

**A Resilience Study for Housing Resettlement in
Post-Conflict Areas: A Case Study of North
Cyprus (Aşağı Maraş, Famagusta)**

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ABSTRACT

Resilience has become one of the widely discussed and debated concepts since the past 20 years. The growing rate of conflict has prompted enquiries into the resilience of the housing environment. Usually after a major disaster, there are two key terminologies that could be considered at different periods in time. These terminologies are known as shocks and stressors and are used to describe the short and long term challenges of the housing environment as a result of disasters. The study was carried out in Asagi Maras, an area in Famagusta, North Cyprus and was done to understand the nature of resilience within the study area 40 years after the conflict that brought about a mass displacement and resettlement of people in Cyprus. In this study of resilience, the housing environment is considered as a system constituting of several subsystems (Social, Environmental, Political, Economic subsystems). Two major subsystems (Social and Environmental Subsystems) were focused upon due to limitations influencing other subsystems. Within the environmental subsystem, climatic and physical conditions were considered. This also included an understanding of people's willingness to accept or pay (WTA & WTP) for innovations for enhancing this subsystem. The social subsystem focused on the use of public spaces and how such public spaces can be enhanced to improve resilience. The results of the study revealed that although people had developed certain coping mechanisms, resilience may still not have been reached within the study area. Because of many loose ends that could lead to a collapse if there is a major shock.

Keywords: Housing Resilience, Shocks and Stressors, Subsystems

ÖZ

Elastikiyet son 20 yıldır oldukça kapsamlı tartışılan kavramlardan biridir. Dünyada swosyal ve politik açıdan çatışmalar ve çelişkilerin artması konut/yaşam çevrelerinin elastikiyetinin sorgulanmasına yol açmıştır. Genellikle, büyük felaketlerden sonra farklı zaman aralıkları içinde, iki önemli anahtar terminolojinin öne çıktığı görülür. Bu terminolojiler ‘şok’lar ve ‘stres’ler olarak bilinir ve felaketlerin konut çevrelerinde neden olduğu uzun ve kısa dönem sorunları tanımlamak için kullanılır. Bu çalışma elastikiyet olgusunun doğasını anlamak amacıyla Kuzey Kıbrıs Mağusa’da yer alan Aşağı Maraş bölgesinde, adadaki kitlesel yerdeğiştirme ve yeniden yerleştirmeye neden olan sosyal/politik çatışmadan kırk yıl sonar gerçekleşmiştir.

Çalışmada, konut çevresi sosyal, çevresel, politik ekonomik vb. gibi bazı alt sistemlerden oluştuğu gözönüne tartışıldı. Bunlar arasında, diğer alt sistemleri de etkileyen sınırlamalar üzerinden sadece sosyal ve çevresel alt sistemlere yoğunlaşıldı. Çevresel alt sistemler içinde iklimsel ve fiziksel koşullar da ayrıca göz önünde tutuldu. Bu yolla bölge sakinlerinin alt sistemlerin geliştirilmesi ve desteklenmesi konusunda bu alandaki iyileştirme ve geliştirmeleri Kabul Etme ve Ödeme Yapma yönünde ne kadar istekli olduklarını (WTA & WTP) anlamak amaçlandı. Sosyal alt sistemler içinde kamusal alanların kullanımına ve bu alanların elastikiyeti desteklemek için nasıl geliştirilebileceğine odaklanıldı. Ne var ki, çalışmanın sonuçları, bölge sakinlerinin belli başlı mekanizmalar üreterek sorunlarla başa çıkma çabalarına rağmen; başlangıçta üstünkörü çözülmüş bir çok durumdan

kaynaklanan belirsiz politik ıkmaza baęlı temel ‘řok’ nedeniyle, bölgede tam bir ‘elastikiyet’ durumuna ulaşamadığını göstermektedir.

Anahtar Kelimeler: Konut Çevrelerinde atışma ve eliřki, řoklar, Stresler, Konut Çevrelerinde Elastikiyet, Alt sistemler

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To Obi Elinwa, My Parents and Ayolo

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Chapter 1

INTRODUCTION

Resilience can be discussed under several themes depending on the subject in question. In general resilience simply means the act or action of recovery after a major challenge. It shows the ability that an individual, group or system has to pick up again after a major fall or disaster. Generally, the subject of resilience can be approached under natural, or man-made disasters. Natural disasters range from earthquakes, tsunamis, extreme climate changes, etc. The manmade situations/ disaster include wars, civil conflicts, terrorism, etc. Around the world, conflict is becoming a household name, and that triggers certain unpleasant memories. Iraq, Russia, Ukraine, North Korea, North and South of Sudan, Northern Nigeria, Syria, Afghanistan, to mention but a few. They all have one thing in common at the moment, and that is conflict or armed conflict. The destruction caused by this manmade disaster creates an abrupt disruption of the economy. There have been estimates of 150 wars that have been fought since World War II, with several violent deaths recorded (Hewitt, 1997 cited by El-Masri and Kellett, 2001). In recent times however, armed conflicts have been internalized within national boundaries. The effects of these conflicts range from minor injuries to more serious consequences leading up to displacement – physical, social and economic displacements – and often times a total collapse (World Bank, 1998; Goodhand et al., 2002; United Nations Department of Economic and Social Affairs, 2010; Cuny and Tanner, 1995)

For the discussions on man-made disasters (especially conflict or post-conflict situations), resilience in context is often a very complex topic to discuss. However, it presents a very wide range of views for discussing the post-conflict situations of a housing environment (Menkhaus, 2006). These views often times differ from one discipline to another. It then means that providing a housing environment that meets the needs of individuals or groups within a community is essential for establishing resilience. For the effective process of resilience in post-conflict situations, certain elements and pillars were considered. These elements include flexibility, openness, social structure, and effectiveness of several levels of governance (Rolfe, 2006; Hegney et al, 2008; Ebbesson, 2010Van and Salet, 2012). The pillars of resilience include; resources, institutions and adaptive facilitators (Bujones et al, 2013; USAID, 2009; Walker et al., 2009).

In the year 1974, the ongoing conflict between the Turkish Cypriots and Greek Cypriots since decades, just like in many other regions around the world, led to an unplanned division of the Island into two sectors (Turkish Cypriots in the North and Greek Cypriots in the South). As a result of the dispute, certain parts of the Island have been cordoned off (as buffer zones), and are only accessible to military forces. Also, the dispute further led to displacement and an eventual resettlement in Cyprus. The Turkish Cypriots who were living in the south of Cyprus were forced to relocate to the North and vice-versa for the Greek Cypriots who were living in the North of Cyprus. There was a sharp decline in the population of Famagusta from 40, 000 to 5,000. Within Famagusta, resettlements also began to occur as people were also displaced internally. Asagi Maras (where the study was carried out) was not left out of the ongoing resettlement (which was in two ways; people leaving the area and people moving into the area).

The situation of North Cyprus is such that although the area may be considered as a post-conflict situation because there is no active fighting with arms and ammunitions, it is still a recognizable conflict situation as the political situation is yet to be resolved. In that sense, there is still an ongoing political conflict of interest (that is the reason for which the sealed of area of Maras is still so until date) which has a major influence on the general development of Famagusta. Negotiations have been ongoing between the Turkish and Greek Cypriots and yet there has not been any concrete conclusions as a way forward for resolving the political conflict situation. The unresolved situation has further led to various levels of fears amongst the people especially the Turkish Cypriots. Such, fears are as a result of what might become the fate of Famagusta with regards to Maras and Asagi Maras and also the fate of those living there at the moment. Such looming uncertainties are preventing any active government or private investments in the area.

Usually in cases of armed conflict, displacements are inevitable thus housing becomes an important issue to discuss. These displacements can be short term or long term, but that does not in any way diminish the seriousness of housing within the context of conflicts. This is because shelter is one of the basic necessities of every human being. Generally speaking, displacement can be triggered by a number of factors. These triggers could be in the form of natural hazards, armed conflicts or civil unrest, regeneration projects. According to Muggah (2008) several names can be associated with people who are whose resettlement is as a result of conflict. They include “Refugees, Internal refuges, Evacuees, Internally displaced persons (IDP) and externally displaced persons (EDP)”. Conflict triggered displacement are usually very sensitive and are more often than not linked with political upheavals. According to the World Bank (2013),

“Displacement triggered by violence and conflict is not only a humanitarian crisis, but is likely to affect political stability if left unattended or poorly governed, or unresolved politically through peace-building”.

As a result of displacements due to conflict situations, people are forced to look for shelter or livelihood elsewhere. This gives rise to another key issue known as resettlement. The interpretation or definition of resettlement may vary depending on the nature of the displacement (Zetter, 1991; Muggah, 2008, Saparamadu & Lall, 2014). Just like displacement can be internally (IDP) or externally (EDP), in like manner, resettlement can either be internal or external (Saparamadu & Lall, 2014). Thus, resettlement resulting from conflict is considered to be a necessitated act of movement of people either within or across defined geographical boundaries (local government, state, country or continent). This study takes into consideration both forms of displacements and resettlement.

The post-conflict housing environment can generally be studied in two major phases. These are the short term and the long term phases after the conflict. The short term period of post-conflict housing studies represents the period immediately after the conflict and therefore considers the problems of the housing environment as “shocks”. The long term period however considers the housing problems as “stressors”. Understanding shocks and stressors is thus a step towards building a resilient community. It has already been established that the inter – communal conflict in Cyprus between the Turkish Cypriots who were major occupants of the North and the Greek Cypriots who were major occupants of the South resulted in “*forced displacement*”. This forced displacement further led to an involuntary or “*forced resettlement*” of a huge population of the Islanders and this changed the demographic distribution and development of the Island. Therefore in the case study area, since this

study is taking place 40 years after the resettlement, the area has significantly moved from a period of sudden shock to a period of stressors. Shocks in this study are referred to as the immediate challenges or problems resulting from a conflict while stressors refer to the long run challenges or problems resulting from the conflict (many years after). Thus, the researcher is concerned about the stressors within the housing environment of the study area. This study does not consider the “house” as the only variable within the context of resilient housing environment. It chooses to view housing as being inclusive of every element that makes up a housing environment which include the people, public spaces, streets, infrastructures, services, climatic factors as well the type of houses. However among all, public spaces are very important because that is the first thing we probably would remember about a city and it influences one’s perception of resilience (Jacobs 1961, p. 147; Carmona, 2003; Fyfe, 1998).

In this study, the housing environment is considered as a complex system comprising of Social, Environmental, Political, and Economic subsystems. Stressors can occur in each of the subsystems and at varying levels of impact. The research presents different stressors related to the different subsystems. Although stressors are discussed in all the subsystems, major emphasis was placed on the environmental and social subsystems. The researcher chose to focus on this two because of the limitations within the political and economic subsystems with reference to the current situation of the Cyprus issue (this further discussed in the limitations of this research). For example, in the environmental subsystem, the study points out climate related issues as examples of stressors within this subsystem. The lack of or inadequacy in the provision of alternative sources of energy has been sighted in literature as one of the common stressors in the environmental subsystem (Adjer, 2000; Bujones et al.,

2013). The study also viewed the environmental subsystem not only from the climatic/energy aspect but also from the physical aspect of the environment. This included the level of sanitation and facilities in place to ensure an attractive physical appeal.

In the social subsystem, the study focusses on the public spaces as an important part of the housing environment. Public spaces in this case are viewed as bonding spaces (good for development) between the people living within a particular community (Lofland, 1998; Goodsell, 2003; Miller, 2007). By investigating the social subsystem, the values and interests of people within the study area could be understood thus giving more insight as to the strengths and weaknesses of the housing environment. The study then proposes “resilience” as an approach to understanding the post-conflict housing environment.

The elements and pillars of resilience are then studied under the given subsystems which helped in further understanding the nature of the stressors in the different subsystems. This is important for creating a resilient environment as it provides a platform for addressing “the struggle to maintain economic livelihood, environmental issues such as threats of a changing climate, challenging social issues, and governance” amongst others (Vale et al, 2014).

1.1 Problem Definition

Famagusta is known to be one of the main towns in the northern Cyprus. The city is also known to be a major attraction to several different types of visitors (tourists, students, workers, etc); though as a result of the 1974 war, the town has suffered loss economically as well as socio-culturally and this has considerably erased the organic

connection that once existed between the city and the sea (Atai et al, 2010). The sealed off part of the city which amounts to about 6.4square kilometers, which has remained sealed for over 40years now, has significantly affected the development of Famagusta.

As a result of the conflict between the Turkish and Greek Cypriots, there was a forced displacement and resettlement that occurred. Turkish Cypriots who were living in the South of Cyprus were forced to relocate to the North, the same was the case with the Greek Cypriots living in the North who were forced to relocate to the South. Shortly after the incidence, there was a massive drop in the population of people living Famagusta and some parts of the Island were cordoned off because of unresolved ownership disputes.

For North Cyprus in general, the conflict occurred over 40years ago and there has been a huge demographic replacement within the area that is being studied. However, although the area has moved from the period of shock (the immediate effect of a disaster), any first time visitor to the study area will be quick to notice a sharp contrast in the level of development between the other parts of the city of Famagusta and this part (e.g. infrastructures, hospitals, banks, shopping malls, transport facilities, etc) This challenge could be attributed to stressors (long term effect of disasters) that have developed over the years, thus affecting the complete resilience of the study area.

1.2 Research Aim and Objective

The aim of this study is to be able to understand the resilience of the housing environment through the complex systems approach.

The key objectives of the study include but are not restricted to the following:

1. To examine the nature of stressors in selected subsystems within the study area
2. To identify the nature and pattern of resilience that is applicable to and most visible within the study area.
3. To identify possibilities for improving the elements of resilience within the selected subsystems.

At the beginning of the study, the underlying question was how to create a resilient post conflict housing environment especially in a situation of forced resettlement. This gives the researcher the chance to study the Post-conflict housing environment in this context as being inclusive of the physical and spatial qualities of houses, the quality of public spaces and security and safety issues. Approaching the study from this broad perspective presents a deeper view of resilience as not a mere ‘bounce back’, but like Davoudi (2012) puts it, resilience should be critically considered from an approach that willingly seeks out ways to “bounce forward” (Vale et al, 2014). The research is carried out in three stages of historical enquiries; past, present and future prospects of the study area. It actively considers the experience of place as approached from a multi-dimensional perspective in order to fully explore the different intricacies in experiences, culture, aesthetics, social and political aspects of a “space”. Carrying out an enquiry into the notion of a resilient environment causes one to wonder what then should be included within the context of a resilient housing environment. “Should it be a total consideration of a whole city, part of it, a neighborhood or a single house”? From an architectural perspective, it will therefore be important to understand the usefulness of housing and public spaces and its compatibility within the context of resilience in the general housing environment (Carmona, 2003; Fyfe, 1998; Jacobs, 1961).

1.3 Research Question

The main research questions amongst others are:

- What are the characteristics of the housing environment that could influence the elements of resilience within the study area?
- What kind of resilience is achievable by enhancing the public spaces within the study area?

1.4 Limitations of Study

Two major limitations are presented here. The first being a limitation imposed by the researcher (scope) and the second, a limitation beyond the control of the researcher. The limitation caused by factors other than the researcher (technical limitation) became important consideration in deciding the direction the study was going to follow.

Another very important decision that was made as regards the case study was the selection of the quarters to be analyzed. Asagi Maras is comprised of seven (7) quarters (Anadolu, Canbulat, Lala Mustafa Pasa, Namikkemal, Pertev Pasa, Piyale Pasa, Zafer), however the researcher chose to focus on four quarters (Canbulat, Lala Mustafa Pasa, Namikkemal, Pertev Pasa) which are just in close proximity to the cordoned off area (Kapalı Maras). The map below shows the details of the quarters that were selected for this analysis (Fig. 1). The housing environment of the selected quarters were studied and analyzed based on the outdoor characteristics of their public spaces. This did not include any major emphasis on the characteristics of the physical condition of the building facades or material analysis. The study focused more on social and environmental issues within the selected quarters.

As a result of several controversies linked with the study area, people living within the study area were a bit hesitant to speak in depth about the conflict and their housing situations. The language of the residents is mainly Turkish. This was another limitation during the study since the researcher could not fully understand or express himself fluently in Turkish language as at the time of the study. Lastly based on the fact that the researcher is a foreigner, it was impossible to gain access into interior spaces of the houses for any kind of analysis.

It could be argued that resilience within a community or urban setting can be reached when that community is able to withstand a range of stress factors. For the success of this study, the usefulness of the opinions of the local people living in the case study area was very important. As was mentioned earlier, there are several elements that can be considered or analyzed in the study of resilience. They include, flexibility, openness, social structure and different levels of governance. It has already been established that the political situation of the case study area is a major stressor and due to the complexities surrounding it, this study does not analyze the political subsystem.

In the analysis stages of this study, the researcher focused on the Contextual and Resilience analysis of the study area. Not much emphasis was laid on the Factor analysis in this study. The major reason for this is because the current political situation of the Island is a major setback influencing the factors for resilience (institutions, resources and adaptive facilitators)

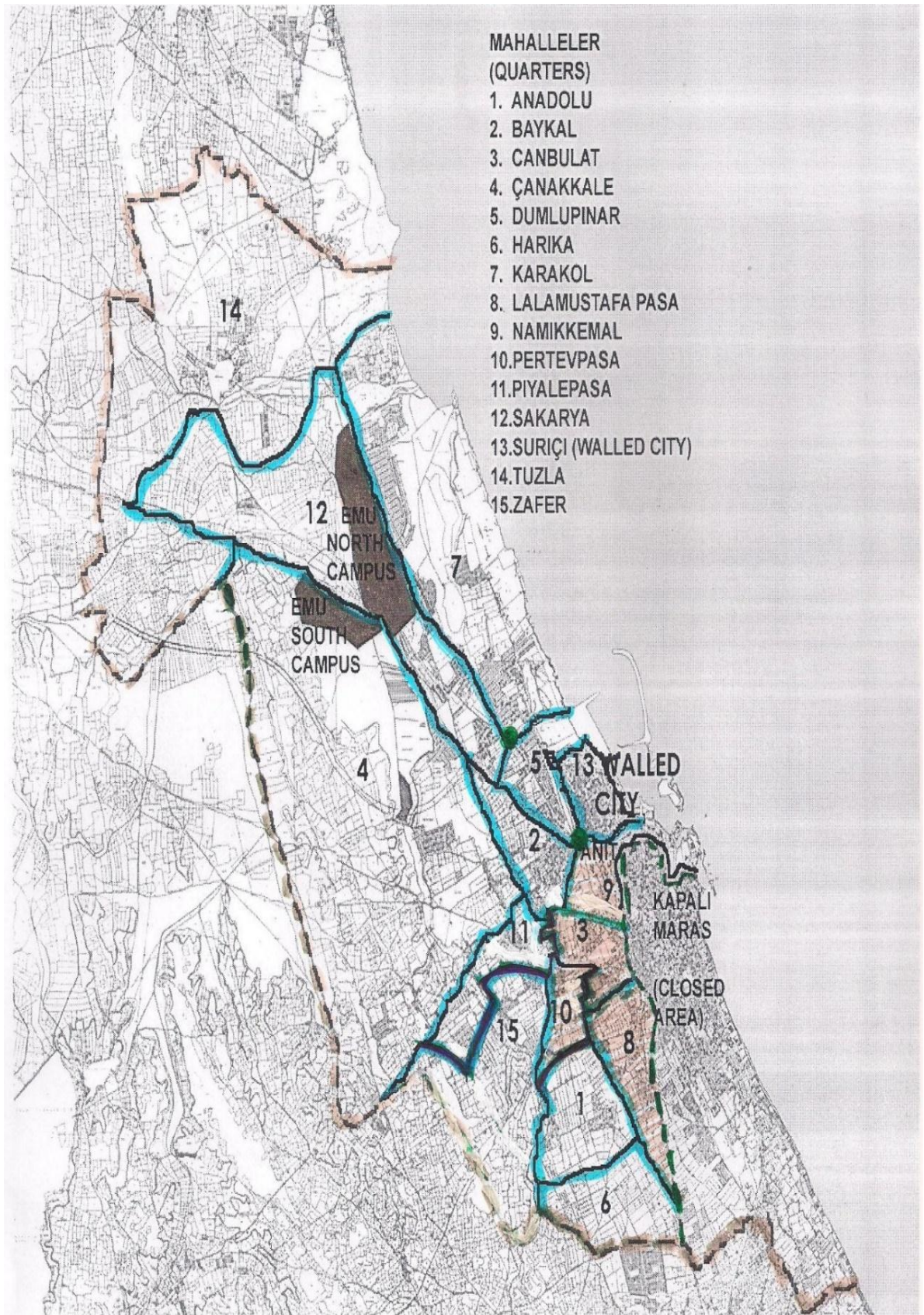


Figure 1. Quarters OF FAMAGUSTA

In this study, the researcher assumes a position that conflict is inexistent in itself but is a result of certain causes which could be termed traits of violence. Violence can either be direct, structural, or cultural. The presence of any of these traits of violence is in actual fact what builds up to several degrees of conflict. Although this study acknowledges the fact that conflicts are often linked with political situations, it does not however dwell so much on the political issues of conflict. Secondly, although this study acknowledges the presence of social issues in conflict and the challenges they present in resettling displaced individuals, the study does not also limit itself to the social character of resettlement. Instead with a more in-depth understanding that resettlement does not simply imply the provision of a house or shelter, rather it involves a web of complexities that could prove problematic and affect the victims negatively if not carefully handled (Correa et al., 2011). This research approaches this topic and tries to view the housing environment as a complex system consisting of several subsystems (such as Social, Economic, Environmental and Political subsystems). Therefore, an in-depth enquiry in the study area (Aşağı Maraş) is carried out to understand the conditions of complexities within the study area 40 years down the line. Aşağı Maraş was chosen as the case study area because of the current imbalance (in terms of development) that exists in the area when compared with the other parts of the city of Famagusta. This imbalance reflects very strong effect of the conflict between the North and South of Cyprus (e.g the closed and inaccessible parts of Maraş). Aşağı Maraş is seemingly backwards in its development and may be exposed to several stressors. This is also dangerous because it increases the vulnerability of Aşağı Maraş in the face of a serious shock.

Understanding the complexities involved in post conflict situations is thus very important in analyzing different levels of issues with a view to discovering practical

solution that could be applied in such cases. Embarking on this journey will throw more light into the process of transformation of societies from a period of acute conflict to a period of peace or relative peace. A move from what is considerably taken to be instability to a period of stability or relative stability, from imbalance to balance or relative balance; a period of guns and weapons to a period of evening walks and storytelling; a period of fear and doubts to a period of strength and trust. It is important to know and understand the practical approaches that have been taken both by victims and all those involved in providing relief in times of very serious civil unrest. Also, since the beginning of the civil conflict of Cyprus, there have been numerous documentation on displacement on the part of the Greek Cypriots the several challenges faced by their refugees, there is however an insufficient documentation of studies that specifically focus on the displacement and resettlement that occurred on the side of the Turkish Cypriots and how it affected them (Bryant, 2012).

1.5 Methodology

The method used in this study is based primarily on both documentary surveys and a case study. The literature survey began with a background review of conflicts with respect to housing and then gradually connects the reader to understanding the housing environment as a complex system with several subsystems (Environmental, Social, Political and Economic subsystems). The literature survey was done based on key concepts of conflict, housing environment, public spaces, resilience, shocks, and stressors. The underlying question was how to reach resilience with respect to the subsystems. Therefore both qualitative and quantitative techniques were used during the case study investigations. This was achieved through the use of structured interviews with key people within the study area, and also the use of structured

questionnaires. The researcher employed the use of figures, sketches and photographs and maps for clarity of the study.

1.5.1 Data Collection

Data collection was of both primary and secondary sources and was void of bias or subjectivism. However, due to the major challenging factor in this study (the fact that the researcher was a foreigner and needed to gain the trust of the locals within the study area), a tactic was developed to BREAK the ICE and create a friendly research atmosphere. For this purpose, the researcher had to get the approval and support of district chiefs in order to carry out a successful research within the study area. The ability to get respondents to share their feelings and experiences after an aggravated conflict can prove to be difficult especially in cases where there are seemingly threats of military intimidations. In such cases, respondents will often prefer to wave off any form of interviews. They see people approaching them for enquiries as to issues relating to the conflict as investigators. This was the case in the study area.

The children living in the case study area can play a very important role in a research process as was the case in this study. Therefore drawing the children into a friendly position with the researcher and allowing them have an idea of what the research was all about could make the study a household discussion. This act alone could gradually attract the interest of the parents and other adults to the study.

1.5.1.1 Primary Data

Interview and Questionnaire Survey

A total of 10 in-depth interviews were conducted with key personalities consisting of Turkish citizens as well as Turkish Cypriots. These key personalities included district chiefs, NGO members, municipality workers, teachers and taxi drivers, older citizens. The interviews guided the researcher into choosing a direction for the

analysis. A total of 120 questionnaires were distributed within the study area but only 100 of them were eventually used. This was because of missing information from the survey answers.

The groups of people that were interviewed include; students, teachers and parents. Special interviews were also conducted with the Elderly people within the study area who had been around for as long as the time span of the conflict, municipal workers and members of government organizations involved with the study area.

Semi-structured open and closed ended interviews were designed for the purpose of data collection. The questions asked were formulated in accordance with the desired objectives of the study. Babbie (1992) pointed out the importance of close ended interview questions, as they help in filtering out unwanted and sometimes controversial extreme responses from respondents. The researcher can use a set of close ended questions to keep the respondents within the focus of the study. The open ended questions on the other hand provide a freer atmosphere in the sense that respondents are not limited to any set options for their responses. The open ended questions or interview often times give a clearer picture of the situation. The questions comprised in both the open and closed ended interviews were designed to gather data that addressed issues of housing quality and acceptance, household demographics, income levels, education, security and interaction with public spaces.

The researcher used the services of both a female and male research assistant during the process of collecting data. This was because of the language barrier between the researcher and the respondents. The research assistant was useful as an interpreter for both the researcher and the respondents. The presence of the female assistant also

influenced the openness of especially the women in the study area, most of who appeared to be shy but didn't mind talking to a female.

Observations

Observations involve a careful and systematic and self-aware approach for documenting all necessary and useful information during the field study (DeWalt & DeWalt, 2001). These observations are made from an objective point of view without any sense of manipulations. Marshal (2006) holds the views that the field note of an observer should bear concrete descriptions that are detailed enough to give a clear picture of what has been observed. The greatest task or challenge of the observer is how to make the researcher welcomed within the setting of the case study, without being considered to be an intruder. The observation process during a field study can be carried out using very well structured checklists that pay attention to behavior or a more general approach.

The observations of a researcher during the process of data collection is very important in order to reduce the over dependence of a research on mere interviews which could eventually prove to be inadequate as suggested by Patton (1990), since in many cases there is actually little learning that could be done by merely listening to what people say during interviews. This technique in qualitative research is usually time consuming and labor intensive and thus requires that the researcher sits for long hours while studying the area. For the purpose of this research, participant observation was majorly centered on the accessible areas of Varosha/ Marash, paying attention to the outdoor architectural meaning and context of the space and their characteristics.

Story Telling and Narratives

In many situations, careful examination of cases reveals that past experiences can play out in different ways in the future. Memory and the ability to remember thus become important shaping tools for future developments (Benjamin, 2002). Especially in the social sciences research fields, objective criticism and meaningful interpretation of events is made possible by active reflections on the stories told by individuals within the study field. The story telling tool used in this study does not assume a subjective interpretation and is not aimed to create a biased appeal in the interpretations thereof.

Storytelling is a creative and repetitive experience that is re-lived every time a story is told. Stories often contain very useful information for understanding people's perception of the conflict, their needs, and fears, to mention but a few. The challenge for researchers who choose to use this tool in their field work lies in reasoning through a logical standpoint, in order to be able to critically decide what parts of the story is suitable and what parts may appear to be exaggerations of an event. This is because a story teller who speaks from an experience may tend to mix personal sentiments with the actual event that he/she is narrating.

“...traces of the storyteller cling to a story the way the handprints of the potter cling to the clay vessel” (Benjamin, 2002, pp.149).

While interviewing the respondents, video imaging was used in capturing useful information for the study. This was done with the permission of the respondent. With the video images, it made it easier to have a more critical perspective while analyzing

the data collected. In cases where respondents did not favor video imaging, the researcher simply took down notes while the interview was ongoing.

1.5.1.2 Secondary Data

Readily available compendia were a useful source of secondary data in this research. This technique involved the use of Existing Visual documentations and Related published literatures. By employing these techniques, the secondary data sources were useful for reference purpose and to give a broader scale for comparison and reasoning in order to be able to establish confidence in the validation of the data collected. The process of the combination of both writing and analyzing a case as suggested by Goetz and Lecompte (1984) shall have an effect all through the research in order to provide a basis for validating the research.

1.5.2 Framework and Research Structure

A framework with two major parts was proposed for the study. The first part concerned the literature review and the second part guided the researcher into enquiries within the case study. The literature review is a gradual buildup from conflicts as a man-made disaster which influences or affects the housing environment in different ways. The post-conflict housing is discussed in terms of short term and long term conditions. Literature on resilience is also reviewed in order to understand what has been done in past research works on resilience. This guides the researcher into making useful observations and understanding of the process of resilience in a post-conflict environment.

These conditions are considered as shocks and stressors. However for this study, more emphasis is laid on stressors since the area that is being studied has long overcome the period of shocks. Resilience is studied within the frame of the neighborhood with a consideration of several subsystems within the housing

environment. These subsystems are analyzed with respect to different elements and factors of resilience. An illustration of the frame work for the literature survey as developed by the researcher (Fig. 2). A detailed explanation of the second part of the framework is given in chapter four of this study.

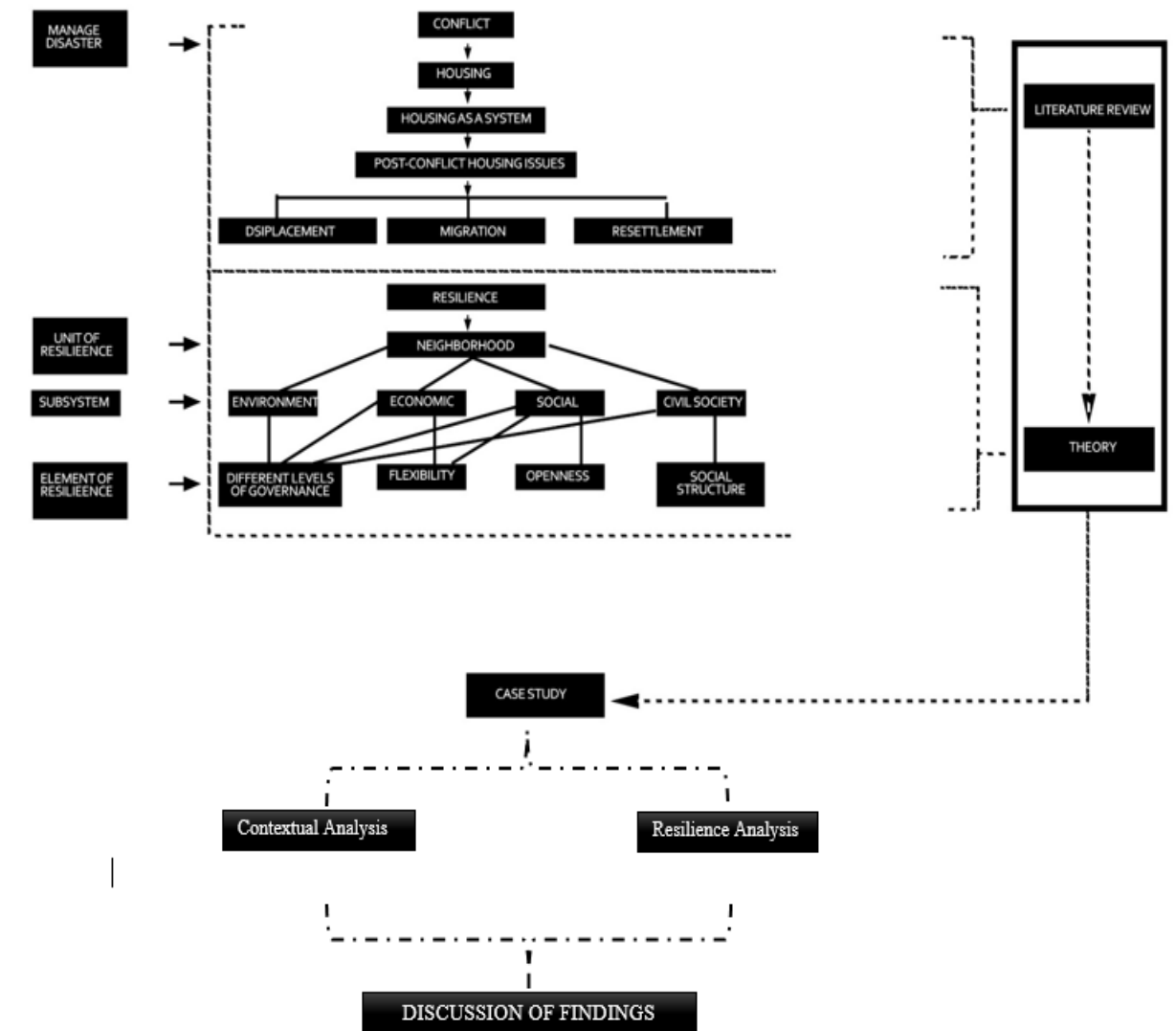


Figure 2. Framework for research

Chapter one begins with an introduction to the title of the thesis. It gives vivid background information into the matter and the various sub themes under which the study is carried out. The main problem within the study area is identified in this

section with a clear explanation of the aim and objectives for carrying out this study. The limitations within the study area and within the theoretical framework of this discussion are also highlighted. The chapter then opens up into a subsection that briefly discourses the methodology involved in carrying out the study. The rationale for the study and the knowledge gap within the context of research and available published academic literature are discussed within this chapter. In this chapter, important concepts that are very much linked with the study of post conflict resettlement are discussed. The concepts include recovery and vulnerability within the context of resettlement and resilience. A detailed explanation of the methodology adopted for this study is given in this section. The methodology is justified from a series of theoretical backing from published literatures on similar conflict issues

Chapter two begins an insight into post-conflict housing. Several literatures on the subject were reviewed and leading to a breakdown of the study into housing environment and conflict. It then discusses the post-conflict housing environment as a complex system consisting several subsystems. Displacement is then looked into as one of the problems encountered as a result of conflict situations. It further discusses two very important categories of displacement induced by conflict – Internally Displaced Persons (IDPs) and Externally Displaced Persons (EDPs). Resettlement occurs as a result of displacement, therefore, this chapter discusses resettlement both in short term and long term situations. In post-conflict situations there are both immediate and long term challenges that can affect the victims. The short term or immediate challenges are referred to as shocks while the long term challenges are referred to as stressors. Since the study is taking place about four decades after the conflict, the study area has gone beyond the shock stage. Therefore the chapter

concentrates on stressors and discusses the following stressors: Environmental, Economic, Political, and Social stressors.

Chapter three of this study goes deeper into discussing the theoretical framework of resilience in relation to the post-conflict housing environment. The concept of resilience is discussed with a focus on resilience on urban studies. The researcher then goes further to highlight and discuss certain elements that important for resilience. They include flexibility, openness, effectiveness of several levels of governance and social structure. In a broader perspective of the discussions, the pillars of resilience are highlighted as the researcher discusses resilience with respect to subsystems. Because of the already existing political stressor which has become a limitation in this study, the researcher concentrates on three subsystems: social, economic and environmental subsystems. All of these gradually build into chapter four of this study which deals with the quest for resilience in Aşağı Maraş (the study area). It starts with a contextual analysis of the study area, highlighting the Cyprus problem in terms of conflict, displacement and resettlement, the case of the IDPs and EDPs. This chapter presents an account of the study area from historical account and gradually opening into the present day. After the contextual analysis, a resilience analysis is carried out for the study area (Aşağı Maraş). At this stage, it focusses on two subsystems (Social and Environmental subsystems) and deals with flexibility, openness, and levels of governance as important elements for resilience within the stated subsystems. All of the discussions and findings finally build up to the concluding chapter (chapter five)

Chapter 2

POST-CONFLICT HOUSING

Post-conflict housing in this study is presented with three main keywords in mind; conflict, displacement, and resettlement. With an understanding that there are different causes of displacement, this section focuses on such displacements that are induced by conflict. According to United Nations International Strategy for Disaster Reduction (UN-ISDR, 2009), disaster (such as conflicts) is a serious disruption of the functioning of a community or society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources. Different classes of people in the society are affected by conflicts in different ways and their reactions are in many cases based on individual differences, age, gender and experiences. For instance in times of conflict, the high risk individuals consist of the children, the old and in some cases the women.

The war was more devastating for the weaker and less tolerating people such as children, women, elders, and patients. The war also helped in raising a generation of children who believe that war and destruction are regular elements of life instead of considering them as negative aspects (Muhanna, 2008).

2.1 Housing environment and Conflict Overview

Conflicts are one of the major detractors to nation building and often could lead to the total collapse of a nation's economy (Carbonnier, 1995).

War is the most significant threat to sustainable development...war destroys the social, economic and ecological resources that are desperately needed to improve the welfare of people and the viability of communities and the planet” (ICLEL, 2003 referenced by Somma, 2004).

The above statement is visibly true in every nation that has in the past or that is presently faced with continuous civil and/political unrest. In his book; there was a country, renowned author, Prof. Chinua Achebe laments on the effect of conflict.

...the Biafran war changed the course of Nigeria... it was a cataclysmic experience that changed the history of Africa. There is a connection between the particular distress of war, the particular tension of war, and the kind of literary response it inspires (Achebe, 2012)

While international wars may attract greater global attention, the world today faces mostly civil conflicts (Collier et al., 2003). As a direct consequence, the victims of conflict are increasingly civilian populations rather than military forces (Cairns, 1997). Armed groups deliberately target civilians to induce forced migrations, both to acquire loot to augment resources and to reduce the fighting capacity of the enemy (Azam & Hoeffler, 2002). Apart from the death rate, internal migration and international migration, the collapse of the economy, amongst others, there are also other stress related syndromes which could be induced by memories of conflicts or the lurking fear in the minds of individuals. Records show that already by the year 2005, due to civil conflicts, nearly 32 million people were forced to seek asylum, either within another country or within their own national borders; 21.0 million of them were displaced persons (USCR, 2006).

Several studies have revealed that housing problems is one of the major challenges that arise as a result of conflict. Whether for short term displaced individuals or long

term needs, housing issues vary from one post-conflict region to another (Azam & Hoeffler, 2002). Hurwitz et al (2005) argue that conflicts can hinder developments geared towards the housing sector. Housing is an important part of every individual's existence. According to the Universal Declaration of Human Rights (Article 25.1);

“everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing, and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control”.

There are several determinants for investigating the quality of housing in a region. At the household and neighborhood levels, there are important factors for consideration. They include demographic characteristics such as household size, age group, income level, education, government policies, land tenure, formal and informal social network systems. Quality ratings are high when there is an effective provision of support systems for the smooth functioning of the community. According to Ahmed (2004), support systems include material development, resources management which enhances the safety of the households and their sense of belonging. The availability of proper institutions and infrastructures boosts the ability to withstand external shocks (Adger, 2000). The deployment of resources to neighborhoods and residences is for the satisfaction of households and the community. Satisfaction in this case is affected by both tangible and intangible determinants. Such as, physical and social characteristics, personal experiences from previous housing environments and the technologies in place (Oktay et al, 2009 and Pacione, 2001).

2.2 Post-Conflict Housing as a Complex system

Viewing the Post-conflict housing environment as a complex system allows the researcher to discuss the housing environment from different perspectives depending

on the context of the study (Portugali, 2012). According to Haines (2000), the systems thought pattern can be applied in various contexts. It considers a broader scale of interactions as opposed to downscaling them to “smaller parts” (Checkland, 1999; Senge 1994; Haines, 2000 in Hasic, 2004). It strengthens the natural human tendencies that try to break problems down to manageable sizes as viewed by the reductionist concept (Midgley, 2000).

The housing environment could thus be viewed as a system comprising of several subsystems (such as social, environmental, economic and political subsystems). Within this frame, the various interactions of subsystems with one another affect and determine the general outcome of the systems. The subsystems overlap each other and are not connected in a linear order. According to USAID, 2014, a complex system consists of:

“Multiple parts that are interdependent and produce outcomes that are not necessarily predictable based on any one part’s function, but by how the parts interact within the system”.

This therefore suggests a level of interaction that exists between the different subsystems. Although such interactions exist, each subsystem is both interrelated and yet independent. Within this context, a community may be regarded as a group of individuals who have certain similarities in their experiences and exposures. The actions within each subsystem affect and determine the reaction of the system.

The complex systems approach in practice is quite similar to the game theory structured in 1947 by Neuman and Morgansten. In this case, the actors were counted as players and the game theory was used to analyse “strategic interactions”

of the players (URL 4). Usually in post-conflict situations, the task/goal is the immediate needs of the affected community or groups (Salmon and Lopez, 2010). However, as stated earlier in the introductory chapter, this study focuses on the long term housing situation and needs of post-conflict areas. In post-conflict studies, the resilience theory is a platform that presents different approaches that can be applied in both short and the long term considerations of the housing environment (UN, 2001; Tanner et al., 2014).

2.3 Displacement Induced By Conflict

Different patterns of migration are created by reason of the human displacements resulting from conflicts. Migration can be internally or externally, voluntary or involuntary. When individuals are forcefully displaced, in many cases, they are also forced to migrate. Forced migration in this sense also leads to involuntary resettlement. Voluntary migration and resettlement on the other hand is an action based on one's free will of choice. It could be influenced by certain incentives or coarse, but in the long run it still boils down to one's choice. Although the effects of conflict can be either immediate or futuristic, these effects can be grouped under three main headings, which are: Social, Psychological and Physical (SPP).

Social:

Resulting from the losses during aggravated civil conflicts, there could be rearrangement in the social structure of the society. People who before the conflict were able to afford certain services or provisions may not be able to do so after the conflict. Children for instance may end up dropping out of school as was the case in certain African countries. In South Sudan for instance, the UN Children's Fund

(UNICEF) recorded that 14% of Children living in South Sudan stayed out of school during the conflict that lasted about two decades. This is only one of such cases.

Psychological:

Several connections and links can be made between people's interpretation of traumatic events and the meanings they make out of them (Bruner, 1990). These interpretations have a significant effect on the post – conflict recovery or rebuilding process. People could either feel more attached or less attached to a place after continuous conflict, depending on the nature of losses during the conflict.

Physical:

This is the most visible and obvious effect of a conflict that could be felt not only by those living in the affected area but also by visitors. The destruction of properties and infrastructures affect the physical state of a society. The challenge encountered in post – conflict resettlement often times is felt more when it comes to the issue of housing provision. In this case proper planning for both short term and long term housing of displaced persons becomes the key to the success of the resettlement process. After armed conflicts, one of the major needs of the affected area is a systematic approach towards rebuilding. Ideally, the recovery process should involve both active and passive strategies that are all encompassing in rebuilding the society both in terms of psychology and the physical environment. However, it should be noted that among all other policies, achieving an effective postwar reconstruction policy is obviously the most stringent (Cowen and Coyne, 2005).

As mentioned earlier, armed conflicts or civil disturbances can have varying impacts that affect the housing environment on different scales. The loss of houses leading to

displacement has been sighted as one of the major consequences of armed conflict. With this background understanding and for the purpose of this thesis, two kinds of displacement will be introduced with more emphasis laid on the second. They are internal displacement and across border displacement. This study refers to victims of across border displacement as refugees.

2.3.1 Internally Displaced Persons (IDPs)

According to OCHA, record shows that an estimated number of 25 million people across 52 different countries are currently living as displaced individuals. The factors responsible for such displacements include disasters, both natural and manmade (violence, abuse). Although they are displaced, these individuals still remain within the borders of their own countries. This phenomenon has given rise to what is globally accepted and termed as Internally Displaced Persons (IDPs). UNHCR defines internally displaced persons (IDPs) as displaced individuals who have remained within the borders of their home countries. They are usually displaced and often times victims of civil conflicts. They account for one of the world's most vulnerable groups (UNHCR 2012).

Both human rights and international humanitarian laws permit these people to retain the protection of their government if they remain within the boundaries of their home countries, even though the displacement might at times be caused by the government. Most of the people living as IDPs within Europe, Central Asia and the Caucasus had been living in this condition for at least 18 years. The records of the UNHCR have the number of those within the above mentioned region and living as IDPs to be 2.5 million as at 2011. Often times, IDPs do not find durable solutions and so they remain displaced for a longer period of time. This is usually referred to as protracted displacement. In many cases of protracted displacement of IDPs, the human rights of

the displaced individuals are violated. The problems faced by IDPs include; security concerns, difficulties encountered while trying to flee from areas of conflict and restrictions to certain spaces. In the search for services, internally displaced individuals tend to move to urban areas thus causing the process of Urbanization to occur. There is usually an inadequacy in the employment opportunities for these individuals and this affects their general livelihood. Other problems encountered by the displaced individuals include access to quality shelter, land and other infrastructures such as; water, sanitation healthcare services and education. Issues related with gender are also encountered as in many cases, the women are not considered for active contributions in matters that concern IDPs.

In many cases of displacement and resettlement (especially involuntary or forced displacement and resettlement), there is a tendency to encounter a phenomenon which suggests a position of either winning or losing – winner or loser as the case may be (De Wet, 2000). Deciding who wins or who loses thus becomes a dilemma to be dealt with in order to have sustainable outcomes. More often than not, it is very natural for every party involved in this process to desire a win-win position. Therefore drawing a benchmark for resettlement becomes very challenging. As correctly noted by De Wet (2006), in many cases of resettlement, the very necessities that are required to make the process work are usually neglected or lacking.

2.3.2 Externally Displaced Persons or Refugees (EDPs)

There are several interpretations and meanings that have over the years been used to explain and describe the term EDPs or “refugee”. For example, according to the UN Refugee Agency, an EDP or refugee could be regarded as a person or group of persons seeking protection outside their country owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular

social group or political opinion, is outside the country of his nationality, and is unable to, or owing to such fear, is unwilling to avail himself of the protection of that country."(UNHCR, 2011). Amongst other factors that could be responsible for one to assume the status of a refugee, this study is mainly interested in those displacements resulting from conflict. Continuous conflicts are a global threat to human life and security. This constitutes an important reason for which people flee from their countries and are willing to subject themselves to certain harsh conditions in the hope of a lasting freedom from inhumane conditions in their home countries.

2.4 Resettlement

According to Global Land Tool Network (GLTN, 2010), resettlement can be viewed as being either onsite/offsite, voluntary or involuntary and can be attributed to natural or manmade causes. Often times, resettlement is seldom discussed without making references to other terminologies like displacement, relocation, reconstruction and rehabilitation. These terminologies could apply depending on the impact of the factor responsible for the resettlement. Very interestingly, the United Nations Commission on Human Settlements (UNCHS) views relocation as a process which involves moving people from one geographical location to another and it involves providing both or one of the following; land and/or housing (UNCHS 1991). Although certain authors such as L.J. et al (2000) may use the term displacement interchangeably with relocation, this study chooses to view both as being different. While the former is the result of a problem, the latter is a possible consequence of the former. In a cycle from a problem to a solution, displacement comes before relocation and especially in involuntary situations. On the other hand, relocation and resettlement could qualify to be used alternately as both imply the physical movement of a person or group of persons from one place to another either for a short time (temporary) or long time

(permanent). Speaking of forced resettlements, Forced Migration Online (FMO, 2010) highlight's three main categories under which such resettlement patterns can be grouped. They include: disaster, conflict and resettlements resulting from development plans or projects.

GLTN (2010) stipulates that in order to have a resettlement structure that is easily acceptable by the displaced group, it is essential that provision should include adequate housing (shelter), means of livelihood, security (both human and tenure), basic infrastructure and essential services and the right to own assets. In this study, source of livelihood may be interpreted according to the thought pattern of Hussein (2002) who sees it as the ability to both handle and bounce back from stressful events using the available resources while still ensuring that resources are not depleted. The term forced resettlement as used by Turton (2006) connotes a resettlement enforced by government and arising from politically inclined goals. A clear example of forced resettlement is human displacement that occurred in Cyprus, as a result of the 1974 political and civil unrest. This resettlement pattern usually creates various degrees of problems within the community of the resettled individuals. Generally speaking, conflict has its own costs. The costs of conflict could be evaluated by the effect it has on humans, the economy and the environment. A cumulative of all of these cost items gives a clearer picture of the colossal impact of conflict. This can be used in cataloguing the number of people affected by conflict.

The National Strategy for the Development of Statistics (NSDS) categories conflict economies into three major groups. They are Combat economies, Coping Economies and Shadow economies. For the purpose of this study, the second category will be dwelt on as it directly relates to the case that is being researched on in this thesis.

According to NSDS definition of a coping economy, “it refers to the economic activities of the civilian population that tries to survive and cope with conflict” (UNDP, URL 1) and the lingering effects of conflict. Within this category, many countries can be highlighted, such as; Afghanistan, South Sudan, Nigeria, North Cyprus, to mention but a few. The UNDP explains several methods of analyzing conflicts. These methods can be applied to the housing environment since it is also greatly affected by conflicts.

It is important to understand and be able to differentiate and distinguish conflict factor from another. Conflicts can be rooted in very deep long lasting political issues or marginalization. Often time when victims of such political malpractices are fed up with the system, they often burst out. Such matters can be complex and irrational at times. The structural causes could stem from things like unequal access to and distribution of facilities and infrastructures. This situation creates an imbalance that could lead to a reopening of old wounds. The triggering factors of conflict are dynamic just as conflicts are also dynamic. Maier (2010) explains how it is difficult to often times draw a correlation or distinguish between the triggering factors of a conflict and its root causes. This shows how interrelated and yet complex the various causes of conflict can be.

2.5 Post-Conflict Housing Shocks and Stressors

Shocks are sudden events that impact a community, and stressors are long-term pressures that undermine stability and increase vulnerability (USAID 2013)

In many cases of prolonged armed conflicts, shocks arising from inequalities are created which could lead to social isolation and economic dislocation of residents affected by the conflict. This often spirals into other problems such as disinvestments and a gradual decline of the urban sphere. Marginalized groups within this context should be considered as being inclusive as communities with a high population of low income earners are usually prone to more serious shocks, thus they experience more difficulties to stabilize (Vale et al, 2014). With the increase in civil conflicts around the world, the rate of resettlements has increased. People need to be assured of their safety and security and in most cases of conflicts, such securities are not guaranteed. Thus, people move out from one location to another either willingly or forcefully.

One of the major shocks encountered in post-conflict situations is the problem of settling the category of displaced individuals which in this case could be grouped and termed homeless (for a short or long term). Rossi et al (1987) suggests two distinct classes of homeless people. They include the literally homeless and people who are housed in uncanny conditions. Several approaches have been made towards understanding and deciphering this broad context, but one method that seeks to holistically give insight into the context of displacement and homelessness is the anthropological approach. “Careful and intensive fieldwork, and a philosophy of cultural relativism, that is, understanding how each element of culture fits into the larger cultural context without passing moral judgments, form the intellectual underpinnings of anthropological homelessness research” (Bridgman and Glasser, 1999).

Post-conflict stressors can exist in different forms and the effect of such on individuals cannot always be generalized, they vary from one individual to another. Stressors can arise due to natural courses (Claayer et al, 1985; McFarlane, 1995) or man-made courses. Miller and Rasmussen (2010) argue that there is a parallel link between stressors from conflict and migration. As mentioned earlier, this study identifies stressors as the long term negative effects of conflict. Therefore it considers stressors of the housing environment as not only limited to an individual or house, but an extended view of the neighborhood or community as it relates to such stressors. Stressors can lead to very adverse disorders that affect the proper functioning of both individuals and the environment (Miller and Rasmussen, 2010). Post-conflict settings often times lead to conditions of daily stressors resulting to “poverty, social marginalization, isolation, inadequate housing conditions” and this varies from one context to the other (see Miller et al, 2008; Brick et al., 2008; Al – Krenawi, 2007). Sapolsky (2004) argues that events are considered to be stressful because of the inability of community to control the effects of such events. For the purpose of this study, four kinds of stressors are identified. They include environmental, economic, political and social stressors (Farmer et al, 2006).

2.5.1 Environmental Stressors and Willingness to Pay (WTP)

Environmental stressors can be viewed from two perspectives – the physical and the ecological aspects of the environment. Therefore, environmental stressors can either be man-made or natural. This study focuses on the non-natural stressors of the environment.

While environmental factors are unlikely a direct cause of conflicts, it is indisputable that the destruction of the environment has severe consequences for societies. (Kostic et al, 2012).

Several authors have tried to draw relationships between effects of conflict and changes in climate (Barnett and Adger 2007; Brown, Hammill and McLeman 2007; Detraz and Betsill 2009; Lee 2009; Nordas and Gleditsch 2007; Raleigh and Urdal 2007; Trombetta 2008). For example, Radmehr et al (2014) argues that within the housing environment, environmental stressors can be eliminated by introducing environmentally friendly systems, e.g alternative energy systems (Fig. 3).

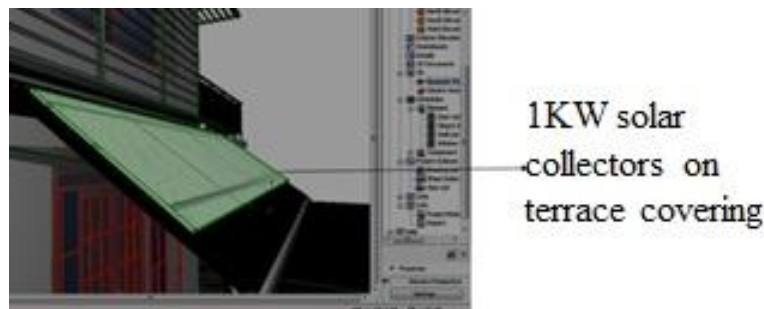


Figure 3. Solar collectors shading elements (Source: Author in Radmehr et al, 2014)

Adopting this measure into the housing environment is in line with the USAID approach to the frame of resilience. Under the Environmental stressors, in post conflict areas, the USAID includes energy sources. It proposes innovative solutions designed to improve environmentally friendly and sustainable practices. Such practices like alternative energy sources are considered as being part of the Adaptive Facilitators (AF) for resilience in post conflict housing settings.

Overall, to reach the goal of maintaining environmental stability and preventing global warming, it could be very helpful to approach the issue of energy conservation from a micro scale and then expand the scale of application of integrated systems once its benefits have been demonstrated. (Radmehr et al, 2014)

Apart from energy related issues, environmental stressors can be eliminated through a conscious effort towards providing facilities for maintaining the physical environment. Such facilities include sanitation, green protection, etc.

2.5.2 Economic Stressors and Willingness to Pay (WTP)

Economic stressors can be defined as stress related issues that affect the financial situation of an individual, state, country or government (<http://thefreedictionary.com>). Economic stressors are linked with environment, politics and social aspect of housing. In post-conflict situations, resilience should be geared towards ensuring that the economy does not collapse as a result of immediate shocks or long term stressors. As mentioned earlier, stressors within a particular subsystem can also affect other subsystems. For example stressors created within the environmental subsystem as it relates to the implementation of alternative energy solutions can become economic stressors for the intended users, if not handled properly. According to the International Labor Organization (ILO) Program for Crisis Response and Reconstruction (PCRR) (2010), economic stressors in post-conflict communities can arise as result of inaccessibility to business development services, unemployment, management of public facilities, difficulties in accessing financial resources and a stringent business environment. At the micro level, it becomes a question of opportunity cost, affordability and need assessments (ILO PCRR, 2010). Economic stressors, limit responsible institutions/ organizations and also the choices of people to what is easily obtainable. European Economy (2009), Valle & Witt (2001), Radhmehr et al (2014) claim a relationship between the economic stressors with environmental and political stressors. According to UNDP (2008) – a report on post-conflict recovery – economic recovery in post-conflict situations simply implies providing different and better solutions, services and

infrastructure for recovering communities. It then is important to establish what solutions, services and/or infrastructure the community is willing to accept or pay for (within the limits of the economic situation).

Willingness to pay (WTP) estimates the stated maximum that a house owner within the study area is willing to part with as an exchange for certain infrastructural development and services. By measuring the demand and preference of people, it becomes easy to map out effective policies and strategies for implementation. The results obtained from a direct survey can be used to structure out the order of preferences and WTP values. Several approaches can be employed in this process, one of which is the contingent valuation (CV) which is very suitable in environmental studies (Radhmehr et al, 2014). The logit model could be used for analysis within the economic subsystem. The model is an analysis tool that can be used to quantitatively determine people's behavior and responses towards certain choices (Willis et al, 2011). This tool can be used to legitimize the potency of people's willingness to pay for or accept certain services or solutions. In planning for resilience, it is important to determine people's behavioral response to certain choices before deciding on the services or solutions most suitable for the community. In Radhmehr et al (2014), it was discovered that the behavior of people towards their WTP for new innovations is dependent on the cost of the solution (Fig. 4). The lower the cost, the more willing they are to adopt the solution. This is referred to as the survivor function for the willingness to pay for a solution.

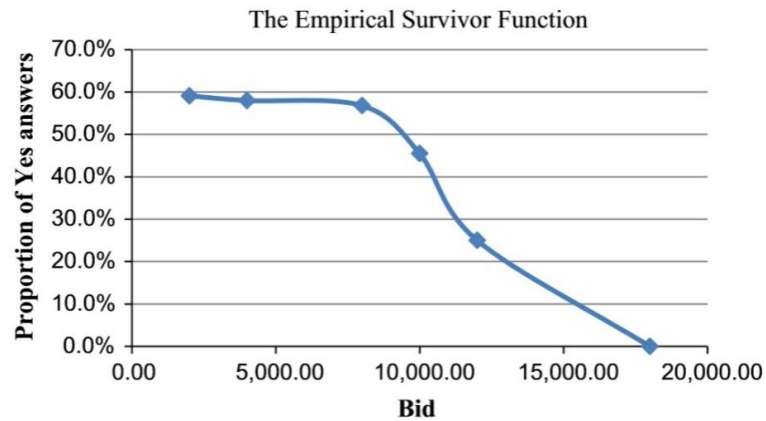


Figure 4. Survivor Function for WTP (Radhmehr et al, 2014)

2.5.3 Political Stressors

In countries where violence has ended or a formal peace settlement has been concluded, the population faces the massive task of rebuilding their nations. In this post-conflict phase, the state's authority has often collapsed completely. What remains of the government has often lost its legitimacy because it has failed to provide its citizens with security or prosperity. In an overwhelming number of cases, post-conflict phases are thus periods of precarious and chaotic transition rather than the more ordered progress previously envisioned. (Debiel et al, 2005)

'Stress' according to the oxford online dictionary is an exerted force or tension. On the other hand, a stressor is the factor responsible for such pressure or tension. Political tensions often are responsible for a range of stress among different interest groups

(http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1043&context=psyc_d_fac). Again the question of how much people are willing to allow or accept (WTA) becomes a determinant within the interest groups. Political stressors are structural in the sense that they are interwoven into all other aspects of the housing environment (Farmer et al, 2006). This interconnectedness affects the economy, the environment and social status of the housing environment. Debiel et al (2005) argues on the need to ensure political security and accountability of governments in order to

eliminate fears and strengthen guided development. Political stressors can thus be linked to uncertainties arising from situations of conflict. They involve policies and laws binding on the community. They become stressors when such policies are inconsistent with the expectations of those subjected to them (Valle & Witt, 2001). Such inconsistencies may arise from third party interventions of international bodies, such as the EU (European Economy, 2009)

2.5.4 Social Stressors

Social stressors could exist in the form of inequalities or social exclusions. This could be as a result of a varying belief systems, cultures or status. Promoting a healthy housing environment should seek to eliminate such stressors (Lebel et al, 2006). This can be made possible through healthy and functional public spaces.

The effects of social stressors cannot be overemphasized as they could lead to very difficult situations in post-conflict settings (Cowen and Coyne, 2005). Social stressors can increase the level of vulnerability of individuals living within a post-conflict setting. Therefore a resilient city should be able to overcome such stressors and reach a point where the housing environment is able to “*bounce back to equilibrium in the face of adversity*” (Pendall et al, 2012). Civil Societies also play a very important role in establishing, maintaining, and improving social relationships by engaging in activities across divides and conflict lines through informal exchange, dialogue and joint projects (Ficher, 2011). In recent times, civil societies are gaining power and they are recognized by non-governmental institutions .They are seen as an integral body that strengthens national governance and very important in peace building process¹. Examples of such nongovernmental organizations are Warning and Response Network(WARN) in Africa, The Institute for Security Studies (ISS) in

¹Adele Poskitt & Mathilde Dufranc , ‘Civil Society Organizations in Situations of Conflict’ CIVICUS, April 2011. Pg 6

SouthAfrica, International Alert in United Kingdom, Peace Centre Cyprus, Association for Historical Dialogue and Research (AHDR) in Cyprus, NGO Support Centre in Cyprus, Cyprus Community Media Centre (CCMC).

Chapter 3

RESILIENCE AND POST-CONFLICT HOUSING

3.1 Concept of Resilience

Resilience is a word that was derived from the Latin word “*resalire*” which means “*to spring back*”. It could be used as adjective to describe a situation or someone trying to “*fight back*”. The Meriam Webster online dictionary defines resilience as *the ability to become strong, healthy, or successful again after something bad happens*. CARRI (2013) suggests that the term began to be used in the 1980’s in discussions about disasters. Levina and Tirpak (2006) discuss resilience as being the opposite of interpretation for vulnerability and can be used as a measure for evaluating the usefulness and quality of techniques for adaption (Adger 2006) especially in post conflict situations. Hegney et al (2008) suggest that in the fields of social sciences, the term resilience can reflect positivity or negativity. It can be used to show the ability of a system to either adapt or persist.

Giving a generally standardized definition to resilience is really tasking because it describes the make-up of either a solitary system or object. Before we can further inquire about the property of any discipline, we need to give insight to its nature. The views on a singular object may pose difficult but it is easy to address anything as a synergized whole; it could be a person, a community, government, city etc. We can term them strong, weak, resilient, susceptible to danger, ineffective, unsustainable or vulnerable. Hence, to be able to define resilience in systems, we need to break down

the term. In this case, the system is used to describe a group of agents in a relationship as well as the relationship between these agents. Even though there is wide range of possible “system” definitions, the definition of resilience must once and for all be pliable or versatile whilst maintaining the same theme, which is, the capacity of the system to remain functional and effective in spite of external change and unexpected shocks. Hence, in order to effectively utilize the resilience concept, one must first answer the question “The resilience of what to what?” (Carpenter et al., 2001). Since there is no generally unified definition of resilience, different disciplines have defined resilience as it fits their schematics and according to the categories of issues they address. Carpenter and Brock (2008) have described resilience as a “broad, multifaceted, and loosely organized cluster of concepts, each one related to some aspect of the interplay of transformation and persistence.” (Carpenter and Brock, 2008). Resilience can be interpreted based on inputs from different fields of study. All of these are connected and can be linked to the resilience of the housing environment.

Engineering

Looking at engineering resilience is not for the sole purpose of looking into the intricacies of engineering but to be able to read the deeper meaning of the rigorous use and definition accorded it. The use of the term resilience has deep roots in fundamental sciences like physics and chemistry which give insight to the properties and behavior of substances like metals. Understanding these properties make it easy for engineers to decipher what materials to use for specific purposes. When external force is applied to a resilient material, it changes its shape but when that force is lifted, it returns to its original shape and form. For instance, if anything that has weight or mass is put on a scale, it reads a different number from zero but if that

weight is lifted, the scale returns to its original number; zero. There are terms that can be used to describe the features of such substances. The first term is a measure of resistance, the second a measure of elasticity, and the third the stability (Bodin & Wiman, 2004); i.e. how much do the substance/ material bend to a given force; that is, how much does it resist being bent? Second, how quickly will the material return to its original shape? Lastly, what is the highest level of stress a material can withstand so that it does not break or become permanently deformed? It provides a basis for integrating technology with housing in order to tackle problems within the housing environment. Hence, how quickly can a system in form of a community, district, city or nation return to its original state after been hit by external forces like war, conflict, natural disasters or economic holocaust.

Psychology

Two schools of thoughts that characterize resilience in psychology are; from the study of how disaster and external change impacts on families, the other observes how certain children are able to escape falling victim to many of the unpleasant situations that plague their peers especially when they were born into abject poverty.

In a nutshell, family stress theory which originated in the 1940s suggests that resilience is a property of a family system. One cannot fully shed light on resilience without paying attention to the relationship and interactions between family members which influences the properties each member possesses.

In determining resilience, one chooses the outcomes such as unemployment and crime; risk factors such as poverty/lack, disaster, conflict, and social nuisance. An absence of negative outcomes such as the ones listed above shows resilience. Thus,

“resilience can be defined as good outcomes irrespective of acute threat to adaptation or development” (Masten, 2001, p. 238). Emmy Werner, who led a study, defines resilience as “good developmental outcomes despite high risk status, sustained competence under stress, and recovery from trauma” (Werner, 1995, p. 89).

Several studies have been done on many targets and resilience studies in this line have focused their attention on people and families. They are most often times focused on those who have faced acute disasters and conflicts or those who have high susceptibility to serious danger; although this is not always the case. Very early examples include Hill’s study of family separation and reunion in 1949 due to the second world war (Hill, 1958) and Antonovsky’s study of adults who survived concentration camps in 1971 (Antonovsky et al., 1971).

Earlier studies on individual resilience paid more attention to adaptation in harsh conditions such as poverty (Masten, 2001; Werner, 1993; Rutter, 1987). The more traditional approach to studying adverse conditions as it relates to growth and adaptation was through observing, evaluating and identifying those factors that put people at risk such as environmental factors, family conflict, social and psychological degradation. Some of the terrible results of these factors include illness, high rates in crime, drug abuse just to mention but a few. This has hence been referred to as the “risk factor” approach and it leaves policy makers with two good instrumental actions: reduce risk to the barest minimum where possible, and redevelop when it’s necessary. The assumptions were; those people susceptible to diverse risks would have some unpleasant results (Masten 2001).

Walker and Salt (2006) define resilience as the inherent ability a system possesses to “absorb disturbance” of varying magnitude and yet maintain “its basic function and

structure”. It involves the adaptability to change while maintaining its unique identity (Folke et al., 2010). Carpenter et al. (2001) use three basic criteria for describing resilience. The criteria include: ability to cushion disturbances without losing a state of attractiveness, the extent of self-organization possessed by a system, ability of a system to improve on or build adaptation capacity. In this sense, resilience can in many ways be related to the discussions on sustainability since it involves and pursues a goal to sustain and maintain all aspects of the economy within a functionally defined spectrum (Folke et al. 2002). According to Walker et al (2004) and Adger et al (2005), the resilience approach is most suitable for defining possible pathways for future developments especially within communities whose future cannot be specifically predicted. Pisano (2012) sees resilience as the continuous adaptation to change while still remaining bound by certain “critical thresholds”. This thus involves considering the possibilities or opportunities that could be created as a result of disturbances (Folke, 2006). Two key terminologies that go hand in hand with resilience are adaptability and transformability. Often times, these terminologies can intertwine, therefore they cannot be neglected in the discussions on resilience.

“At the heart of resilience thinking is a very simple notion – things change –and to ignore or resist this change is to increase our vulnerability and forego emerging opportunities. In so doing we limit our options. Sometimes changes are slow (...); sometimes they are fast (...). Humans are usually good at noticing and responding to rapid change. Unfortunately, we are not so good at responding to things that change slowly. In part this is because we don’t notice them and in part it’s because often there seems little we do about them.” (Cf: Walker and Salt, 2006, pp.9-10)

3.2 Resilience in Urban Studies

Cutter et al (2008) defines resilience as a notion inclusive of inherent conditions which help a system to absorb disturbances as well as the qualities for adaptation which help the system to improve to a level that is considered as good functioning.

Urban studies thus should adopt a position that views resilience at both macro and micro scale (cf. Coaffee/Wood/Rogers 2009: 110-122). The idea of creating spaces that enhance resilience is very important in post-conflict housing environments. These spaces serve to build links and strengthen relationships and communications through social networks. Based on this view, public spaces are perceived as evolving and interactive spaces that create possibilities for social empowerment through formal and informal social networks that are geared towards resilience. According to Goodsell, a public space can be perceived as having both physical and mental characters (mental perception of space here involves its social, cultural, economic and political dimensions) which is influenced by time (Goodsell 2003, p. 370). Such spaces host social activities for the purpose of leisure and also for recreation unlike the private spaces of households (Miller, 2007; Goodsell, 2003; Lofland, 1998), and should be accessible by people, without any form of discrimination (Fig. 5, 6 and 7). This space includes “street, squares, public footpaths, parks, water bodies” (Tibbalds 1992, p. 10).



Figure 5. View of an active street (source: sketch by author)

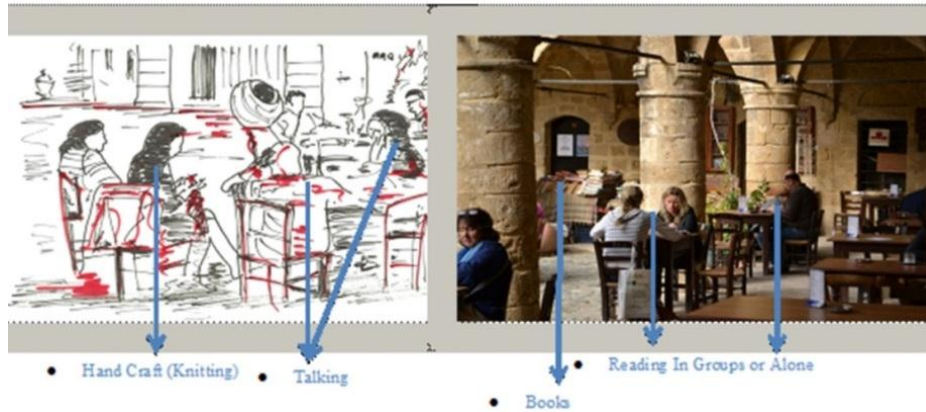


Figure 6. Different street activities (source: photo and sketch by author)



Figure 7. Pictorial representation of an active street showing the different profile of users (source: photo by author)

Singular approaches or focal reasoning may not be suitable to apply to resilience when looking at the urban frame or as Kärholm et al (2012) refers to it as “single artifacts”. It is important to have a broader view of the urban sphere in order to have more options for solving spatial issues for a more resilient environment. Thus ideas and plans should be flexible enough to make the adaptation process smooth and easier. A resilient space may then be defined based on Franck & Stevens (2006), Kärholm et al (2012) concept of “loose space”. The understanding here is that loose spaces create a connection between fixed and non-fixed spatial uses, thus portraying fluidity of space. Fluidity of space can be examined through the public spaces within

the context of the housing environment. According to Thompson (2002) loose spaces, or fluid spaces do not simply mean an open space. It basically is rooted in the nature and design of such spaces to eliminate any form of restrictions.

The key to loose-fit spaces is how they are used and designed to be used, therefore the illusion that open, empty space is not constrained is incorrect—Beijing’s Tiananmen Square may look very open but its use is strictly constrained (Thompson, 2002)

According to William H. Whyte, the social life that is within the confines of a public space has an enormous contribution to the general life quality of both individuals and the society. Whyte therefore suggests the need to create physical places that will facilitate and enhance the quality community engagement and interaction. This is a step in the right direction towards place resilience. Based on Whyte’s studies of space, he endorses the bottom-up approach as the most appropriate approach for space design. Using this approach, the researcher should be concerned about two factors, which are: reason and manner. Reason answers the question of why people use or will want to use a space, while manner answers the question of how they would prefer to use it. (URL 1)

“Architecture is bound to situation. Unlike music, painting, sculpture film and literature, a construction (non-mobile) is intertwined with the experience of a place.” (Holl, 1991, p. 9)

The term resettlement does not only cover and is not limited to the physical context of space. It goes beyond simply relocating people. This statement is backed up by the World Bank’s view as people naturally exhibit characters that are traceable to their spiritual, social, psychological, and even cultural backgrounds (World Bank, 2004). These memories often help in shaping their environments. Thus, when people feel

attached to a place, they pay more attention to that place. This is in line with Whyte's notion that people cast their vote of preference with their feet – choosing to use spaces that are easily accessible and comfortable. Often times, these spaces may not of course be fantastically aesthetic but they are still preferred and are very important for effective resilience to take place. The outdoor environment which comprises of the immediate or close proximity (private or semi- private spaces like home gardens) and the more public spaces are responsible for some of the social bonds that take place within the housing environment. According to Hill (2006) such attachments that people have certain places may not be only restricted to the place and entity, but could also include objects, people, smell or even feelings that are evoked within that community. Outdoor spaces are an important part and element of urban life. They add color and beauty to the spaces of the city and encourage the establishment of activities, and in turn flourish the everyday lives of the residents. As an integral component of the urban landscape, public space dates back age long history found in both the Western and Eastern world. Its definitions are also comparatively different. Place explains the process how individuals create a place out of space within their immediate environment. It highlights the ways in which cultural values, visual perceptions and human control over their environment are integrated together in creating a place out of a space, thereby revealing the 'genius loci' or the spirit of the place. According to Norberg-Schulz, a place could be said to be "the concrete term for the environment..." (Norberg-Schulz 1980, p. 6). Thus it could be argued that a space becomes a place when it is given contextual meaning that is gotten from regional or cultural content. Place then is that space which people carve out for themselves that hold meaning and value for them. They include: niches, streets, neighborhoods with distinct identities, distinct artifacts, smells, sounds, colors and

also characters and meanings that they can defend against crime, misuse and inappropriate intrusion by outsiders.

“Space created by humans that is always contestable, precisely because whereas there are criteria that control admission to its purview, the right to enact and enforce those criteria is always in question. It is open to those who meet the criteria, but it is not owned in the sense of being controlled” (Henaff and Strong 2001, p. 4)

According to Jacobs (1993, p. 4), a street is a public space which plays different roles which could be symbolic, ceremonial, social, and/or political in nature. Based on Donnelley (2010) proposal to the Scottish government, a proper street arrangement should follow a certain acceptable hierarchy that encompasses structure, layout and details. In line with that, the street structure should consist of a healthy relationship and provision of lanes that serve pedestrians and also cyclists. Connections with main roads and also transport systems should be efficient, while presenting a harmoniously characterized street context. Streets should not constitute only motor able lanes but should also include a good and functional integration with parks. Essential services such should also be provided on the streets. Within the context of a healthy street arrangement, details such as drainage systems, green areas and textures are important considerations.

A street is very much different from and not the same as a road (a thoroughfare for vehicular traffic (Carmona et al, p. 146)) and as such, it has two very distinct attributes which qualify it as a street and not just a road: It should be accessible, safe and clean, a place where you would want to meet friends, allow for good and healthy human integration, no age, gender or race discrimination, provide adequate places to sit (street furniture). An active street should have provisions for commercial

activities of different kinds and different scales. Therefore, public spaces are very important parts of the housing environment that provide a platform for interaction. A healthy public space setting should be void of gender or racial bias, and should consciously facilitate positive sustenance of healthy cohabitation. Different kinds of learning process can take place in such spaces without a consciously arranged formal approach to learning. However, such public spaces (e.g. streets) can also characterize a setting that is harmful to the housing environment, and can become an unsafe terrain for any healthy interactions to take place (William Holly White, 1917 - 1999).

The street is the river of life of the city, the place where we come together, the pathway to the center” (William Holly White).

Community cohesion and resilience can be strengthened through the development of “comspaces” – community spaces, such as gardens, parks for children, street attraction (Ebbeson, 2010). Thus in providing options or solutions for ensuring housing resilience, it is important to involve the local community or beneficiaries in the decision making process. This will help in providing adequate functions and services in the best locations for the area under study. It involves understanding in detail, the preferences of each individual or groups represented within the community. By measuring the demand and preference of people, it becomes easy to map out effective policies and strategies for executing resilience. Several approaches can be employed in this process, one of which is the contingent valuation (CV) which is very suitable in environmental studies (Radhmehr et al, 2014). Using the stated approach, direct questions can be asked to the respondents regarding a particular infrastructure or provision of a specific service. With this idea in mind, spaces or services can be provided to respondents in form of a bundle of attributes.

These attributes can be determined based on people's willingness to accept offers/services or functions. (Horowitz and McConnell 2002).

3.3 Elements of Resilience

Reflecting on Ebbeson (2010) and adapting it to the resilience in post conflict situations, four basic elements can be sighted for consideration in any resilient project. They include;

- ❖ Flexibility
- ❖ Openness
- ❖ Effectiveness of several levels of governance
- ❖ Social Structure.

3.3.1 Flexibility

The oxford English dictionary defines flexibility as being either of the following; the ability to be easily modified or the quality of being able to bend without breaking or willingness to change or compromise. Effective resilience should not neglect any member or aspect of the community. Hegney et al (2008) suggest certain criteria for effective resilience process. The criteria were applied rural areas of Queens land to test their effectiveness. For a resilience process to be effective, there are three considerations for enhancement that cannot be neglected. Thus the resilience process should cover the individual, groups, and the community in a gradual and careful yet all-encompassing disposition (Fig. 8). This should be done while paying attention to flexibility as an important element of effective resilience.



Figure 8. Process of Resilience

As has already been mentioned earlier in this study, in cases of relocation or resettlement as a result of conflict, providing houses and a housing environment that meet the needs of individuals or groups within a community is essential for establishing resilience. When these needs are overlooked or not thoroughly considered, individuals could eventually be forced to consider to either remodel the houses (by themselves) or a complete rejection/abandonment (resulting from unsatisfying housing conditions) (Barakath et al., 2004). Furthermore, they may feel alienated from the public spaces (e.g streets, parks, etc) if such spaces do not provide them with the kind of satisfaction they desire. It is therefore important not to view housing as merely meaning providing a “house”. Instead a more in-depth expression of housing provision should be considered within the context of a resilient housing environment to include the people, streets, infrastructural provisions, climate considerations and of course the house itself.

3.3.2 Openness

When used in the context of resilience and the community, flexibility suggests a level of openness during the process of adaptation to change. The system should be flexible enough and to handle, cope with or deal with resulting changes that could occur. The various institutions that may be involved in the process of post conflict mitigations should be open and accessible without placing limitations to the involvement of the affected community. The social structure in this case should

actively encourage community participation in the process of learning and adaptation without infringing on the chances of developments in the near future (Ebbesson, 2010). Openness should be depicted in the nature and character of public space designs and uses. This is in order to avoid restrictions in the usage of space and the ease of accessibility of public spaces (Thompson, 2002).

3.3.3 Effectiveness of several levels of governance

Rolfe (2006)'s, *Social Cohesion and Community Resilience* points out the fact that conflicts could exist based on the perspectives or views of people when analyzing the roles played by different determining factors for social cohesion during the assessment of a community's resilience level. According to several authors, restructuring at any level of the society or community has got both individual based and collective/group effects. It could distort or change the nature of relationships existing in households, communities and even individual perceptions (Fraser, 2005; Binkley, 2000). In some cases, restructuring even affects the physical and mental wellness of individuals and their social systems (MacDonald et. al 2005). There are many factors that influence the housing environment after a conflict and could lead to delays in the process of resilience. Such delays could be as a result logistical problems, bureaucratic and institutional problems, and difficulties in coordinating the multitudes of organizations (Vebry et al, 2007), land acquisition problems, particularly in cases where villages are relocated (ACARP, 2007), lack of good access road (OXFAM, 2006) and also the government policies in place. Therefore it is expedient to consider the following key players in any post – conflict housing process; community, government, Stake holders, Civil Society. In dealing with the provision of housing (especially permanent housing) after a serious conflict, speed in

delivery is very necessary. During this process it is important for all stakeholders involved and the government to pay attention to the community's needs.

3.3.4 Social Structure

Moody and White (2000) put it this way: “A collectivity is cohesive to the extent that the social relations of its members hold it together”. This gives a pointer to the role and level of importance played by social networks and relations. Social relations could thus be further defined as the binding factor or forces holding a group together. This force could exist in form of a mental support, development programs, psychological support, to mentions but a few. It expresses a sense of togetherness and belonging to a place. Cohesiveness displays uniqueness traits, similarities, beliefs and cultural indices. According to Tony Vinson (2004), “social” and “support networks” play an active role in determining the cohesiveness of a community. The chart below (Fig. 9) is an excerpt from Vinson (2004)'s idea of community cohesiveness.



Figure 9. Community Cohesiveness (adopted from Vinson, 2004)

In order for resilience to be achieved, a strong cooperative support from the society is quintessential and every party involved should have the same sense of urgency and tolerance towards the process of adaptation (Van and Salet, 2012). Social and

support networks, social participation and community engagement act as a bridge for building a strong community and could also lead to the birth of other important networks and support systems. The social and support networks provide a link between the people and the available resources. These resources may not always be physical availing of materials.

Community cohesion should involve every aspect of the community. It starts out from an environmentally involved approach, rising up the ladder of society. This could be summed up under four headings as pointed out by Hart (1998), and in this study are referred to as capitals – Natural, Human, Social and Built capital – which influence the outcome of an investigation into the cohesiveness or togetherness of a community. The outdoor environment is thus an important consideration within the discussions on post conflict housing. These spaces could form a strategic ground for transforming feelings and emotions and serve as a means to creating a resilient housing environment through interactions and networks. According to MDF (2008), the community driven approach has proven an efficient means not only to rebuild houses but also to create a sense of ownership and pride among beneficiaries. The spirit in which the community-based approach is applied has results in a high level of beneficiary satisfaction. During any post – conflict housing process, communication is very necessary for successful coordination and implantation of such projects and their sustainability. When the community is involved in the housing process, they feel empowered to support and protect their community, thus reducing the risk or fear of eventual vandalism. The more involved the community is (empowerment), the more control all other parties involved will have in the successful execution of the housing process. Similarly, the less involved they are, the housing process may tend towards a failure (Davidson et. al, 2007). Although empowerment may not be

reached at the early stage of a post-conflict resettlement situation, it is still a feature to be considered in the long run plan of a resilient project for resettled communities.

Understanding human needs helps in motivating them to be useful contributors to the environment (Willis et al, 2011; Radhmehr et al, 2014). Especially in situations of conflict, these needs vary on broad scale from person to person. Abraham Maslow's pyramid of human behavior can be used to explain and understand human needs, which in times of conflict and post conflict era cover a wide range with emphasis on shelter, food, security and psychological needs. Cohesiveness in this case simply refers to the "togetherness" of the individuals in that community and the level to which they are connected (O' Reilly and Roberts, 1977). Cohesiveness is not just a mere concept existing in social discussions on housing and the community, but instead it is an operational process of actually eliminating unnecessary disconnections (Nudrack, 1989).

3.4 Pillars of Resilience

In studying individuals and people, the use of resilience can create deep insight into an issue or phenomenon that has passed as normal in many years. There is important information revealed from studying resilience, information that may have been neglected from tradition or historical context. In many systems, planning for the worst meant avoiding the worst by all means hence reducing the risk to the barest minimum or bouncing back to original form or shape as quickly as possible. Using this perspective, it is easier to reveal information about how to prevent potentially threatening changes, reduce the risk of disaster or conflict and increase the ability of a system to withstand disaster or conflict. The second justification for the use of resilience thinking hits on the fact that existing methods for maintaining and re-

enacting a system's originality after it has undergone disturbance is based on assumptions. Certain types of risk reduction and response to disturbance can decrease the resilience of a system to future conflict. Hence risk reduction, resilience and response to disturbance should not be treated as separate contexts, they should be treated as one.

The pillars for resilience refer to the mechanisms in place for ensuring resilience (Bujones et al., 2013). These pillars can be studied under three basic subtitles which are:

- Institution
- Resources
- Adaptive Facilitators

Institutions

The term institution as used in the study of resilience simply refers to the bodies or organizations that are responsible for ensuring the smooth running of affairs within the housing environment (Bujones et al, 2013). They vary in terms of their job descriptions and expectations. This is to say that there are institutions responsible for political, environmental, social and economic aspects of the neighborhood or community. Therefore they should be reputable, accountable and reliable (USAID, 2009).

Resources

The Oxford online dictionary defines resources as the following:

- A stock or supply of money, materials, staff, and other assets that can be drawn on by a person or organization in order to function effectively.

- An action or strategy which may be adopted in adverse circumstances.

Resources can be in form of natural and man-made resources, of which their availability can influence development of every sector of the community (USAID, 2009). In driving towards effective resilience, identifying the available resources and maximizing their potentials is useful for improving the conditions of the housing environment within a community or neighborhood.

Economic growth programs in post-conflict environments, in contrast to those in stable developing countries, require devoting significant resources to non-traditional programs and to change how they implement programs in order to achieve results more quickly. (USAID, 2009)

The above statement suggests the usefulness of human resources as well as natural resources in achieving resilient settings within neighborhoods and communities.

Adaptive Facilitators

Adaptability has constantly been defined with the same concept in different ways (Berkes et al., 2003), i.e. being able to initiate resilience (Walker et al., 2009) the way in which certain processes are maintained despite intrinsic and extrinsic reformation (Carpenter and Brock, 2008). Many studies have paid attention to factors that contribute to adaptability such as diversity (Elmqvist et al., 2003). Such diversities can play out in economic, social, physical and environmental systems. However, each of the system is linked with each other. The International Strategy for Disaster Reduction of the United Nations (ISDR) defines resilience as:

The capability of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. ([ISDR, 2006](#))

According to the Resilience Alliance (RA), a community is said to be resilient when it develops its own strategies in a manner that depicts creativity and allows for flexibility for new and innovative approaches to issues (Resilience Alliance, 2007). Thus, the uniqueness pertinent to both adaptability and transformability as sub concepts of resilience breeds light on a paramount issue known as scale. “Adaptability” covers on diverse levels and is affiliated with how the system is perceived than what that system contains. Therefore the adaptive facilities in the housing environment of a neighborhood or community refer to those provisions that are available which enable the capacity to be resilient (UNDP, 2010).

3.5 Understanding Resilience with Reference to Subsystems

As defined by Rutter (2009), resilience is a response to adverse situations. The outcome of the process cannot be predicted. However, combination of adequate resources and very active institutions with the elements of resilience will strengthen the process of recovery. The approach should involve flexible solutions that could improve the adaptation of people to the housing environment.

The framework for resilience in this study is patterned after the USAID’s “Framework for Analyzing Resilience in Fragile and Conflict-Affected Situations”. This involves three key steps for analyzing the resilience of a post-conflict housing environment, namely; contextual analysis, factor analysis and resilience analysis (USAID 2013). In this case, resilience is viewed as a “bounce back”. The contextual analysis contained within this frame work discusses the study area, its historical

background and events leading up to its present day condition. As a post-conflict area, the contextual analysis presents a time frame of transformations within the study area. It further analyses the different but very important actors within the study area, available structures and the nature of the communities within the post-conflict area under study. This is done in order to “determine their different exposures to various shocks and stressors and to identify the areas of research for the subsequent factor analysis” (USAID 2013). For resilience to occur, Longstaff et al (2010) asserts that there must be a good level of resource availability and the measures taken to ensure resilience differ based on context (Cutter et al., 2008). Therefore as mentioned earlier, as is with the case of the study area, Asagi Maras, since this study is taking place 40 years after the resettlement, the area has significantly moved from a period of sudden shock to a period of stressors.

The next step within this process is the resilience analysis. It tries to determine the level of exposure of a community to stressors and the potency and legitimacy of available facilitators for adaptation. This framework will guide the research into identifying gaps within the housing environment which could diminish resilience and areas that could be potentially improved for better living conditions. Longstaff et al (2010) depicts resilience as centering majorly on two main pillars – resource robustness and adaptive facilitators. As mentioned earlier, resources are said to be robust when there is an adequate provision of a variety of options with high performance. This is also applicable to adaptive facilitators and institutions. Therefore, the steps earlier mentioned for analyzing the resilience of a post-conflict area are discussed with respect to these subsystems. Lastly, the study tries to determine the level of significance and existence or lack of certain elements for resilience within the study area. These elements include; Flexibility, Effectiveness of

several levels of governance, Social Structure, Openness. The element of flexibility is determined based on the available varieties of options within the economic and environmental and social subsystems (diversity). Examples of such include alternative energy solutions and multiple income sources for the neighborhood and multiple spaces for public use (Patricia et al. 2010). The effectiveness of the different levels of governance can be measured based on the legitimacy of the government bodies. That is if they are recognized and by whom they are recognized (Bujones et al. 2013). Governance could be defined as the “Establishment of policies, and continuous monitoring of their proper implementation, by the members of the governing body of an organization” (Business Dictionary.com). It refers to rules or systems of control or the way of governing a state or organization. Therefore governance can exist in form of the institutions/ regulatory bodies (formal and informal) responsible for ensuring proper functioning of the different subsystems (Bujones et al., 2013).

The social structures within the study area include the networks and connections, behaviors and institutional memories which facilitate the adaptive process of the subsystem. Positive combinations of all of these are indicative of an active resilience and vice versa (Weinstein, 2013; Bujones et al., 2013, Wikström, 2013). Networks and connectivity are very important ways by which the government gets across to its citizens and how indigenes of various communities relate or interact with each other. For example, in weak states, it is quite tasking for the central government to directly distribute all public services (Bujones et al., 2013). It therefore relies a lot more on non-governmental organizations or private initiatives. This is a very good way to be intimated with the capability of the state in order to ensure stable services to overcome stressors. Institutional memory does measure the extent to which

communities and the state put together lessons of history through songs, archiving, art and education. For instance, states use education to spread historical stories regarding the state, as well as initiate ideas about how society should be organized. Institutional memory therefore plays an important role in projecting culture and national stories which create social synergy or division and hence can build resilience. It is thus necessary to ensure that the stories or history taught to the younger generations are not provocative or in any manner suggestive of a lure to conflict. This is to avoid transferring hatred from one generation to another. The schools ministries of education have a role to play to checkmate this; so also the community leaders as well as families. In studying individuals and people, the use of resilience can create deep insight into an issue or phenomenon that has passed as normal in many years. There is important information revealed from studying resilience, information that may have been neglected from tradition or historical context. In many systems, planning for the worst meant avoiding the worst by all means hence reducing the risk to the barest minimum or bouncing back to original form or shape as quickly as possible.

Other than the fact that resilience is widely accepted as the ability to bounce back, it also may be viewed as the ability of a whole system or part of it to undergo/experience disruption and yet be able to absorb and recover from such events (Timmerman, 1981). In this case, it does not necessarily mean that the system would return to its exact state or condition before the disruption. But that the system is able adjust to the present conditions effectively. This assertion is made clear by Longstaff et al (2010) as thus;

Resilience does not necessarily mean that the system will look just as it did before a disturbance or “surprise.” It will maintain its functions but individual

parts of the system may have changed (adapted) to new conditions in the environment. For example, sometimes, when part of a system is not resilient and fails, other parts of the system must assume its functions and appropriate its resources.

The neighborhood or community is the most suitable unit or level for investigating resilience. This is so since, different communities respond over time to shocks or stressors in different ways.

Each community has access to resources and the ability to manipulate and make decisions that single individuals do not. Since all disaster planning and response requires the immediate involvement of a wide range of local institutions (often in concert with state and national organizations), they are typically the appropriate level of focus for emergency planning and response activities (Longstaff et al., 2010)

Approaching resilience from the community or neighborhood scale ensures the participation of the locals and flexible platforms for resilience (John and Duguid, 2000). According to Platt (1999) a very intricate interaction occurs at the community or neighborhood level between several actors in the resilience plan such as the government, NGOs, corporate organizations and individuals. Thus the bottom-up approach (which allows for local participation and flexibility) as opposed to the top-down approach (fixed) becomes essential for resilience since the community forms part of a larger whole such as states, regions or countries (Bruneau et al., 20013; Godschalk, 2003). This level of participation is especially essential in cases where new services, functions or infrastructures are to be proposed. A joint participation in determining what is needed by the community and what provisions they are willing to accept (WTA) as addition to public spaces, services, infrastructure, etc. (Bruneau et al., 20013; Godschalk, 2003).

Norris (2008) defines a community as a group of people that a geographically bound and have certain common features such as physical environment, resources, services and are as well prone to similar risks. This makes a community or neighborhood “complex”. This complex system can be viewed as an embodiment of several subsystems (Dennard et al., 2008; Mitchel, 2009). Also, due to the complexities attached to the housing environment of post-conflict areas and cases of resettlement, this study argues that the complex nature of the housing environment in post-conflict areas can best be understood by investigating certain subsystem which could vary depending on the context of application. These subsystems include; social, environmental, Physical infrastructure, economic, and political subsystems (Foster, 1997; Perin, 2009; Weinstein, 2013; Bujones et al., 2013, Wikström, 2013). Although the political subsystem is a very important consideration for the resilience study, this research does not dwell deeply on the political subsystem. This is because of the ongoing negotiations between the North and South of Cyprus. The political situation is already a limitation within the study area. The frame work for resilience analysis of the subsystems is illustrated in Figure 10.

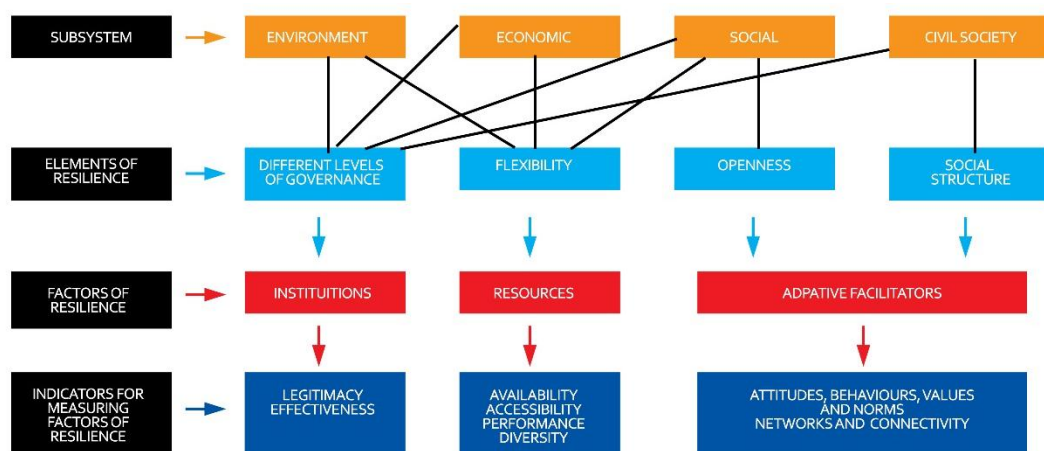


Figure 10. Analysis of Subsystems (Adopted from Longstaff et al., 2010 and modified by author).

Thus the researcher chooses to define resilience as the positive relationship between the elements of resilience and the pillars of resilience. Positivity in this context is reached when resources are flexible and the necessary institutions or monitoring bodies within the subsystems are effective. This would then impact positively on the process of adaptation.

3.5.1 Subsystems

3.5.1.1 Social Subsystem

Resilience in the social subsystem is defined as the ability to constantly provide quality services and access to public spaces with limited interruption imposed by shocks and stressors. This entails planning for typical shocks and stressors in order to strengthen the subsystem and ideally improving the provision of public services in light of a shock or stressor (Bujones et al 2013). The social subsystem can largely and greatly affect and influence all other subsystems because of its interconnectedness with them. Therefore, shocks and stressors on the social subsystem would have an effect on the other subsystems. This study considers resilience in the social subsystem with respect to the public spaces, their functions and their accessibility. The main elements of resilience considered within this subsystem include flexibility, openness and levels of governance. Openness refers to the accessibility of the public spaces and services, ensuring that they can be reached easily. The usage and provision of public spaces and services should not be restricted to any group of people but should be flexible enough in terms of user groups and usage (i.e the space can be used for multiple purposes). The levels of governance here refer to the different social institutions (both formal and informal) that are responsible for ensuring the effectiveness of public spaces.

One of the early literatures on Social subsystems describes it as a complex entity which involves various levels of interactions of both active and passive parts (Parsons 1966). A continuous relationship with the different parts eventually builds up into the dynamic character of the community or neighborhood. The social subsystem discusses the various services and public spaces that are available and within the reach of a neighborhood or community. These services and public spaces aid in the resilience process especially when there is no favoritism shown to any social group as was the case in Nepal (Rose, 2007). The social system is interwoven and relies on other subsystems, and a shock to the social subsystem can directly affect the political, economic, security, and environmental subsystems. For instance, a health or education system shock caused by the failure of service delivery due to corruption has the power to threaten the public's trust in the government to properly and legally deliver services, which could culminate in conflict (Bujones, 2013).

Resilience in the social subsystem is defined as the ability to consistently provide quality services and access to public spaces with limited interruption imposed by shocks and stressors... Analyses should understand how gender aware and responsive public services and resource allocation are in post-conflict settings (Bujones et al., 2013)

The consideration and inclusion of every individual and groups represented within a community is essential for the effectiveness of the system. Within the social subsystem, it is important to understand the level of gender awareness; are there any form of bias in terms of the public services and spaces as it relates to the women and men. If the women in the post-conflict housing setting are a disadvantaged group, the subsystem could be weakened (Brigulio et al., 2006). Such inequalities could lead to adverse conditions which form eventual stressors. An example is the case of India (Lebel et al., 2006) which showed a high female mortality rate of between 30 – 50%

higher than male amongst children from ages one to five years. Although as stated earlier, the social subsystem could present complexities, Table 1.gives a sample guide to carrying out a resilience analysis of the social subsystem.

Table 1. Enquiry for resilience within the social subsystem (Source: Author)

Element of resilience	TEST
Flexibility	<ol style="list-style-type: none"> 1. Can the public spaces be used by different social groups? 2. Are there multiple options of public spaces that can provide similar services within the neighborhood? 3. Do different groups interact within the spaces or the groups isolated? 4. Can the space serve multiple purposes or is it restricted only to certain uses
Openness	<ol style="list-style-type: none"> 1. How accessible is the space? 2. Are there restrictions to the use of the space?
Different Level of Governance	<ol style="list-style-type: none"> 1. What are the agencies/bodies/organizations responsible for controlling the activities that take place within the public spaces? 2. Are there any forms of routine checks and maintenance of the public spaces? 3. How comfortable or satisfied is the neighborhood with the quality of services provided by the institutions or organizations?

3.6.1.2 Economic Subsystem

The economy forms a very important aspect in the discussion of resilience. This involves every individual or group that is responsible for the provision, distribution and consumption of goods and services within the community (Rose et al., 2007).

Several influences determine the resilience of an economic subsystem; however, the availability of resources is necessary for a successful resilience (Brigulio et al., 2006). This includes assessing and rating the performance of the economic resources available (Longstaff et al., 2010; Bujones, 2013). The economic subsystem resources include small and medium businesses, restaurants, cafes, etc that do not have or suggest social limitations or discriminations (Rose et al., 2007; Hobson, 2004; Dorward, 2001). Bujones et al (2013) also argues that the economic environment is closely linked to all other subsystems as stressors within those subsystems tend to affect the economy at different levels. Table 2 shows a sample for a standard enquiry to test for elements of resilience in an economic subsystem. This enquiry can be broadened depending on the case under review. For this study, the economic subsystem is tested for the elements of flexibility and different levels of governance of e economy.

Table 2. Enquiry for Resilience in the Economic Subsystem (Source: Author)

Element of resilience	TEST
Flexibility	1. Are there a variety of small and medium scale businesses that support the local economy of the neighborhood?

**Different Level of
Governance**

1. What are the agencies/bodies/organizations responsible for controlling the activities of business owners within the study area?
2. Are there any forms of routine checks carried out on the businesses?
3. Is there any form of rejection towards business owners who may require loans for their businesses within the neighborhood?
4. How comfortable or satisfied is the neighborhood with the quality of services provided by the institutions or organizations?

3.5.1.3 Environmental Subsystem

According to Gonçalves et al (1997), an environmental subsystem can be viewed in terms of the green spaces and activities geared towards reducing the adverse impacts or effects of man's activities on the environment. The illustration in Fig. 11 explains this point of view within the environmental subsystem. The environment considers the resources (considering climate, weather and other natural resources) that can be utilized in improving and sustaining the environment and livelihood, which portrays a level of sensitivity to the influence and activities of man (Adjer, 2000)

Conflict or fragility might also facilitate environmental destruction by inhibiting the enforcement of necessary regulation and monitoring mechanisms. (Bujones et al., 2013)

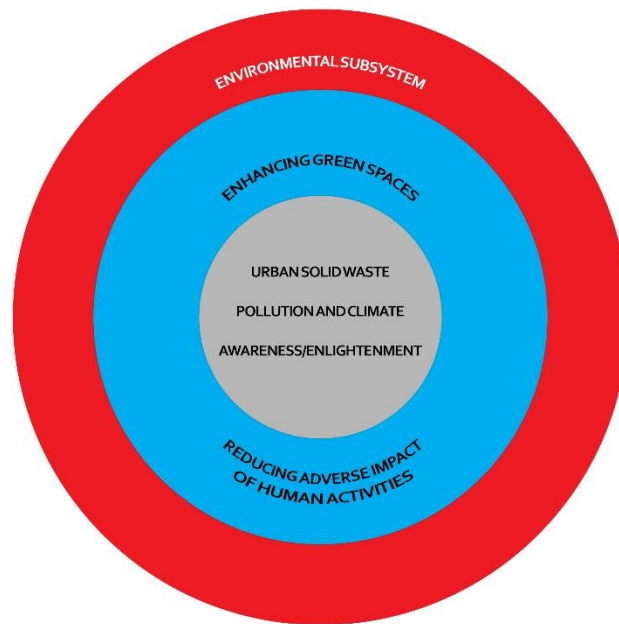


Figure 11. Environmental subsystem (Source: Author, adopted from Oktay, 2007)

The physical infrastructure is closely linked to the environment and economic subsystems. It involves the provisions and facilities available for efficient provision and delivery of goods and services (U.S EPA, 2009). Within the environmental subsystem, flexibility presents a range of considerations. These considerations include but are not restricted to the following; alternative energy sources, multiple environmental management systems (waste disposal, sanitation) etc. (Oktay, 2006). The levels of governance of the organizations/bodies (institutions) responsible for environmental maintenance can also be assessed. Such assessments will show how effective the organizations/bodies (if any) are and the perception of the local community/neighborhood about these organizations. Sample tests for resilience assessments of environmental subsystems is given in Table 3.

Table 3. Enquiry for Resilience in the Environmental Subsystem (Source: Author)

Element of resilience	TEST
Flexibility	<ol style="list-style-type: none"> 1. Are there alternative energy sources available in the area? 2. Are there multiple agencies or organizations responsible for maintaining the environment?
Different Level of Governance	<ol style="list-style-type: none"> 1. What are the agencies/bodies/organizations responsible for maintaining the environment? 2. How often is the maintenance works carried out (e.g street cleaning, refuse collection, etc)? 3. How comfortable or satisfied is the neighborhood with the quality of maintenance works carried out routinely?

Chapter 4

QUEST FOR RESILIENCE IN AŞAĞI MARAŞ

4.1. Contextual Analysis

Cyprus is the third largest island in the Mediterranean and it is located to the east of the Mediterranean and marks a 70km distance to the south of Turkey, 965km to the east of Greece, 100km to the west of Syria and 400km to the North of Egypt. Cyprus was once an independent state; however, today it is divided along the ethnic background of its citizens; the Greeks and the Turks. Thus the Republic of Cyprus is mostly populated in the south by the Greek Cypriots and in the north by the Turkish Cypriots (as the Turkish Republic of North Cyprus). The contextual analysis gives a summarized but detailed information about Cyprus and the issues leading up to the present condition of the Island. The dispute between the Greek and Turkish and Greek Cypriots stands as the major problem since almost half a century that caused the displacement and mass resettlement of both Greek and Turkish Cypriots across the Island. This event took place in 1974 and is yet to see any solution agreeable by both sides of the division.

4.1.1 Cyprus Problem (Conflict, Displacement, Resettlement)

The Cyprus problem has been ongoing for the past 40 years, So many state and non-state actors have tried to raise possible solutions to the problem but the terms for unification is yet to be agreed upon. The UN also suggested possible solutions known as the Anan plan but this effort failed as 64.9% of Turkish Cypriots accepted the plan and 74.8% Greek Cypriots rejected the plan (Varnava and Faustmann,

2009). Accessing the situation before the plan, the Greek Cypriots aimed to establish a unitary state or a strong federation while the Turkish Cypriot aimed to establish a confederation or two independent states.

The issue of Turkish settlers/immigrants and the issue of displaced persons are parallel. The Greek elites have adamantly demanded that all the Turkish settlers/immigrants or at least most of them should leave Cyprus, since they are changing the demographic structure of the island (Moran, 1999). Most of the Turkish elites, on the other hand, have asserted that very few or no Turkish settlers/immigrants should leave Cyprus, since it would decrease the population of the Turks in Cyprus, as well as violate the human rights of these people if they were forced to leave. The third-party elites, on the other hand, have been divided on the issue of the Turkish settlers/immigrants. They would like to see that some of the Turkish settlers/immigrants should return to Turkey. However, they are aware of the practical difficulties of forcing people who have been living in the island for decades to leave Cyprus. Hence, the UN has preferred that the issue should be negotiated between the two conflicting sides with the goal of reaching a mutual agreement. The Greek elites have also requested for the whole island to be free from and form of military but the Turkish elites have turned this down.

The third parties like the UN at all times never took sides but kept a middle role during negotiations. The Anan plan after so much negotiation was brought forward as a perfect solution for Cyprus but it still failed because the two sides were still unable to agree to the term proposed by the UN largely because (Faustmann, 2009). The Greek Cypriots also felt that the plan was in favor of the Turkish requests especially on security issues while theirs were not given enough attention. The

Annan plan also failed because it did not sufficiently address the name of the new state (Moran, 1999)

4.1.1.1 Migration Waves from Turkey to N. Cyprus (Voluntary/Incentivized EDP)

As mentioned in chapter two, voluntary migration can be based on incentives or benefits promised to an individual or group of persons. This kind of migration does not involve the use of force; rather people intending to migrate this way can choose whether or not to accept the option. Active resettlements patterns emerged in North Cyprus after 1974 through migration patterns that were influenced by the Turkish government. This was a reflection of historical, political, geographic and economic considerations (Purkis & Kurtuluş, 2013). In an article titled “Spatially Segregated and Socially Excluded Turkish Migrants in northern Cyprus: an Alternative Perspective”, Purkis & Kurtuluş point three “migration waves” (Purkis & Kurtuluş, 2013) that happened between 1975 and 2006 in the Turkish Republic of Northern Cyprus (Fig.12). The first wave of migrants from Turkey to the North of Cyprus was as a result of an economic gap that was created in the North resulting from the inter-communal conflicts. The Turkish government saw this economic gap as an opportunity to relocate communities from Turkey for economic and political reasons.

“The majority of these first migrants were the landless and poor peasants who had already demanded from the government to be settled in more fertile lands in other parts of Turkey because they were not able to survive where they lived as a result of dam constructions, floods, landslides, etc.” (Purkis & Kurtuluş, 2013)

Hostilities faced by certain groups living in Turkey also triggered the need for the resettlement of those communities and villages to the North of Cyprus. Most of these villages were agriculturally inclined thus springing a new wave of migration that was

based on financial/ economic balance. This second wave of migrants saw an income opportunity that had developed because of links established between Turkey and Cyprus. Unlike the first wave of migrants who whose communities were resettled in the abandoned Greek villages and houses (one of which was Asagi Maras), the second wave of migrants were more or less able to choose whether to resettle or not. The construction sector which accounts for the most source of capital gain in North Cyprus began to attract the third migration wave. As numerous people in Turkey were being affected by new government policies which took away the means of survival and livelihood of many people in rural areas, they were left with no option but to migrate to North Cyprus which was at the time in need of cheap labor.

“People, who lost their means of subsistence and could not support themselves and their families where they had lived, primarily started to migrate from the East and the South East Regions of Anatolia to nearby cities ..., and afterwards overflowed to Northern Cyprus in order to work especially in the flourishing construction sector of Northern Cyprus. (Purkis & Kurtuluş, 2013)

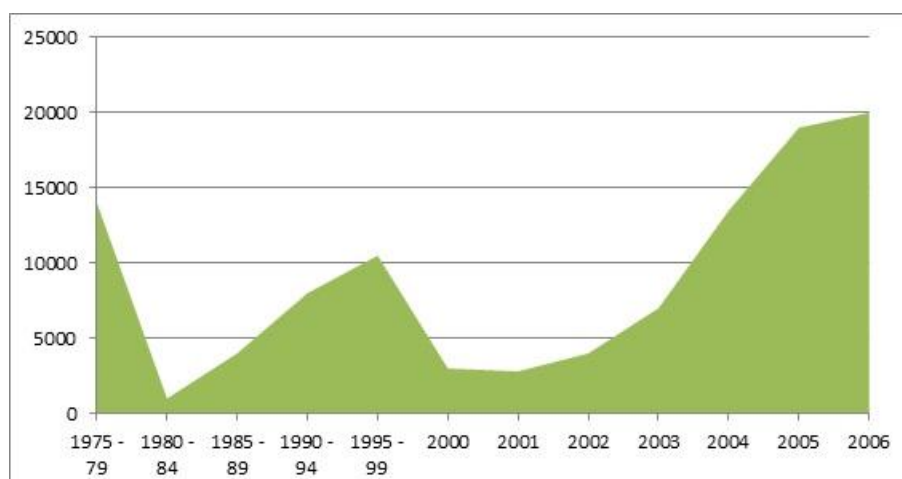


Figure 12. Migration waves from Turkey to North Cyprus (1974 to 2006)

4.1.1.2 Forced Migration in Cyprus (IDP)

Mileti (1999) points out a significant term associated with disasters – “out migration” – this occurs when disaster victims shift locations in order to find better living conditions due to the loss of property and source of. A remarkable example of compulsory migration due to disaster is the resultant of the Cyprus conflict of 1974. In the case of Maras, the displacement and resettling of people culminated in a situation known as **forced migration and mass place reshuffling**. Forced migration and mass place reshuffling results from a coercion on two groups of people to exchange their present settlement site between each other. That is to say, Group A – community leaves their place and move to Group B’s place while Group B – community returns to Group A’s position.

“Force” is the unwavering constant between the two shifting groups, a compulsory shift in location due to the conflict, in this case. The Greek Cypriots were compelled to move from the North to the south and the Turkish Cypriots were compelled to move from the South to the North. In this case, out-migration can be marked as a huge problem as it has the potential to retard the wholesome growth and recuperation of conflict affected areas as it has the tendency to depict the affected areas as unfit/unsafe to dwell in. The scale of out-migration is very important and could serve as the basis with which to measure how safe a post-disaster area is. Migration in this form can be perceived as the secondary resultant of an intangible result of the indirect impact of any disaster (Smith and Ward, 1998), see Fig.13.

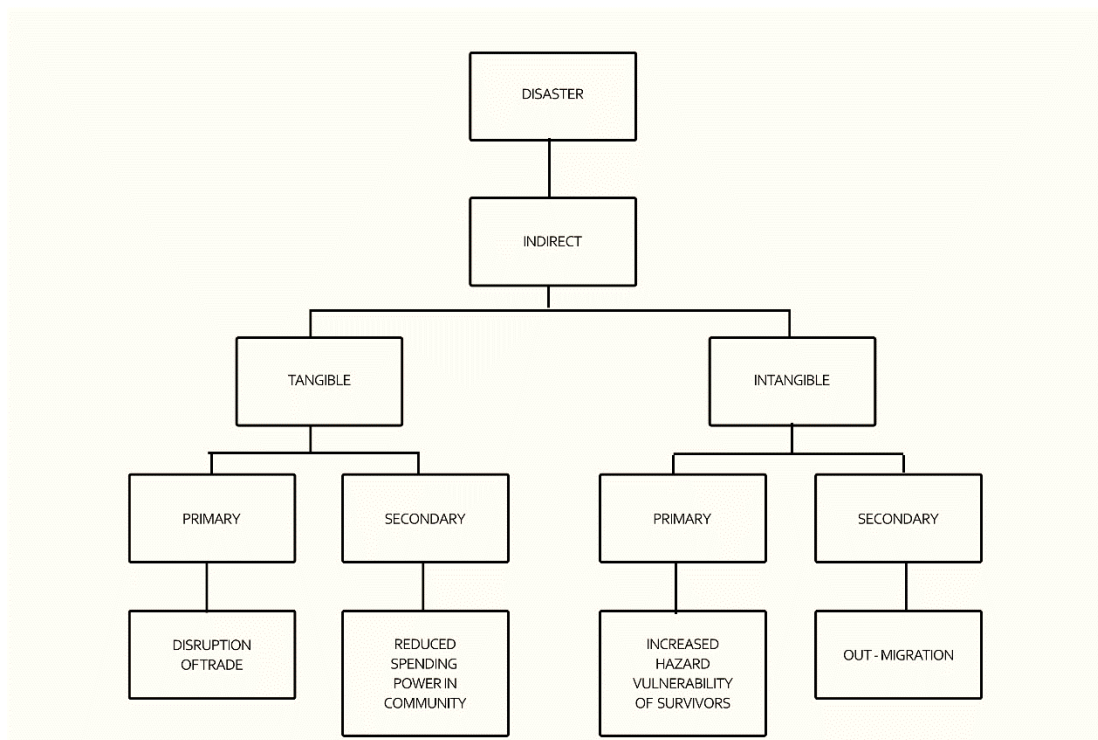


Figure 13. Indirect impact of disasters (adopted from Smith and Ward, 1998)

From the figure above, the Intangible results or damages of conflict are referred to as such damages that are not directly linked to monetary terms. They include social, health and environmental disruptions. These damages in certain cases go hand in hand with each other and should essential be tackled during the process of resilience. Moser & Clark (2001, pp. 3 – 12) mention three important stages of forced migration. These stages are; pre-flight phase, flight phase and the post-conflict or resettlement phase. The main Idea behind forced migration is simply the forcing out of people from their homes or business locations to find shelter someplace else. The growing fear and panic due to high rising hostility or discrimination as a result of their stand on religion, socio-political views, ethnicity etc. The UNHCR states that as at the beginning of the year 1995, women and children where predominant migrants forced out of their settlements (UNHCR 2002, pp.1-2). For the migrants, moving out has to be done hastily in order to escape danger (Boyle et al, 1998, pp.180).

A post conflict assessment can be carried out at different levels to cover issues arising from different sectors of the economy. These assessments may include the built environment, social and economic matters and health. The built environment covers issues of housing and housing provision, infrastructural distribution and security, to mention a few. All these have either a direct or indirect link with the stability and recovery process of a region that has been affected by conflict. Stress is a common factor in cases of conflicts. The vulnerability level of the affected individuals has a major effect on their response to the conflict. However, the concept of resilience connotes the idea of a 'fight back'. A resilient city is thus one which has the ability to "bounce back to equilibrium in the face of adversity" (Pendall et al, 2012).

4.1.2 Famagusta

Famagusta is a very interesting city that is rich in history. It is located in the Turkish dominated and speaking North of Cyprus. This city which is the third (3rd) largest of the towns in North Cyprus, was once upon a time known for its huge collection of Touristic sites, Churches and hotels. This picture has seemingly fizzled out resulting from the series of inter – communal conflicts that eventually cumulated into the 1974 breakdown. With very little resources and great support from the Turkish government, this city alongside the other cities under the care of the Turkish government is beginning to present a comeback in its economy and heritage.

4.1.2.1 Historical Background and Events Leading to its Present Condition

Famagusta, both in the past and present is home to many cultures and groups of people. Developments in Famagusta began from the walled city and eventually settlements began to grow outside the city walls to Maras (Varosh) (Fig. 14).

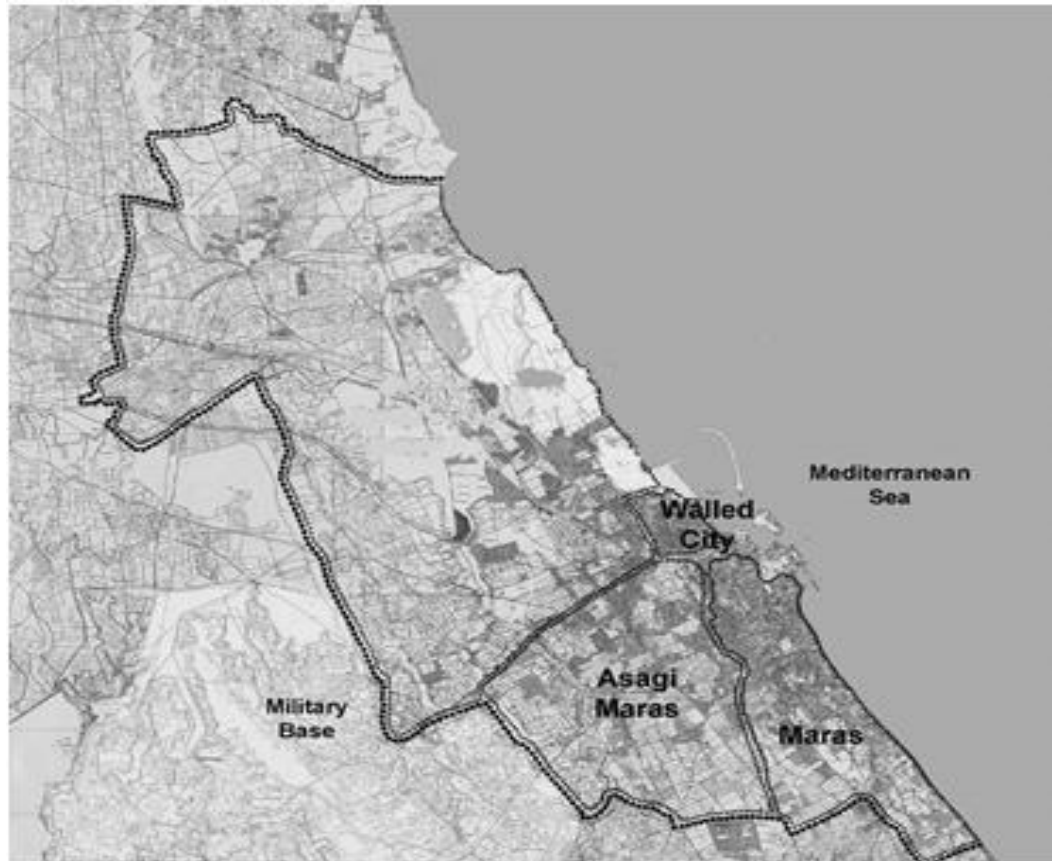


Figure 14. Famagasuta with four basic structural parts (source: Prof. Dr. Naciye Doratli)

From the past, we recount a transition in its multi-cultural dimensions as a result of the influence of different ruling rulers such as the Roman, Byzantine, Lusignan, Venetian, Ottoman and the British rule (Doratli et. al, 2003). The different conquest led to a continuous change in the identity and culture of Famagusta. Famagusta created an impressive dominance through the commercial activities that took place at its port (Walsh et al). Although there is a gap in the history of Famagusta from the 3rd century to 12 AD, Famagusta began to rise to prominence by the 12th century. From 1191 – 1489 AD, it became a very important port and the center for trading activities for Europe and the East (UNHCR, 2014).The economy of the Lusignan kingdom at the time flourished as a result of the trading activities.Famagusta was conquered and for 90 years was ruled by the Genoese. The city was attacked in the

year 1374 AD by Genoese fighters and was left in ruins as a result of the attack. In 1489 AD, Turkey began to advance towards the Island of Cyprus. Their onslaught was halted by Venice, which at the time was the ruling government in the Island. The government of Venice in Cyprus lasted until the year 1571 AD.

Besides, after the conquest of the Ottomans in the 1571, preceding twenty years saw an influx of people majorly from Anatolia into the Famagusta walled city. In order to create space for this new inhabitants, the non-Muslims were ejected out of the walled city and were compelled to sell their landed properties as well. This population that was evicted from the walled city was moved to a new settlement towards the south known as Maras and Asagi Maras. The walled city was then being used to house the well to do political class as well as to serve as a military base. As a result of the fact that the commercial activities were moved to the southern port of Larnaca, the walled city lost its economic viability.

The walled city adopted certain organization patterns that were organic in nature and in line with their Islamic way of life. According to Luke (1969), as the close of this period drew nearer, the population of the city drastically dropped leaving the city with unused spaces. On the other hand, the Maras and Asagi Maras area became more developed than the walled city and increased in population as well will beautiful green gardens. All these happened towards the middle of the nineteenth century.

According to S Onal, et al (199), the Ottomans in 1878 leased the island to the British. The British government was able to create an atmosphere where the two ethnicities were able to live side by side in the same city- the Greeks and Turks, this

administration also saw to the expansion of the Famagusta port which was already dying under the Ottomans. The settlements outside the walled city was further expanded during this period. The Turkish Cypriots were living in the walled city while the Greek Cypriots were living majorly outside the walled city in the Maraş and Aşağı Maraş area (Fig. 15). The British colonial masters built their residential and administrative area between the walled city and the Maraş area, with the mind to create a new city center.

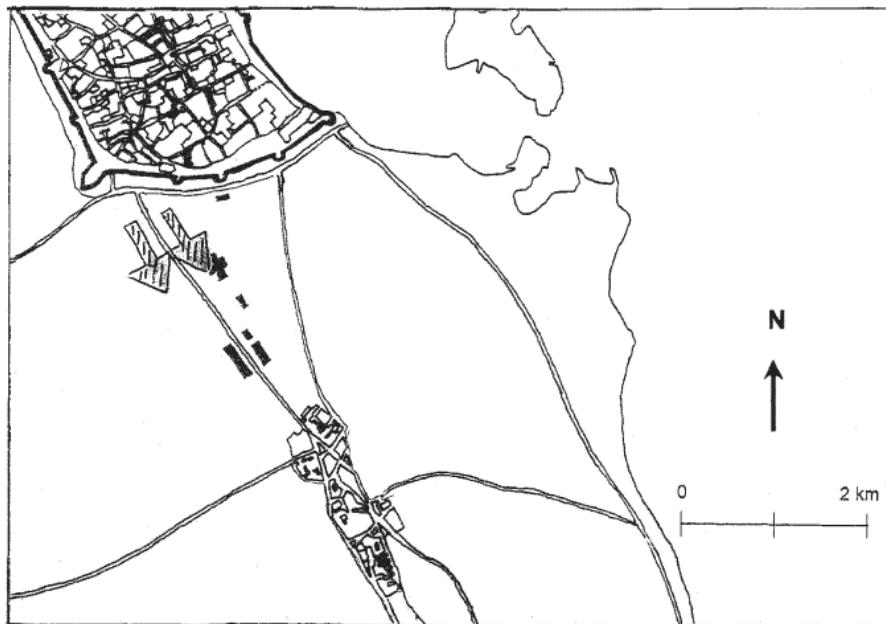


Figure 15 Expansion of the city outside the walls in the British Period (S Onal et al. 1999)

According to Cobham (1969), William Turner who visited the city in 1815 said that Maraş developed like an independent village type settlement. He had this to say about the village character of Maraş;

Three years ago, Turks did not allow Christians to enter the city except on foot, But they have lately scrapped that out...Christians live in a village near the city, these Christians are not ostracized from the city but they prefer to live in the village in which there is a garden in every house...This

village contains about 100 low houses, most of them were made of mud but some of them were made of stone (Cobham, 1969, p. 434).

The city was popular with wind mills and orange gardens. Hence the citizens gave the district names such as “city of wind-Mills” (Fig.17).

This part had a lot of beautiful gardens of oranges, lemon and many different fruit bearing trees but most of them had been destroyed by those who lived there so that there was nothing left to benefit the enemy. (Cobham, 1969, p. 109).

Following the war in 1974, after the separation of the Island into two regions (Turkish in the north, Greek in the south), Gazimagusa lost its dominant position. The city has turned out to be one of the rare examples of war-torn cities (S Onal et al. 1999). Rare in a sense that, on the one hand, the Maras region (which was evacuated by the Greek Cypriot population of approximately 4469 families since then) was left uninhabited due to UN decisions. Without any population and thus any urban activity, the most dynamically developed quarter of the city became a ghost settlement. All prevailing trends of growth and development were terminated. Besides, major income generating activities, tourism and commerce ceased. Residential areas, including those with large vegetable and fruit gardens in Asagi Maras which were left by the Greek Cypriots, were occupied by the Turkish Cypriots who had migrated from the south of the Island and those who migrated from Turkey.

Demographic Features of the City

Famagusta is divided into 15 districts: Anadolu, Baykal, Canbulat, Canakkale, Dumlupinar, Harika, Karakol, Lalamustafa Pasa, Namikkemal, Pertev Pasa, Piyale Pasa, Sakarya, Surici (Walled City), Tuzla, Zafer (Table 4). Within the last decade,

there have been transformations in the general demography of the city. Especially with the constant influx of students from different geographical and cultural regions, Famagusta currently displays a unique mixture in its demographic setting. Based on records from the Eastern Mediterranean University (EMU), Famagusta currently has about 19, 000 university students in it of which 30% are international students.

Table 4. Population distribution in Famagusta area. (Source: Famagusta Municipal Office)

AREA	TOPLAM	GENDER	
		MALE	FEMALE
BAYKAL	2, 574	1, 285	1, 289
CANAKKALE	4, 114	2, 260	1, 854
DUMLUPINAR	2, 940	1, 563	1, 377
HARIKA	651	340	311
KAPALI MARAŞ	226	125	101
AŞAĞI MARAŞ	11,194	5,573	5,621
KARAKOL	7, 046	4, 207	2, 839
MUTUYAKA	407	205	202
SAKARYA	7, 647	4, 348	3, 299
SURICI	1, 476	725	751
TUZLA	2, 645	1, 394	1, 251

4.1.2.2 Aşağı Maraş

Prior to the events of the 1974 conflict, Aşağı Maraş could be described as a sort of dormitory for Maraş, because a vast majority of the residents were employed in Maraş as workers in various capacities (Tourism, commercial activities, leisure facilities, etc). Aşağı Maraş is a low density residential area with extensive agricultural land. The agricultural land (to a larger extent dried citrus groves due to scarcity of water) which dominates the townscape constitutes 47% of the urban area. The area has metamorphosed from a dormitory-like housing area for workers of Maras, into an area where people were resettled after the displacement as a result of the conflict. Shortly after the conflict, for several reasons, migrations began to take place from Turkey to North Cyprus. As has already been stated earlier in this study, most of these migrations were based on incentives from the Turkish government which was in control of the North of Cyprus. In some cases, the migrants had to make certain additions to their houses to suit their needs. Fig. 16 shows the current house of Mr. H.O (who settled in the study area after the conflict) and the additions that were made to suit the living style of the family. Similar stories are told by the migrants from the South of Cyprus who resettled in Maras after the conflict. For many of them, it was not a very difficult process adopting since they were in the first place Turkish Cypriots and secondly, they were already used to the housing conditions of the Greeks and were also resettled in the abandoned Greek houses.



Figure 16. Respondent's (Mr. H.O) house Source: Photo and sketch by Author

The photo above (Fig. 18) is the house that the respondent (Mr. H.O) moved into. The top floor was a new addition while the ground floor was remodeled to suit the household needs. The side photo is a street perspective showing the respondents house amongst other houses. All of the houses were built to maintain the same skyline and basically same colors and almost similar appearances. The migrants were resettled in different locations in Maras. The women and children were often times left with no option but to follow their husbands and or father wherever he moved to. For these ones who were coming from very poor backgrounds, the houses were not much of a problem to them in terms of status. However, due to varying living conditions, some of them made certain necessary changes to suit their life styles while others have continued to live in the houses without making any change (Fig. 17).



Figure 17. Old Greek House occupied by Turkish Migrant family. (Photo: Author)

The uncertainty of constant peace between the north and the south seems to be taking its toll on Maras.

...Not until two years ago did my parents repair their home... because they were scared, there might be another fight – (a respondent in the case study area).

While, the rest of Famagusta over the last ten years has witnessed growth both socially and economically especially with the presence of the Eastern Mediterranean University, Aşağı Maraş on the hand has not had any significant economic breakthroughs since the war. When the respondents were asked about their perception of the restricted area in relation to their own street, here is what one of them had to say

... the ghost town is not in the sealed off area, the ghost town is here! Where we live today! (age 30+ male)

The conflict and the division of the Island has affected the general demographic distribution of Famagusta, especially within the study area. As was mentioned earlier, the conflict has become a major stressor affecting the development of the study area. It therefore proves worthy to understand the general character of the demography of Famagusta and the study area as part of the contextual analysis of the study area.

Demographic Features of Aşağı Maraş

Population distribution of Aşağı Maraş as at the time of this study, gotten from the Famagusta Municipal office is given as follows (Table 5)

Table 5. The population distribution of Asagi Maras Quarters Source: Famagusta Municipal Office.

Quarters	Total	Male	Female
Namik Kemal	1, 117	526	591

Canbulat	2, 460	1, 193	1, 267
Piyale Pasa	1, 220	610	610
Zafer	2, 027	1, 013	1, 014
Pertev Pasa	1, 026	526	500
Lala Mustafa Pasa	1, 836	915	921
Anadolu	1, 508	790	718

As at the time of the study, the following demographic data were obtained from the respondents in terms of age, nationality, marital status, profession, level of education and the duration of their living within the study area is given below in Tables 6, 7, 8, and 9. The age distribution of the respondents was between ages 13 to 60+ (Table 1). This range was considered by the researcher in order to gain a varied range of opinions and to be able that will guide the researcher into understanding housing environment better.

Table 6. Age groups of Respondents

Age	Percentage
7-12	.0%
13-15	3.0%
16-18	31.0%
19-23	12.0%
24-30	5.0%
31-40	16.0%
41-50	13.0%
51-60	14.0%
60+	6.0%

The nationality of the respondents as at the time of the study was spread across three groups; Turkish origin, Turkish Cypriots or having both Turkish and Turkish Cypriot origins. Many of the Turkish families living in the area had moved to this part of the Island based on the incentives promised by the Turkish government. Table 7 gives a breakdown of the nationality distribution of the respondents.

Table 7. Nationality of Respondents

Nationality	Percentage
K.K.T.C	46.0%
T.C	22.0%
K.K.T.C and T.C	32.0%
Other	.0%

The selection of the respondents was not based on the status of the people. However, the 52% of those who responded to the questionnaires were married and 48% of them were single. This gives a close balance for assessing the opinions of the respondents. This will help to show the degree of influence marital status could have on how people perceive their housing environment. It also points to the character of the housing environment in terms of the level of maturity of people living in the area.

Development within a housing environment could be linked to the level of awareness of the community and income. The survey revealed a good level of literacy amongst the respondents. This is good because it naturally implies a wide range of exposure to information (Table 9). At the time of the survey, the respondents constituted of 45% of students (high school and tertiary level), and only about 10% of retirees (on government pensions). Thus the community is an active working community, details of which can be seen in Table 8.

Table 8. Profession of Respondents

Profession	Percentage
Student	45.0%
civil servant	10.0%
self employed	29.0%
Retired	10.0%
Military	.0%
company employee	6.0%

Table 9. Educational Status of Respondents

Educational Status	Percentage
Non	1.0%
Primary	17.0%
Secondary	22.0%
High School	41.0%
University (BSC)	19.0%
Graduate Prog.	.0%

It was found that a vast majority of about 40% of the respondents had lived in the study area for at least 10 years (Fig. 18). This length of time in the duration of stay could be either of two reasons;

1. They do not have any better alternative based on their financial situations
2. They are very satisfied with their housing conditions

In any case, a gradual sense of attachment begins to develop over time as one continues to live in a particular housing environment. Such attachments can be strengthened through effective social spaces and provision of essential facilities within the housing environment.

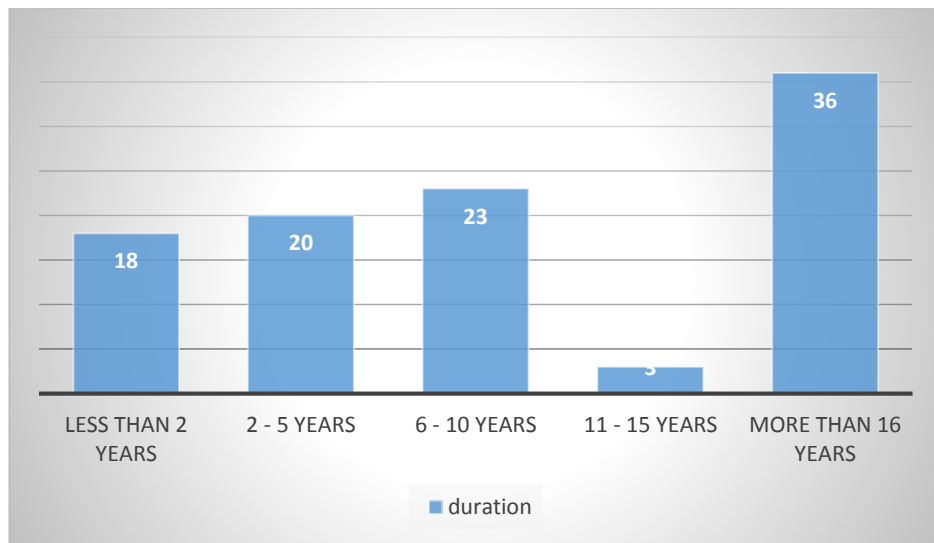


Figure 18. Duration of Stay

4.2 Resilience Analysis for Aşağı Maraş

Recall that it was already earlier mentioned that the political subsystem would not be investigated in this study because of the complexities involved in Cyprus situation. Also, since there is a very strong link between the politics and the economic situation of the Island, the economic subsystem was not considered during the analysis. The present political situation of Cyprus is automatically a stressor that has a strong effect on the economy.

In order to carry out a good analysis, it was important to consider several variables that could possibly influence the outcomes of the survey within the study area. In this case, the independent variables were taken to be Gender, Age, Income, Profession, Educational level and Duration of living within the study area. The researcher sought to identify if there was any kind of relationship between the possibility of resilience (based on the respondents' choices) and the dependent variables.

4.2.1 Flexibility and Openness Assessment

Social Subsystem

The social subsystem of the study area is a very huge laboratory of study that could be approached from several dimensions in the study of resilience. Three key elements of resilience that will be considered in this case are flexibility, openness and the effectiveness of different levels of governance. The social subsystem is very important because through interactions, social ties can be created in the form of networks (both formal and informal) which are very useful in case of a shock or stressor.

In the test for flexibility in social subsystems, four crucial questions were listed in chapter 3 of this study (framework for resilience). They include;

1. Can the public spaces be used by different social groups?
2. Are there multiple options of public spaces that can provide similar services within the neighborhood?
3. Do different groups interact within the spaces or are the groups isolated?
4. Can the space serve multiple purposes or is it restricted only to certain uses

The respondents agree that there is no adequate provision for social spaces within their housing environment. This automatically rules out the presence of flexibility and openness within the social subsystem (Fig. 19). This is so because as has been

mentioned earlier, flexibility within the social subsystem explains the possibility of integration of different groups within a social space, space serving multiple purposes and without restrictions in the usage of space.

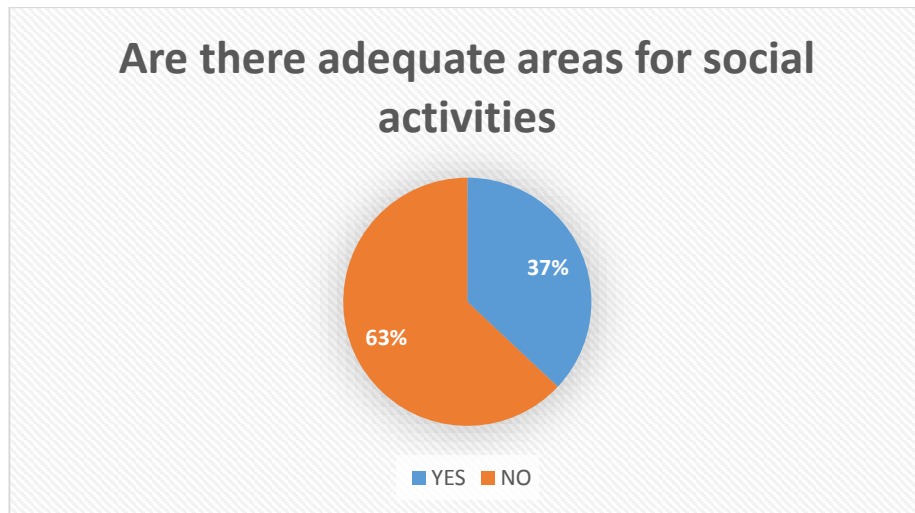


Figure 19. Flexibility within the social subsystem

During this study, it was quite overwhelming to witness children return from school, and in their leisure time, hang out around abandoned buildings (see Fig.20 below). Areas around the abandoned building are used as a place for relaxation. Basic social amenities such as Play grounds, public garden, cinemas and public parks were absent. These recreational facilities are very vital as they provide a better outdoor living and a more relaxed atmosphere not just for the children but other residents as well.



Figure 20. Teenagers hanging out in front of an abandoned building (Source: author)

Just within the study area is what used to be a playground for children. As at the time of the study, this gathering area for children had been changed into other uses. It has now become a place where the adults gather to gamble. This is an unintentional but very dangerous activity that gradually forces the children into finding alternative solutions for themselves. In this case, the street is more or less the best solution for them since they have been displaced from their park. The pictures below (Fig. 21) show the present condition of a facility that was once used as a park for children in the study area and what it has been turned into.



Figure 21. Abandoned Children's park (Source: Author)

My son (a high school kid of 12) loves sports but he has to go to the Eastern Mediterranean University every evening in order to use the gym facility (Mother of 2)

The inadequacies in the provision of spaces for social activities could generally pose a challenge in the social integration of the residents within the neighborhood. Since there is no active common ground that effectively brings together people from different backgrounds and social status, interactions could be affected. In the study area, a vast majority of the respondents considers social status as an important characteristic for determining who they interact or relate with (Table 10).

Table 10. Interaction among Respondents in the Study Area

Choice	Percent
Nationality	17.0%
Political views	4.0%
Beliefs	16.0%
Others	17.0%

Since it has been established from the regression and correlation analysis that gender, age, income, education status and profession all have a correlation with and influence on the usage of the public spaces, the inadequate provision of areas for social activities that meet the needs of the different classes or groups within the housing environment could be said to be highly responsible for the non-usage of the

social spaces. 38% of the respondents agreed that they visited the park often while 62% were negative about visiting the parks.

In terms of openness, two major tests are considered for resilience within study area (Refer back to chapter 3 of this study). They include:

1. How accessible is the space?
2. Are there restrictions to the use of the space?

The openness level in this case is also questionable. This is because of restrictions to the usage of space. The restrictions in the study area are of two types, the self-imposed restrictions and structural restrictions. Self-imposed restrictions are as a result of the inadequate provision of facilities for social spaces, people choose not to use such spaces because they do not derive the needed satisfaction. The structural restrictions arise in situations where it is difficult for people to easily reach the social spaces (accessibility). Accessibility was the major kind of structural restriction that was encountered within the study area. 20% of the respondents argued that distance of the social spaces from their residences was a major limiting factor.

At the time of the study, the researcher discovered that streets were more active for the children than the parks. The children chose to spend more time playing on the streets, or meeting with friends (on the streets). For some of the parents, this was not a very welcomed condition as they worried that their children were becoming street-kids. The term street-kids could be used to describe some level of roughness/wildness among children. 15% of the parents complained that the street-kids were beginning to indulge in crimes and some illegal activities. A member of an NGO that is actively involved with the study area also shared a similar opinion:

The children here are becoming wild and engage themselves in some crime and illegal activities. Such illegal activities include drug pedaling and theft. Many of them prefer to stay on the streets rather than go to school (Dr. Okan Dağlı)

It is not very safe around here as it used to be in the past. The street kids are beginning to steal from us and so we can't leave our doors open...I do not let my kids to go out to the park because I feel it is not very safe there. The street kids go there to smoke and drink (concerned parents)

However, going by the ideas of William Holly White (1917 – 1999), an active proponent in the study of human behavior, measures should be considered for ensuring that in social resilience, no individual is left out of the process. White believes that the:

“So-called ‘undesirables’ are not the problem. It is the measures taken to combat them that is the problem” (William Holly White).

Parks, are examples of social spaces that if designed and furnished adequately, could serve as important spaces for building a community's social resilience. It was thus important for the researcher to understand the reason why people living in the study area preferred not to use the park facilities (Table 11).

Table 11. Reason for choosing not to visit the park

Security and safety concerns	3.0%
Unattractive park settings	32.0%
not very conducive space for interaction	4.0%
space is not conducive for women	8.0%

Space is not conducive for children	7.0%
Space is not conducive for men	5.0%
because of your beliefs	1.0%
proximity issues	3.0%
others	37.0%

In order of significance, the scale went from 1% down to 37%. Beliefs, security issues and proximity were least scores. However, the conduciveness of the park (which includes its attractiveness and conduciveness for men, women and children) was accumulative of 56%. Thus, this strongly highlights the inadequacy of the outdoor public social space within the housing environment that was studied and over rules the possibility of flexibility or openness within the space.

Entertainment and entertaining activities organized at the parks could be one way of attracting the people to use the park facilities as a ground for socialization. During the study, the researcher with the help of a group of friends put together a music night for the community. The event was organized in one of the parks and it attracted quite a large crowd of people. The aim of this event was to have a time to interact with the children so as to understand why they consider themselves to be street-kids and possible ways to help them overcome some of their social challenges. Based on the feedback from the kids, the researcher found out that introducing extra-curricular activities for the kids such as dance training, café for kids (where they could play tennis), functional football grounds, tennis, and other sporting activities was one way

to occupy their time and encourage them to overcome illegal street activities. Fig. 22 is a picture showing some of the children who attended the event organized by the researcher with a group of friends.



Figure 22 Children at the Event

Environmental Subsystem

As was said earlier in this study, the environmental subsystem in the study of resilience can be viewed from either the perspective of the physical environment or by considering the presence of alternative sources of energy (please refer back to chapter 3 of this thesis). Also, call to mind that this study considers two major basis for assessing the level of flexibility of the environmental subsystem (which point to both climatic and physical aspects of the environmental subsystem), namely:

1. Are there alternative energy sources available in the area?
2. Are there multiple agencies or organizations responsible for maintaining the environment?

Therefore, based on the view of climatic conditions and alternative sources of energy, there is very little significance with respect to resilience in the study area. Although there is an abundance of alternative potentials such as solar systems (Fig. 23) the study area is highly dependent on energy supply from the electricity company in North Cyprus (KIBTEK). Thus this could be considered as a major stressor because any shock to the present system might lead to an adverse destabilization of households. Thus resilience is lacking in this sense.

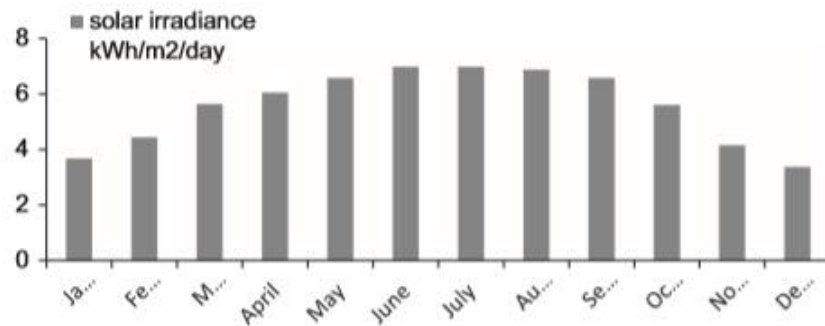


Figure 23. Estimated solar irradiation for N. Cyprus (Source: Author)

In terms of the physical environment, however, the results from the study point to a good level of satisfaction of the respondents with their housing environment (Table 12 and Fig. 24). Even though the margin is not so wide apart, one could judge that the physical environment within the study area does not constitute a huge level of concern. Other than the views of parents about the street kids, the physical environment within the study area does not pose any major health concerns or security threats.

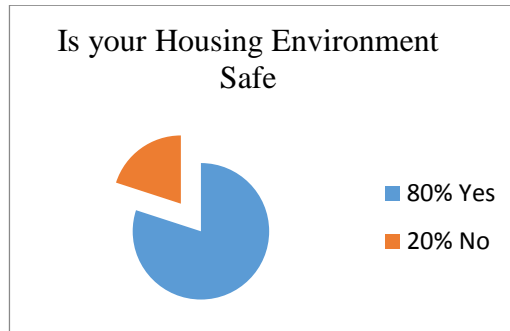


Figure 24. Responses to Safety of the Housing Environment

Table 12. Respondents View about their Housing Environment

Do you like your housing environment			Percent
1	yes		53.0%
2	no		47.0%

At the time when this study was carried out, the Municipality was the only organization responsible for the maintenance of the housing environment within the study area. Respondents however agreed that the organization was doing a very a good job in ensuring a habitable environment. One of such maintenance responsibilities is the regular cleaning of the housing environment. Although in few places at the researcher observed some concerns with refuse disposal and drainage systems (Fig. 25), the general view on cleanliness applauded the Municipality's efforts.



Figure 25 Improper Waste Disposal

The pictures taken by the researcher notwithstanding, 60% of the respondents agreed that their housing environment was very clean. Based on the available resources and limitations (as mentioned earlier) preventing a massive investment in the development of the study area, the physical environment is not in a state of acute dysfunction.

4.2.2 Levels of Governance

The levels of governance in both the social and environmental subsystems of this study seek to answer a range of questions as presented in chapter three (framework for resilience) of this thesis. They include:

1. What are the agencies/bodies/organizations responsible for maintaining the environment?
2. How often is the maintenance works carried out (e.g street cleaning, refuse collection, etc)?
3. How comfortable or satisfied is the neighborhood with the quality of maintenance works carried out routinely?
4. What are the agencies/bodies/organizations responsible for controlling the activities that take place within the public spaces?
5. Are there any forms of routine checks and maintenance of the public spaces?

Based on the views of the respondents (Figure 26), the distribution is almost even and shows that most of the respondents are satisfied with the level of governance. However, looking at it from another perspective, there is need for the different levels of governance to improve in terms of their efficiency, in order to cater effectively for the 47% who are not satisfied with the level of governance.

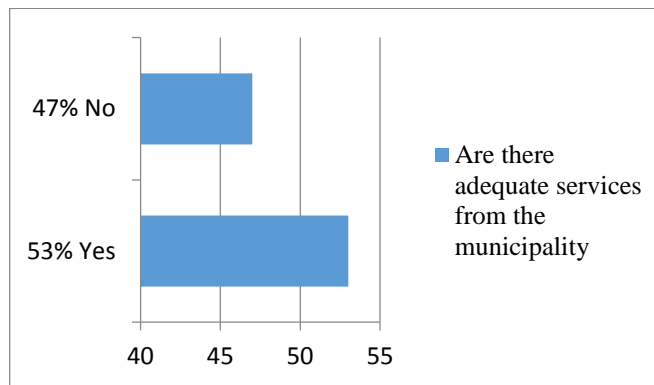


Figure 26. Satisfaction with governance

Although a good percentage of the respondents agreed to a general satisfaction with the level of governance, concerns about the level of openness within the Environmental Subsystem were also attributed to the level of governance. This is as a result of the opinion of the respondents to the question of accessibility to the study area. 60% of the respondents agreed that there aren't adequate transport facilities and services for people to easily access the study area or even move around the study area (Fig. 27). The bus services at the time of the study did not include routes within the study area.

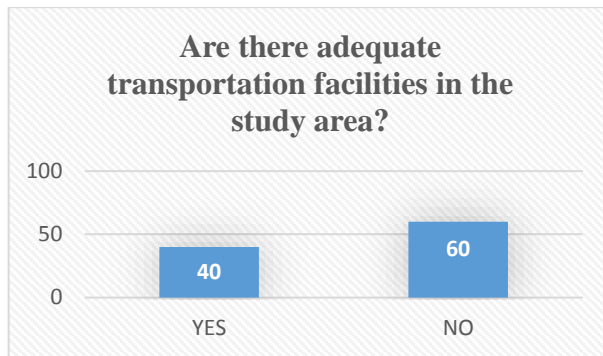


Figure 27. Adequacy of Transport Facilities in the study area

Although as observed by the researcher, there were questionable concerns within the environmental and social subsystems, the respondents agreed to the fact their housing locations are very suitable (Fig. 28).

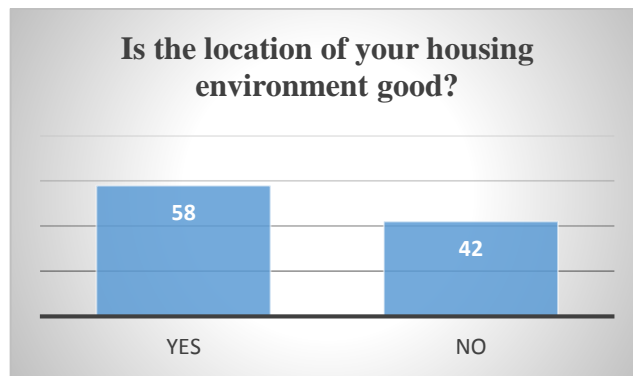


Figure 28. Suitability of the housing environment

4.3 Conclusion

Although there have been attempts in the past to establish certain functions for the neighborhood, as at the time of the study, there still was an inadequacy in services and infrastructure to support the needs of residents. From the GIS maps in Fig. 29, very little development or changes have taken place within the study area over the last 12 years.

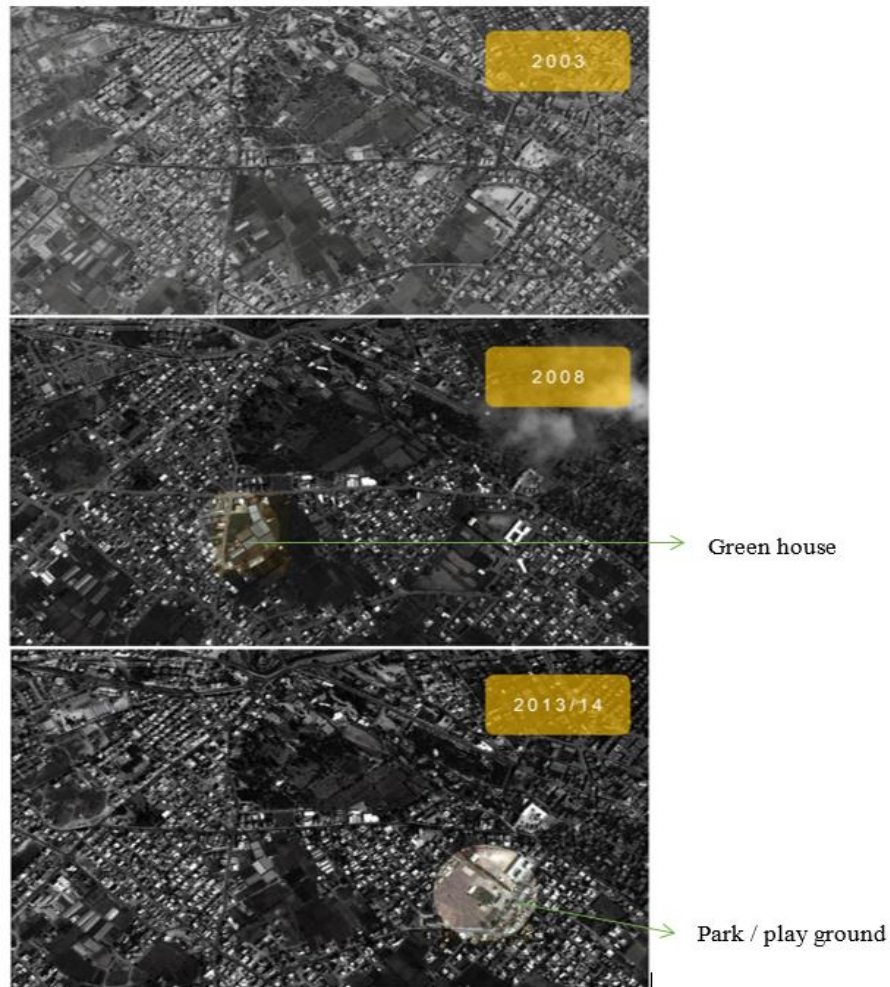


Figure 29. 2003 – 2014 Map of study area (Source: Author)

In essence, the resilience study of the selected case area in terms of the social and environmental subsystems shows that resilience in both systems may not have been attained. However, people within this area have seemingly developed coping mechanisms. The coping mechanisms vary from one family group to another and are strengthened by the present non-volatility of the environmental and social subsystems of the study area. The danger here is that since there is no structured approach towards resilience efforts in the study area, the occurrence of a major shock within the housing environment may disrupt the subsystems and cause major challenges / setbacks. As mentioned earlier, a proper resilience process should not exclude any individual or group of people within the area in question. Therefore,

adequate provision of facilities and programs to cater for all age groups, gender and cultural groups should be provided within the housing environment. Public spaces should be able to support healthy integration without allowing for lines of social divides. Alternative spatial types should be created for flexibility of uses without placing any kind of restrictions within such public spaces. A proper combination of all these point in the direction of a good level of active resilience (Weinstein, 2013; Bujones et al., 2013, Wikström, 2013). Networks and connectivity are very important for bridging the gap between the government and the community for proper provision of services, facilities and accountability (Bujones et al., 2013). Building of such networks is enhanced when there are very active social spaces to encourage such. The elements and pillars of resilience should therefore be strengthened in order to allow for the initiation of resilience (Berkes et al., 2003; Walker et al., 2009; Carpenter and Brock, 2008; Elmqvist et al., 2003). At the city planning scale, the government may consider developing some virgin plots within the study area to strengthen the process of achieving a resilient housing environment. Such considerations include, the building of more functional and active parks to suit users of all age groups, and to encourage healthy social integrations.

Chapter 5

CONCLUSION

The beginning chapter of this thesis focused on identifying the problem of the research which was hinged on the post-conflict / conflict situation of North Cyprus and how it has affected Asagi Maras area of Famagusta. The study aim was established as the process of understanding resilience of the housing environment using the complex system approach. This involved understanding two key terminologies which affect the post-conflict housing environment. These terminologies are referred to as shocks and stressors. The study established a basic understanding that shocks relate to the short term or immediate challenges of the housing environment immediately after a disaster while stressors refer to the long term challenges. In this case of Asagi Maras, the focus was on the stressors as the study was carried out 40 years after the armed conflict of Cyprus. The study was approached from the perspective that the housing environment is a complex system that is comprised of several subsystems. The study also gave a detailed insight into the different elements responsible for resilience to take place. It was thus important for the researcher to examine the manner in which the stressors affected the subsystems and the pattern of resilience that could be traced within the subsystems. In order to do this successfully, a framework was developed to show the interactions and connections of the different subsystems with the elements of resilience. The scope of the study was limited to four major quarters within the Asagi Maras area of Famagusta. As the study continued, a more detailed review of different documented

articles was done. The review included the various housing issues related with conflict and resilience. Thus, at this point several key issues were discussed and key terminologies were carefully selected. These reviews of the different documented materials were done in both the second and third chapters of this study. At the end of these chapters, there were obvious pointers to look out for while examining the study area. Chapter four dealt with the contextual issues of the study area and the migration patterns visible within the study area. Two groups of migrants were identified within the area; the voluntary and involuntary migrants which of course migrated either voluntarily or under some duress. The chapter combines the information gathered during the literature reviews in understanding the intricate nature of the study area. All of these build up into the data collection from interviews and questionnaires. Using the test questions developed for resilience enquiry in the different subsystems, the study thus tried to ascertain level of resilience of the study area. The findings indicated that resilience was lacking in the study area. However, individuals living in the area had developed mechanisms to cope with the housing environment. The inadequacy of social spaces and environmental provisions were amongst the major challenges of the housing environment.

The crux of the systems thinking approach lies within the basic principle of inter connectedness of challenges and potential problems and stressors. It is therefore expedient to ensure that the parts (subsystems) of a system should be effectively functional in relation to one another in order to achieve resilience (Jackson, 2003). Based on this reasoning, a continuous loop is formed, such that an answer to a question becomes the beginning of asking a new question. Resilience is a response to adverse situations. The resultant can most often times not be predicted. The approach should have flexible solutions that could increase people's ability to adapt to the

housing environment. The framework for resilience in this study involved two key steps for analyzing the resilience of a post-conflict housing environment, namely; contextual analysis, and resilience analysis. In this case, resilience is viewed as a “bounce back”. The contextual analysis in this framework focused on the study area, its history and every contributing factor to what it has become today. As a post-conflict area, the contextual analysis shows a series of events within the study area. This was done “so that the different ways in which they react to various shocks and stressors are identified and so that the areas of research for the factor analysis that follows can be determined. The resilience analysis tried to establish the level of exposure of the community to stressors and the legal power of available facilitators for adaptation. This framework helped build the research into identifying loop holes within the housing environment which could be detrimental to resilience and areas that have high potentials for improvement.

Developing plans for post conflict housing resilience should be approached from a perspective that seeks the contribution of human, physical, social, environmental, natural and manmade capitals for developing the housing front. Resilient plans are required to incorporate strategies that are geared towards post – conflict developments. Such plans should seek to support both short and long term recovery objectives. It should pay attention to structural, physical and nonphysical dimensions that will or could influence the effectiveness of the plans.

Good resilience projects should be approached from the level of the community. This should involve useful contributions from every individuals and groups. This should not be restricted to status or gender. This study reveals that gender plays a role on resilience as the needs of the male group may vary from the needs of the female

groups. So also the needs of the younger groups or individuals could also vary from the needs of the older ones. Thus efficiency in planning for a resilient housing environment should not neglect any of these groups (Bruneau et al., 20013; Godschalk, 2003).

Vulnerability of individuals or groups could pose a challenge to the process of resilience. Therefore vulnerable groups and the factors responsible for vulnerability within the housing environment should be identified. This will help to improve the stability of the community and their resilience, especially in case there is a sudden shock. The existing stressors in the study area that could contribute to creating vulnerable situations include the prevailing political situation which has affected the economic and social character of the area. The responsibility to create a resilient housing environment is not the sole responsibility of the government. It is the responsibility of both the government, the people, different social groups, the civil societies, etc. Some researchers argue that certain businesses such as the media, schools and non-profit organizations are examples of civil society (contested term) whose fundamental duties include:

1. Civil societies are Non-Governmental organizations: independent from the government
2. Civil society is different from both private and public sector. The Public sector is made of legitimacy, power, and democracy. Private sector is made up of markets, profits, competition while civil society is about activeness, participation, voluntariness, independence, ethics and solidarity
3. Civil society is based on an individual's freedom of choice: They are free to make decisions and its free from force
4. It is made of lay persons and professionals who complement each other.

5. Activities take place at the grass roots (locally): they are focused on the masses.

6. It has the ability to influence especially in political and trade union activities.

Based on the two subsystems (Environmental and Social subsystems) that were concentrated on in this study, certain recommendations are made here. These recommendations are in line with the current condition of the housing environment of the study area and the findings of the research.

For effectiveness of the system approach, the subsystems should be considered holistically as each subsystem is connected one way or the other. The social subsystems for instance is very much linked with the political subsystem, so also the economic subsystem. The process of planning should carefully consider the cost and effect of adopting or rejecting any plan or proposal aimed at achieving resilience of the system as a whole.

Environmental Subsystem

As stated earlier in this study, the environmental subsystem can be approached from two perspectives, the alternative energy solutions and the physical features of the environment. Therefore, it is useful to take into account and utilize the characteristics of the environmental subsystem that could influence resilience. Environmental considerations in terms of alternative energy sources which is very suitable for the environmental subsystem can also be taken into account.

Measures can be set in place by the government to encourage the use of alternative energy solutions that could be integrated into buildings (e.g. Building Integrated systems or BIPV). Based on the WTA and WTP assessments, subsidies can be

introduced for people to easily adapt the use of such innovations. This solution will help to reduce environmental stressors arising from the demand of energy. In order to achieve this, a system/framework ought to be developed in line with the policies of the government. Kärholm et al (2012) speaks against having a one sided view in developing resilient alternatives. Therefore, such a system should have inputs from a range of professionals. The local community should also be educated on the potentials of adopting alternative energy sources within the housing subsystem.

Social Subsystem

Parsons (1966) proposes that the social subsystem is a complex entity that constitutes several levels of interactions. In a resilience project, it is important to consider the different levels of interactions. It shows the uniqueness of one social setting from another. The suitability of the developments within the social and environmental subsystems can be reached by utilizing and involving the people living the study area in the decision making process. Involving them from the onset creates a sense of belonging and ownership of the plans. Such involvements enable flexibility within the subsystems. By improving the quality of public spaces, cohesiveness can be achieved through continuous interaction (networking) of people within such spaces. The social space then assumes a dynamic position such that it is flexible to accommodate any and every individual's need. The social subsystem should be able to combine both fixed and non-fixed spatial uses to for social flexibility. Although this is not the situation currently in the study area, spaces can be adapted to new uses through proper designing of public spaces and facilities that will portray fluidity.). In ensuring adequacy within a public space in a post-conflict housing environment should ensure that the following are feasible; Location, Accessibility, Habitability, Cultural adequacy, Affordability

- Public spaces ought to be located in areas where they can be easily reached and safety is guaranteed.
- Accessibility means that there should be no restriction as to who can use a space. This in terms of age, gender, status, etc. The space should be accessible by all.
- Habitability simply means that the space is lively and can accommodate users while protecting them from danger. Measures should be taken to ensure that the spaces are safe.
- Culturally adequate spaces ensure that public spaces do not portray any form of discrimination. The spaces should be dynamic to accommodate any cultural groups with creating tensions.
- In terms of Affordability, the financial cost of using a public space or facility should not become a burden on the potential users.

In addition to what has been said earlier, the environmental and social subsystem could be linked from different perspectives. Once the housing environment is safe based on provisions to ensure security (e.g street lights), people will tend to enjoy the outdoor environment since there is no visible threat to their security. Also, embarking on the integration of alternative energy systems into housing can foster social relations. When individuals can sell off excess electricity generated through the PV systems to their neighbors, they begin to feel a sense of responsibility and belonging to the community. This act of communal responsibility can help to break the divisions among different social groups.

Further Studies

The ongoing political conflict between the Turkish and Greek Cypriots leaves so many questions unanswered. At the moment, there are moves and proposals that are being negotiated for the reunification of both sides of the Island. In the event that the reunification is successful, there are also postulations that the sealed-off area would be given back to its rightful owners, based on the ANAN plan. If this happens, a further displacement and resettlement is most likely to occur. Therefore, resilience can be studied again with regards to how the area is likely to respond to its likely new settlers and how the resettled people are likely to respond to their new housing environment. The situation is even more complex to deal with as it involves a whole different level of rights, land tenure, policies and development proposals. This can be studied as another research area.

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APPENDICES

Appendix A: Social and Environmental Survey

1. Are you friends with the parents of your children's friends?
 - a. **Yes or**
 - b. **No**
2. If your answer was yes, how often do you visit them
 - a. **Less than two days in a week,**
 - b. **More than two days but less than four,**
 - c. **every day of the week**
3. Do they live around your neighborhood or outside of Asagi maras?
4. How do you prefer to spend an evening
 - a. **With family,**
 - b. **with friends or**
 - c. **alone**
 - d. **other.....**
.....
5. Which of these is important for you when you relate with people
 - a. **Social status,**
 - b. **nationality,**
 - c. **political views,**
 - d. **beliefs,**
 - e. **other.....**
.....
6. Where do you prefer to spend an evening?
 - a. **Take a walk on the streets,**
 - b. **at the park,**
 - c. **family garden**
 - d. **friend's home**
 - e. **other.....**
.....
7. Do you often visit the parks?
 - a. **Yes No**
8. If your answer was **No**, could you please state if any of these is the reason
 - a. **Security and safety concerns,**
 - b. **unattractive park setting,**
 - c. **not very conducive space for interaction,**
 - d. **space is not conducive for women,**
 - e. **space is not conducive for children,**
 - f. **space is not conducive for men,**
 - g. **because of your beliefs.**
 - h. **Proximity issues**

i. **Other**.....
.....

9. If your answer to question 6 was **Yes**, do you enjoy visiting the park?

- a. **Yes,**
- b. **No**

10. If your answer to question 8 was **Yes**, why do you enjoy visiting the park?

- a. **Meeting new friends,**
- b. **attractive setting,**
- c. **allows for healthy interaction with the community members,**
- d. **there is no gender discrimination in the spaces,**
- e. **I feel free in the park**
- f. **Easy to access**
- g. **Other**.....
.....

11. Do you like your housing environment?

- a. **Yes,**
- b. **No**

12. What is the major problem with your housing environment and public spaces?

- a. **Lack of adequate infrastructure,**
- b. **safety concerns,**
- c. **lack of adequate maintenance of facilities,**
- d. **not very sociable people,**
- e. **accessibility**
- f. **other**.....
.....

13. How often are maintenance works carried out in the environment (cleaning, etc)?

- a. **Less than two times are week,**
- b. **2 – 3 times a week,**
- c. **4 times a week,**
- d. **other**
.....
.....

14. Are you satisfied with the level of commitment from the govt. towards maintaining the environment?

- a. **Yes**
- b. **No**

Appendix B: Summary of Tables

No.	Household		Gender		Age (Yas)								Monthly Income (TL)			Marital Status		Educational Status						Meslek (Profession)												
	Ev Halki	Cinsiyet	Erkek	Kadın	0-4	5-9	7-12	13-15	16-18	19-23	24-30	31-40	41-50	51-60	60+	<1500	1500-2000	2000+	Evlü	Bekar	Okunmuş	Okunmamış	İlköğ.		Ortaöğ.	Üniversite	Lisansüstü									
1																																				
2																																				
3																																				
4																																				
5																																				
6																																				
7																																				

Konut Durumu Tablosu	Mal Sahibi	Kiracı	Tahsis	Diğer (other)	Evide Oturma Süresi (Duration of stay)
House condition	Owner	tenant	Allocation	(Belirtiniz)	-2 2-5 6-10 11-15 16+
Apartment (Apartment)					
Bahçeli Mustakil					
Sıra evler/ ikiz ev					
Villa					

Uyruk	K.K.T.C	T.C.	K.K.T.C.ve T.C.	Diğer
Nationality				

Mahallenizden memnunuzsunuz?		
Evet		Hayır
Mahallelem Sakin		Mahallelem Gürültülü
Mahallelem Temiz		Mahallelem Kirli
Ulaşım kolaylığı var		Ulaşım kolaylığı yok
Sosyal aktivite alanları var		Sosyal aktivite alanları yok
Mevkii iyi		Mevkii iyi
Belediye hizmetleri yeterli		Belediye hizmetleri yetersiz
Mahallede yaşayanların kültür farklılığı ve		Mahallede yaşayanların kültür farklılığı yok
Güvenli bir bölge		Güvenli bir bölge

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid Male	68	68.0	68.0	68.0	.0	4.6	59.0	77.0
Female	32	32.0	32.0	100.0	.0	4.6	23.0	41.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid Male	68	68.0	68.0	68.0	.0	4.6	59.0	77.0
Female	32	32.0	32.0	100.0	.0	4.6	23.0	41.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Age

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid 13-15	3	3.0	3.0	3.0	.0	1.7	.0	7.0
16-18	31	31.0	31.0	34.0	.1	4.7	22.0	40.0
19-23	12	12.0	12.0	46.0	.1	3.4	6.0	19.0
24-30	5	5.0	5.0	51.0	-.1	2.2	1.0	9.0
31-40	16	16.0	16.0	67.0	.3	3.7	9.0	24.0
41-50	13	13.0	13.0	80.0	-.2	3.4	6.0	20.0
51-60	14	14.0	14.0	94.0	.0	3.5	7.0	20.0
60+	6	6.0	6.0	100.0	.0	2.4	2.0	11.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Monthly Income

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid less than 1500	55	55.0	55.0	55.0	.4	5.2	45.0	66.0
1500 - 2000	20	20.0	20.0	75.0	-.4	4.1	12.0	28.0
More than 2000	25	25.0	25.0	100.0	.0	4.4	17.0	34.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Marital Status

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid Married	52	52.0	52.0	52.0	-.1	5.1	42.0	62.0
Single	48	48.0	48.0	100.0	.1	5.1	38.0	58.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Literate

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid Yes	99	99.0	99.0	99.0	.0	1.0	97.0	100.0
No	1	1.0	1.0	100.0	.0	1.0	.0	3.0
Total	100	100.0	100.0		-38.4	48.7	.0	100.0

Educational Status

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid non	1	1.0	1.0	1.0	.0	1.0	.0	3.0
Primary	17	17.0	17.0	18.0	.0	3.9	10.0	25.0
Secondary	22	22.0	22.0	40.0	-.1	4.2	14.0	31.0
High School	41	41.0	41.0	81.0	.0	5.1	31.0	51.0
University (BSC)	19	19.0	19.0	100.0	.2	4.1	12.0	28.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Profession

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid student	45	45.0	45.0	45.0	.1	5.0	35.0	55.0
civil servant	10	10.0	10.0	55.0	.0	3.0	5.0	16.0
self employed	29	29.0	29.0	84.0	-.2	4.5	20.0	37.0
retired	10	10.0	10.0	94.0	.1	3.0	5.0	16.0
company employee	6	6.0	6.0	100.0	.0	2.4	2.0	11.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Nationality

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid K.K.T.C	46	46.0	46.0	46.0	.1	4.9	37.0	56.0
T.C	22	22.0	22.0	68.0	-.1	4.4	14.0	31.0
K.K.T.C and T.C	32	32.0	32.0	100.0	.0	4.7	23.0	41.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

House Occupation

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid owner	33	33.0	33.0	33.0	.1	4.9	24.0	43.0
Tenant	63	63.0	63.0	96.0	-.2	4.9	53.0	73.0
Allocation	2	2.0	2.0	98.0	.0	1.4	.0	5.0
Others	2	2.0	2.0	100.0	.1	1.4	.0	5.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

House Type

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid 0	3	3.0	3.0	3.0	.1	1.7	.0	7.0
d Apartment	52	52.0	52.0	55.0	.0	5.0	42.0	62.0
Villa	31	31.0	31.0	86.0	-.2	4.6	22.0	40.0
Detached house	14	14.0	14.0	100.0	.1	3.6	7.0	21.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Duration of stay

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid less than 2 years	18	18.0	18.0	18.0	.2	4.0	11.0	27.0
d 2-5 years	20	20.0	20.0	38.0	-.1	4.0	12.0	28.0
6-10 years	23	23.0	23.0	61.0	.0	4.3	15.0	32.0
11-15 years	3	3.0	3.0	64.0	-.1	1.7	.0	7.0
more than 16 years	36	36.0	36.0	100.0	.0	4.9	26.0	46.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Is your housing environment calm

	Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid yes	76	76.0	76.0	76.0	-.4	4.4	67.0	84.0
no	24	24.0	24.0	100.0	.4	4.4	16.0	33.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Is your housing environment clean

	Frequenc y	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid yes	64	64.0	64.0	64.0	.1	4.8	55.0	73.0
no	36	36.0	36.0	100.0	-.1	4.8	27.0	45.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Are there adequate transport facilities

	Frequenc y	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid yes	40	40.0	40.0	40.0	-.2	5.2	29.0	49.0
no	60	60.0	60.0	100.0	.2	5.2	51.0	71.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Are there adequate areas for social activities

	Frequenc y	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid yes	37	37.0	37.0	37.0	-.2	4.8	27.0	46.0
no	63	63.0	63.0	100.0	.2	4.8	54.0	73.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Is the location of your housing environment good

	Frequenc y	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid yes	58	58.0	58.0	58.0	-.2	5.0	48.0	67.0
no	42	42.0	42.0	100.0	.2	5.0	33.0	52.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Are there adequate services from the municipality

	Frequenc y	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid yes	53	53.0	53.0	53.0	.2	4.9	44.0	63.0
no	47	47.0	47.0	100.0	-.2	4.9	37.0	56.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Different cultural groups in the neighborhood

	Frequenc y	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid yes	62	62.0	62.0	62.0	.1	4.9	52.0	72.0
no	38	38.0	38.0	100.0	-.1	4.9	28.0	48.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Is the housing environmnet safe

	Frequenc y	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent ^a			
					Bias	Std. Error	95% Confidence Interval	
							Lower	Upper
Valid yes	80	80.0	80.0	80.0	.0	4.0	72.0	88.0
no	20	20.0	20.0	100.0	.0	4.0	12.0	28.0
Total	100	100.0	100.0		.0	.0	100.0	100.0

Appendix C: Regression Analysis Results

The results obtained from the regression revealed that there was a strong relationship between the dependent variables and the choices of the respondents. The tables below are a summary of the findings from the regression analysis that was carried out during the research.

Gender:

Gender and social spaces have been a subject of great debate since the last 20 years (Löw, 2006). It is important to therefore understand how different gender groups respond to spaces and the way certain values, norms, or structures could affect social arrangement of spaces. This understanding better eliminates any idea of social space being a mere arrangement of objects and gives it a more profound and deep function as a space that “breathes”. The term space that breathes is chosen by the researcher because social space is characterized by people and the value or quality of interaction or integration that happens in such spaces.

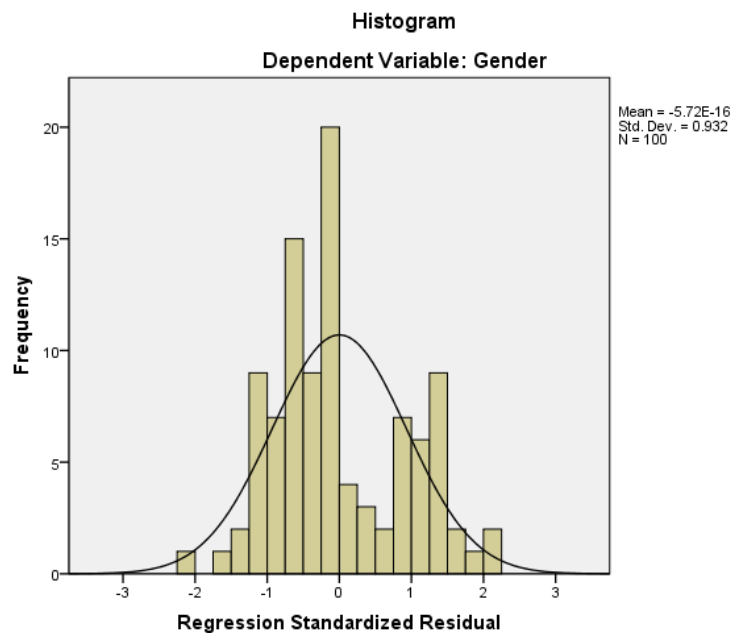
In the case of the study area, gender was found to be a strong determinant for how space is perceived and whether or not people may choose to use the social spaces provided within a community (Table 20).

Regression Analysis Using Gender

Model Summary^b

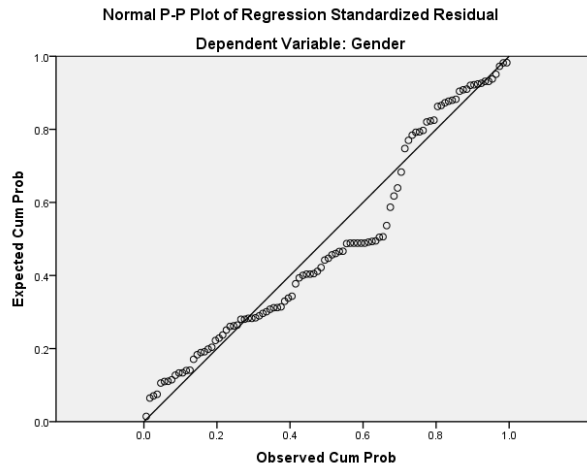
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.544 ^a	.296	.190	.422	2.207

The analysis revealed that the choices of the respondents were influenced by the gender groups of the respondents by 54%. Durbin Watson standard seemed to agree with the findings at a scale of more than 2. This expresses a strong level of relationship. According to the Durbin Watson rule, a scale of 1.5 to 2 is acceptable for a regression analysis. The histogram reveals a mean of -5 and a standard deviation of 0.9 for gender. This is almost an evenly distributed curve which also proves that there is a relationship between gender and the choices or perception of people within the housing environment.



Histogram for Gender analysis

On so many levels, the relationship between gender and space perception can be argued to prove that certain spaces could be preferred to certain gender group than others. This is a pointer to the unspoken identity that might be portrayed as the character of that space; that is if it is conducive for both men and women or only one gender group (Massey, 2004). The scatter diagram for the gender distribution also illustrates the closeness of the responses to an even distribution



Scatter diagram for gender analysis

The correlation analysis for gender as a dependent variable reveals a correlation between gender, social integration, use of public spaces and the perception of safety. At 95% confidence, the analysis revealed a strong correlation of 5% between gender and public space usage and perceptions of safety.²

Age:

The perception of space as characterized by the dependent variables of gender, age, income, or levels of exposure is a strong determinant on how people within the study area respond to their housing environment. So many external factors could influence such perceptions. One of such factors is the question of if there is a thoughtful planning processes that does not exclude any group of people. The older people will perceive the notion of a quiet housing environment different than the perceptions of teenager, therefore they could unconsciously begin to respond to their environment in a manner that is peculiar to them.

Regression Analysis Using Age

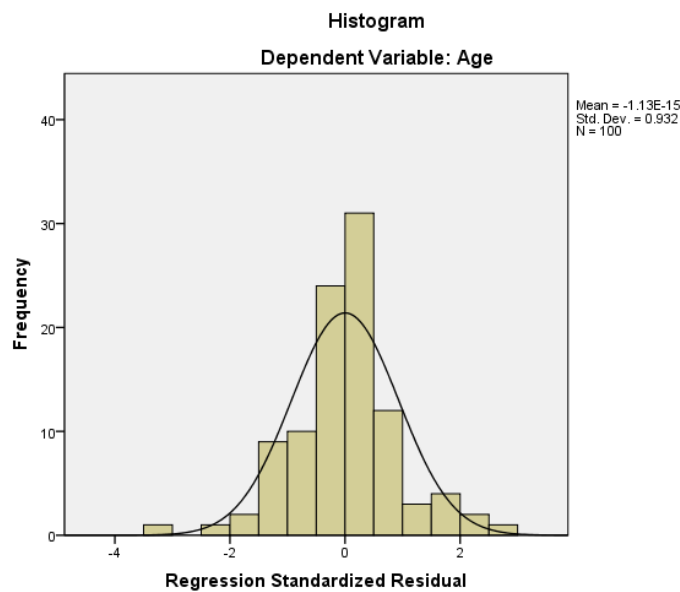
Model Summary^b

²Predictors: (Constant), Do you like your housing environment, Are there adequate transport facilities, Do you often visit the parks, Which of this is important when you relate with people, Is your housing environment clean, Is the housing environment safe, Where do you prefer to spend an evening, Are there adequate services from the municipality, Is the location of your housing environment good, Different cultural groups in the neighborhood, Are there adequate areas for social activities, Is your housing environment calm, Are you friends with the parents of your children's friends

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.859 ^a	.738	.699	1.166	1.692

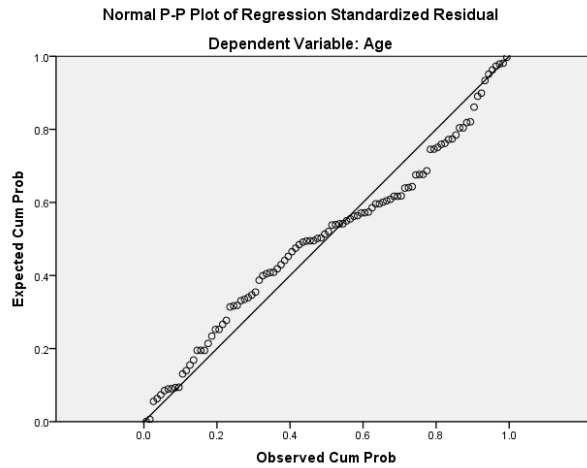
3

The analysis also revealed a strong relationship of 73% between age and the results obtained from the survey. The histogram of the distribution also reveals an almost perfect curve with a mean of -1 (which is very close to zero) and again, a standard deviation of 0.9.



Histogram for analysis using age

The scatter diagram for the distribution shows the closeness of the values to the normal at 73% of influence.



Scatter Diagram for Analysis using Age

The correlation analysis using age as dependent variable reveals both strong and weak correlations between age and the different predictors. A strong correlation of 5% at 95% confidence shows that age affects the respondents' perception and usage of space, safety and satisfaction with a 1% correlation for how they relate or integrate with people.

Monthly Income:

Monthly Income as the Dependent Variable

Model Summary^b

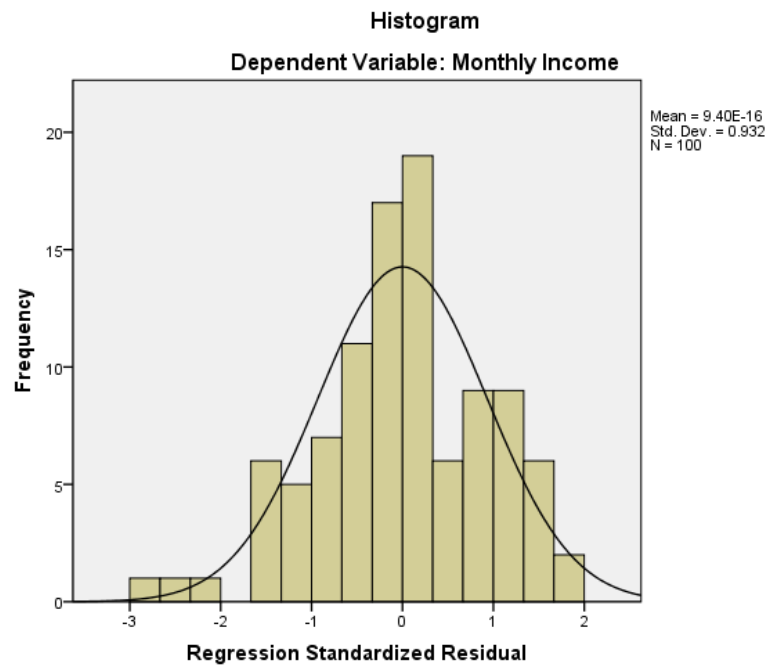
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.747 ^a	.559	.492	.604	1.835

The regression curve in this case also reveals a 74% influence of income on the choices of the respondents. The frequency table for income based on the opinion of the respondents is given below with a high percentile of low income earners. This result is affected by many contributing factors such as the age of the respondent, education level and profession.

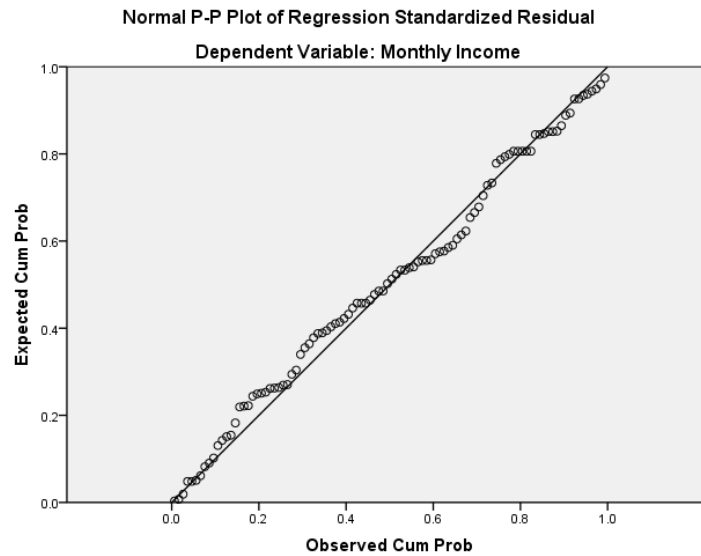
Monthly Income Distribution of 100 respondents

		Monthly Income							
		Freq	%	Valid %	Cumulative %	Bootstrap for Percent ^a			
						Bias	Std. Error	95% Confidence Interval	
								Lower	Upper
Valid	less than 1500	55	55.0	55.0	55.0	.4	5.2	45.0	66.0
	1500 - 2000	20	20.0	20.0	75.0	-.4	4.1	12.0	28.0
	More than 2000	25	25.0	25.0	100.0	.0	4.4	17.0	34.0
	Total	100	100.0	100.0		.0	.0	100.0	100.0

The mean in this case is given at 9 while still maintaining a standard deviation of 0.9



Histogram showing distribution of Monthly Income of Respondents



Scatter Diagram for the Distribution of Monthly Income

The analysis further reveals a correlation between income and respondents' perception of their housing environment, social integration and housing.

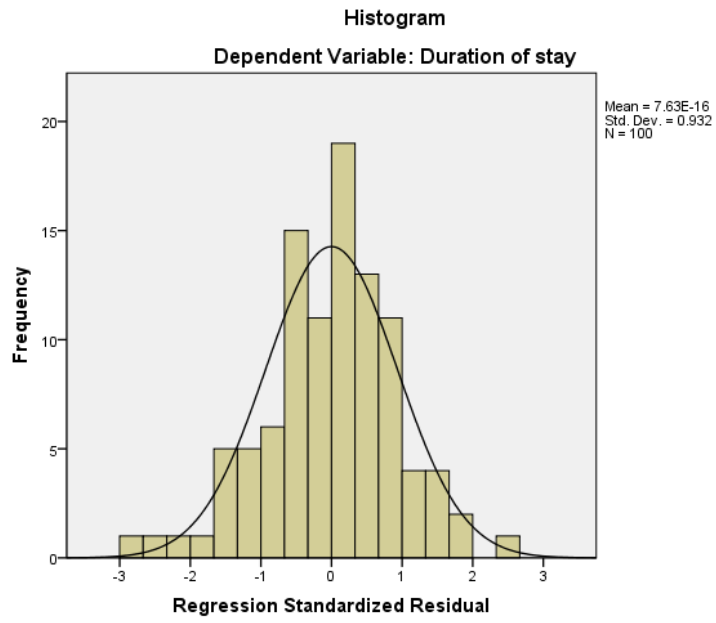
Duration of Living within the Study Area

The duration of stay had a 70% correlation with the analyzed predictors (Table 24), a mean of over 7 and a standard deviation of 0.9. The thought here is that people will continue to stay within a housing environment either because they like it so much or because due to limiting factors, that is what they can afford.

Correlation of Duration of Living within the study Area and the Predictors

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.706 ^a	.498	.422	1.172	1.924



Curve Showing the Standard Deviation and Mean for the Duration of Stay of Respondents within the Study Area