرة على خلق مشاكل وتساؤلات تتعلق بالبيئة العمرانية، نوعية الحياة، واحتياجات الناس في تلك المناطق.

ترتكز هذه الدراسة على استكشاف مركبة العلاقة بين الشكل الفيزيائي للفراغ العمراني المفتوح وسلوك الناس، وذلك لمعرفة احتياجاتهم ضمن الفراغات المفتوحة في مناطق الاكتظاظ العمراني وذلك بتركيز الدراسة على مخيم الدهيشة للاجئين الذي يقع ضمن حدود مدينة بيت لحم في الضفة الغربية.

يعتمد هذا البحث على المعلومات النوعية (المشاهدات و المقابلات الشخصية) التي تساعد في فهم وتحليل مركبة العلاقة بين البنية الفيزيائية للفراغات المفتوحة في مخيم الدهيشة وسلوك الناس هناك وذلك لتحديد احتياجاتهم في الفراغات المفتوحة.

من أهم ما توصل إليه هذا البحث هو ان احتياجات الناس في الفراغات المفتوحة الواقعة ضمن مخيم الدهيشة تم تحقيقها جزئيا من خلال البيئة الفيزيائية للفراغات المفتوحة. هذا يعني أن هناك بعض الاحتياجات تم تحقيقها ولكن هناك احتياجات أخرى لا زالت مفقودة. أيضا كان هناك اختلاف في طبيعة الاحتياجات بناء على اختلاف الفئات العمرية والجنس بين السكان.

المصطلحات الأساسية: السلوك، الفضاء العمراني المفتوح، الاحتياجات، الاكتظاظ العمراني، مخيمات اللاجئين، مخيم الدهيشة.

*C*hapter One

_____

1. INTRODUCTION

1.1. Forward

The rapid urban growth and transformation -that resulted from overpopulation- bring great changes in the form and style of the urban fabric, and also challenges to the landscape structure, natural environment and resources to support urban habitation. These changes affect the style and the quality of life that leads to some changes related to people needs in urban open spaces in hyperdense areas.

Hyperdensity became phenomenon in some areas in most of the world countries. So it needs some attention from officials and researchers. Hyperdensity can be found in two forms; horizontally in short and too close buildings (e.g. refugee camps, slums, old cores, and informal settlements), and vertically in high rise buildings (e.g. Hong Kong and Chicago). Furthermore, hyperdensity has several levels in relation to its size; a neighborhood level, a camp level, or a settlement level. In addition, it can appear in a city level.

The research intends to focus on some hyperdense habitations in Palestine such as refugee camps that were formed informally with the absence of suitable planning or building regulations that could lead building process in that areas.

It seems worth and necessary to study the effects of such built-up area on people needs there. This research was conducted to study people behavior in refugee camps as a case of hyperdensity in Palestine by focusing on Dheisheh camp, and zooming on urban open spaces there. The study of behavior helps in determining people's needs in urban open spaces.

1.2. Statement of the problem

Palestinian refugee camps can be considered as a model of hyperdensity, they were formed after Al-Nakba "catastrophe" in 1948, which produced a new physical structure related to camps open spaces environment. This structure changed the types of people's needs there.

The urban evolution of refugee camps led to a hyperdense urban environment with narrow and dark paths, lack of openness, cleanness and green areas between close buildings that block much of the sunlight. This structure distorted the sense of landscape in urban open spaces and produced pressure on the public services due to the loss in urban open spaces that has no attention to make a plan and criteria for expansion. Accordingly, people missed their interaction with landscape elements (plants, organisms….etc) that have become less and less observed.

The social interaction within urban open spaces has become extended more than the preliminary life after "Al-Nakba", this is due to the small area of urban open spaces with the existence of a large number of persons. People social relations

with each others and with strangers are different from those who live outside the camp. In other words, the hyperdense conditions bring people more closely, and they built their own social life within urban open spaces. This affects the type of people behavior there. So, People behavior is a reflection for such needs.

1.3. Research objectives

The study intends to investigate people needs in urban open spaces in Dheisheh refugee camp using human behavior as a reflection for people needs. This can be used as a base for camps developers to be taken into consideration when designing or re-shaping urban open spaces to achieve the adequate environment with the required quality of life by providing design ways or strategies that can develop camp areas.

1.4. Research questions

The main question created here is that:

- How much does the physical form of existed urban open spaces in Dheisheh camp meet people needs there?

This main question can be divided into the following sub-questions:

1- What needs are available in Dheisheh urban open spaces? And what needs are not available there?

2- How do gender and age influence people's needs in urban open spaces of Dheisheh?

1.5. Methodology

The study is structured to be a case study research type as it is adapted in social sciences to study a social phenomenon. This way is considered by Yin (1984) as a sufficient method to help in understanding and investigating a complex structure or objects, and it is a tool to strengthen previous studies and theories.

To achieve the research objectives, the methodology was designed simply to approach the main research elements (behavior and needs) of urban open spaces that deal with the case of Dheisheh camp as an urban fabric. Urban open spaces are analyzed in relation to behavior to investigate needs. Urban open spaces are designed to meet human needs; human behavior is motivated by human needs; activities are reflections of the needs, and the rules are a composite of needs and values. The study results are built on the direct observations and interviews to explore the interrelation between the physical form of urban open spaces and human needs in Dheisheh.

This research has considered analysis of the case study area for the perspective of landscape and urban structures. The study is based on qualitative data which include series of interviews with UNRWA staff, community members and external bodies. Furthermore, observing people's behavior in Dheisheh camp. Other techniques that can shore the study, such as aerial survey including aerial photo and digital plans that were conducted for Dheisheh refugee camp, archival maps from UNRWA were digitalized and systematically analyzed.

1.6. Research limitations

To reach a general understanding for the research main dilemma, the output of this study guides for a comprehensive knowledge about the research objective. Accordingly, the research limits are exists, and it can be mentioned as follows:

1- The limited time of the study did not help to investigate needs among all seasonal changes in using urban open spaces within the camp. This means that the way of using urban open spaces in summer may be different from that in winter, spring, or in autumn.

2- Political circumstances affect the results, due to people thinking that their living conditions in the camp are related to the occupation only, and they do not give a great attention to the physical environment which affects their life style.

3- Some fieldwork obstacles affected the research process, such as people response; some people are not interested anyway in giving information about their living environment to anyone, a specific percent of people who responded to the research.

1.7. Research organization

The study divided into eight chapters as follows:

▪ Chapter one: is an introductory chapter to the whole work including a forward for the study; research problem, study objectives, research questions, research methodology, limitations of the study, and organization of the study.

- Chapter two: is a review for the previous studies as research literatures which are related to the main keywords of the research (hyperdensity, urban open space, behavior, needs, and refugee camps).

- Chapter three: is a general overview about Palestinian refugee camps as a background, population, and situation.

- Chapter four: concerning with the case of Dheisheh refugee camp from a general view using the documented data.

- Chapter five: is the research methodology, including theoretical approach and case study work (field work).

- Chapter six: concerning with resulted data from fieldwork that help in investigating people's needs in urban open spaces of Dheisheh R.C.

- Chapter seven: concerning with discussion and analysis that are conducted qualitatively based on the collected data from the observations and interviews.

- Chapter eight: is a conclusion which is resulted from the discussion of results, and then recommendations for the future projects and the studies related to the research subject.

Moreover, the research has appendixes which contain additional data about typical form of private old urban open space of Palestine. Furthermore, this part contains photos representing "Al-Nakba", interviews questions that guided the field work interviews.

*C*hapter Two

_____

2. LITERATURE REVIEW

Over the past decades, a number of researches had been carried out in the field of environment-behavior relationships from multi-approaches and deferent thinking. Such studies were done to investigate the relations between living built-up environment, people's behavior, and needs in urban open spaces.

The review and discussion of the literatures are based on the research main keywords; hyperdensity, behavior, needs, and urban open space. The main objective of the review process is to understand the combination between the physical form of hyperdense urban areas and people's needs, taking the physical form advantages and disadvantages into consideration. This helps in data analysis to have an adequate answer for the main research question.

2.1. Definition of hyperdensity

Hyperdensity measures the ratio of development or population in relation to the unit area, the reality of calculation is dependent on the extent of area chosen (Kendall, 2003). Hyperdensity is a term used to represent the crowding conditions and overpopulation which can result from an increase in births, a decline in mortality rates, from an increase in immigration, or from an unsustainable biome and depletion of resources (Nielsen, 2006). The obtained model in this research

(refugee camps) is based on hyperdense conditions that resulted from wars and exodus (forced immigration) of people to a limited land area.

The resources to be considered when evaluating whether an ecological niche is hyperdense include clean water, clean air, food, shelter, warmth, and other resources necessary to sustain life. If the quality of human life is addressed, there might be additional resources considered, such as medical care, education, proper sewage treatment and waste disposal (Nielsen, 2006). Hyperdensity evaluation in this study is based on the conditions of lack in open spaces, lack of landscape elements, low amount of daylight, and low amount of natural ventilation and infrastructure.

2.2. Hyperdensity constitution

The phenomenon of urban hyperdensity has drawn the attention of many scholars, and a number of empirical studies have been done in the consequences of high-density living. Such studies help in understanding the physical form of hyperdense areas and its effects on people's behavior. Understanding both the physical form and people's behavior helps in investigating people's needs in urban open spaces. Some studies which are related to the hyperdensity are listed and discussed as follows:

- **M**och (1996) focuses on studying hyperdensity by obtaining people's perception to evaluate a hyperdense space. Moch tells that the need for extra space in a hyperdense area seems to influence residents' perception of spaces

outside their homes; when people consider themselves as living in crowded conditions, their social relationships suffer. Therefore, social activities in an urban open space influenced directly by the physical form of the space. According to Moch, feeling of overcrowdings can be ascribed to many different reasons; there are physical causes (restricted space, tall buildings, the presence or lack of parks and greenery, etc.), social causes (interpersonal relationships), and individual factors (age, sex, or socio-cultural background).

Moch assures that the more a resident feels crowded, the more he will be dissatisfied with the quality of his interactions with neighbours. The feeling of living in crowded conditions causes people to fear encounters and avoid contact.

▪ **C**han (1998) also focuses on the social component by talking about the achieved privacy to present people satisfaction with living quarters on the perception of crowding. Chan found that the occupants of spatial constrained dwellings do not necessarily feel crowded, while achieved privacy intervenes in the relationship between spaces and crowding, its effect is indirect and very moderate. Instead, the dissatisfaction with physical environment rather than a quantity of space itself is a major cause of the feeling of crowdedness.

Chan maintains that individuals may fail to manage interactions with others in the high-density conditions, which may result in excessive unwanted interaction and the feeling of crowdedness; this may lead to negative psychological and physiological effects.

▪ **F**raulin (2004, A) made a review for Lynch's concepts of place legibility and imageability in the context of urban hyperdensity using the physical elements to analyze the space. According to Lynch (1960), legibility of the city means the ease with which its parts can be recognized and can be organized into a coherent pattern. Based on Fraulin, a hyperdense urban environment will make this process much more difficult. Legibility of a city is the foundation of orientation. Lynch (1960) identifies five physical elements which are used in mental maps; paths, edges, districts, nodes and landmarks. According to Fraulin, some of these elements will emerge (districts, edges, paths) in a hyperdense urban environment, while others will become less important (landmarks, nodes).

In Fraulin physical analysis of the city elements, he discusses that the street might rather look like an arcade and a landmark might not be a distant tower but a large atrium, which can not be seen unless one enters it. This makes it more difficult to navigate through a hyperdense city, but it can also be very interesting to discover new things behind every corner and with careful urban design it can still be a pleasant place to be.

Fraulin assures that the hyperdensity is a pleasant environment, which does not only mean that urban open space is beautiful but also it provides a sense of place as the feeling of being lost which is very disturbing.

▪ **F**raulin (2004, B) supposes that hyperdensity is a sustainable model for future habitation. Fraulin discusses people activities within a hyperdense

space; he said that knitting together more closely basic functions such as living, working, and leisure reduces travel distances and encourages walking and cycling. According to Fraulin, although sustainability is rather a new concept; it has always constrained the growth of cities throughout history; as cities grew and became densely populated the standard of living decreased. For example, sewage system and transportation system can only accommodate a certain number of people. But finally, he said; if the negative effects of higher densities on quality of life can be alleviated by new technologies then hyperdense cities could offer a new model for more sustainable cities. But this does not make hyperdensity necessarily sustainable.

▪ **G**oodchild (1994) explains that when a bad design and the desire to maximize density are combined, it can easily lead to layouts which give less privacy, less urban open space or garden size and less car-parking space. This reflects the effect of hyperdensity on the physical form of urban open spaces.

▪ **S**immel (1950) and Wirth (1938) suggest that high density causes emotional stress and other negative psychological conditions. Further research by Steptoe & Feldman (2001) argue that residents of urban neighborhoods with poor living conditions and few environmental amenities for restoration, displayed more symptoms of chronic stress and poor health independent of the individual characteristics of residents.

▪ **M**ulholland Research & Consulting (2003) discussed the privacy as a part of society culture; they found that high density is more successful when the privacy of residents is supported by community responsibility. They also found that outdoor space (open space) is vital in making high density acceptable.

▪ **T**unstall (2002) presented a report on resident's perceptions of density. She concluded that density is not a substantial choice factor when choosing where to live; location and community atmosphere appear to be more significant.

Most of the above discussed studies focus on the physical form of a hyperdense areas and its effects on residents; hyperdensity conditions lead to less green urban open spaces (Moch, 1996), more social relations (Moch,1996), less privacy (Goodchild, 1994), and less psychological comfort (Chan, 1998). Few studies show the positive effects of a hyperdensity; positives are conditional by the good design of an urban open space that achieves all people demands. From these studies, a person can see that perception of density is more important than the actual density and attention needs to be put in design to address the issues of people's needs in urban open spaces in such areas to solve the conflicts that could emerge from high density living.

The most vital issue here is to integrate the study of the physical form of a hyperdense area and people needs there. This will be emerged within the section (2.4) that discusses people's needs within an urban open space in relation to hyperdensity studies.

2.3. Hyperdensity model (Refugee camps)

To go deep within the hyperdensity phenomenon, this section focuses on understanding the nature of Palestinian refugee camps that are obtained as a general target in the study because they form a model of hyperdensity. A discussion of the studies and projects related to Palestinian refugee camps has been done; the studies are listed and discussed as follows:

- Taleb (2006) evaluates the camp's physical form as a negative form; he mentions that refugees suppose that some measures should be taken in order to solve the problem of overcrowding in camps. One of these measures is the way of expanding the existing camp boundaries. Generally, refugees mentioned that the PNA and UNRWA should expand the boundaries of the camps where the geographic conditions of the camp allow that. In addition, there are increasing demands to improve the living conditions inside refugee camps and dealing with ideas like the expansion of the existing camp boundaries, including the unofficial expansions in the official camp boundaries, and the expansion of streets in camps by compensating refugees affected by such expansions. Accordingly, Taleb believes that the physical form of the refugee camps has a negative effect on people's life as a whole.

- Johnson (2007) describes the physical structure of the refugee camps as congested built up areas which have narrow and dark paths among close buildings that block much of sunlight, camps have highly defined physical boundaries on the map and in reality. Furthermore, Johnson described the

social structure of the camp as blurred and extended social boundaries, as residents move out to adjacent neighborhoods and social functions are extended because camps are rarely treated as individual or specific places rather than an abstract space. Johnson considers the camp as a zone of exclusion and it is a site of both confusion and contestation over public space, adversely affecting public life.

According to Johnson, any camp development strategy needs to begin with expanding public space, whether through greater access and participation, revising UNRWA institutions such as schools, clinics and the director's office for greater public use, new public associational activities, localizing virtual spaces, re-shaping existing public spaces, or admitting and establishing new physical spaces.

▪ Hanafi (2008) argues that for 60 years, the space of the refugee camps was treated as a space of exception and an experimental laboratory for control and surveillance. He mentions that some efforts are being made in Jordan and to a lesser extent in Syria to include the camps in the state's urban infrastructure but nothing has yet been initiated. In this perspective, such authorities should recognize the transnational and flexible nature of the identity and citizenship of the refugee community.

According to Hanafi, there is a real need to empowering camp dwellers by giving them civil and economic rights, recognizing the transnational character

of their identity, and radically improving the urban conditions of their space. This will not be possible without connecting these spaces to the urban tissue of the neighboring cities and creating a transparent mode of governance based on local elections.

In conclusion, refugee camps studies are going around the concept of expanding the camp boundaries as a way to improve the physical form; no interest was given to study the camp residents' needs in urban open spaces. Therefore, there is a need to study the camp's urban open spaces from a landscape perspective; this is done within this research. This gives a great challenge to this research to determine these needs in relation to human behavior in urban open space.

2.4. People's needs in urban open spaces

An urban open space is a term used in land-use planning to define areas of parks, green spaces, streets, squares, and other open areas (Marilyn, 1975). The landscape of urban open spaces can be ranged from playing fields to highly maintained environments to relatively natural landscapes. They are commonly opened to the public access; however, urban open spaces may be privately owned (Marilyn, 1975).

This section shows a number of studied that concentrates on people's needs in urban open spaces. These needs are discussed in relation to the context of hyperdensity taking the physical form effects into consideration. This section's literatures can lead to determining a number of general people's needs in an urban

open space that could be a base for studying Dheisheh people's needs. Studies are listed and discussed according to the general needs as follows:

- **E**sbah & Deniz & Cook (2006) mentioned that the definition of open spaces evolved in time embracing all types of opportunities to suit the varying outdoor people's needs. Nowadays, the concept of "open space" in complex urban matrix is not limited only to the urban parks and preserves but also streets and squares. Public open spaces such as streets, school yards, outdoor sport complexes, cemeteries, and public squares are important open spaces. These areas are open to full spectrum of the society and the good planning and design make them more attractive. Furthermore, open spaces (natural or man made) contribute to the quality of life in many ways. Besides important environmental benefits, these areas provide social psychological services, which are critical for the livability of the city and well being of urbanites. Open spaces in cities as places to celebrate cultural diversity, to engage with natural processes and to conserve memories.

- **S**ullivan (1998) carried out a study suggests that the formation of neighborhood social ties may substantially depend on the informal social contact which occurs in neighborhood common spaces, and that the presence of trees and grass supports common space use and informal social contact among neighbors. According to Sullivan, levels of vegetation in urban open spaces predict both people's usage of common open spaces and their social

ties. However, Brunson (1999) found that there was no difference in the social interaction in green surroundings compared with barren ones.

- **K**uo and Bacaicoa (1998) also found that greenery in open spaces helps to reduce graffiti, vandalism and even crime, because greenery increases the use of open spaces, therefore increasing levels of natural surveillance. Feeling safe in a green open space is essential for people to use it. Michael and Hull (1995) argue that feeling safe depends on the ability to detect a perpetrator and to observe ones surroundings. The London Ecology Unit recommends the design of urban nature to set back dense vegetation from paths and plant tall trees with open under storey to allow clear views. Controlling access helps visitor feel safer and deters vandalism.

- **K**aplan and Talbot's (1998) sample shows less residents' preference for the outdoor urban settings with dense vegetation, but the same participants responded positively to scenes showing high densities of trees when trees were widely spaced and showed greater visibility and openness. Kaplan and Talbot found that although residents value having trees and nature within urban open spaces, they express concern about safety and visibility within the area. This line was confirmed by Schroeder and Anderson (1984) that asked residents to rate images, and found that correlation between safety and scenic quality is low. A research was taken by Mulholland Research & Consulting (2003) found that having a private outdoor open space screened from the street by planting or fencing was seen as a vital way to make high density

living conditions acceptable. The biggest privacy problems were encountered in Greenwich Millennium Village where neighbors overlooked a central courtyard, and there was not adequate screening with shrubs or trees to avoid passers by to look inside.

- **W**hen discussing privacy in urban open spaces, women usually search for a personal space and territorial control when engaged in different activities. Gaining such personal space enhances women's comfort and feeling of security (Altman, 1975; Hall, 1966; Newman, 1972). In public spaces which do not provide for women's privacy, women either change their behavior or their values to deal with these spaces (Rapoport, 1980). Rapoport (1980) explains how physical devices such as curtains and walls are used to separate different settings from each other, which contributes to the creation of privacy in these settings.

- **N**ewman (1972) found that territorial definition is essential to a feeling of security and comfort. He explains that dividing space into three zones (public, semi-public and private zones) encourages people to control their activities in these spaces and keep an eye on these spaces at all times to prevent any criminal behavior. In addition, territorial definition is an inevitable characteristic which influences people's satisfaction and comfort in their built environment. Newman explains that the narrowness of the street contributes to privacy, because inhabitants are able to control activities on the street more than on wide streets.

- **G**oldberg (2003) suggests that a successful open space has four key qualities: The space is accessible; people are engaged in activities there, the space is comfortable and has a good image; it is a sociable place where people meet each other. He also suggests that open space must offer activities and uses (recreation) for different ages, groups/individuals at different times of everyday. Furthermore, urban open space should be accessible to the constituent community; convenient to public transit, adjacent to neighborhoods, ease of entrance and exit, distance from dangerous pedestrian roads and auto traffic.

- **L**ennard (1987) suggests that the design of successful urban open spaces shall promote social life and a sense of well-being. He created a list of quality and needs principles for urban communities, claiming that livability represents the basic qualities that must exist for a community in an urban open space to be successful, consisting of survival, personal health and development, environmental health, comfort, safety and security.

- **B**radecki (2005) suggests that urban open space provide high quality of life and may be a source of environmental, economic, and spatial benefits. Although environmental and spatial benefits seem to be obvious, the economic dimension of urban open spaces is still not widely known. Higher real estate values caused by evidence of open space amenities such as trees, water, parks...etc. They may be a source of benefits by property taxation.

High quality streets and paths may result in increased walking or higher commercial property values.

- **G**ossow (1972) discusses that socializing and recreating neighbors in shared outdoor spaces is one important role for public open spaces in the city. Another traditional role is to permit contact with nature. The marked increase in the pursuit of urban gardening as a hobby and the passionate concern of many city-dwellers for the protection of threatened natural environment.

- **A**ccording to Moore (1974), people need places where they can exercise their wills and enjoy the willfulness of others within a pattern of accord that is physically rooted to the place more enduring than, but enlivened by the transit interests of those who can give it a new life and point everyday.

- **A**ccording to Burton (2002), the main reasons to people for refusing to live in an urban context are: lack of security (fear of crime), lack of open space and greenery, lack of privacy, traffic, nuisance from street and neighbors, bad air quality, and fear of crowding. These things generally exist in most of urban open spaces within hyperdense areas. So, this provides reasons that motivate people to look for green and extended urban open spaces in the suburbs.

The above discussed studies mention several needs for people in urban open spaces; these needs can be concluded and shorten by: social interaction, safety, security, privacy, psychological comfort, environmental health, accessibility,

recreation, economic needs, ecology and image (aesthetic). These needs are demanded when designing an urban open space. The research questions can be addressed here in different words: Can the above mentioned needs be available in urban open spaces of a hyperdense area? And: What other needs can be found in urban open spaces of hyperdense areas? These needs must be connected to hyperdense condition in analyzing urban open spaces in the case of Dheisheh to investigate which needs are achieved there and what other specific needs for such areas. Such needs are investigated by analyzing urban open spaces physical form using human behavior as a tool that reflects people's needs.

2.5. Conclusion

An urban open space is an area that has a physical form which gives the space its nature, and human behavior is an indicator of people needs in an urban open space. To combine between physical form and needs, some of the discussed studies (section 2.2, 2.3) give a general understanding of a hyperdense physical form, and other studies (section 2.4) give a number of people's needs in an urban open space. So, how these needs can be related and discussed in the context of hyperdensity? This question can be clearly answered by going back to hyperdensity studies, some of them assures that a hyperdense urban open space is usually has no green areas or little greenery (Moch,1996), Goodchild (1994). The greenery is a need but it is not a character of a hyperdense area. Other studies show that hyperdense areas have less privacy in urban open spaces (Chan, 1998), (Goodchild, 1994). But Chan (1998) believes that if people feel private, it is not

necessary to feel of hyperdensity or crowding. Furthermore, studies assure that hyperdensity lead to less or negative psychological comfort (Chan, 1998) and it lead to emotional stress (Simmel, 1950) (Wirth, 1938). More and more, Johnson (2007) assures that the availability of urban open spaces themselves is not widely available in a hyperdense area. All of these findings assure that some needs such as privacy, greenery (naturalness), and psychological comfort are usually missed in a hyperdense urban open space. A question can be addressed here: Are other needs such as social interaction, safety, security, health, accessibility, recreation, and economic needs exist in a hyperdense urban open space? This question opens a door to an extended discussion within the case of Dheisheh. Moch (1996) shows that social interaction is exist in a hyperdense area, and Newman (1975) shows that narrowness contributes to privacy, but the case of Dheisheh can show what level of social interaction and privacy can be achieved in the context of hyperdensity.

Some studies in section (2.2) show that hyperdensity can be an acceptable environment for some persons, if the new technologies are existed to give a sustainable model (Fraulin, 2004 A, B). Can this be achieved in the context of Palestinian refugee camps? An urban open space design in such areas faces a lot of challenges to meet people needs. The studies regarding refugee camps show that no interest is given to people's needs in urban open spaces there. This assures the importance of a study that takes people's behavior into consideration when investigating their needs to develop such areas.

*C*hapter Three

_____

3. PALESTINIAN REFUGEE CAMPS

3.1. Background

Based on UNRWA's operational definition, Palestinian refugees are persons whose normal place of residence was Palestine between June 1946 and May 1948, who lost both their homes and means of livelihood as a result of the 1948 Arab-Israeli conflict (appendix B). UNRWA's services are available to all those who are living in its area of operations who meet this definition, who are registered with the agency and who need assistance (The Mideast, 2008).

UNRWA's definition of a refugee also covers the descendants through the male line of persons who became refugees in 1948. The number of registered Palestinian refugees has subsequently grown from 914,000 persons in 1950 to more than 4,618,141 persons in 2008, and continues to rise due to natural population growth (The Mideast, 2008).

Following the Arab-Israeli war in 1948, refugee camps were established to shelter homeless Palestinians who believed that this was a temporary condition and that they would be coming back to their homes within one or two weeks. Firstly, refugee camps were compositions of several tents organized according

the place of origin. Later, these tents were transformed into houses of the tin and finally bearing brick or concrete block residential shelters were built.

3.2. Distribution and demography

The number of Palestinian refugee camps is 59 camps, they are distributed within Palestine and surrounded countries. There are now 19 camps in the West Bank (754,263 refugees), 8 camps in Gaza strip (1,059,584 refugees), 10 camps in Jordan (1,930,703 refugees), 13 camps in Lebanon (416,608), and 9 camps in Syria (456,983 refugees). These camps currently shelter somehow over 4.6 millions of refugees who were 726,000 refugees in 1948. In addition to refugees of 1948, several hundred thousands of refugees fled in the Arab-Israeli war in 1967, and they were not allowed to return to their origins (The Mideast, 2008).

Palestinian refugee camps in Gaza and the West Bank (focus group) are distributed as the following tables:

Gaza Strip (8 Camps)			
Refugee camps			
Jabalia	Nuseirat	Deir El-Balah	Khan Younis
Beach	Bureij	Maghazi	Rafah
Total no. of refugees = 1,059,584 persons			

Table (3.1): Palestinian refugee camps in Gaza Strip. Rafah camp has the higher population density in Gaza and in Palestine as a hole.
Source: The researcher, based on (http://www.un.org/unrwa/publications/pdf/rr_countryandarea .pdf (15/05/2009)) and (http: //www.un. org/unrwa/refugees/gaza.html. visit: 18/03/2009).

West Bank (19 Camps)			
Refugee camps			
Aqbat Jaber	Deir Ammar	Aida	Balata
Ein El-Sultan	Jalazone	Beit Jebrin	Tulkarm
Shu'fat	Fawwar	Far'a	Nur Shams
Am'ari	Arroub	Ein Beit Al-Ma' (Camp no.1)	Jenin
Kalandia	<u>Dheisheh</u>	Askar	
Total no. of refugees = 754,263 persons			

Table (3.2): Palestinian refugee camps in the West Bank. Dheisheh camp population is near to West Bank camps average population.
Source: The researcher, based on (http://www.un.org/unrwa/publications/pdf/rr_countryandarea .pdf. visit: 15/05/2009) and (http: //www. un.org/unrwa/refugees/westbank.html. visit: 18/03/2009).

3.3. Refugee camps situation

Generally, refugees live in conditions of abject poverty, overcrowding, suffering, and misery. At first glance, the refugee camps may appear run-down, impoverished and lacking in many vital services.   The refugees of the 1948 Israeli war of independence and the lesser number of refugees of the 1967 war constitute a real monumental humanitarian and political problem, and no resolution of the conflict can ignore them. The issue has also been deliberately exploited by Arab and Palestinian politicians in their war with Israel. The refugee problem has been at the center of peace negotiations ever since 1949 (The Mideast, 2008).

Refugee camps were developed from tented cities to rows of concrete blockhouses to urban ghettos. Refugee camps are very distinguishable from their surroundings around all registered Palestine refugees.

The unusual and unorganized evolution and transformation of the camps resulted with a built up area called "refugee camps". These urban built up areas are methods by which man creates an environment that fulfills people aspirations and represent their values (The Mideast, 2008).

Sometimes, none of refugee camp residents view the camps with a sort of a condescending attitude; they regard the camps as "ghettos". Even fewer less realize that the majority of refugee camp residents used to be farmers and were accustomed to live in open space (http://www.geocities.com/capitolhill/9836/ dheisheh. Visit: 03/06 /2009).

3.4. Refugee camps fabric

A refugee camp looks like a small city. Three to five storey buildings in densely-packed neighborhoods where people just take care of business, day in and day out. They live, work and try to somehow have a fun time within the confines of the limited space. Misaligned buildings are situated along wide roads. Any single structure has no choice but to serve several functions for several groups of people. Salons, markets, homes, restaurants, schools ... every doorway leads to every service the refugees may need, with no more rhyme nor reason to be convenient. The neighborhood is a forcefully-organized slum with few alternatives available for re-planning (Chavira, 2008).

Refugee camps - as temporary cities - are viewed as communities, where the population, institutions, services, the network of social relations and economic-political structures has a transitory status until more a permanent order and normal living patterns are established (Al-Qutub, 1989).

Refugees population grows each year, they have no choice except to build upward. What was once a two-storey building is now a four-storey building. What was once a field for farming becomes a multiple-use structure. What was once a large community room becomes several smaller rooms for shops, which will eventually become even smaller, denser spaces once the need arises. Instead, streets - which may or may not be straight - are haphazardly paved whenever the community can find the money, while structures with no foundations are renovated over and over again to take on more floors, more space, and more people (Chavira, 2008).

*C*hapter Four

_____

4. THE CASE OF DHEISHEH CAMP

4.1. Location

Dheisheh refugee camp was established in 1949 within the municipal boundaries of Bethlehem city in the west bank on 309 dunums (map 4.1). The Israeli authorities built a fence around the camp and a metal turnstile for the main entrance during the first Intifada, which were in place of almost eight years to prevent stone throwing at passing Israeli cars on the main Jerusalem-Hebron road. In 1995, the camp came under Palestinian Authority control, and the fence has since been removed (http://www.un.org/unrwa/refugees/westbank/dheisheh .html#up.visit:14/03/2009).

Map (4.1): Bethlehem Location within Palestine.
Source: http://cache.eb.com/eb/ image?id=64800&rend
TypeId=4. Visit: 11/02/2009.

Dheisheh is located between "Artas village" (rural context) to the south, "Al-Khader" town (suburban context) to the west, "Doha" city (suburban context) to the north, and Bethlehem city (urban context) to the east (figure 4.1).

Figure (4.1): Dheisheh camp Location within Bethlehem city.
Source: Google Earth, 2009.

Dheisheh refugee camp border was determined physically to buffer the camp from the surrounded Palestinian areas "that mentioned previously". This border was modified according to UNRWA plans to reach its final path that is shown in map (4.2).
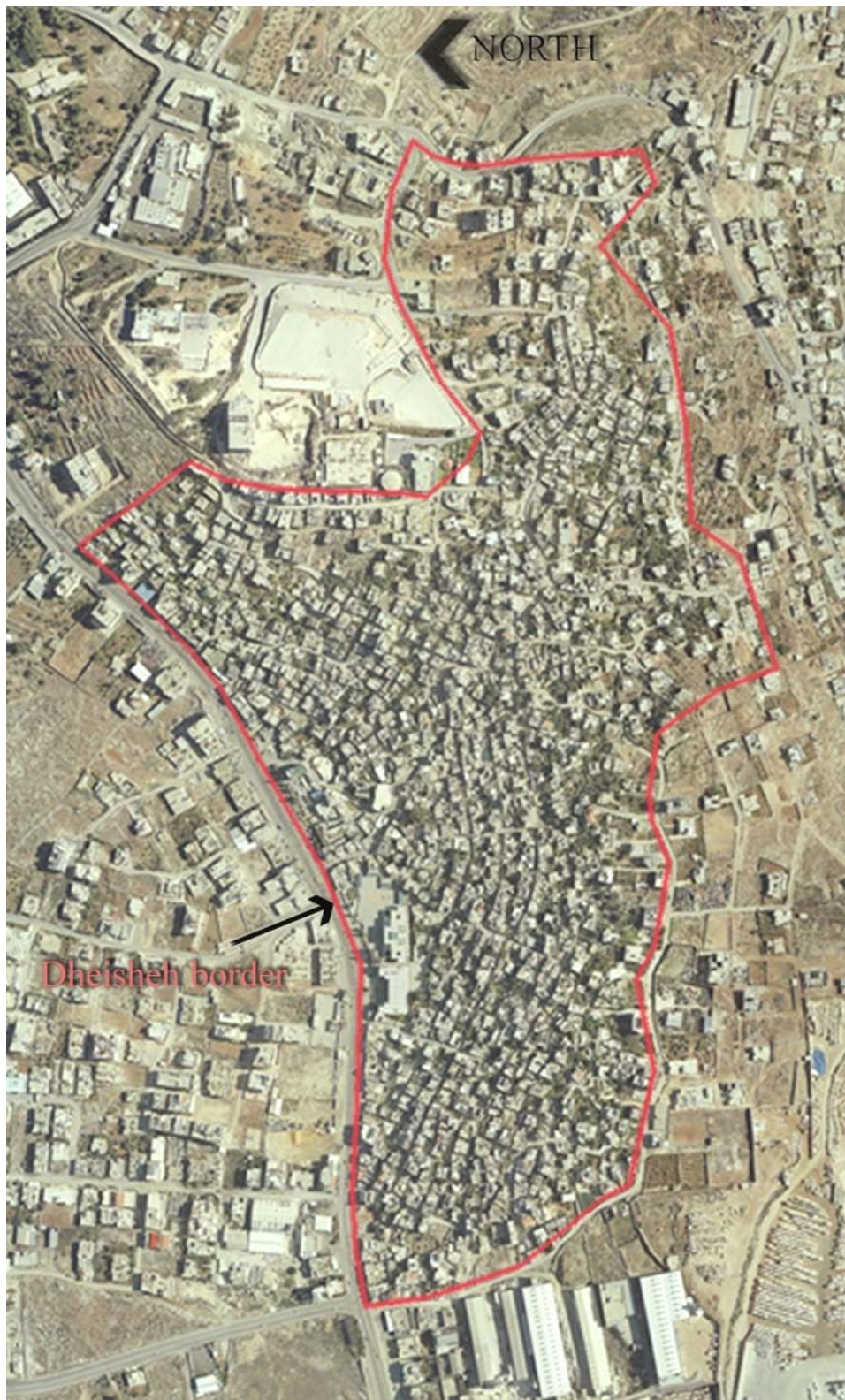
Map (4.2): Dheisheh border.
Source: OFEK map, 2007.

In terms of the status of ownership, Dheisheh is one of the few camps whose ownership was common (masha') that is owned by all area residents, where 10.24% of Dheisheh lands are owned by the government and 89.67% are classified as "enemy property"[1]. These lands are rented by UNRWA for 99 years (Taleb, 2006).

4.2. Population and density

Dheisheh refugee camp was established after the expulsion of Palestinian refugees who were displaced by the establishment of the state of Israel. More than 3,400 Palestinians who expelled to Dheisheh area and originated from forty-five villages (e.g. Allar, Al-Maliha, and Al-Walaja) those are located to the west of Jerusalem city and Hebron city. Currently, Dheisheh has 12804 residents within its borders. The number of families receiving emergency food rations in Dheisheh is 1375 families, and there are 301 families of special hardship cases (IBDAA Cultural Center, http://www.ibdaa 194.org /camp.html. visit: 24/03/2009). More demographic statistics for Dheisheh refugee camp are shown in tables (4.1, 2) as follows:

---

[1] Enemy property: some lands of Dheisheh camp was owned by Jordanian Government before 1948, then the lands were considered as no man's lands. But after 1967, these lands are considered by the Jews as governmental lands to be able to confiscate their benefit and ownerships to the Israeli government. And then, these lands were rented by UNRW for 99 years starting from 1948 (Assured by UNRWA staff and "Mustafa Younis, Dheisheh camp manager").

Dheisheh camp indicators	
No. households (families)	1,698 households (families)
Average household size	5.1 persons
No. buildings	1,170 buildings
No. of establishments	253 establishments
No. of housing units	1,905 units

Table (4.1): Dheisheh population indicators.
Source: Palestinian Central Bureau of Statistics, 2009.

Dheisheh camp indicators	
Area of the camp	309 Dunums
UNRWA registered population	12804 persons
Population density	305.7 persons/hectare
Gross building area	76.7% of the total area
Total built up area	140.529 dunums = 45.5% of the camp area
Area of houses with 1 level	36.666 dunums = 26% of the built up area
Area of houses with 2 levels	53.134 dunums = 38% of the built up area
Area of houses with 3 levels	35.475 dunums = 25% of the built up area
Area of houses with 4 levels	12.963 dunums = 9% of the built up area
Area of houses with 5 levels	2.291 dunums = 2% of the built up area

Table (4.2): Dheisheh population indicators.
Source: UNRWA, 2008.

The hyperdense conditions in Dheisheh refugee camp are proved by those indicators; Dheisheh density equals 305.7 persons/hectare. The average population density of the West Bank refugee camps is 464.9 persons / hectare; almost half of the average density of all 59 official camps is 830 persons/hectare. The most densely populated camp in the West Bank is Camp No.1 "Ein Beit Al-Ma'"; Its population density is 1279 persons / hectare, however it's density is lower than the densest camp of all; "Burj El Barajneh" Camp in Gaza with 1920 persons/hectare. But even the fact the lower figures for the West Bank camps are indicative of extreme congestion if internationally compared to a dense European city such as Paris (90 persons/hectare), the problem of overcrowding becomes very apparent (UNRWA, 2008).

The population density of Dheisheh refugee camp is similar to the larger surrounded areas such as "Beit Jala" and "Beit Sahur" which have lands areas more than Dheisheh camp (map 4.3). This assures the hyperdense condition of Dheisheh camp as a specific case and all Palestinian refugee camps in general when compared relatively to other suburban areas like those in Bethlehem districts.
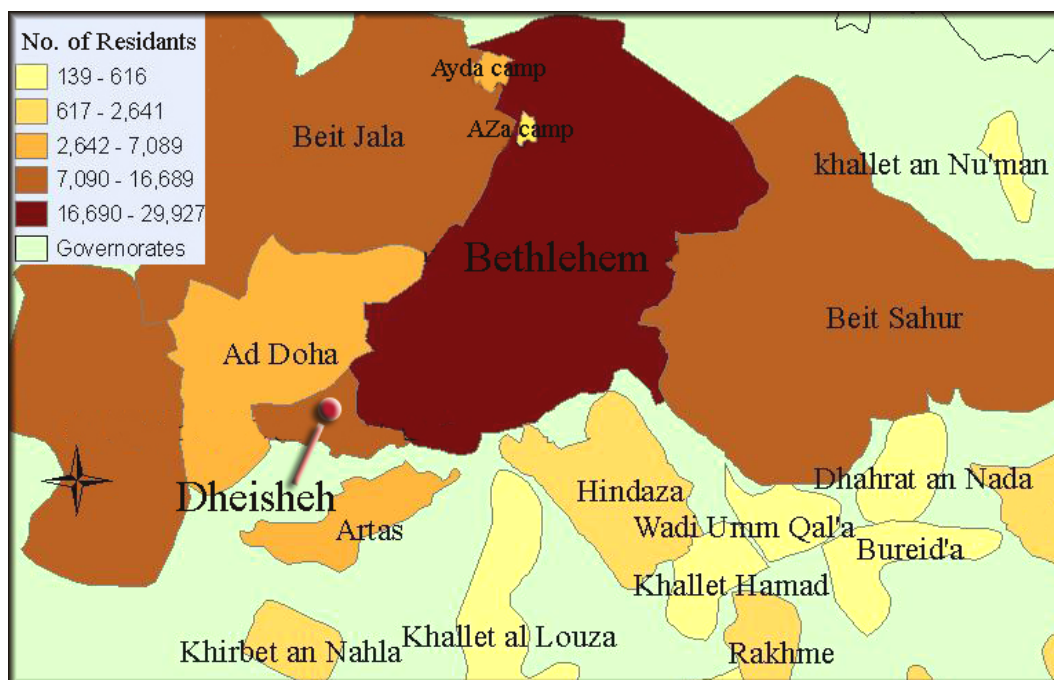
Map (4.3): Dheisheh camp between the surrounded areas within Bethlehem. The map shows that Dheisheh is the densest area within Bethlehem while its land area is less than the two large cities "Bethlehem and Beit Jala"
Source: Statistical Atlas of Palestine (http://atlas.pcbs.gov.ps/Website/PSSD/Population/pop%5F Bethlehem%5Fpop06/Run.htm (06/01/2009)

The vertical density of Dheisheh refugee camp in 2006 -as surveyed by UNRWA- shows 5 layers of buildings heights (map 4.4). The outer areas of the camp are less dense and have more percentage of open space, but the center has much difficult living conditions (map 4.4).

NORTH

Legend

- - Camp boundary

☐ 1 floor

☐ 2 floors

☐ 3 floors

☐ 4-5 floors

Map (4.4): Buildings density in Dheisheh camp in 2006. The map shows buildings growth that is high near the center areas of the camp.
Source: UNRWA, 2008.

4.3. Employment and education

While the lives of the refugees are full of stories of hardship and sacrifice, they are also full of stories of achievement. Many refugees have university degrees and have become successful lawyers, doctors, engineers, teachers, poets, politicians, civic servants and much more.

There are two schools in Dheisheh; UN girl's schools and UN boys school, the number of school students is distributed by 1300 males and 1400 females. Furthermore, there are three kindergartens within Dheisheh border. People of Dheisheh usually join Palestinian universities and other world universities to complete education.

In employment opportunities, many of Dheisheh residents work in the surrounded areas of Bethlehem and out of Bethlehem. Some members in Doha Municipality are from Dheisheh, this is a way of integration between Dheisheh refugees and outer people, and this integration is existed in universities, institutes, organizations, and work places. Some refugees like to work in agricultural lands that refer to people who live in the surrounded areas of Dheisheh[1].

The Israeli occupation has had a particularly strong impact on the women in Dheisheh. With many men in jail, killed, injured, or restricted in their ability to travel to find work, women have increasingly become the sole providers for their families. They are responsible for income generation, home maintenance, education and care for children, and care for elderly and injured family members.

---

[1] The information is collected by the field work.

4.4. Historical urban evolution

It is indeed commendable that the refugees were able to survive in the camps through the past years. At the beginning and for nearly a decade, each family of the refugees had a tent to live in. They were impoverished and their living conditions were extremely harsh. Then toward the late 1950s, UNRWA started building one-room dwellings for each family known as UNRWA block rooms. A family of up to ten people lived in each room. There was no electricity and no water; women had to make daily trips to nearby villages and carry water back to the camp. The UNRWA block room was a living room for each family; a kitchen and a bedroom. Over the years, the refugees have been able to add onto these rooms, or even tear them down and build houses in their place. The process has been a slow and difficult one. Families have to wait until they have enough money to complete the construction and this can take two to three years, or more (http://www.geocities.com/capitolhill/9836/ dheisheh. Visit: 03/06 /2009).

Based on UNRWA (2008), the product of the 61 years evolution process was based on complex internal rules and customs, which condition building and development processes, spatial organization, and behavioral patterns. As divided by UNRWA, four main stages of change have been identified to describe the developmental process from tents to extremely dense urban neighborhoods in Dheisheh refugee camp; these stages are classified and described as follows:

1. The formation of spatial and social order (1948 - 1955)

The transition from dispersal movement of refugees to the crystallization of fixed camps took place over a period of 10 years after Al-Nakba (Catastrophe). During the initial years, international organizations were overwhelmed and action was primarily reactive; The Red Cross was simply providing tents (map 4.5, figure 4.2) to dispersed refugees at points where larger clusters of refugees had settled in a more or less spontaneous form (UNRWA, 2008).

Figure (4.2): Dheisheh tents in 1950.
Source: UNRWA, 2008.

Local factors were decisive when refugees determined the location of Dheisheh refugee camp such as the proximity to road (figure 4.2) and availability of water. Apart from the actual size of the available land it was presumably the refugee community's own wish to re-produce pre-Nakhba social-spatial relations which determined the consolidation of clusters into camps of such varying sizes.[1]

---

[1]Assured by Naji Odeh. Dheisheh services committee member. Dheisheh resident. (Data from an interview).
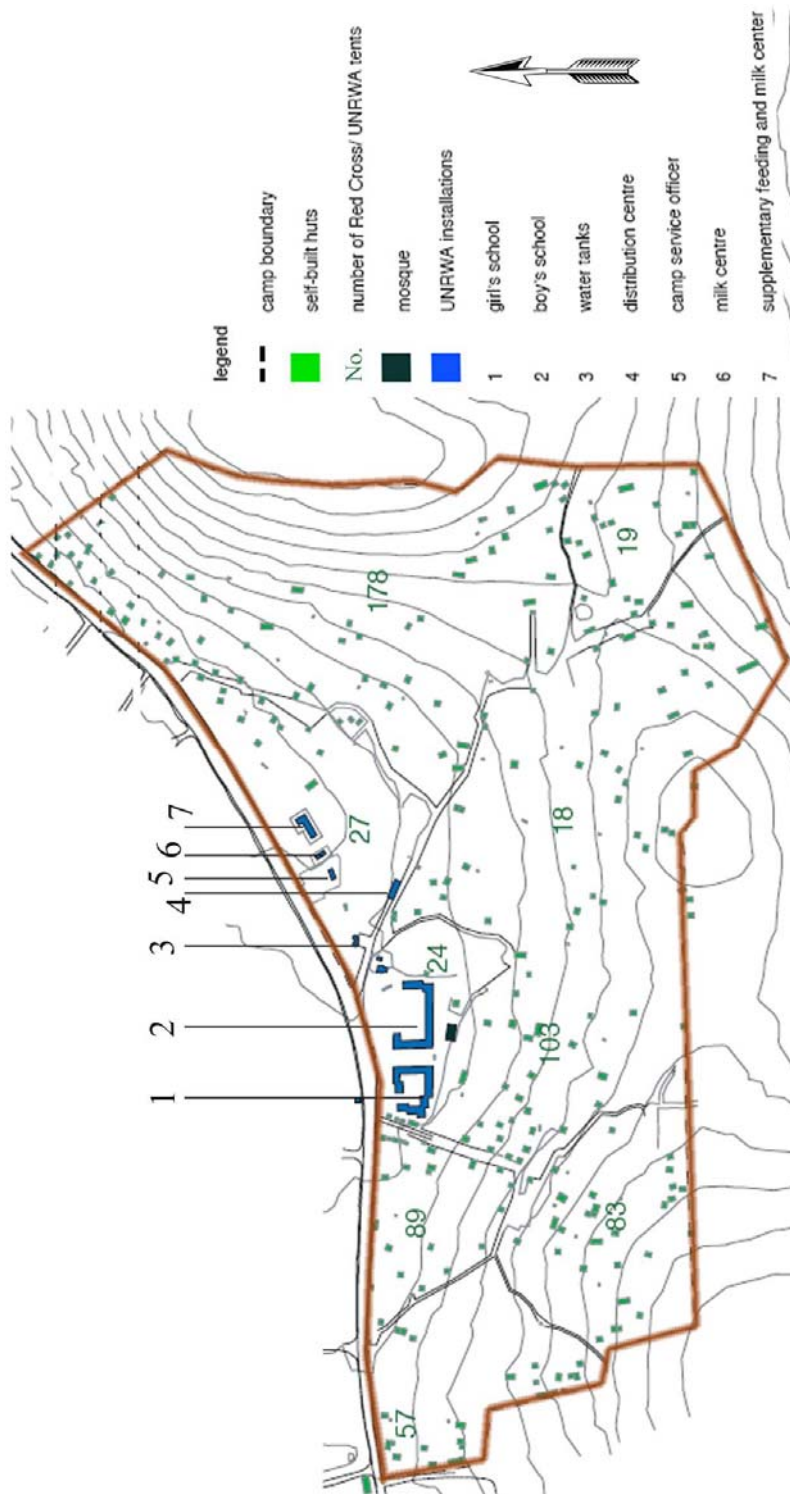
Map (4.5): Dheisheh tents and huts in 1950.
Source: UNRWA, 2008.

During the initial months, refugees attempted to re-group pre-Nakba social structures (family "Hamula" networks or places of origin) as traditional family networks were considered the best guarantee of stability, continuity and support. Dispersed individuals and small families would choose to migrate to those camps where family relations or groups from the same place of origin were already present.[1]

The initial unintended natural grouping created eight quarters (map 4.6) in the camp. Previously existing social and spatial relations were reproduced as accurately as possible; emulating an organizational principle, which eventually led to clusters and later to the formation of camp quarters. The spatial-social structure that emerged in the first years of the camp consisted of the following elements according to UNRWA (2008):

- **F**amily clusters: members of a family would group together, reproducing small-scale courtyard "Hosh". Such spatial mini-clusters could be formed initially through the circular or block-like arrangements of tents. Within the next years, such clusters were reinforced through the addition of self-built mud or stone structures to protect them from the harsh climate in the winter. Most of these self-financed structures had tin roofs (figure 4.3) and varied in size and quality. Often, family compounds included small scale fields or grazing areas and were bounded by low walls constructed from found material such as field stones.

---

[1] Assured by Naji Odeh. Dheisheh services committee member. Dheisheh resident. (Data from an interview).

Map (4.6): Dheisheh Camp quarters in 1950.
Source: UNRWA, 2008.

Figure (4.3): Dheisheh first concrete block houses.
Source: UNRWA, 2008.
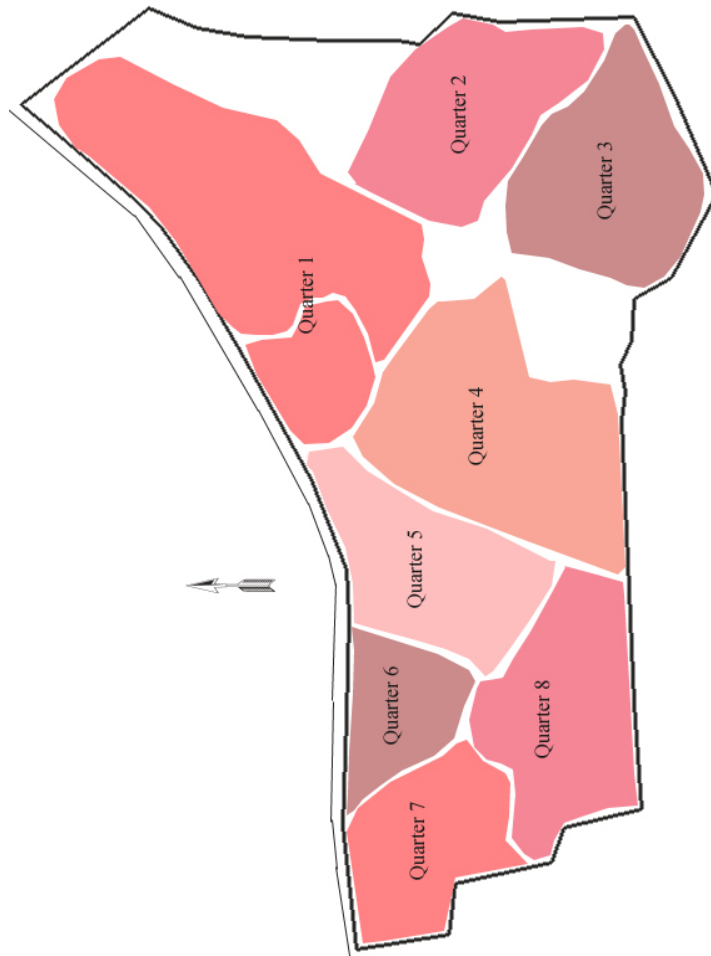
- **T**he camp community: the camp has become a primary source of identification and reference point for its residents. In the early stages, identification with the camp evolved around the experience of facing and defending the community against external threats or conflicts with hostile neighbors. Particularly in the conservative, rural and closely knit cultural environment of the West Bank, indigenous Palestinians often felt threatened by the presence of refugees (Taleb, 2006).

2. Formal planning versus informal growth (1955 - 1967)

In the mid 1950s, UNRWA launched the first large-scale shelter building program which aimed to replace the Red Cross tents with standardized shelter units (map 4.7) (UNRWA, 2008).

A plan for Dheisheh dated 1957 were evidently drafted and are based on the following principles (Taleb, 2006):

- **T**abula Rasa: the new planning scheme disregarded the evolved social and spatial order of the camp such as streets, quarters or family clusters and proposed a radical re-planning based on almost complete demolition of the existing fabric.

- **D**ivision of functions: the rational layout was based on strict divisions of zones; a distinct zone for UNRWA services, zones for shelter buildings, a zone for water collection points, public toilets served by strictly hierarchical access road system.
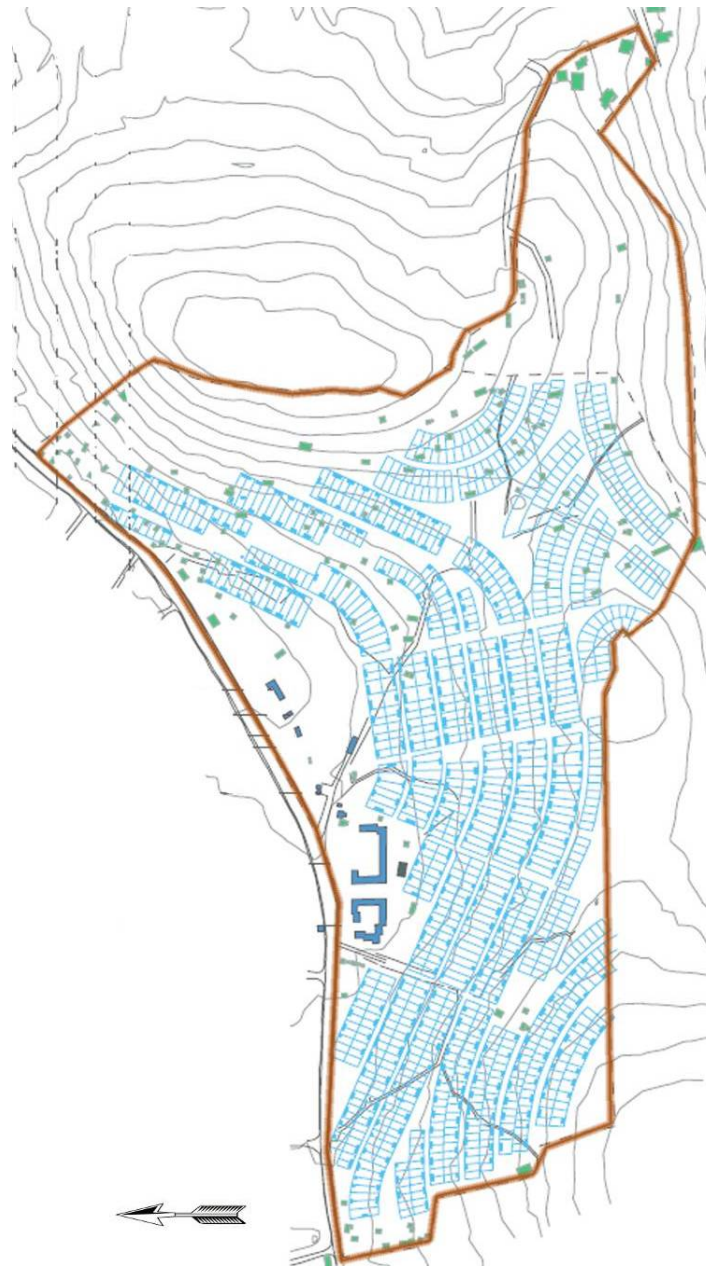
Map (4.7): UNRWA's shelter building plan in Dheisheh, 1950.
Source: UNRWA, 2008.

- Superimposition of formal grid: The hilly terrain in Dheisheh led to a grid layout that follows the topographical bend in the valley. The grid divided lands into individual plots surrounded by wide streets and large open spaces (map 4.7). Little respect was paid to previously existing

infrastructures, such as pathways or property lines, nor indeed to the many self-built structures.

- Standardized shelter units: The intention was to replace all tents and self-built mud and stone shelters by single storey standardized shelter units that were built from lightweight materials such as hollow concrete blocks. Each shelter is approximately 20 square meters, which equals one room for a family up to five persons, two rooms for a family of more than five persons.

For Dheisheh, some parts of the camp, particularly the central part, follows the grid layout. While in other parts, the layout of the buildings bears no memory of it. Particularly striking is the fact that the ancient meandering pathways towards Bethlehem remains today exactly in the same shape and location as mapped on the 1957 plan (UNRWA, 2008).

3. Reorganization and horizontal growth (1967 – 1987)

The departure of parts of the population in 1967 created new spaces for the remaining population who lived in crowded camps. Abandoned shelters and plots were quickly absorbed by needy refugees within the camp (map 4.8), this helped to ease some serious overcrowding (Taleb, 2006).
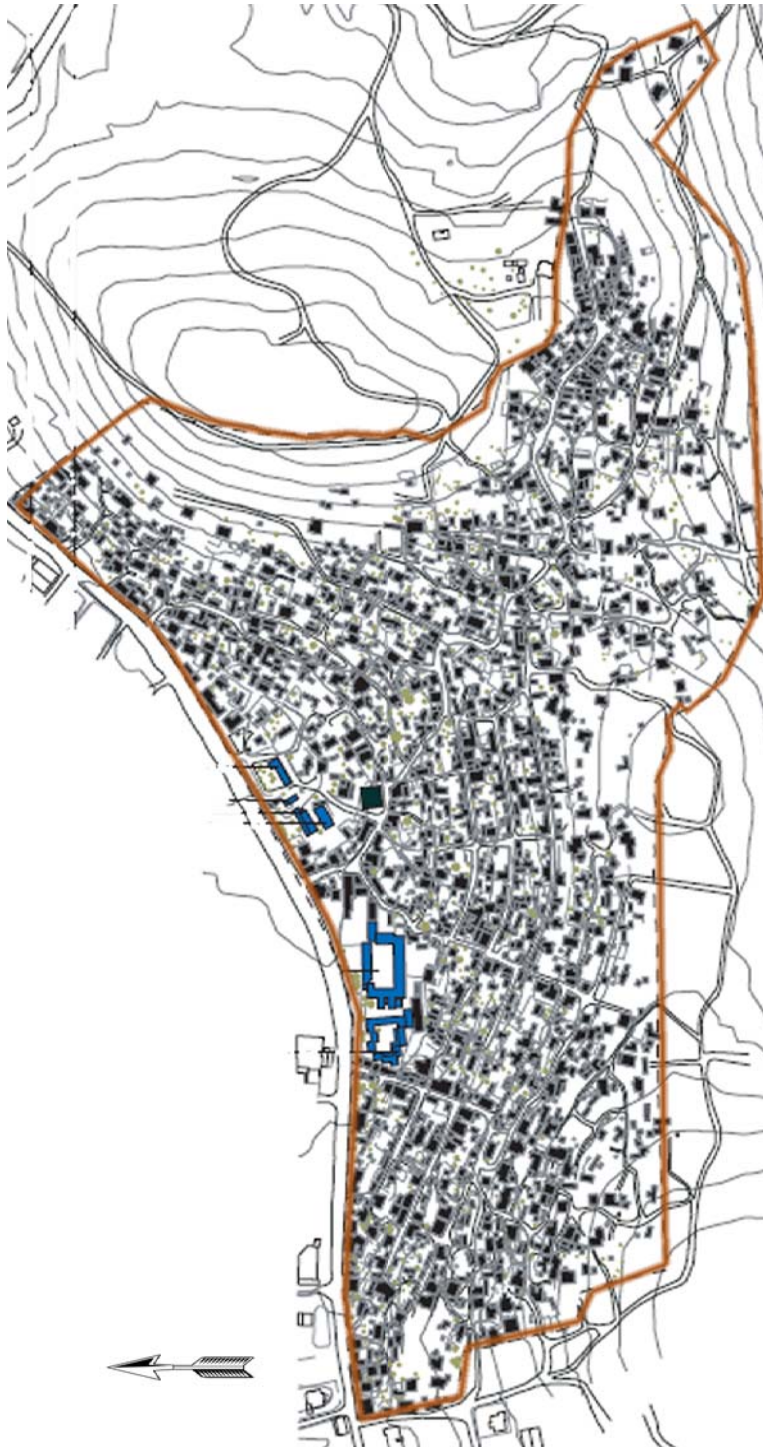
Map (4. 8): Dheisheh horizontal growth, 1990. Shelters were built
horizontally in one floor for each shelter and distributed horizontally
within Dheisheh camp border.
Source: UNRWA, 2008.

The hybrid structures of UNRWA shelters and earlier mud or stone huts were extended by additional rooms or basic services such as outside kitchenettes or toilets. In some instances, UNRWA shelters were demolished entirely and replaced by larger concrete structures. Consequently, the low-density fabric of shelters was surrounded by gardens and utility spaces that were gradually transformed into a single storey large area form which was punctured by leftover gardens. The previously wide streets and open spaces shrunk or gradually disappeared. At the time, UNRWA strictly prohibited the construction of a second or third storey, which led to a further acceleration of growth (map 4.8) (Taleb, 2006).

In many cases, refugees were able to enlarge their plot by buying the neighboring shelter that traveled to live out the camp in the surrounded areas. The "out-migration" fundamentally transformed the spatial setting of the camp and its relation with the urban or rural surroundings (UNRWA, 2008).

4. Virtualization and politicization (1987-2006)

According to UNRWA (2008), the years of the first "Intifadah" marked a radical turning point in the life of Palestinian refugees. Refugees begun to ignore the rules strictly prohibited the construction of second or third storey, and in the context of the general political unrest, hardship and instability, UNRWA was unable to enforce the rule of prohibiting the construction of a second storey. An unprecedented construction boom set in that continued throughout the 1990s (map 4.9).
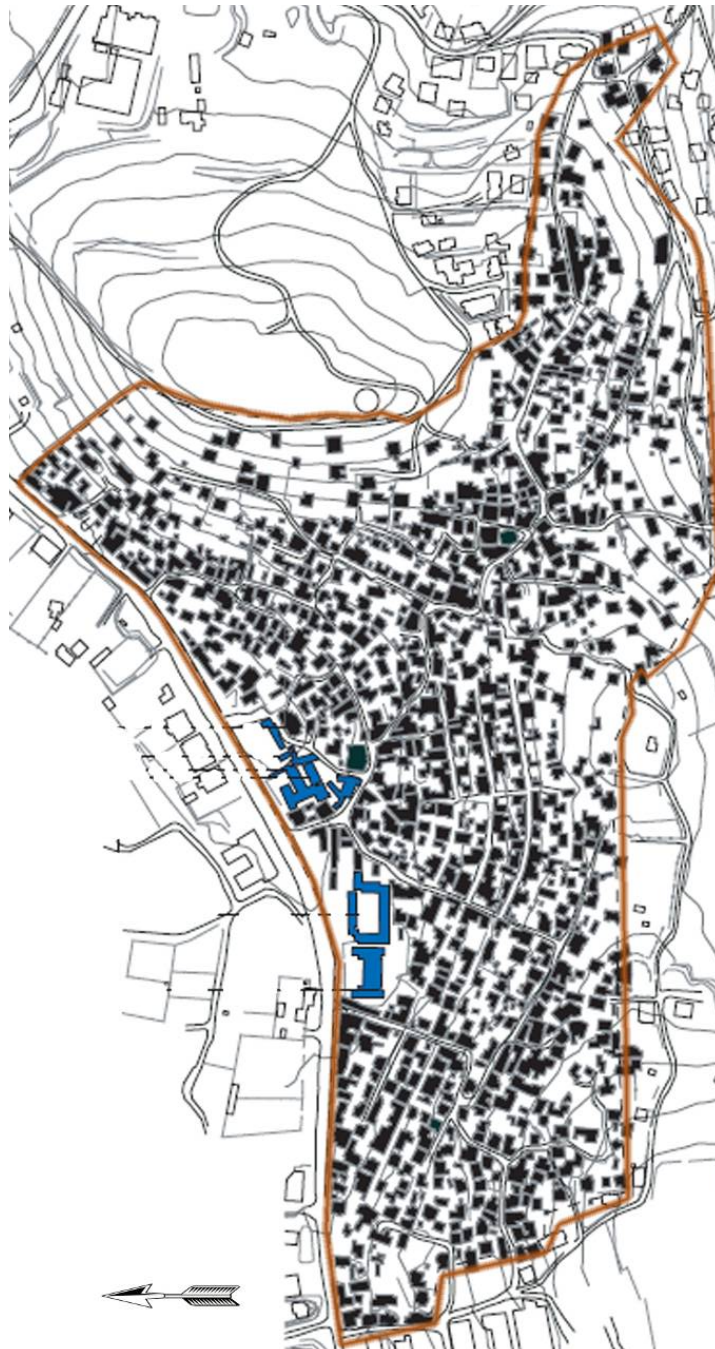
Map (4.9): Dheisheh virtualization, 1997. The map shows more buildings
density when compared with map (4.8).
Source: UNRWA, 2008.

The birth and maturing of the third and fourth generations of refugees

resulted in a sharp demographic increase. At the same time, the preceding

construction boom had already exhausted all spatial resources consisting of

open and abandoned spaces inside the camp boundaries. The limits of horizontal expansions had been reached (UNRWA, 2008).

In the 1990s, the construction of the 4th, 5th and even 6th floors increased dramatically (back to map 4.4). Today camps are approaching full saturation (map 4.10, figure 4.4). At the same time, rent and property prices in the surrounding urban areas continue to rise and land has become too expensive for most refugees. Camp residents are struggling to afford life inside and unable to leave. UNRWA has not developed a strategy to accommodate natural growth in the coming years. The morphological analysis of today's built fabric reveals an ordering system based on blocks, rather than quarters. Although the streets and lanes marked the borders of the quarters have not disappeared, they are indistinguishable from the lanes and alleys that surround the blocks. Some typological differences remain between quarters (UNRWA, 2008).

Figure (4.4): Dheisheh refugee camp saturation. This image shows Dheisheh buildings density in the vertical dimension.
Source: IBDAA Cultural Center (http: //www.ibdaa194.org/camp.html. visit: 24/03/2009).
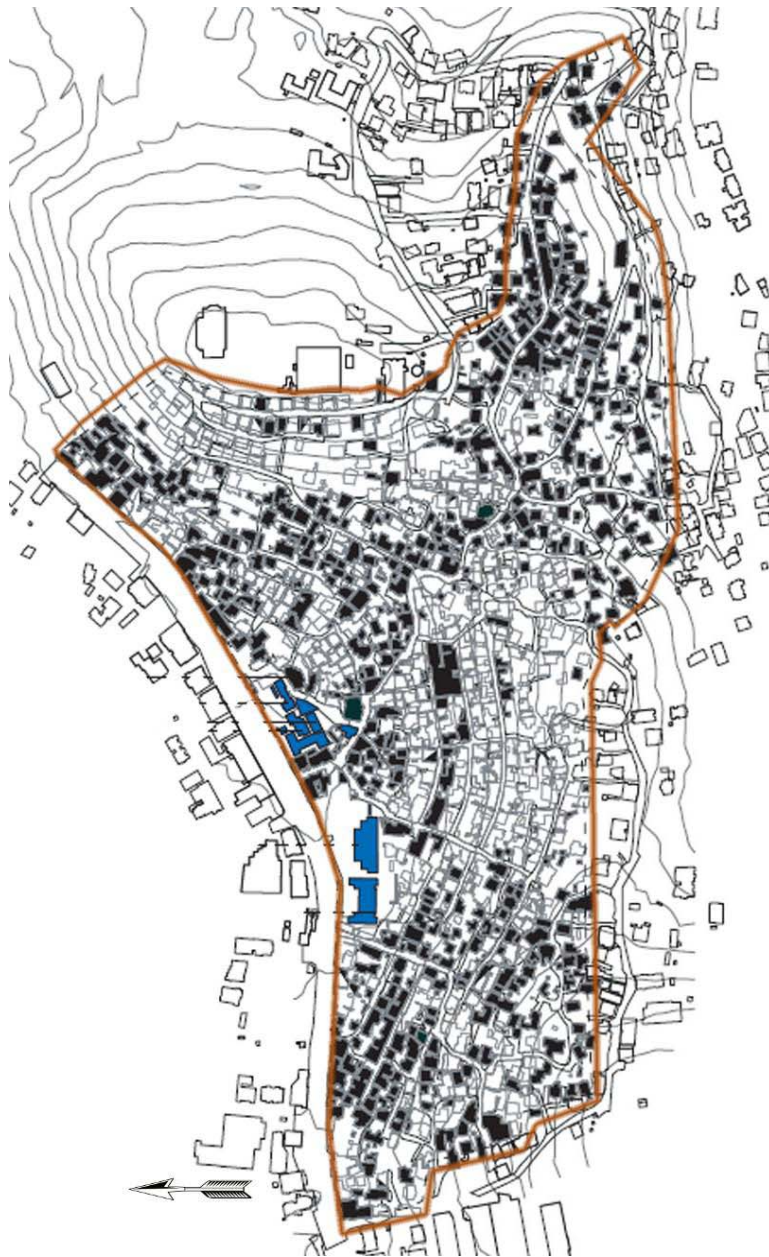
Map (4.10): Dheisheh saturation in 2006. The camp become very dense in the horizontal direction and refugees started to take the vertical direction by building additional floors that are shaded in the map.
Source: UNRWA, 2008.

4.5. Land use

Camps developed zones have now become differentiated by the development of commercial clusters and social and cultural functions. Residential zones defined

as areas dominated by private residential functions (UNRWA, 2008). This includes:

- **P**rivate open spaces (courtyards, gardens, abandoned plots) (figure 4.5).

- **S**mall scale agricultural or farming plots and gardens (figure 4.6), inside buildings, yards or on roof terraces.

- **S**mall isolated shops, businesses or workshops mostly serving camp quarters.

Figure (4.5): Private open spaces in Dheisheh.   **Figure (4.6):** Small scale farming in Dheisheh. [1]

Public areas such as streets, squares, playgrounds, and public buildings form a percentage of 20% of Dheisheh camp total areas. Residential zones constitute 57% of Dheisheh (table 4.3), this shows that residential zones still dominate the camp. Intense overcrowding and structural risks indicate that this is likely to remain the priority zone. In Dheisheh, a commercial corridor divides the residential areas into two large sub-areas on either side of the main street (map 4.11).

---

[1] The reference is (the researcher, 2009) for all figures that have no reference.
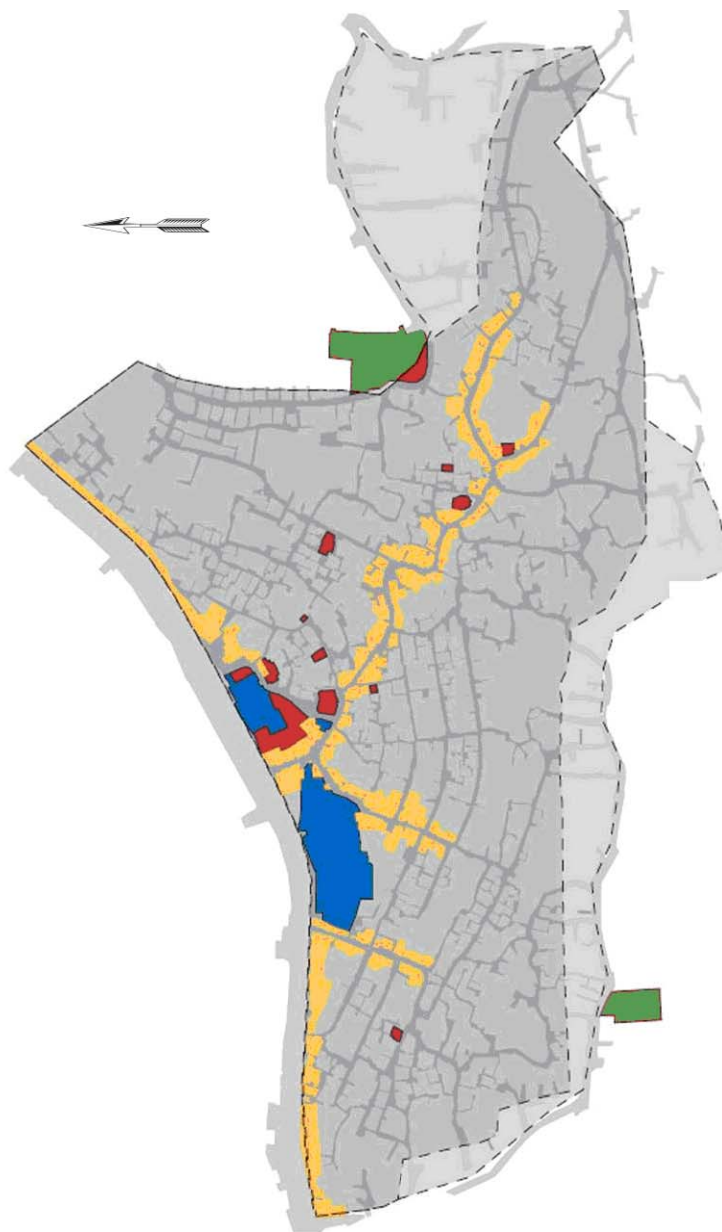
Legend

- - UNRWA's official camp boundary

■ Zone of UNRWA installations

■ Zone of installations (CBOs, NGOs, mosques, cemetary)

■ Zone of installations (CBOs, NGOs, mosques, cemetary)

□ Mixed use zone (businesses and residential)

□ Residentai zone

□ Residentai zone outside camp boundary

■ Public zone (streets, public squares and parks)

Map (4.11): Dheisheh land use zones, 2006.

Source: UNRWA, 2008.

Dheisheh camp indicators	
Public areas	20% of the total area
Residential use	57% of the total area
Mixed use	16% of the total area
Unclassified	7% of the total area

Table (4.3): Dheisheh land use.
Source: UNRWA, 2008.

The area size of the mixed use zone in Dheisheh is (16%). Measured by the number of businesses, size of mixed zone, the quantity and strength of civil society institutions such as NGOs, Dheisheh seems to be urbanized.

The external public zones in Dheisheh camp are extremely small, even alarming. Even essential function, such as access and public circulation are under threat. The zoning plan could be a vital tool for camps to coordinate their growing urban functions, demand of housing, urban infrastructure and services.

4.6. Urban form and open spaces

The streets types of Dheisheh refugee camp have a hierarchy based on three road categories (map 4.12) that can clearly be distinguished; Main Street (figure 4.7), secondary or trunk streets (figure 4.8), and small alleys leading to individual houses (figure 4.9). This hierarchy seems to have the potential to be further strengthened and rationalized. It could be used to provide access to potential future camp activities such new shops and other commercial establishments, schools, civic and religious institutions. At present, the street pattern is extremely problematic in terms of providing access to individual houses, parking for increasing commercial activities and rising number of private vehicles. Most importantly, new access or evacuation routes are critical for emergency services.

Blocks with lower density are generally located on the periphery of the camp while the highest building densities can be found in the more central areas. The greater concentrations are in the center of the camp (map 4.13) and particularly along the camp's main roads.
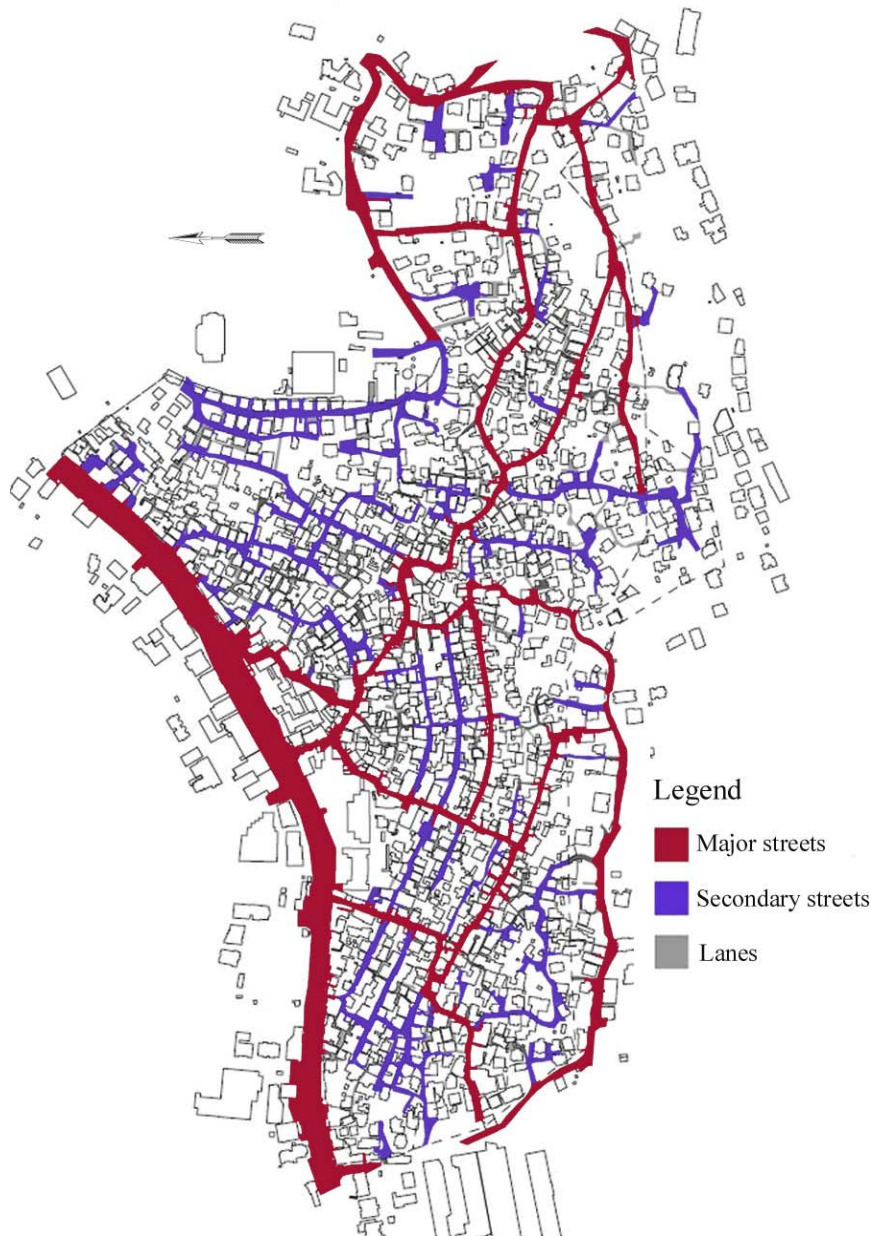
Map (4.12): Dheisheh streets categories.
Source: UNRWA, 2008.
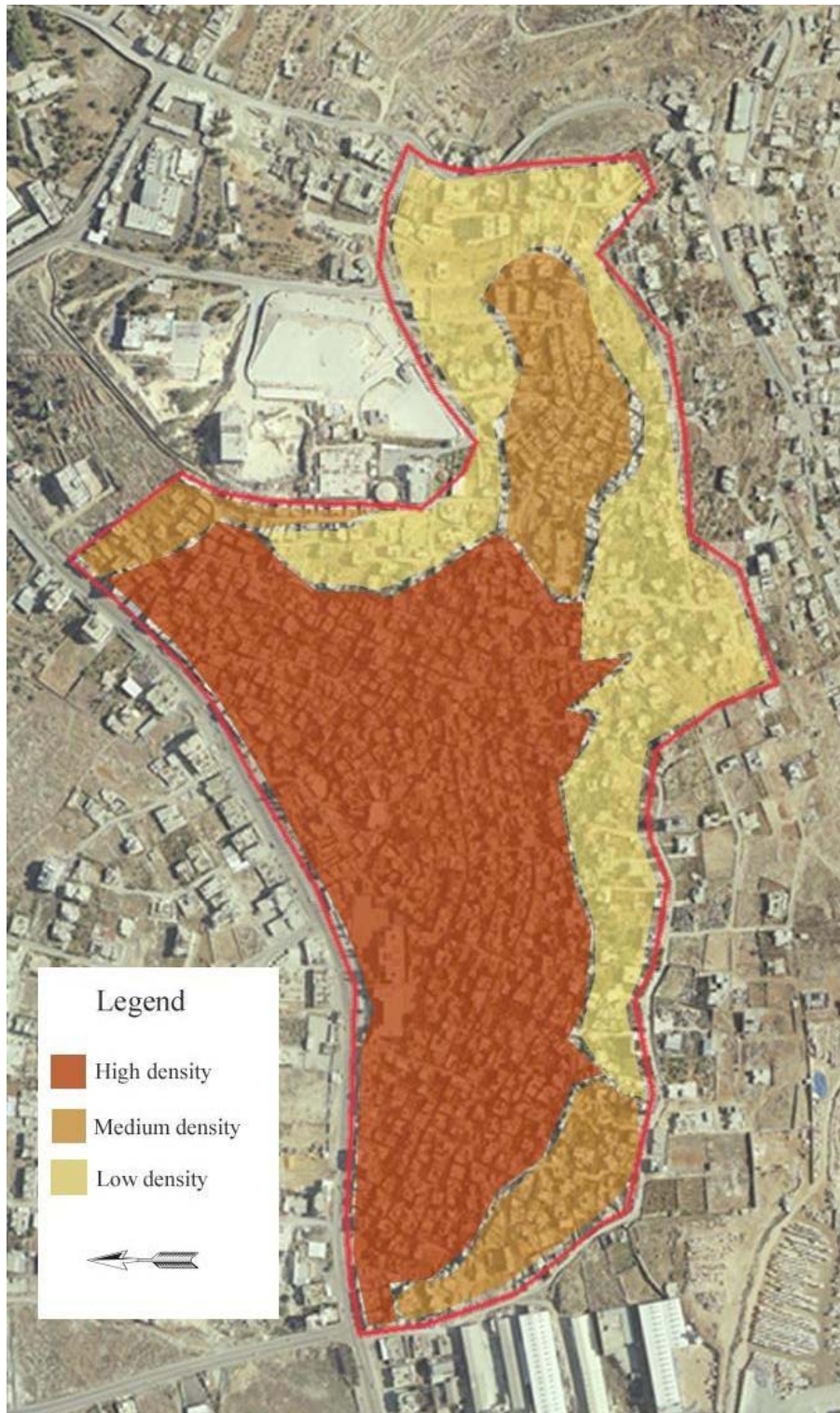
Map (4.13): Dheisheh areas density.
Source: The researcher, based on OFEK map, 2007.

Figure (4.7): Dheisheh Main Street.   **Figure (4.8):** Dheisheh Secondary Street.[1]

Figure (4.9): Dheisheh small alleys.

Hyper density forces residents to add additional floors. Most structures remain however between 3-4 floors which might be indicative of the difficulties to extend existing, historically evolved building clusters (UNRWA, 2008).

---

[1] The reference is (the researcher, 2009) for all figures that have no reference.

At the periphery of the camp, a different picture emerges; more recently buildings and apartment dwellings tend to be built with 3-5 floors from the start, supported by better foundation and construction systems.

Dheisheh private open spaces are limited in some houses front or back yards, private small gardens, balconies and roof spaces. This private open space areas are little, not enough, and not available for all of the camp residents. On the other hand, the camp public open spaces are limited in schools yards; kindergartens play areas, and camp streets in its all levels. In addition, the multi-purpose "Finiq" educational, recreational and conference center serves as a new public space in Dheisheh. It is located on the hillside border of Dheisheh. Finiq is used also by Palestinians from the surrounding urban area of Bethlehem, creating new forms of public life (IBDAA Cultural Center, http://www.ibdaa 194.org /camp.html. visit: 24/03/2009).

There are public centers and organizations in Dheisheh that is used instead of open spaces and recreational area. One of these centers is named by "Ibdaa Cultural Center", whose stated goal is to create a positive atmosphere for the children by doing some activities such as folkloric dance troupes. The organization named by "Karama Palestine", whose stated goal is to explore and develop women's and children's abilities, skills and creativity. Furthermore, there are another 17 organizations in Dheisheh, each one has its own goals and development approach for camp resident's life, some are political wise, and others are social wise.

4.6. Conclusion

This chapter shows important data related to Dheisheh camp physical, social, and cultural structures. The camp spatial-social orders were considerably acceptable for refugees as a temporary condition. But later, the camp structure was visually destroyed by the rapid urban growth within the limited land area. Dheisheh residents re-formed their physical, social, and cultural environments to meet their living needs temporarily at least, they believe of the right to return to their origins. Accordingly, they tried to cohabit with the existed environment anyway. The chapter data lead to an elaborated understanding for Dheisheh fabric, the data also showed that the camp is suffering from the lack of open spaces within its border; this will open a door for a field work which aims at investigating people's needs in urban open spaces within the hyperdense urban structure of Dheisheh. The needs are determined by study of human behavior and urban open space components (physical, social, and cultural).

*C*hapter Five

_____

5. RESEARCH METHODOLOGY

5.1. Introduction

The research is based on qualitative data that is used to understand people's behavior, attitudes, and interactions, and to explore people needs in urban open spaces. Furthermore, qualitative research aims at understanding the nature of hyperdense areas to determine people's needs.

Some approaches are used in the process of studying the research problem and help in achieving the research objectives. These approaches are divided into three parts:

- **-** The first one is a theoretical approach which is concentrated on the literature review and other documented information. This helps in understanding the research theoretical background.
- **-** The second one is the practical (empirical) approach that is related to data collection and analysis of the case study area. This helps in understanding of the research problem, and it helps in developing the theoretical background.

5.2. Theoretical approach

It is related to the theories and ideas related to the study field that were introduced and outlined to cite people needs in urban open spaces within a hyperdense area.

Literatures help in understanding the theoretical base of the research which related to the main keywords (hyperdensity, urban open space, behavior, needs, and refugee camps). Human needs in an urban open space can be investigated based on human behavior theories. This will determine reasons for resident's behavior within their living environment, and the influence of the mechanism of urban open space.

A more theoretical base can be acquired by information about refugee camps in general, and specifically Dheisheh refugee camp. Such theoretical information helps in understanding the main problem.

5.3. Case study approach

Yin (1984: 14) defines the case study research as "....an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used".

Based on Yin definition, the research adopted a case study to manipulate behavior directly, precisely and systematically, and to provide a real life data that

can define the relation between human behavior in an urban open space and their needs there. It will be sufficient to conduct a case study method to achieve the study objectives. This can provide a chance to understand the research problem, and also enrich the theoretical background of the research.

5.3.1. Case study selection

Critical case was obtained in this research to achieve information that permits logical deductions of the type; "If it is (not) valid for this case, then it is (not) valid for any (or only few) cases in its negative form" (Yin, 1984: 24).

Critical case can be a representative sample among all Palestinian refugee camps, especially those in Palestine. The target study area is Dheisheh refugee camp which represents a critical case for the West Bank refugee camps, whose choice was because of its location, where the camp is among the rural areas, the city, and village context, and composing camps typology and identity. Furthermore, Dheisheh camp has a level of hyperdensity that is between the levels of other camps (relatively moderate). Thus the study can be more comprehensive and representative.

Some of the refugee camps (such as Fawwar R.C) are located in rural areas, so the effect of hyperdensity is less than others (UNRWA, 2008) because of the surrounded openness and rural spaces. Other camps (such as Ama'ri R.C) are located within an urban context, so the level of hyperdensity is more than others; most of such camps are located within urban context. However the two mentioned types cannot represent all refugee camps, but Dheisheh could be a

representative case at least for most of West Bank refugee camps based on location, level of hyperdensity, and typology (physical form). Accordingly, these three reasons form the base of considering Dheisheh as a critical case.

5.3.2. Data collection

The study has adopted two methods to collect data; observations which were done firstly to observe the tangible elements in urban open space, and interviews which were done to understand intangible elements in urban open space. These methods are explained as follows:

1- Observations: The research intends to observe people behavior in urban open spaces within the hyperdense environment. Observations were based on the understanding people's behavior in urban open spaces. Observations were done in public urban open spaces of Dheisheh such as streets, alleys, squares, houses and shops entrances, and roofs and terraces. Observations helped in understanding the tangible elements within urban open space. The documentation was based on taking photos and notes.

Observations were done by the researcher himself in the springtime and on the day time (none of them was at night). Some observations points were far more than 10 meters from the targets, and others were close to the target. The more distance from the target gives more normal behavior than being close to people.

2- Interviews: They were used to understand intangible elements and issues of urban open space such as people experience, orientations, and evaluations for their life; they helped in increasing the level of objectivity of the research. Furthermore, interviews helped in getting a deep understanding for the problem.

Interviews samples were selected using random-stratified sample method that was based on dividing people into different groups (strata) based on some characteristic or variable such as gender, age, and officials, then a number of people was randomly selected from each stratum (Webster, 1985). This method helps in getting people -in the sampling frame- have an equal chance of selection and eliminated sources of bias. The stratified sample was more representative one.

Interviews with each stratum were ended when reaching the level of saturation of data. So in each group (stratum), interviews number was ended after reaching the point of repetition in data. Therefore, the total taken interviews number was 49 interviews containing all groups as follows:

- **T**en interviews were done with children level within the age between 10-18 years; they contained 6 males and 4 females.

- **T**hirteen interviews were done with adults within the age between 19-35 years; they contained 8 males and 5 females.

- Eleven interviews were done with mature people level within the age between 36-50 years; they contained 5 males and 6 females.

- Eight Interviews were done with old people level within the age of more than 50 years old; they contained 4 males and 4 females.

- Seven interviews were done with UNRWA staff and other officials. This stratum has no relation to the research questions, but people here are considered as sub-observers for refugee's life. Most of interviewed officials are UNRWA employee in several disciplines; urban planner, field work officer, social worker, and service committee members. Some of them are Dheisheh residents; those officials have a general understanding to the camp open space environment and people living style.

Interviews were semi-structured and had open ended questions with some leading questions that oriented the process of interviewing (appendix C). Some of interviewee were interviewed within the streets and squares (open spaces), and others were interviewed in their houses or work places (indoor space), this reflected a different expressions about the outdoor areas; people who were interviewed at the outdoor areas had a better interest and feeling than those who were inside. Some of the out door interviews involved more than one person in the same time, they gave their expressions as a group and they were more active in representing their needs in urban open space. All

interviews were done in the springtime and on the day time (none of them was at night).

Interviews questions were based on the research questions that aimed at investigating people's needs in an urban open space within the hyperdense environment. Interviews data were taken using recording techniques and by writing important notes.

5.3.3. Data analysis

Analysis have been adopted in this research to help in understanding of the physical form of urban open space in Dheisheh refugee camp using human behavior to determine people's needs there. Human behavior is motivated by human needs; activities are reflections of the needs. Physical form of urban open spaces includes the spaces where activities happening, the physical layouts, boundaries, shape, location and objects. The two types of data (observations and interviews) were analyzed as follows:

1- Observations: contained the context description and analysis of the camp. Photo technique helped in analyzing what was happening using the photo, this way of analysis is adopted by Duignan (2008) and Sabine (2002). The process of analysis was based on the research questions. Furthermore, the written observed things are considered as an analysis for the observed elements that represents the conditions which derived from the resident's behavior toward changing camp open space urban form. Observations

showed a direct effect of the physical elements of urban open space on people behavior there. So, the analysis process took this effect into consideration.

2- Interviews: they were analyzed using transcript method which was done by writing the interviews notes on sheets based on the questions, the transcripts were coded into categories which were descriptive or interpretative as it adopted by Miles (1994), the sheets were eliminated and concluded to the desired results from interviews. This helped to understand all interviews data by taking a summary for each recorded interview, all of the summaries are analyzed due to the relation to the problem.

*C*hapter Six

_____

6. RESULTS

6.1. Observation's results

As adopted by the research methodology, the first phase of data collection was based on direct observations in urban open space in order to observe tangible elements visually or circumstantially. Observations were documented using photo technique and written notes, they had been divided according to what has been observed physically, and behaviorally.

Physically, the design of urban open spaces had been observed by determining urban open spaces types, boundaries, shapes, and objects. Accordingly, these things helped in determining some of the people needs there. People needs in urban open spaces are reflected by their activities and relations between people.

6.1.1. Physical observations in urban open spaces

Dheisheh refugee camp has an urban structure of little urban open space percentage; this made the camp residents look for better physical environment to meet their needs in urban open spaces. The hyperdense skyline of Dheisheh shows little amount of greenery within Dheisheh borders, low level of openness, and visual destructions such as the large number of water tanks on roofs and infrastructure cables that disconnect openness and views (Figure 6.1).

Figure (6.1): Dheisheh skyline. The image shows the hyperdense environment with little natural (green) areas and type of expansion that is informal which leads to a distorted image of urban open spaces. [1]

Dheisheh open spaces are limited to streets and alleys, dead ends, roofs, schools playgrounds; kindergartens play areas, buildings terraces or balconies, and little urban open spaces between buildings. These open spaces are observed in Dheisheh and discussed as follows:

1- Streets and alleys

The short distances between buildings that form streets and alleys block the natural lighting and ventilation (figure 6.2).These conditions can be found in the adjacent buildings in the same side of a street.

The street is highly defined by the two parallel rows of buildings that form a narrow path with low level of greenery, views, natural light, natural ventilation, and low level of privacy. The structure of window to window type (figure 6.3) decreases the level of privacy and cause dissatisfaction with

---

[1] The reference is (the researcher, 2009) for all figures that have no reference.

such physical environment that lead to the feeling of crowding; this is assured by Chan (1998) and it is a common condition within the camp. People used the steel shutters over windows to increase privacy especially in the ground floors that can be gazed easily by pedestrians (figures 6.2, 3).

Figure (6.2): Dheisheh adjacent buildings form.   **Figure (6.3):** Dheisheh narrow paths.

Another condition which has been observed in Dheisheh is the flow of sewage water on the surface of some streets and routes there, and some buildings facades became musty. This may lead to environmental problems that affect public health which forms a part of people's needs in urban open spaces[1] (figure 6.4).

---

[1] This deduction is assured by the health inspector in Dheisheh refugee camp.
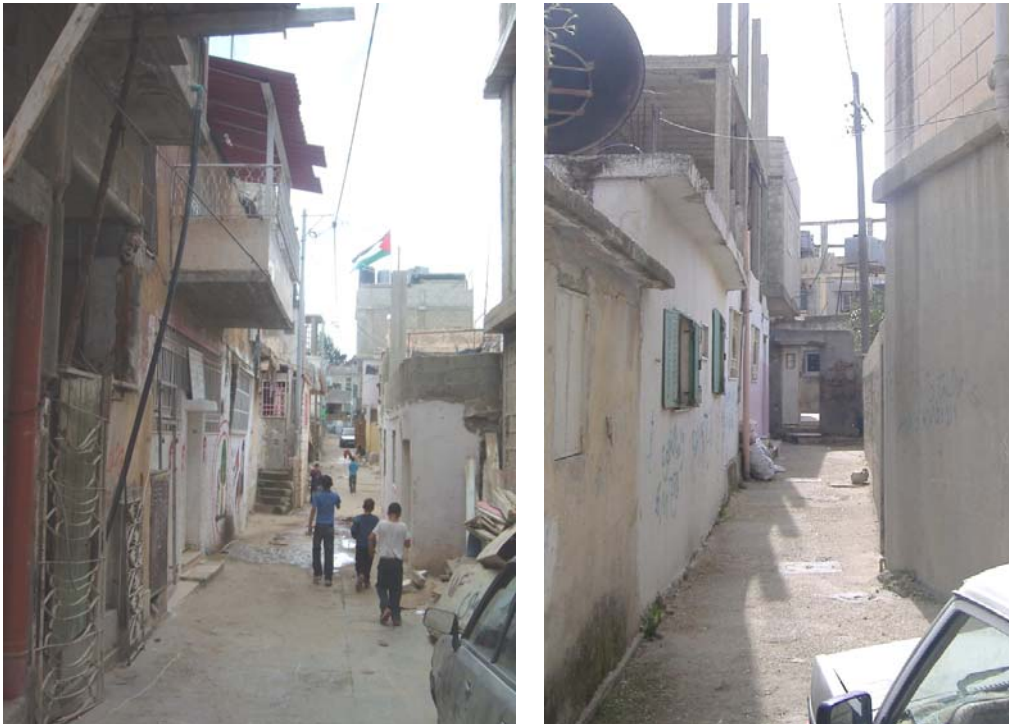
Figure (6.4): Dheisheh unhealthy and dirty streets. The left image shows the sewage water on the street surface, and the right one shows musty walls.

2- Roofs and terraces

The informal elements on roofs and terraces such as TV signal receivers, water tanks, and some tin covers (figure 6.4) result in little order in the camp decrease which can lead to people's psychological discomfort in the camp open spaces, the psychological comfort is a need for people in urban open spaces and it is a way of attraction for open spaces.

3- Dead ends

The camp dead ends are semi-public[1] open spaces in its use, it is limited for people who live there and not highly accessible for all especially strangers.

---

[1] Semi-public areas in this research mean; areas those are shared between adjacent buildings and refer to buildings owners and are not accessible by other people. And private area is; an area which is owned by one person or a family.

Other dead ends are reshaped physically to be private or semi-private by closing them with gates to be not accessible for all and to be used as private open spaces for the complex (figure 6.5, 6). Accessibility is a need for people to public urban open spaces, but it is necessary in private urban open spaces to be not accessible for all to get a level of privacy and a sense of ownership and awareness, this deduction is supported by Newman (1972) study about the defensible space.

Figure (6.5): A gate to private open space.   **Figure (6.6):** A gate to semi-private open space.

The gates that are used to get more private urban open space (figure 6.5, 6) were built among parallel buildings to be confined to the complex residents. This way helps in protecting children while playing in the outdoor areas from traffic movement and to get safety for children[1].

---

[1] This deduction is assured by the residents of such spaces in Dheisheh.

4- Buildings' borders and entrances

Recessed building's entrance form is widely used by Dheisheh residents; they assure that this form of spaces provides a level of privacy (figure 6.7). By this way of design, women can use the recessed areas in front of buildings entrance to watch the outdoor open spaces (streets) and the outdoor people's activities; this reflects people's need for privacy, especially for women. By this design, people change the type of using streets; this way prevents some people's sitting in the conduct of motorists and pedestrians, and thus provides safety in streets as open spaces.

Figure (6.7): Recessed house entrance form. [1]

People use most of their private open area with no matter how it is small to grow trees, shrubs, or climbers to feel of naturalness and aesthetics of urban

---

[1] The reference is (the researcher, 2009) for all figures that have no reference.

open spaces; this makes them feel as if they are in a paradise according to Dheisheh residents general expression "who has a tree, has paradise", in the fact of lack of greenery within the camp. People grow plants along external walls of their houses (figure (6.8, 9), and in containers that are placed on roof edges, on balconies edges, or above the houses gates (figure (6.10, 11). Thus the naturalness is a need for Dheisheh people in urban open spaces as observed by open spaces designs.

Figure (6.8): A tree beside the house.

Figure (6.9): Greenery along the house walls.

Figure (6.10): Greenery above the house gate.

Figure (6.11): Greenery above a gate.

5- Public gardens (Finik)

Dheisheh camp has a public open space which contains a multifunctional hall and a garden outside. This place called "Finik", and it was established and managed by camp services committee to reduce the effect of hyperdensity on people and to give a high quality open space which is more natural and has a large open area (figure 6.12).

Figure (6.12): Finik garden. [1]

6- Schools and Kindergartens' playgrounds

The schools' playgrounds and kindergartens' play areas are also places can be considered as urban open spaces in Dheisheh. Children use these areas at school or kindergarten's time, but children use streets and alleys to play after kindergarten or school time or in the holyday time. A kindergarten play area

---

[1] The reference is (the researcher, 2009) for all figures that have no reference.

is considered as the best form of open spaces for kids, because it provide them by nature, health, and safety, the camp streets has less level of safety (figure 6.13).

The argument here is that schools or kindergartens open areas are not accessible for children all the time; they are closed at the same time when children were present in the streets to spend their free time.

Figure (6.13): Kindergarten play area.

Kindergartens outdoor walls are usually painted with photos that represent nature as a way to make children feel of naturalness in open space between the narrow paths and to attract them to join the kindergarten (figure 6.14).

Figure (6.14): Kindergarten external walls.[1]

Physical observations show that the camp physical form provides a number of needs for people such as safety and security. Furthermore, the camp design controls accessibility by the privatization of some open spaces. And the physical form does not support privacy, environmental health, and psychological comfort.

6.1.2. Behavioral observations in urban open spaces

Observations aimed at monitoring people activities and the nature of open spaces usage, where their behavior reflects their needs in urban open spaces. These observations have been taken the age groups and gender into account to find out different groups needs in urban open spaces.

Streets are mostly used by people as open spaces to spend their time, their way of usage vary according to gender and age. Fore example, kids form groups informally to play with dust in the streets as a means to entertain (figure 6.15). This way is usually used by the children with age less than 10 years, these

---

[1] The reference is (the researcher, 2009) for all figures that have no reference.

children meet together to play the simple traditional games (figure 6.16). What can be mentioned here that children search by default for their main needs in urban open spaces, these needs concentrated on entertainment.

Figure (6.15): Kids play with sand to the right side of the image.

The place where children can play is not always safe from traffic movement, because children play in the streets. Accordingly, children are trying to be present in alleys and narrow streets that are difficult to be accessed by vehicles in order to get more safety, and thus the safety has become an important need for this age group within urban open spaces.

Children with the age groups less than 10 years presence is usually mixed in terms of gender, there is no separation between them. Therefore, the space of playing is accessible for all (figure 6.16, 17).

Figure (6.16): Kids play a simple game.

Children also take part in social events and share adults; for example, they participate in the distribution of sweets on the events and religious ceremonies on Fridays, so the open space connect them socially with adults and also teach them the nature of the activities (figure 6.17).

Figure (6.17): Kids "males and a female" meet together.

Children of the age level of more than 10 years play separately; females are far from males with little interaction, but both are still using the street as their daily open space (figure (6.18, 19).When talking about separation and accessibility, it is not necessarily means that there are a physical elements separate genders, but it means the different spatial space occupied by genders with the presence of visual continuity.

Within the age of more than 10 years, females start to search for a little amount of privacy that distinguishes them and separates them from males within urban open spaces (figure (6.18, 19).

Figure (6.18): Gender separation in urban open spaces of Dheisheh.

Figure (6.19): Gender separation in urban open spaces of Dheisheh.

For younger people, the street is mostly used by males, and females usually stay home or they use more private open spaces such as balconies, roofs, or private gardens and squares in the fact of lack of privacy in public urban open spaces (figures 6.20, 21).

Figure (6.20): A Street that is mostly populated by males.

Figure (6.21): A Street that is mostly populated by males.

Young males use shops entrances along the streets as places to meet, interact, and feel the outdoor elements and activities (figures 6.22, 23). At the same time, females use the street as a street only (the way to home, work, or university), their social interaction with others in the streets are little.

Figure (6.22): Using shops entrances by young males.

Figure (6.23): Using shops entrances by young males.

Using street is different for older women, those women use the streets more than girls, women can get social interaction with others more than girls due to the fact that girls are gazed and annoyed by young males. But the street is still dedicated to males as open space (figure 6.24).

Figure (6.24): Old women using the male populated street.

Old males also use street sides to bask, fresh air (psychological comfort), and to get their social interactions with others (figure 6.25), they use streets sides during the more possible time.

Figure (6.25): Using street sides by old males.

Young females use house entrance space (inside space) to watch people outside from inside as a way of extending the outdoor open spaces to indoor to get more level of privacy and safety. They open part of the door and sit inside to see outsiders and to get their social interaction at the same time with the presence of privacy (figure 6.26).

Figure (6.26): House entrance as a space for females. The opened blue gate leads to a group of females where they can sit inside without being seen directly by outsiders.

The terraces of several houses are used as multi-functional space; they are used as an open space for females which provides more level of privacy, it is covered or bordered by greenery as a method to get more privacy in the spring till the end of summer where the trees are still green, greenery is also used to provide naturalness for such spaces. In addition, terraces are used as an extension for indoor spaces, they are used for some activities such as preparing foods before cooking, clothes drying, sitting under the sunlight, getting fresh air, and for family social meetings (figure 6.27).

Figure (6.27): House Terraces as a multi-functional space. [1]

The physical and social structures of Dheisheh were built basing on the camp community rules that reflect their political view and identity, Islamic conservative culture, traditions, and resident's personal rules. These all rules changed the way of using urban open spaces in Dheisheh in order to get people needs there.

---

[1] The reference is (the researcher, 2009) for all figures that have no reference.

In Dheisheh, a person can enter the semi-public open space only if he lives there or if he is a visitor to someone who lives there. The dead ends are not accessible for strangers; if the stranger entered these areas, he will be subjected to criticism directly and will be asked about the reasons that stand behind his presence there. This is a type of non-written rules that forms people culture there, people gets their privacy from accessibility rules. Furthermore, the neighbors can use the private open spaces freely while they are being seen by other neighbors, put they must avoid gazing; these rules form the people culture.

An important issue related to people social interaction that is regulated by culture; for example, no great social interaction between girls and young males but there is a social interaction between old women and old males. These rules regulate the type and the way of using urban open spaces within Dheisheh borders.

As a deduction, beside the needs that are achieved by the physical form of Dheisheh urban open spaces, the people's behavior in urban open spaces of Dheisheh helps in achieving additional needs which are: increasing the level of privacy, controlling accessibility in the different open spaces, increasing the social interaction between each group of people, and getting recreation for children through playing and entertainment. Meanwhile, the physical form of Dheisheh camp does not support the following needs; psychological comfort, health environment, recreation, ecology and naturalness that are little, and economic needs. These findings are tested through interviews with target groups.

Interviews may lead to investigate other needs availability in Dheisheh urban open spaces; this can appear within the next section.

6.2. Interviews' results

Interviews were done to test the observations findings, and they aim at studying and understanding intangible elements that could not be understood through observations. The total number of interviewees is forty nine; the results of the interviews were analyzed using the transcript method that depends on summarizing interviews due to the research questions which are based on investigating people's needs in urban open spaces of Dheisheh. The results were arranged according to the physical form analysis and behavior description for each group of people according to their ages and gender.

6.2.1. Physical form of urban open spaces

It was clear that the design of urban open spaces contains: the types of spaces, boundaries, shapes, locations, and objects. Accordingly, these things helped in determining some of the people needs there. Interviews questions have a part that aims at understanding the physical form of urban open spaces more and more by studying its intangible elements.

Most[1] of the interviewed male children showed that a large number of them usually visit the surrounded open areas of Dheisheh seeking for naturalness, openness, and recreation that do not largely exist within Dheisheh urban open

---

[1] Quantification of the results has three words to represent the quantity; the word "most" involves more than 50% of the interviewees, the word "some" involves 25%-49% of the interviewees, and the word "few" involves less than 25% of the interviewees.

spaces, the places they usually visit are Artas valley, Solomon pools, and Dheisheh cemetery. Within Dheisheh borders, they search for more extended open spaces that match their playing, they are usually use dead ends due to the low traffic flow, and this makes them feel safer. Furthermore, children join the cultural centers of Dheisheh to spend some of their free time.

The situation of female children is not largely different than males, female children are limited to open spaces within the camp borders; their open spaces are limited in dead ends and small squares. Most of females try to entertain in the healthier and opened open spaces and they prefer the more natural areas.

Based on the interviewees, female children argue that they can not have a specific zone to play without being infiltrated by others; they are searching for spaces that are not accessible by a large number of people. The choices of joining the cultural centers are available for female children, but there is little number of females who join these centers. Furthermore, the choice of stay home is mostly adopted by female children.

The problem of hyperdensity appears relatively with age level; when talking about the younger males, the most open space they use is the street sides and markets entrances, they usually sit or stand in front of markets to spend their free time and to gaze pedestrians. They prefer the more occupied spaces and don't prefer private spaces.

Most of young females spend their free time at home. They are not allowed to use the street such as males; their choice is to sit on balconies, terraces, and roofs or private small gardens or squares that belong to their homes, but few families who have a private garden or a private square. Females pay efforts to provide naturalness to such open spaces by growing plants in containers. Accordingly, their important needs in open spaces are naturalness and privacy.

Most mature males spend their time between work and home; one of the interviewees expresses his impression by the statement "we are hostages of the work-house cycle, with the absence of attractive open spaces that can give us the psychological comfort". The work pressure makes them look for their most important need in urban open spaces; this need is the psychological comfort. Another person said that "the small house garden or square is considered by camp residents as paradise and it is a dream for all", this assures that residents need naturalness in urban open spaces.

Mature females situation is not different from others; women are suffering from the lack of urban open spaces inside the camp and around their houses. They use some dead ends, balconies, and roofs as urban open spaces; they are searching for naturalness and privacy. As a way to transfer nature to the house, women tend to grow plants in containers which are placed on balconies, roofs, or on window sills.

The group of old males and females are least affected by the physical form of the camp, they can use the spaces more freely than younger ones with less social or

cultural considerations. Women can use the sub-streets in front of houses more freely, and men use the main streets to sit. Their needs are limited to the social interaction and psychological comfort.

Old people are more linked by their memories with pre-Nakba "before catastrophe" life, most of them told about the story of their parents and grandparents describing the old life and old traditional open spaces (appendix A) that were more natural, healthy, psychologically comfortable, and more opened.

Most of old people described the first life after refuge as better than now; despite the living in shelters or in tents, the open space is still exists around shelters, Now the window is located in front of the neighbor's window with a little privacy.

One of the old people said that his age is only 13 years by accounting the years which he lived in his original village where the existence of nature, health, openness, and simplicity. This assures the memory linkage with nature and open space that has become disappeared in the camp new physical structure. Most interviewees within this age group expressed their need for agricultural spaces to be engaged with nature.

According to officials, the private open spaces of Dheisheh are mostly used by females and the public open spaces are mostly used by males. This assures that females need privacy and females do not.

Most of interviewed officials mentioned that there are a few open spaces surround buildings till now, but in the near future it will disappear. People are

insisting on living in the camp because there are no electricity or water fees, so it will increase the problem of hyperdensity. Exemption of fees generates non-affiliation and aggressive behavior toward the public ownerships in open spaces. But this (no fees) can be a good part when improving urban open spaces; open spaces can be lightened simply and their physical form can be treated when using water elements.

Another interviewee showed that open space is not important for camp residents according to the concept that "the house for women, the work and cafes for men, the street for children". But this does not delete the need for urban open spaces.

According to an official person, the roof use percentage in Dheisheh is 12%, 31% in "Am'ari", and 8% in "Fawwar". The more hyperdense camp has the more usage of roofs and terraces as private open spaces. Roofs and terraces is mostly used by females who can not use streets, they use streets only to move from one place to another.

The officials who are interested in health and social structure showed that hyperdensity decreases the health in open spaces which is a need for people. Furthermore, it decreases natural light and resident's privacy. As a result, some refugees bought lands in several places of Bethlehem city to use it for agriculture and family trips but not for living.

6.2.2. People's behavior in urban open spaces

People needs in urban open spaces are reflected by their activities and relations between people. Interviews questions aimed at understanding all intangible social issues within urban open spaces to understand people needs deeply.

Male children are usually trying to get their need to entertain through playing within the streets or alleys; they are also interacting socially with each others when playing. They prefer opened areas that are located out of Dheisheh due to the existence of recreation and comfort, children entertain by picking up peaches and almonds, and they feel nature directly. But most of lands out of Dheisheh are not accessible by children due to the private ownership of these areas; children penetrate the property laws by visiting these regions. Furthermore, some of those open spaces are not safe (e.g. Solomon pools), so parents usually do not allow their children to visit these areas.

Male children form groups to share activities of entertainment and recreation, this way help in strengthening the social relations between them. They usually join the cultural centers of Dheisheh such as "Ibdaa" cultural center, "Karama", "Wifaq", or "A'aed" cultural center. These cultural centers give them the chance to learn about the traditional Palestinian dance, sport exercises, cultural activities, and games. This compensates them from the lack of open spaces in the camp through the achievement of some of their needs in these cultural centers. In general, male children use open spaces to get their needs to entertainment, recreation, naturalness, social interaction, and they also search for safety.

Female children activities in urban open spaces are limited to playing, they normally play a traditional game that has a grid drawing on the ground "Hajaleh" and is played by using a stone and a leg to move, this game is the most available and favorite for females, they can socially interact through playing, they can tell simple imaginary stories for each others. Through their existence in an open space they try get their special zone as a way of searching for some privacy and safety from vehicles.

Most of female children considered the school time is the best; they describe it as a daily journey to school that make them change the place of living and playing. By this journey they meet in the streets while walking, they get more social interaction, see more open areas, and feel more comfortable.

Some of the children prefer staying at home; they play computer games and watch television cartoon movies as a way to spend their free time within their house due to the little choices out.

Children respect rules that are imposed by parents; the rules aim at protecting children from dangers that may happen in the far areas, especially in light of the political conditions. Other rules are imposed by neighbors; children are not allowed to play within the small alleys and dead ends freely, because they may produce noise for neighbors, and football may fall on windows. These things made children play within the more near and vacant (less populated) open spaces. Furthermore, children avoid wide streets that are occupied by vehicles. At the

same time, there is no choice to use school playgrounds that are not available all of the time; school is closed in a certain time.

Few parents allow their daughters to play far from house due to the little safety as they are females and not males, so they must have more awareness due to the conservative culture. Accordingly, female children are not allowed to go with children males out of Dheisheh to entertain. This group of people is more accepted than males within camp open spaces near buildings; they are allowed by neighbors to play everywhere because they are less destructive than males and they make less noise for neighbors, but their open spaces are less than males.

Most of young males were interested in social relations that are available in Dheisheh open spaces; they expressed that they can meet in front of markets entrances and in front of the mosque entrance. Other few young have no chance to interact with each others in open spaces for a lot of time; some of them usually go to work and others go to study and then to home directly. These few young males are socially disconnected with the camp social structure. Others use street sides to sit, to meet, to smoke narghiles, and to entertain. Most of them are contented by the camp open spaces that give them a great social interaction.

Few youth complain that holding marriage celebrations and orphans is mostly limited to the street that is narrow for such activities; women hold their celebrations inside the houses. These activities and celebrations disrupted the traffic and people movement within the street; they are forced to use parallel streets or routs that are usually dark.

Young females have little public open space to meet, to interact, or to recreate; they use balconies to observe the surrounded activities and pedestrians. Some sports and activities were done in the cultural centers, but few of them join these centers because their parents considered the centers as destruction for the traditions. Some of interviewees described the place of work or the place of study as the place where they can strengthen the social relation with other people.

Females tend to use balconies and roofs as a private open space to observe people on the street where people cannot see them directly. The privacy is not a great thing for some females; they can use the private gardens or private squares while the neighbors can watch them freely.

Using the street as an open space by young females is nearly hard, according to few of interviewees, male's festival or activity within the street forces some female pedestrians to follow another path which is narrower and less safe than the main street especially at night. Females usually seek for more private open spaces.

Males are ethically not allowed to stare female pedestrians due to traditions and Islamic religion. Females must fell their privacy while using public or private open spaces; males must respect neighbor's privacy due to the social relations that are built over the past decades.

When talking about mature males, most of them choose the street sides in front of cafes and other markets as a place to sit, to meet, to smoke, or to use

"narghiles". They hope to reuse the youth center which was closed previously because it needs some construction repairs. Their basic need is social interaction with each others.

Some mature females exploit the absence of men -who went to work- in the morning to use dead ends or street sides to hold their small social meetings with neighbors and enjoy tea time and they talk about their daily life. Thus, women basic need is the privacy.

Women space during most of the social meetings, social activities, and festivals is the house, this is a closed space which provides discomfort for women, but they tend to use roofs in such cases to get openness and privacy in the same time. In the spring, females usually go with their families to recreate themselves by visiting the surrounded areas such as "Solomon" pools, "Artas" public lands, and "Finik" garden, or they can visit parks within Bethlehem city. Most of mature females described these trips as very interesting due to the existence of nature and psychological comfort.

Most mature females said that they prefer social activities within the camp open spaces which link people with each others, and they will not leave the camp if they have the chance only if they return to their origins before Al-Nakba.

In summer nights, people usually use the house roof to sit and to meet seeking for fresh air, and children usually use for sleeping. Accordingly, an urban open space such as house roof has the function of providing rest and comfort.

Old people described the traditional open spaces that were existed before Al-Nakba as the best due to the availability of agriculture, cooking and making breads activities in groups, getting woods from surrounded nature, circumcision festivities and other activities that made the past life more simple and more beautiful according to their view (appendix A). They also described the first life after Al-Nakba as better than now, women liked the activity of getting water from surroundings, and there was an open space that was still large and natural.

One official interviewee expressed his view by talking: "Open space is a need and not a luxury; people like the camp due to the social-political approach and not due to its physical structure". Another one expressed her view by the statement: "The hyperdense space is likable by residents because of the strong social relations that help them to survive". This mind was assured by the camp residents; they believe of the political situation which helps in strengthening their social relations.

The respondents mentioned that the camp cumulative culture regulates their life without the need for much physical regulations. This culture draws the camp rules in urban open spaces.

Finally, interviews covered the intangible issues in urban open spaces of Dheisheh refugee camp, and it is mostly corresponding observations results; Dheisheh urban open spaces involves a group of people's needs such as safety, security, accessibility, social interaction, and privacy. The next chapter provides a deep discussion for the results.

*C*hapter Seven

_____

7. DISCUSSION

Observations and interviews results showed a group of people's needs in Dheisheh urban open spaces, interviews assured observation results showed that the physical form and human behavior play different roles in determining people needs in urban open spaces.

7.1. People's needs and the physical form of urban open spaces:

Physical form of Dheisheh urban open spaces provides safety, security, accessibility, social interaction, and children entertainment. When talking about the social interaction, the results do not match Moch (1996) finding that hyperdensity lead to negative social relations and make people avoid contact when the space is hyperdense, but Dheisheh context shows the opposite. Nevertheless, the physical form of Dheisheh does not provide psychological comfort, health environment, recreation, ecology and naturalness (it is little), and economic needs. This can be supported by Simmel (1950) and With (1938) who assure that high density causes emotional stress and negative psychological comfort, and Steptoe & Feldman (2001) assure that hyperdensity leads to poor health. To be clearer in these results, the hyperdense environment of Dheisheh camp makes a rapprochement between people through more social relations and the provision of safety and security, and it arranges accessibility. But this

environment physically breaks privacy as Chan (1998) and Goodchild (1994) findings, and it decreases the natural elements, recreational areas, and psychological comfort.

7.2. People's needs and behavior:

The usage type of Dheisheh camp urban open spaces helps in decreasing some negatives of the physical form; it shows that people could re-shape their physical environment partially to meet some of their needs such as naturalness psychological comfort; they used every available space to grow plants and trees, and they could choose time to get psychological comfort in the absence of large number of people during early morning and at night.

People social relations are the most important for refugees; their activities in urban open spaces are concentrated on social meetings, social relations help hem to survive and to assure their political issues.

Dheisheh resident's traditions, religion, and political views affect the way of using urban open spaces, their culture decreases the direct interaction between females and males in most cases, females get their privacy in certain (private) open spaces, and males use the public open spaces. This allows people privacy in urban open spaces that is not physically available, the culture provides visual privacy for users, but some conservative users still not able to use open spaces freely like others. Mulholland (2003) found that density is successful when the privacy is supported by community responsibility. So, this assures the results.

Accordingly, the study of Dheisheh urban open spaces showed that each group of people has an attention toward a group of needs, and they try to get their needs indirectly by changing the physical elements or by changing the way of use, these needs are listed for each group as follows:

1- **C**hildren: Male children are usually looking for some needs in urban open spaces such as entertainment, psychological comfort, recreation, safety, and social interaction. They achieve some of these needs out of Dheisheh borders such as psychological comfort and recreation. In the case of females, they are usually looking for a little privacy, entertainment, and safety. Other needs such as naturalness and openness can not be achieved through the camp physical environment.

2- **A**dults: Males' needs are concentrated on social interaction by meetings, they use the social meetings to entertain and at the same time meetings have economic benefits; when using the entrances of shops, people get attracted to buy goods. For females, their presence is limited to private open spaces, they tried to get indirect social interaction with other people by annoying pedestrians, and they tried to increase naturalness and psychological comfort.

3- **M**ature people: mature males are not largely different from younger ones; they also meet within the street for social interaction. Those people needs are limited to psychological comfort and social interaction. But mature

females are usually looking for naturalness and privacy beside the social interaction and psychological comfort.

4- **O**ld people: old males and females use the streets for a long time to get the psychological comfort and some social interaction only, but old women usually use sub-streets and alleys that provide a little privacy, but they are not caring for a large amount of privacy.

The results showed a number of needs and a number of users who were interested in their needs differently according to their genders and ages. The hyperdense environment played a role in determining these needs that are controlled by the physical elements and users' behavior in Dheisheh refugee camps. Accordingly, the discussion leads to a collection of findings and recommendations that are inserted in the next chapter.

*C*hapter Eight

_____

8. CONCLUSION

8.1. Main findings

The study of people needs in Dheisheh refugee camp -as a model of hyperdensity- lead to several findings that can be linked to refugee camps due to considering Dheisheh as a representative case. The main findings can be considered as a development for the literatures of this research, it can be shortened to the following main points:

- Urban open space is a place for meeting people needs and it is not a luxury, and people look for their needs anyway of whatever is the physical form of their environment.

- People needs in urban open spaces of Dheisheh are partially met by the physical form of urban open spaces. They need to recreate and get comfort in a healthy environment which is not existed in Dheisheh open spaces.

- Hyperdense environment helps in providing a great social interactions and people engagement.

- Physical form of Dheisheh decreases the privacy, but privacy is achieved by people's culture that controls the use of urban open spaces.

- **L**iving in the hyperdense areas disconnects the sociological ties between people and natural landscapes that provide a part of the psychological comfort.

- **F**emales are the most affected by the form of hyperdensity; they could not use the public open spaces like others.

8.2. Recommendations

According to the research main findings, several points must be carried out for refugee camps (or hyperdense areas) development process; these points are motioned as follows:

- **S**uccessful urban open spaces can only be achieved by taking people needs into consideration.

- **T**he age and gender issues play an important role in determining open spaces structure; people needs in urban open spaces depend on gender and age, each group has different needs that must be provided in design.

- **T**he potential for new urban open spaces inside the camp boundaries is indeed limited, but perhaps not impossible; dead ends inside the camp have a potential.

- **P**ublic awareness is a vital issue when talking about open space development.

- **T**here is a crucial need for providing guidelines for the rehabilitation and development of camps urban open spaces to meet people needs there.

- **T**here is a crucial need to re-engage people with natural landscape; this can be achieved through the development and increasing of greenery that has social entities inside the camps in several ways and forms.

8.3. Future research

According to this research, the most important thing that must be taken into consideration in the future researches is the classification of urban open spaces in every refugee camp to be developed according to people needs. Proposals can be submitted to start a general strategy for re-shaping camps urban open spaces. It is important in a futuristic research to take the seasonal changes when dealing with open spaces because it may change some needs or add new needs in urban open spaces.

There is a need to repeat this research taking another case of hyperdensity to have more comprehensive concepts that can be adopted for all hyperdense areas in other regions of Palestine as specific and outside Palestine as general. The research methodology can be varied in the future research to get more comprehensive results which is related to more accurate data.

BIBLIOGRAPHY

_____

- ▪   **B**OOKS & ARTICLES

-Al-Qutub, Ishaq Y. (1989). Refugee Camp Cities in the Middle East: A Challenge for Urban Development Policies. International Sociology, Vol. 4, No. 1, 91-108.

-Altman, I. (1975). Environment and Social Behavior, Ca. Cole, Monterey: Brooks.

-Bishawi, Manal. (2008). Women's Behavior in Public Space and the Influence of Privacy as a Cultural Value, The Case of Nablus, Palestine. PhD thesis. Not published.

-Bradecki, Tomasz. (2005). Mapping urban open space and the compact city-research methodology. Silesian University of Technology, Faculty of Architecture.

-Brunson, L. (1999). Residential appropriation of defensible space in public housing: Implications for safety and community. PhD dissertation. University of Illinois, Urbana-Champaign.

-Burton, E. (2002). Measuring Urban Compactness. Environment and Planning B: Planning and Design, volume 29, pages 219 – 250.

-Chan, Ying k. (1998). Density, Crowding, and Factors Intervening in their Relationships: Evidence from a Hyper-Dense Metropolis. Kluwer Academic Publishers. Netherlands. 1999.

-Chavira, Tony. (2008). Master Planning: Palestinian Refugee Camps: Where the Desperate Get Shit Done. RACAIA Architecture & Interiors. Fourstory. U.S.

-Duignan, P. (2008). Methods and analysis techniques for information collection. Outcomes Theory Knowledge Base Article No. 219.

-Esbah . H , Deniz. (2006). B, Cook. E. A. Isolation Trends of Urban Open Spaces. Adnan Menderes University, Landscape Architecture, Department, 09100 Aydin, Turkey. Arizona State University, Landscape Architecture Department, TEMPE, AZ., USA.

-Eysenbach, Mary. (2008). Park System Function and Services. From Recreation to Re-creation. American Planning Association.

-Francis, Mark. (2003). Urban Open Space: Designing for User Needs. Island Press. Landscape Architecture Foundation Land and Community Design Case Study Series. Washington.

-Fraulin, Johannes. (2004, a). Hyperdensity, A sustainable model for future habitat. The Bartlett Faculty of Built Environment. ENVSGK13 Sustainable Urban Design. MSc Urban design.

-Fraulin, Johannes. (2004, b). Navigation in the Hyperdense City. K11 theory of urban design. MSc Urban design.

-Goldberg . Brian. (2003). Partnership to create Successful Urban Open Spaces in Bangkok, Thailand. Yale University.

-Goodchild, B. (1994). Housing Design, Urban form and Sustainable Development. Reflections on the Future Residential Landscape. Town Planning Research. 65 (2) 1994.

-Gossow, Allan. (1988). A Sence of Place. The Future of Urban open space Symposium. University of California, Barkeley, College of Environmental Design.

-**H**all, E. T. (1966). The Hidden Dimension. New York Anchor Books and Doubleday.

-**H**anafi, Sari. (2008). Palestinian Refugee Camps in Lebanon: laboratories of state-in-the-making, discipline and Islamist radicalism. CMI Working Paper No. 128.

-**H**irschfeld, Yizhar. (1995). The Palestinian dwelling in the Roman-Byzantine period. Franciscan Printing Press. Israel Exploration Society (Jerusalem).

-**J**ohnson, Penny. (2007). Public Space and Public Life: Amari, Dheisheh, Fawwar. Paper Commissioned by UNRWA Camp Improvement Program. Not published.

-**K**aplan, R. Talbot, F. (1998). Inner city Residents In The Experience of Nature. A Psychological Perspective. Ulrich's Bookstore. Michigan EUA.

-**K**endall, Jonathan. (2003). Hyperdensity: design research into extreme urban environments, The Bartlett School of Architecture, London, UK.

-**L**ennard, S.H.C. (1987). Livable Cities: People and Places: Social Design Principles for the Future of the City. Gondolier Press, Southampton, NY.

-**L**ynch, Kevin. (1960). The Image of the City. Cambridge: Mass., MIT Press.

-**M**arilyn, (1975). Decision Making in Allocating Metropolitan Open Space: State of the Art. Transactions of the Kansas Academy of Science.

-**M**ichaels, Hull. (1995). Nature-based Recreation, Mood Change, and Stress Restoration. Leisure Sciences, 17, 1-14.

-**M**iles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook (2nd ed.). London: Sage.

-**M**och, Annie. (1996). Percieved Density: how apartement dwellers view their surroundings. Florence Bordas et Danièle Hermand. *Le courrier du CNRS,* n° 82.

-**M**oore, C., Gerald, A., & Donlyn. L. (1974). The Place of Houses. New York: Holt, Rinehart & Winston.

-**M**ulholland. (2003). Perceptions of privacy and density in housing Mulholland Research & Consulting for Design for Homes Popular Housing Research, London.

-**N**ewman, O. (1972). Defensible Space: Crime Prevention through urban Design. New York: Macmillan.

-**N**ielsen, Ron. (2006). The Little Green Handbook: Seven Trends Shaping the Future of Our Planet, Picador. New York.

-**R**apoport, A. (1980). Cross- Cultural Aspects of Environmental Design. In Human Behavior and Environment Altman, Irwin &Rapoport, Amos & F. Wohlwill, Joachim (eds), pp. 7- 42 (Vol. 4). New York: Plenum Press.

-**S**abine C. Koch, Jörg Zumbach. (2002). The Use of Video Analysis Software in Behavior Observation Research: Interaction Patterns in Task-oriented Small Groups. Vol. 3.

-**S**immel, G. (1950). The metropolis and mental life. In The sociology of Georg Simmel, edited by K.Wolff. Glencoe, IL: Free Press.

-**S**ullivan W. C. (1998). Transforming Inner-City Landscapes. Environment And Behavior, Vol. 30 , 1998 28-59.

-**S**tewart, Albert W. (1978). Sociology the human science. New York. Hoshaiar Nooraddin.

-**S**teptoe A & Feldman, P.J. (2001). Neighborhood problems as sources of chronic stress: Development of a measure of neighborhood problems, and associations with socioeconomic status and health. Annals of Behavioral Medicine, 23, 1977-185.

-**T**aleb, Adwan. (2006). Real Estate Sector inside the Refugee Camps in West Bank**.** Not published.

-**T**unstall, R. (2002). Housing Density: What do residents think? Department of Social Policy. London School of Economics. For East Thames Housing Group.

-**W**ebster, M. (1985). Webster`s nith new collegiate dictionary. Meriam - Webster Inc.

-**W**irth, L. (1938). Urbanism as a way of life. American Journal of Sociology 44 (1).

-**Y**in, Ropert K. (1984). Case Study Research: Design & Methods. Newbury Park, CA: Sage.

▪ ORGANIZATIONS

-**T**he Mideast: A Century of Conflict Part 4: The 1967 Six Day War. 2008.

-**O**FEK Arial Photography L.T.D., The Geographic Information Center.2007.

-**P**alestinian Central Bureau of Statistics, 2009. General statistics for population, buildings, and establishments. Primary factors According to Residential Locality Type. Ramallah, Palestine.

-**U**NRWA. 2008. Camp Development Pilot Research Project. Phase1. Not published.

▪ **W**EBSITES

- United nations website: http://www.un.org

 Dates of visits: (18/03/2008), (15/05/2009), (14/03/2009).

- Global security website: http://www.globalsecurity.org

Dates of visits: (02/01/2009).

- IBDAA Cultural Center website: http://www.ibdaa194.org

Dates of visits: (24/03/2009).

- Atlas of Palestine: http://atlas.pcbs.gov.ps

Dates of visits: (06/01/2009).

- Multimedia publishing: http://www.multimedia-publishing.com

Dates of visits: (07/11/2008).

- Kufur Kassem website: http://www.kufur-kassem.com

Dates of visits: (07/11/2008).

-Alhayat Aljadeeda website: http://www.alhayat-j.com

Dates of visits: (07/11/2008).

- Google earth modeling: Dates of visits: (09/04/2009).
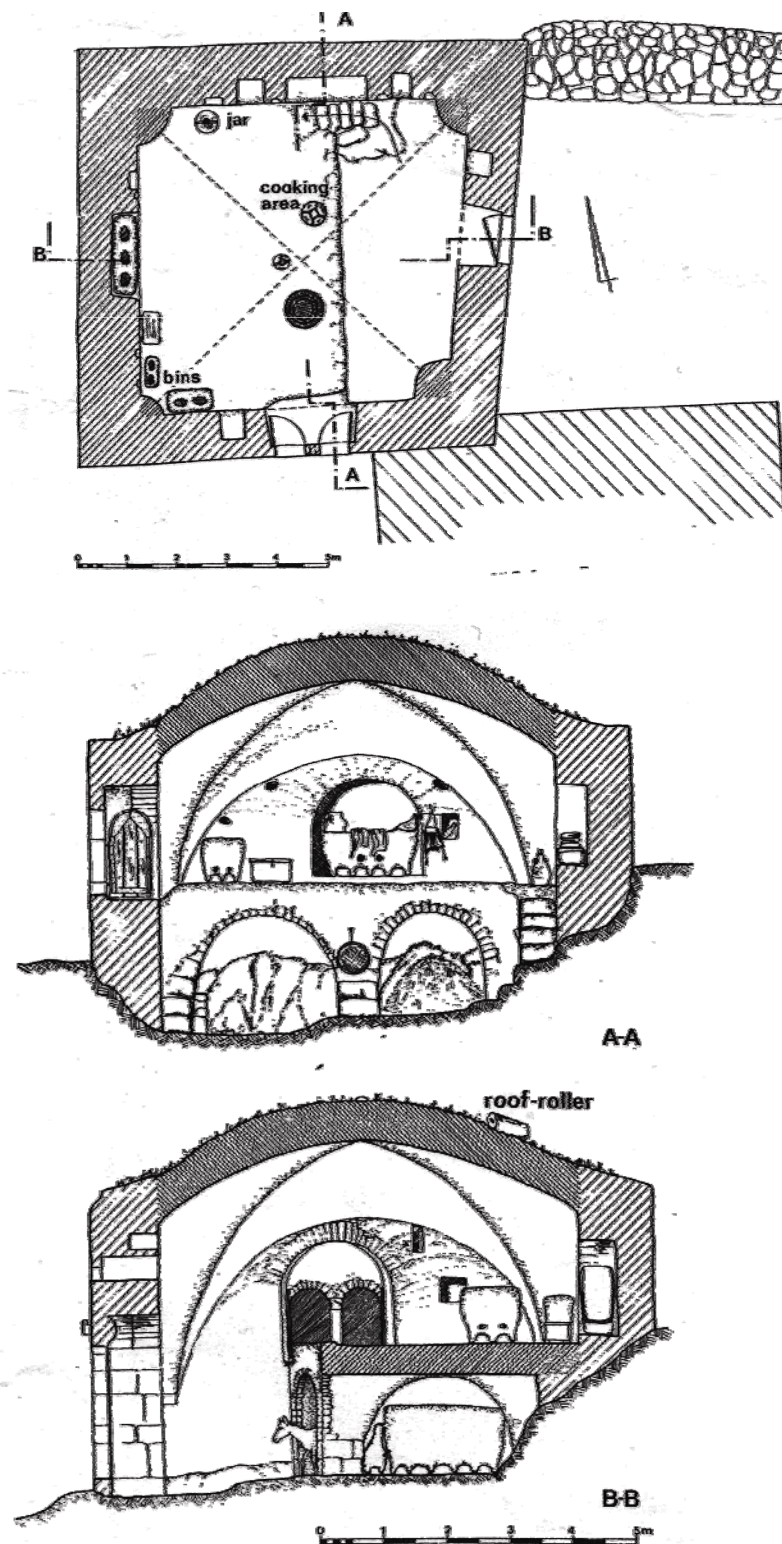
APPENDIXS

_____

Appendix A: Typical old Palestinian private open space

The following figure (A.1) shows a typical form for old Palestinian private open space that was built naturally in front of the house to meet people basic needs in open space. The space contains the traditional activities such as women meeting to make bread using the oven. The place of sitting was the platform as a sunny area and the mulberry tree location used as a shaded area. The water cistern forms the natural water element in the space, and the fences were built naturally using the natural stones. The outdoor open space was an extension for the indoor spaces which have cooking activities and animals spaces that can be shown in figure (A.2). This way of life was the old life of refugees before Al-Nakba "Catastrophe" in 1948 which made them to transfer to a different life type and a different culture.
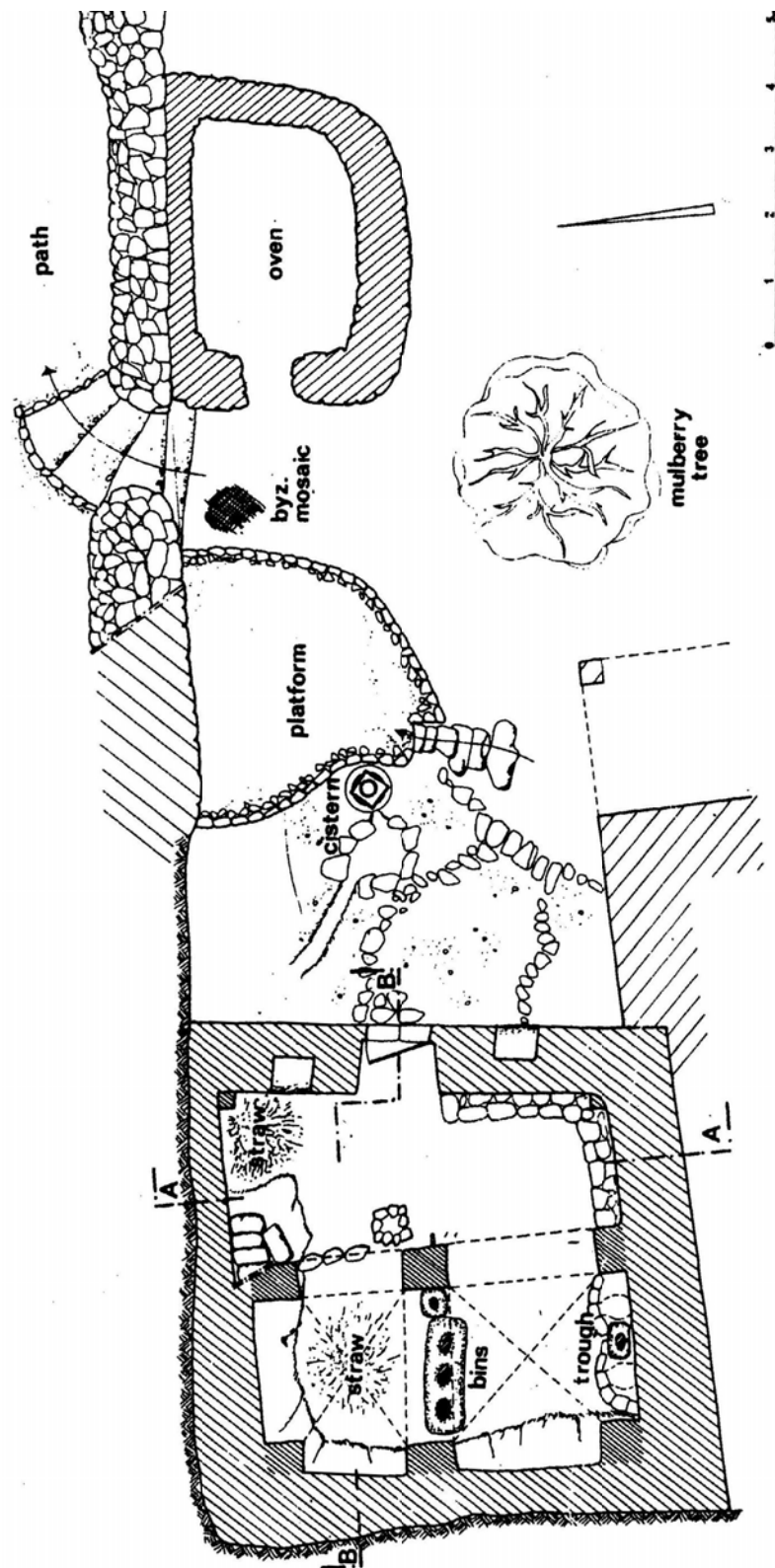
Figure (A.1): Site plan for a typical old Palestinian private open space in Al-Jaba'a village to the south west of Bethlehem.
Source: Hirschfeld, 1995.

Figure (A.2): Plan and sections typical old Palestinian private open space in Al-Jaba'a village.
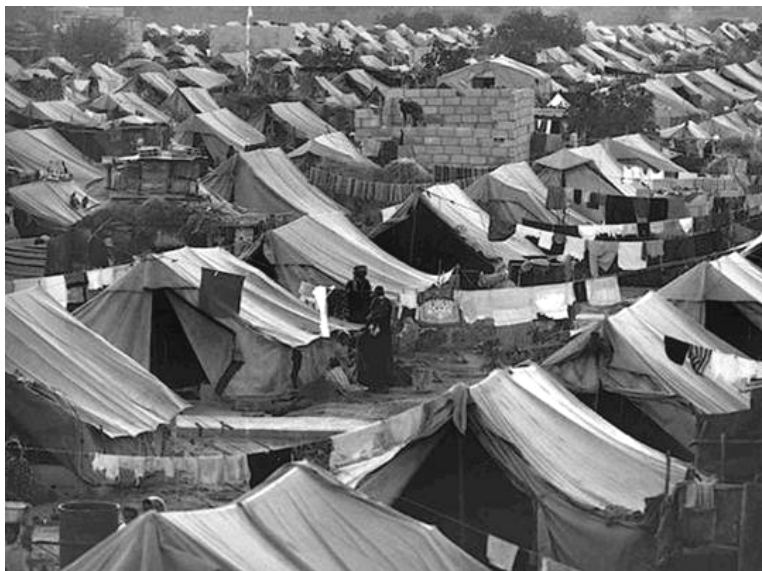Source: Hirschfeld, 1995.

Appendix B: Al-Nakba "Catastrophe" photos

This appendix has some photos that clarify the primary refugee conditions after Al-Nakba, these conditions accumulated to form the final output of the camp urban structure.

Figure (B.1): The way to camp after exodus.
Source: http://www.badil .org/Photos/history/Archive1/10.jpg. Visit: 16/11/2008.

Figure (B.2): The new houses "tents" after the catastrophe.
Source:http://www.multimediapublishing.com/history_of_syria_files/image 017.jpg. Visit: 07/11/2008.

Figure (B.3): After Nakba; guessing the future conditions.
Source: http://www.kufur-kassem.com/cms/images/
stories/nakba /2_5954_1_11.jpg. Visit: 07/11/2008.

Figure (B.4): After Nakba; the start of using the outdoor
space.
Source: http://www.alhayat-j.com/pics/20080507 nakba2.
jpg. Visit: 07/11/2008.

Appendix C: Interviews questions

Interviewees are asked to express their minds, feelings, and perception in relation to the physical form of Dheisheh urban open spaces. Interviews are semi-structured; they involve some leading questions that orient interview process as follows:

1- Factual questions:

▪ People are asked about their ages and refugee status (if the interviewee is a refugee and if he is Dheisheh resident).

2- Needs in urban open spaces:

▪ What urban open spaces of Dheisheh do you use to spend your time?

▪ What physical elements do you (people) care about within Dheisheh urban open spaces?

▪ According to your interest, what are the missed elements in Dheisheh urban open spaces?

▪ What activities or functions do you (people) exert in urban open spaces of Dheisheh?

▪ What is your vision for the treatment of the camp urban open spaces to match people needs?

Note: the word (people) or (person) in the questions used only when the interviewee is not a camp resident when interviewing officials.

Human Behavior and Open Space in Hyper-Dense Areas

Areas

"Case study: Dheisheh Refugee Camp"

The researcher:

Bader .M. Atawneh