

**THE REPUBLIC OF TURKEY
BAHCESEHIR UNIVERSITY**

**THE PROSPECTS FOR SOCIAL HOUSING IN
NORTHERN SYRIA: AN INTERACTIVE SOCIAL
HOUSING MATRIX**

Master's Thesis

ABDULAZIZ AL MANSOUR

ISTANBUL, 2019

THE REPUBLIC OF TURKEY

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Thesis Supervisor: ASSOC. PROF. DR. NILAY ÜNSAL GÜLMEZ

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MASTER OF ARCHITECTURE**

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Date of the Defense of Thesis: 01/08/2019

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ACKNOWLEDGMENTS

I would like to express my deep gratitude to Professor Nilay Ünsal Gülmez, my research supervisor, for her patient guidance, enthusiastic encouragement and useful critiques of this research work. She always supported me with valuable and constructive suggestions during the planning and development of this research work, and her willingness to give her time so generously has been very much appreciated. I would like to thank the rest of my master's professors: Prof. Dr. Özen Eyüce, Prof. Dr. Göksun Akyürek, Prof. Dr. Suna Cagaptay, and Prof. Dr. Durnev Atilgan for their encouragement, insightful comments, and positive critique while my master study period in BAU, with special thanks and much appreciation to my committee members Assoc. Prof. Dr. Ela Kaçel and Assist. Prof. Dr. Burcu Beşlioğlu for the valuable comments, recommendations, and suggestions.

This work would not have been possible without the support of the Asil Vakfi, and I am indebted to all their supervision staff, who have been supportive of my educational goals and who worked actively to provide me with all kind of support to pursue those goals, with special thanks to Ayman Abu-Laban /Asil vakfi CEO.

I would also like to thank ATAA organization for enabling me to visit their project and their support to conduct the focused group discussion in Gaziantep especially Khalid Alissa, ATAA CEO for his encouragement and facilitating to conduct all the study processes. I want to knowledge a special thanks to my great friend Mohammed Gadireha for supporting me while carrying out my thesis and understanding me when I needed a piece of advice. There are many other great people who in many ways contributed to the success of this thesis. I would like to thank all the interview respondents from Syria for their valuable time, who have given confidence in its progress hoping for better future respect their dignity and basic rights.

I must express my very profound gratitude to my parents for providing me with unfailing support and continuous encouragement throughout the process of researching and writing this thesis. Last but not least I would like to say thank you very much Ruhjev for everything that you do and everything that you have given. I must have been blessed to have someone like you in my life, nothing can be done without you.

Istanbul, 2019

Abdulaziz AL-MANSOUR

ABSTRACT

THE PROSPECTS FOR SOCIAL HOUSING IN NORTHERN SYRIA: AN INTERACTIVE SOCIAL HOUSING MATRIX

Abdulaziz ALAMANSOUR

Architecture

Thesis Supervisor: Assoc. Prof. Dr. Nilay ÜNSAL GÜLMEZ

August 2019, 140 pages

Wars often lead to social, economic and demographic changes which have an impact on the types of housing. These changes come as a result of the rapid response to the huge need for housing, in order to secure these for various war-affected people like; internally displaced persons and returnees after the war, in addition to the need for rapid rehab of the housing infrastructure mass destruction that often happens after a long war.

This thesis studies the social housing in northern Syria as a new pattern of housing that did not exist prior to the war, analyzes and evaluates this type based on criteria derived from the experiences of other country cases and provides an interactive conceptual matrix focusing on four aspects; urban planning issues, architectural design issues, social issues and sustainability and environmental issues. The thesis applies and analysis the proposed interactive social housing matrix initially on the selected cases and experiences of social housing one from post-War II period, that is temporary housing programme in England, and one from developing countries social housing programmes in the 21st-century, The Elemental housing programme in Chile.

Upon completion of the analysis of the previous cases, the thesis aims to be considerate of the Syrian context in the proposed social housing matrix through the focus group discussion with Syrian experts to develop it, in relation to the current social housing projects in northern Syria mainly two projects implemented by two non-governmental organizations; Ataa organization as a local, and Qatar red crescent as an international.

The Atmaa - Ataa social housing project is selected as a case study and on the grounds of the focus group discussion with Syrian experts, among four main aspects of the matrix, social issues aspect is further studied with a mixed method research. As a result of the analysis of quantitative and qualitative data, findings on social cohesion and cultural adequacy have been shared in addition to recommendations for improving and developing the project and the proposed matrix.

Finally, since the practice of social housing in Syria is still in its early phases, this thesis strives to influence the formation of a complete basis for the development of contemporary social housing models in northern Syria with the aim of improving the quality and clearly defining for the social housing in its current situation.

Keywords: A Conceptual matrix , Evaluation, Social Housing, Interactive, Northern Syria.

ÖZET

SURİYE'NİN KUZEYİNDE SOSYAL KONUT OLASILIKLARI: ETKİLEŞİMLİ BİR SOSYAL KONUT MATRİSİ

Abdulaziz ALMANSOUR

Mimarlık ve Tasarım Yüksek Lisans Programı

Tez Danışmanı: Doç. Dr. Nilay ÜNSAL GÜLMEZ

Ağustos 2019, 140 sayfa

Savaşlar genellikle konut tiplerini etkileyen sosyal, ekonomik ve demografik değişikliklere yol açarlar. Bu değişiklikler, uzun bir savaştan sonra genelde meydana gelen konut altyapısındaki büyük yıkımlar için hızlı bir rehabilitasyona ihtiyaç duyulmasının yanı sıra; iç göç yaşamış ya da savaş sonrası dönüş yapan savaştan etkilenmiş insanların güvenliğini sağlamaya yönelik konut ihtiyacındaki devasa artışa verilen hızlı tepkinin bir sonucu olarak ortaya çıkar.

Bu tez çalışması Suriye'nin kuzeyinde savaştan önce var olmayan yeni bir konut dokusu olarak sosyal konut konusuna odaklanmaktadır, diğer ülkelerdeki vaka deneyimlerinden elde edilen kriterlere dayanarak bu konut tipini analiz etmekte, değerlendirmekte ve dört farklı konuya odaklanan etkileşimli bir kavramsal matris elde edilmesini sağlamaktadır: kentsel planlama konuları, mimari tasarım konuları, sosyal konular, sürdürülebilirlik ve çevre konuları. Tez, önerilen etkileşimli sosyal konut matrisini uygulamakta ve ilk olarak birisi II. Dünya Savaşı sonrası dönemden İngiltere'deki geçici konut programı, diğeri 21. yüzyıldan gelişmekte olan ülkeler arasında bulunan Şili'deki bir sosyal konut programı olan Elemental konut programı olmak üzere seçilmiş vakaları ve deneyimleri analiz etmektedir.

Önceki vakaların analizinin tamamlanmasının ardından tez, Suriyeli uzmanlar ile odak grup görüşmeleri üzerinden Suriye'nin kuzeyinde mevcut bulunan ve iki sivil toplum kuruluşu tarafından yürütülen iki proje; yerel kapsamdaki Ataa Derneği ve uluslararası kapsamdaki Katar Kızılayı'nın sosyal konut projeleriyle ilişki kurarak, önerilen sosyal konut matrisini Suriye bağlamı içerisinde düşünmeyi amaçlamaktadır.

Atmaa - Ataa sosyal konut projesi Suriyeli uzmanlarla yapılan odak grup görüşmelerine dayanarak örnek vaka olarak seçilmiş; matrisin dört ana konusu arasında, sosyal konular başlığı karma yöntemler kullanılarak daha detaylı biçimde çalışılmıştır. Nicel ve nitel verilerin analizi sonucunda, projenin ve önerilen matrisin iyileştirilmesine ve geliştirilmesine yönelik tavsiyelerin yanı sıra sosyal uyum ve kültürel yeterlilik ile ilgili bulgular da paylaşılmıştır.

Son olarak, Suriye'deki sosyal konut uygulamaları halen ilk aşamalarında olduğundan, bu tez kaliteyi artırmak ve mevcut durumunda sosyal konutu açıkça tanımlamak üzere Kuzey Suriye'de çağdaş sosyal konut modellerinin geliştirilmesi adına eksiksiz bir temel oluşturulması konusunda etkili olmak için çalışmaktadır.

Anahtar Kelimeler: Kavramsal matris, Değerlendirme, Sosyal Konut, İnteraktif, Kuzey Suriye.

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ABBREVIATIONS

- BRE** : Building Research Establishment is a centre of building science in the United Kingdom, owned by a charitable organization, BRE Trust. It is a former UK government national laboratory that was privatized in 1997.
- CABE** : Commission for Architecture and the Built Environment” was a non-departmental public body responsible for advising governments on architecture and urban design. It merged into the Design Council in 2011.
- HUD** : The United States Department of Housing and Urban Development is a Cabinet department in the executive branch of the United States federal government.
- HLM** : Habitation à Loyer Modéré ("rent-controlled housing"), Social housing provision in France is housing provided by ‘HLM’ organizations, which are specific actors entrusted by the state to fulfil a mission of general interest, where HLM stands for Habitation à Loyer Modéré, organisations providing housing at moderated rents. The social housing sector in France accounts for about 17% of the stock.
- HQI** : Housing quality indicators measure the quality of housing schemes funded by the Homes and Communities Agency and was published under the 2010 to 2015 Conservative and Liberal Democrat coalition government in England.
- IDPs** : Internal displacement persons.
- INGO** : International Non-government organization
- NGO** : Non-government organization.
- SHQS** : The Scottish Housing Quality Standard (SHQS) was introduced in February 2004. It is the main measuring method housing quality in Scotland.

- UNECE : The United Nations Economic Commission for Europe (UNECE) was set up in 1947 by ECOSOC. It is one of five regional commissions of the United Nations. The others are the Economic Commission for Africa (ECA), Economic and Social Commission for Asia and the Pacific (ESCAP), Economic Commission for Latin America and the Caribbean (ECLAC) and Economic and Social Commission for Western Asia (ESCWA).
- UNHCR : UNHCR, the UN Refugee Agency, is a global organization dedicated to saving lives, protecting the rights and building a better future for refugees, forcibly displaced communities and stateless people.
- UNHRP : The United Nations Housing Rights Programme (UNHRP) was launched in April 2002, as a joint initiative by UN-HABITAT and the Office of the United Nations High Commissioner for Human Rights (OHCHR).
- UN-HABITAT : UN-Habitat is the United Nations programme working towards a better urban future. It's mission is to promote socially and environmentally sustainable human settlements development and the achievement of adequate shelter for all".

1. INTRODUCTION

Access to housing often becomes stressed through the process of urbanization, this is particularly the case in ‘developing’ countries, where urban areas grow much faster than their economy, causing demands on housing and services that massively outstrip supply. These developing countries have been the main contributor to the rapid growth of the world’s population during the twentieth century (Winckler 1998).

With increasing rates of urbanization underpinned by local, national and international migration as well as a high rate of natural population growth, the larger cities in the developing countries have been forced to absorb large numbers of migrants beyond the swelling ranks of the urban population itself. Before the crisis, Syria as a developing country has also suffered from the increasing demand of housing while the attempts of the government that controls the affordability of housing sector have not succeeded to solve the housing problems (Al Khalaf 2014).

The ‘Right to Adequate Housing’ of UNHCHR states that:

“Having a secure place to live is one of the fundamental elements for human dignity, physical and mental health and overall quality of life, which enables one’s development” (UNHCHR 2005).

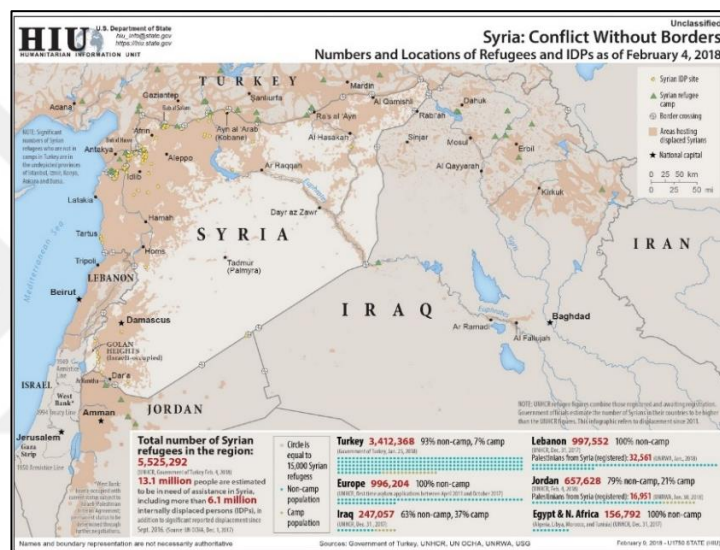
The right to housing is an economic, social and cultural right, it is recognized in many national constitutions, including the Universal Declaration of Human Rights and International Covenant on Economic, Social and Cultural Rights.

In these terms, this part will make an introduction to housing issues in northern Syria and its significance in the current situation after eight years of war, through providing an overview about the housing demand with the problem of existing large numbers of internally displaced people due to the war and political considerations.

According to the United Nation’s assessment report in 2019: 4.3 million people in Syria need humanitarian shelter assistance, for which 1.9 million of whom the need is acute. There is a lack of adequate housing, which is also becoming increasingly unaffordable. Only 48 percent of the population in Syria live in accommodation which meets a minimum standard, so there is a shortage of housing in Syria with a huge need for shelter, in a way similar to some countries after the Second World War (HNO 2019).

Most of the existing housing stock was indiscriminate with loss of the lowest standards of living and suffered from a significant lack of humanitarian assistance. The change of military control has led to some areas removing some of these camps or their displacement to other places for security reasons. Figure 1-1 shows the distribution of displacement camps in Syria in early 2018(appendix 1 includes figure 1.1 with high resolution). However, the biggest concentration of the Syrian IDPs camps is in northern Syrian areas, which have the largest number of them since the beginning of the conflict in 2011 until the present (IDMC 2019).

Figure 1.1: Camps Map



Source: <https://hiu.state.gov/>

There is a common characteristic between large numbers of IDPs in northern Syria whose original homes were demolished in other parts of the country and will suffer from political issues in their hometown if they return, which means they are thinking about long term residency in northern Syria.

The camps where they live are large-scale settlements with increasing numbers of displaced persons per day, with the majority lacking basic services such as education, health, sanitation, and other life services.

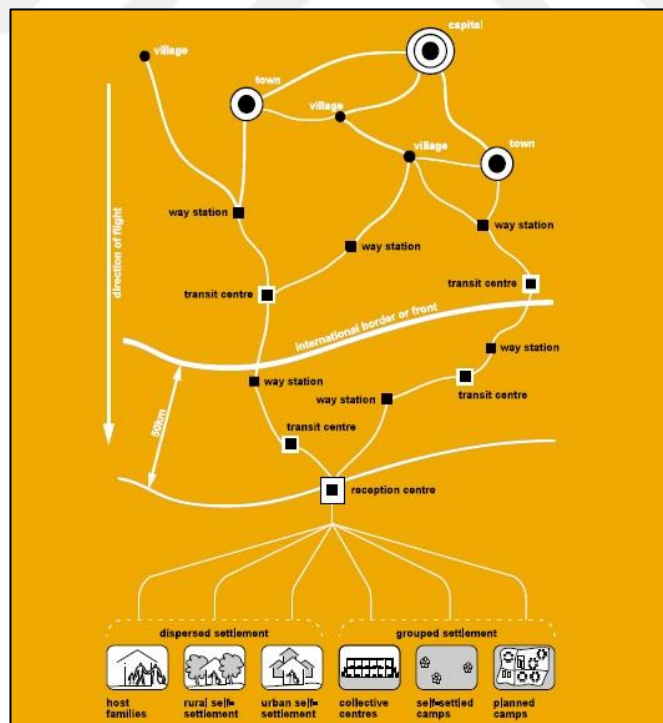
An estimated 8684 people were forced to leave their homes or areas of residence daily in 2018, while males and females account for 49% and 51% respectively, Syria is now the country with the largest number of IDPs in the world (Erin Mooney 2016).

While northern Syria has been disproportionately affected by the crisis, most IDPs live in crowded temporary shelters that lack privacy and access to electricity, heating, water, and sanitation. According to HNO (2018), one million IDPs in the whole of Syria are living in informal camps, informal tented settlements, or collective centers and in northern Syria alone there are 804,300 IDPs. At least 85 percent of IDPs are entirely reliant on humanitarian aid to maintain their most basic life-sustaining needs, which means that they are categorized as vulnerable under United Nations standards.

The current situation of IDPs housing in northern Syria passed through many stages as explained by Corsellis and Vitale (2010) they show that there are six types of transitional settlements for IDPs (appendix 1 includes figure 1.2 with high resolution);

” The transitional settlement choices open to displaced people have been categorized into six program options: 1. dispersed settlement: with host families, 2. dispersed settlement: rural self-settlement, 3. dispersed settlement: urban self-settlement, 4. grouped settlement: collective centers, 5. grouped settlement: self-settled camps and 6. grouped settlement: planned camps ”. (Figure1.2)

Figure 1.2: Six transitional options



Source: Corsellis, T., and Vitale, A., (2005). Transitional settlement displaced populations. Cambridge.p10

While Herz, M. (2012) mentioned in his book (From Camp to City. Refugee Camps of Western Sahara), How the camps served as "urban transformers" (p.19) for their residents, enabling them to make the shift from nomadic, tribal traditions to quasi-urban ones. They were motors of urbanization, preparing the refugees for urban lives after the camps. In them, the Sahrawi developed institutions that could be transferred to their own country once the conflict was over. From the lens of their inhabitants, the camps were quasi cities, expressions of urbanity, ready to be taken elsewhere at any moment. The book is filled with extraordinary crisp, clear maps and photographs that convey this urban condition. They are divided into topics: planning and living, commerce, work, health, and education.

As the Syrian camps have entered their seventh year of crisis, many of the IDPs in the camps try to improve their living conditions, find accommodations that provide some privacy for them and protect them from bad weather conditions. IDPs try to adapt the accommodation they live in within the available resources.

The previous overview reflects the current situation in northern Syria and how the IDPs and host community individuals struggle to find new solutions to enhance the accommodation conditions after more than seven years of stability in the same location and camps. So the social housing projects started to appear in different manners, for instance, the social housing projects which are developed by the IDPs themselves, projects which are semi-funded by local NGOs and projects with full funding from local and international NGOs.

1.1 MOTIVATION, RESEARCH AIMS, AND QUESTIONS

The previous paragraph mentioned the social housing phenomenon in northern Syria and how it developed based on community needs in the absence of government programs supporting it. The reason that these projects are the initial attempts of social housing in the whole of Syria is the most important a motivation to this study.

In 2013 the humanitarian response began for Syrians in northern Syrian camp areas, with the building of temporary camps from tents, and after a while, there was some development in those camps to be semi-constructed shelters by the IDPs efforts, while in

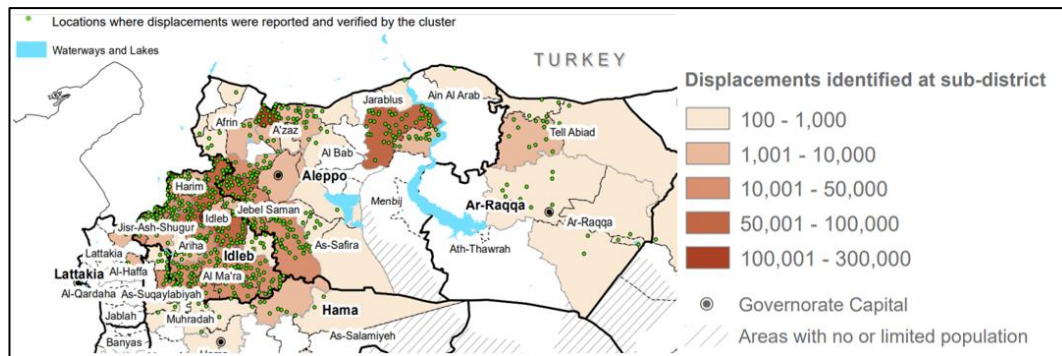
2014 the local NGOs started to build some housing for the most vulnerable families instead of tents which can be considered as an initial kind of social housing projects which were for free and provided some basic needs in assistance for the residents.

After the first two years of displacement in northern Syria camps, the IDPs started thinking about stability for several reasons such as the large numbers that are unable to return to their homes as a result of political conflicts and civil wars in their home areas. IDPs houses were destroyed in their hometowns and the instability of their areas led them to search for alternative settlements.

As a result, the demand for housing and shelter in northern Syria camp areas has increased and the United Nations and non-governmental organizations response was providing tents and building new camps, which later developed to form a residential area. For instance in Atmaa area there was an area inhabited by about 200,000 IDPs sheltering in six types of accommodations; tents that formed an informal camp, camps managed by local NGOs under supervision of the UN called formal camps, a half-built shelter developed by the IDPs informal housing, houses built by IDPs as a formal housing, social housing units for widows and orphans which have been built and managed by local NGOs and social housing units for vulnerable people which have been built and managed by local NGOs. In late 2016 local and international NGOs started following the social housing approach to help the vulnerable IDPs to find shelter. There are now ten settlement projects based on the social housing approach with approximately 50000 inhabitants and facilities servicing those settlements such as hospitals, schools,... etc, in Atmaa area (Global CCCM Cluster 2018).

Therefore, the value of this study is to analyse and examine the current social housing in northern Syria as an initial attempt towards social housing projects in the whole of Syria which are to be designed and implemented through the perspective of local NGOs, with little access by UN and the complete absence of government supervision (policy, regulations, monitoring, planning etc.).

Figure 1.3: Displacement Map



Source: <https://hno-syria.org/#sector-needs>

The research aims have been summarized as follows:

- i. Set and develop an architectural matrix for future social housing projects in northern Syria.
- ii. Propose social housing matrix and apply it to one of the social housing projects in northern Syria.

The questions that the research aims to answer are:

- i. What is the appropriate approach for social housing in Syria?
- ii. How to address the pros and cons of other countries experiences according to proposed social housing matrix?
- iii. What should be the aspects, sub aspects, and indicators of the proposed matrix?
- iv. How to check the relevance of the proposed matrix within the Syrian context?

I believe such questions are needed to be asked and answered in order to understand the situation today and to be able to make estimations about the future of social housing projects in northern Syria.

The study area and the research questions will open up a wide range of interesting objective-related questions about the acceptance of these projects by the Syrians, appropriate standards for the Syrian context and the future of these projects after the war.

1.2 METHODOLOGY

In order to respond to the objectives of the thesis questions, the thesis starts with a literature review aiming to set and develop a conceptual framework. There are 15 references of social housing studies divided into four groups (UN and general studies,

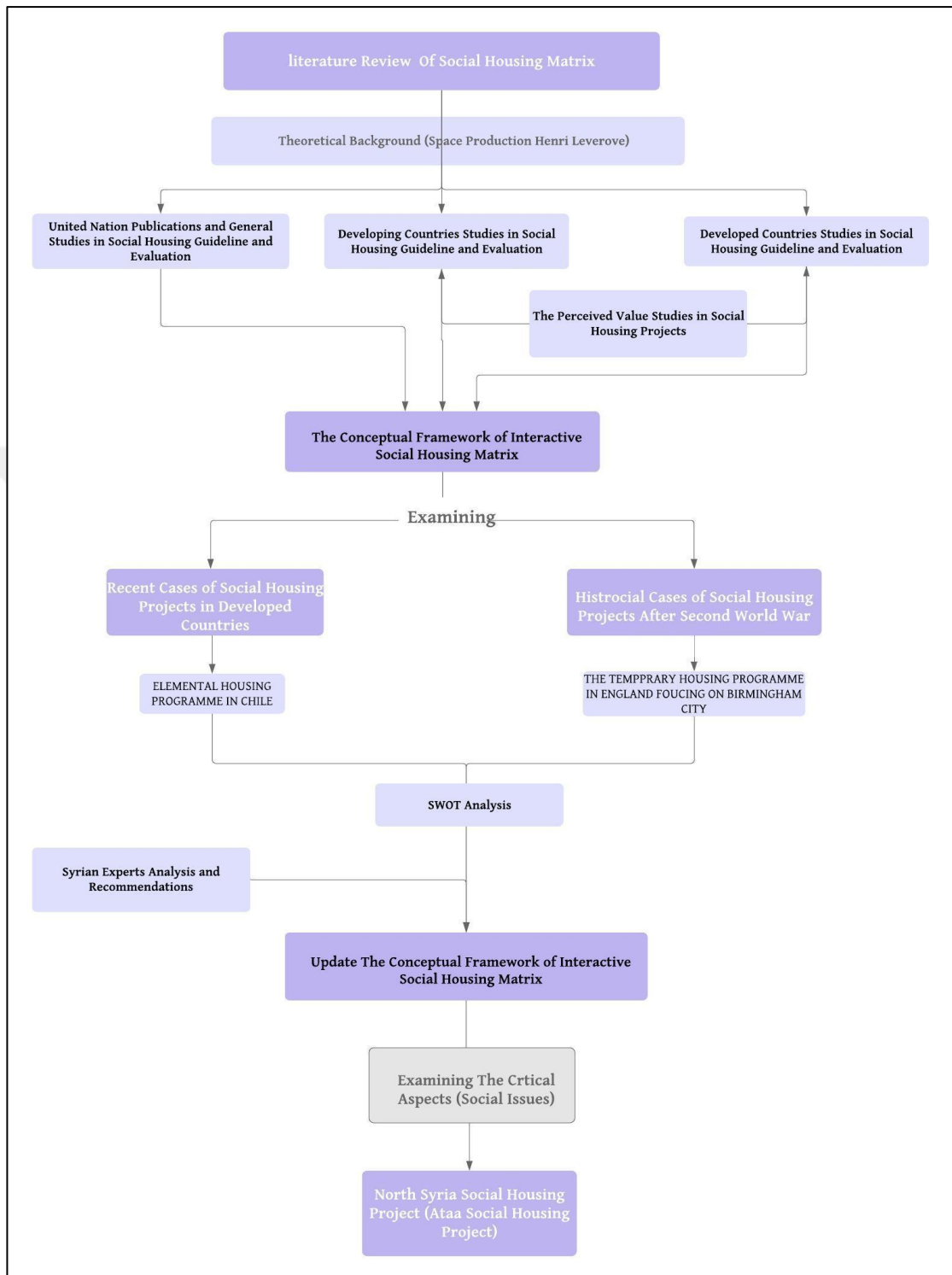
developing countries studies, developed countries studies, and studies adopted the perceived value in evaluation) which were selected according to theoretical background of the study referring to the spatial triad of Lefebvre (conceived, perceived and lived spaces).

The results of the literature review provided the necessary background to form the interactive social housing evaluation matrix concentrating on four major aspects (architectural design, urban planning, social issues, sustainability, and environment).

The resulting matrix was examined to check whether it works efficiently with two experiences belonging to two different approaches (post-World War II; the temporary housing program in England focusing on Birmingham as a case study and developing countries in the 21st-century Elemental housing program in Chile as a case study).

Then the proposed matrix was discussed with the Syrian experts in a focus group meeting that included 28 experts from 27 international and local NGOs, and according to that discussion there were updates and recommendations for the content of the matrix and the attendants selected the critical aspects (social issues) to evaluate on a specific project in northern Syria (ATAA project in Atmaa area). The field study employed mixed methods research consisting of quantitative and qualitative methods for collecting the data. Quantitative data was gathered through a structured questionnaire targeting Ataa social housing project residents, while qualitative data was collected through in-depth interviews with 20 residents representing different segments of Ataa housing complex residents. Observation methods were also employed through field visits. Figure 4 shows the workflow of the thesis.

Figure 1.4: Thesis Workflow



1.3 LIMITS OF THE STUDY

Besides the potentials of the research, there are some disadvantages and challenges that occurred during the field study, these are summarized in three main aspects in terms of the absence of a Syrian housing authority in northern Syria, limited access to the field and limited time.

The first challenge was that the research depended on alternative authorities to get information about the topic such as; the Syrian Interim Government and their organizations based in Gaziantep, Syrian experts, and the Syrian nongovernmental organizations which work in northern Syria.

The second challenge was about necessary permissions. As a result of the conflict inside Syria, I benefited from the Security Council decision NO. 2165 which was expanded on 15-12-2017 till the end of 2019, which allows the entry of humanitarian aid across the Syrian borders without the need for permission from the Syrian government. I benefited from the continuity of access to the study field through official permission from the Turkish government but unfortunately, it was for a short time.

While the third challenge was the limited time of the study, so I selected one aspect (social issues) from the proposed interactive social housing matrix and studied it in the field. The selection of the social issues was according to the discussion with Syrian experts. Regarding the selected project that I examined through that matrix (ATAA social housing project in Atmaa area), I accessed to the project and I got a good level of cooperation in terms of former work with the Syrian NGOs in north Syria. In addition to that, INGOs, local NGOs, and UN organizations which work in Atmaa area have offices in Gaziantep city with the accessibility being available at any time, which helped me conduct the research well.

2. SOCIAL HOUSING AS A PATTERN OF THE HOUSING TENURE

The second chapter will draw on the social housing concept, its definition, and current situation, in terms of comparing it with affordable housing to clarify the concept.

The first subchapter paves the way to understand the housing market in Syria before the crises which were focused more on supporting the affordable housing without clear differentiation between it and the social housing.

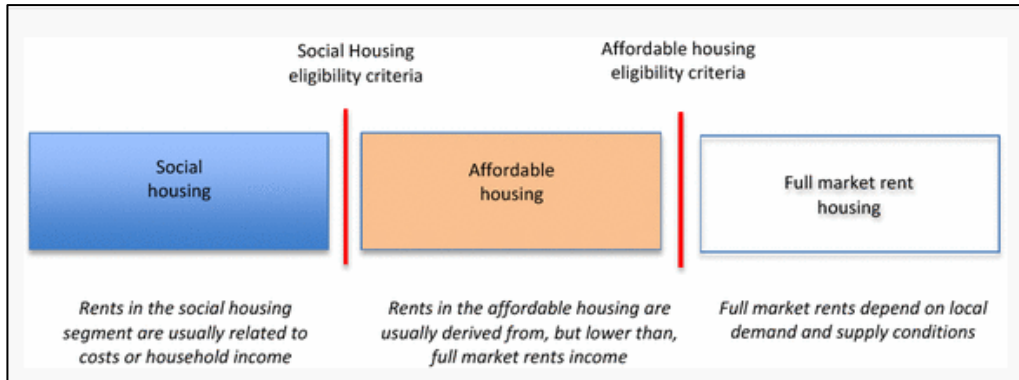
While the second subchapter will explore the housing delivery, affordability and supply in Syria before the crisis, focusing on affordable housing pattern in the Syrian housing continuum.

2.1 SOCIAL HOUSING VS AFFORDABLE HOUSING

This part discusses the definitions of social housing and compares it with affordable housing based on several recent studies in the European Union and some government policies outside the EU, such as Australia and Canada.

A recent study conducted by Czischke and van Bortel (2018) presents the findings of a research that was commissioned by the European Investment Bank in four EU countries (England, Netherland, Poland, and Italy) to operationalize this question "What does it take to make rental housing 'social' or 'affordable'?" .The findings in this research show that social housing depends on costs or family income (by country or city), and it is usually delivered by governmental agencies and/or non-profit organizations. The eligibility is often based on strict criteria relating to the needs/deprivations of the family, income and other criteria such as age and family's size. On another hand, the affordable housing is targeting other groups that are not eligible for "social housing" but are unable to obtain a home or pay full market rent, so the eligibility for affordable housing is often less stringent than social housing (figure 2.1).

Figure 0.1: Rental housing segments



Source: <https://doi.org/10.1007/s10901-018-9598-1>

While according to Braga and Palvarini (2013) there are four dimensions that differentiate the models and policies of social housing in EU countries, they state that:

“The literature review conducted indicates that no common definition of social housing is available at the EU level, with different states adopting different definitions that translate into varying levels of public intervention within the sector. Consequently, the degree of housing services greatly varies across the EU. In general, four dimensions characterize (and differentiate) social housing models and policies: the tenure, provider of the service, beneficiaries and funding arrangements”.

Canada and Australia used the term “housing continuum” which refers (according to governmental institutional reports CMHC(2018)and AHURI (2017)) to the range and options of housing in the countries which started from the option of supported shelter for people with specific criteria to the private housing market option.

In general, social housing can be defined in this system as providing adequate accommodation and shelter free for specific groups according to the vulnerability criteria which is different from country to another (figure 2.2).

Figure 2.2: Housing Continuum Canada



Source: www.cmhc-schl.gc.ca/en/developing-and-renovating/develop-new-affordable-housing/programs-and-information/about-affordable-housing-in-canada

2.2 SYRIAN HOUSING CASE BEFORE THE CRISIS

In Syria before the crisis, housing units consisted of three main groups: houses, apartments with three or five stories or higher buildings, and others (such as traditional houses with courtyards, etc.). The house price to income ratio, which represents the monthly income of the applicant to the expected monthly payments, is usually the best measure of pressure in the housing market in Syria and it was high because low-income households do not have enough income (70% of Syrians receive salaries below \$100 per month) and house prices are largely dependent on location and type of accommodation which was very expensive. Over the past decade, house prices have surged, due to speculative practices that have driven home prices to rise (Safadi 2009).

The Syrian Economic Center reported that in 2003, the phenomenon of increased housing prices reached 300%, due to the lack of effective intervention by the government to provide solutions to address the problem. Although home prices have fallen by up to 20% in the second half in 2008, even though there was a demand for affordable housing; market saturation seems to be elusive moreover,

"in a country, where the monthly average salary is between SP5000 (\$ 100) and SP10000 (\$ 200), housing will be out for reach of most residents and especially the low-income group" (Oxford Business Group, 2006, p. 94).

Therefore, there was a need to provide affordable housing in the market in order to accommodate the target group that cannot afford to buy homes in the open market.

The main actors responsible for housing supply in Syria before the crises were the government, developers, professionals, contractors, and financiers and every actor had a specific role as follows according to Al Khalaf (2014):

- Government with their bodies under the Ministry of Housing and Construction like (Wizarat Al-Eskan Wa Al-Ta'meer and Municipalities (Baladiat) which provide the theorization for building, approve the plans and all the infrastructure requirements (roads, water, sewage, gardens... etc.)
- Developers ; public sector responsible for 15% of the formal affordable housing supply consist of two bodies: the General Establishment of Housing (Al-Muassasa Al-Amma Lileskan) and the Establishment of Military Housing (Muassasat Al-Eskan Al-Askary) , cooperative sector responsible for 20% of the formal affordable housing supply and private sector responsible of informal affordable housing supply and housing in the open market.
- Contractors ones take the tenders from the different developers which are related to the military and took all the renders of the Establishment of Military Housing.
- Professionals involved in the housing development process are architects, planners, engineers, and surveyors.
- Financers; commercial financial banks provide loans for individuals to buy a house from the private and cooperative sector, while the affordable housing sector funded as follows:

“ The Ministry of Treasury provides only a part of the formal affordable housing finance, through the budgetary funding mechanisms for the Ministry of Housing and Construction (MoHC), along with the Ministry of Defense (MoD), which fund affordable housing projects that are provided by the General Establishment of Housing and the Establishment of Military Housing respectively” (Wakely 2008).

And the beneficiaries from the affordable housing purchase through monthly installments.

The progress was slow in reducing the problem of housing in Syria and the informal settlements were growing in large scale while the gap in the supply of affordable housing was due to several reasons, including institutional governmental reasons.

According to The General Establishment of Housing (2004) the history of affordable housing in Syria returns to 1982 when the government established the general

establishment of housing (Al-Muassasa Al-Amma Lileskan) with the aim to provide the affordable housing to the low-income groups in Syria, and then the government engaged another government association to meet the need for affordable housing. It was the Establishment of Military Housing (Muassasat Al-Eskan Al-Askary) which was formed to provide units for the military personnel. Alkhalf (2014) said that the policymakers in Syria were convinced that affordable housing meets the housing for meeting is an activity of the public sector and it will embody the key to modernization and national development.

In 2008 there was a new law that allowed Syrians and non-Syrian to invest in the housing market but according to Syria-steps(2007), the law failed due to many reasons such as the delay in issuing approvals from government institutions, high rates of interest by banks, the complexity of government procedures, etc. Syria-steps(2007) and Lesch (2012) the two articles mentioned that the most important reason was the permission of the ruling family for any developer which was not easy.

The affordable housing market had two kinds of affordable housing formal and informal, the formal housing was implemented by the government associations with a limited number of projects and covered just 15% of the market. As a result, the informal one had increased to cover 50% of the market with bad living conditions and infrastructure. Because they were out of the planed areas from the government which led to the large informal settlement around the main cities in Syria (Al Khalaf 2014). According to that, the affordable housing sector (formal and informal) couldn't handle the problem of shortage in low-income housing need in Syria before the crisis.

The General Establishment of Housing (2009) has five programs, namely Youth Housing (Sakan Shababi), Saving Housing (Sakan Eddikhar), Labour Housing (Sakan Ommali), Social Housing (Sakan Sha'bi), and University Housing (Sakan Jami'y).

In order to clarify the insufficiency of the public sector to meet the need in the affordable housing market, I will go in detail of the Youth housing program; The target group was youth families above 18 and under 35 and the total beneficiaries were 63000 in whole of Syria while the design of this project provides four-story blocks with three options of areas (65-75-90) square meters with first payment being 10% of the total price and \$ 30 to \$40 per months for 25 years. This project considers the only for this category in the

last 12 years despite the huge need and large numbers of youth families through the whole of Syria.

In conclusion, the affordable housing sector in Syria before the crisis had the following characteristics:

a-There wasn't a role for the private, cooperative and non-governmental associations in supplying affordable housing for the market.

b-There wasn't a rental affordable or social housing pattern in the affordable market before the war.

c -All the affordable policies and regulations focused on affordable ownership but in limited projects and the general payment system was paying 10% to 25% of the unit price as a first payment and 40\$ to 120\$ as a monthly installment.

d -The increasing of informal settlements in the affordable sector was a response to the limited projects by the government and complex governmental procedures within a long period of waiting.

e -The shortage of housing in Syria due to the huge gap between the house prices ratio and the income ratio.

f -The Syrian government has not succeeded in filling the need for affordable housing through its policies before the crisis.

3. INTERACTIVE SOCIAL HOUSING MATRIX

The previous chapter of the thesis revealed the existence of social housing projects phenomenon as a new form that did not exist before the war in northern Syria, as confirmed by the review of housing status in Syria.

This motivated me to write this chapter to answer the following questions; if we examine the phenomenon of social housing projects in northern Syria, what are the main aspects and what sub-aspects to focus on and what is the standard that should be adopted. In order to answer this question, this chapter is considered as a key part in the design of a matrix to measure, evaluate and develop the social housing project in northern Syria.

The theoretical background which the matrix is based on has been examined and then adopted in an interactive structure between its sections, having the ability to develop and improve based on contextual changes.

In order to obtain comprehensive results, the selected references are categorized and analyzed according to be able to achieve a proposal for a matrix are composed of main topics and indicators.

3.1 THEORETICAL BACKGROUND

There is a conflict between the concept of "Universalism Decentralized" and concept of "Center Particularism". "Universalism Decentralized" means that the place is not a site to generate events and a social gathering, and consequently, there is no human significance; all places in all countries in the world have changed with the same value and the same significance and there is no preference for one place over another.

The concept of "Center Particularism" on the other hand means that the places earn their importance through the human relations and social practices which take place in it and the importance of the places depend on the importance of the experience of living in it. After that, there was a trend that said the best way to deal with "space" or "place" is in between those two concepts (Neil Brenner and Stuart Elden 2009). Some assert that

"space" belongs to the science of geography and architecture in its absolute form, while others believe that it presents itself socially.

The debate about the importance of space in social sciences began to emerge in the 1980s with the spread of terms such as privacy, context, and spatial dimension and as a result, there was more attention to Lefebvre's writings and his project "Sapitology" in the 60s as an important study relating space with social and political topics/concepts. Lefebvre is the first academic who introduced the concept of social space as an area between the views of geographical and social theories (Merrifield 1993 p. 517). Before Lefebvre, dealing with space or place in terms of social phenomena was either always ignored or faced with difficulties which brought a term called "Territorial Trap". "Territorial Trap" meant dealing with space superficially in a general manner through numbers of regulations and assumptions related to the role of space in economic and social living conditions (Brenner and Elden 2009).

According to Molotch (1993), the space according to Lefebvre isn't the surrounding, neutral environment or just container for the events and activities. Space and the way in which it divides and what it contains from the walls, landmarks, streets, squares, etc., seek to achieve the goals of some groups within the city and ignores others. Thus, space is not just an environment or a list of urban components, but an overlap between geography and the built environment, so the space according to this view is a product or a social produce of human interactions and the competition on it is not for its absolute body, but for the lifestyle it expresses.

Space expresses a certain type of existence that some seek to attribute to themselves and others deny. The production of space in a particular way reflects certain signs that will be a matter of life or death for some human beings who will feel their absence if they fail to achieve a certain way of life (Molotch 1993,p.889).

Hence, there will be a conflict between those who produce the space for "Domination" and those who produce the space for "Representation". Those who produce the space for domination produce and use it to achieve an abstract goal. This is often the initiative of the state, for example, the vision of Napoleon to Paris and the Haussmann scheme. On the other hand, those who produce the space for representation, focus on the production of the space in a useful manner to meet the needs of individuals living within.

Harvey (2008), claims that the right to the city is to have the ability to intervene or control the process of urbanization, this assumption can justify the call of Lefebvre to criticize the space which is imposed by the state on its citizens and their resistance in favor of spaces with their social experiences.

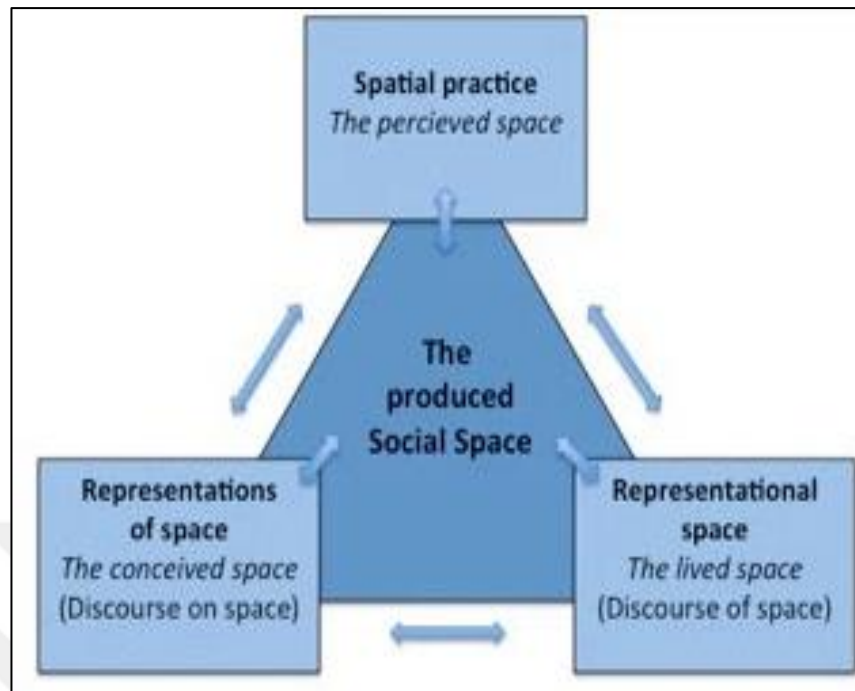
Lefebvre basically mentions two types of spaces: Abstract space and absolute space. Abstract space results from the desire to dominate, by state actors, politicians, architects, and economists, and it is a type of space that expresses the desire of those who want to rule in the social system (Gottdiener 1997). Absolute space is the one that is seen and used by individuals. Individuals in dealing with space and life with the logic of the senses, they interact with space or the surrounding environment in order to achieve their satisfaction and basic desires, regardless of the policies of the state (Molotch 1993, p. 889). It is a field where the basic social practices happen such as consumption, recreation, the practice of customs and traditions, the establishment of social relations, and it is also a means of self-identification and emphasis on Identity (Merrifield 1993, p. 522).

Lefebvre according to Stanek (2011) investigates space in three dimensions: The conceived, perceived and lived spaces (figure 3.1) it should be noted that the three visions/dimensions are used to understand the space applied to the absolute and abstract types, both state and society have conceptualized, practiced and experienced.

Below defined components of Lefebvre's spatial triad according to Brenner and Elden (2009, p.14):

- a. Representations of space (conceived space): It is the perception of planners, architects, geographers, politicians, economists, and the statesmen. This perception is represented in drawings, geographical drawings, and form of the city itself.
- b. Spatial practice (perceived space): It is the practice of the people in their space and city, which over time constitutes to their collective memory, and these practices are the result of their particular understanding or conceptual perception of the space.
- c. Representational space (lived space): It is how the people of the city, the citizens themselves see it, and the way they organize their lives away from the eyes and policies of the state. It is the product of the interaction between society and space.

Figure 3.1: Lefebvre’s Spatial Triad



Source: <https://uptheosroad.wordpress.com/2015/01/23/using-lefebvres-triad/>

The interaction between the three levels of space based on the theory of space production has formed the structure for the formation of the interactive matrix in order to form social housing guidelines in northern Syria. The relationship and interaction between the three levels of the space are used as a filter to select the references adopted in the design of the matrix with the categories which the references were divided according to.

The process of the interaction between the three levels of the space production in social housing architecture design that the research adopted was depending on the participation and users' needs theories in the design especially in the lived space level. According to the introduction which explained the situation of implementation of the social housing northern Syria which IDPs, who have another thought of their own living-styles, build their own houses, connect their utility lines and organize their physical arrangements led to special character in northern Syria social housing projects which can be reflected to the research clearly through these two theories as an added determination to select the references in the literature review.

Regarding to community participation Sheng (1990) explains this term defining the verbs community and the participation separately: "Sociologically, "Community" is defined as

a group of people with face-to-face contact, a sense of belonging together and common interests and values and "Participation" assumes an activity in which the community takes part and the involvement of at least one other party, usually a government agency or a nongovernmental organization (NGO)".

The participation of the people by involving and making decisions on their own living environments can be the main statement of community participation in housing policies. Hamdi (1990) states that the trend toward "People's Participation in Housing," albeit patronizing as a slogan and began to question existing relationships among people, professionals, industry, and government authorities. As Sanoff (2000) also clarifies the participation has many benefits accruing from such an approach for the community, the users, design and the planning professionals.

Hollnsteiner (2008) expresses the importance of people's participation that the rationale behind people's helping to formulate the kinds of homes and communities in which they will live goes beyond a simple reference to democratic ideology and he relates this issue with such reasons:

- First, program results are more successful if the intended beneficiaries take part in their design and implementation. Because it will conform more closely to their aspirations and accustomed lifestyles.
- A second reason for people's participation in the reeducation it gives architects, planners, and administrators directly involved in the project by showing them another perspective
- The third benefit of people's participation derives from the very process itself. For if it is genuinely mass-based, it builds up the self-enabling character and cooperative spirit of the community. Facing common problems as a solidary group and finding solutions collectively leads to greater self-assurance and pride over the group's ability to act productively.
- Finally, people's participation springs from guarantees cited in most national constitutions of the world. The right of citizens to express their views and share especially in decisions that affect them is their current needs.

This will be noted in the literature review part in the way of selecting the references that suitable the projects design environment which mentioned before.

3.2 LITERATURE REVIEW OF THE SELECTED REFERENCES

The selected researches to be referenced for the social housing matrix come for many reasons, and one of the most important is that all of them developed a conceptual framework to assess the social housing experiences in a similar method and most of the selected researches have a literature review for many cases, matching with the thesis structure.

The frameworks of all the references had a common base that was built on three dimensions of space which are clarified in the theoretical background (conceived, perceived and lived space) in a single way or composite way to evaluate and guide the social housing projects as follows:

- Most of the researches have the same methodology by making a literature review for many resources for standards and guidelines of social housing design to develop the results of it adding new indicators to measure specific cases or adopt them as guidelines for future projects. They reflect the conceived space dimension on the one hand through the inclusion of the planners, designers, and developers of the housing sectors which match the definition of Henri Lefebvre and adapt it to the social housing design and on the other hand reflect the perceived space dimensions through the assessed practices of the users in their social housing projects.
- Most of the researches have the same aim of improving the current situation of social housing in a particular country or to measure it according to specific aspects reflecting the lived space dimension of Henri Lefebvre to assess it through the post-occupancy evaluation of specific aspects, and to evaluate the interaction between society and space.
- Most of the researches depended on the post-occupancy evaluation of the user's needs to supports and feed their recommendations and rules in how the social housing design can be more aligning with their needs in future projects.

- The researches emphasized the role of the participation with target categories in the design method of the social housing especially in the lived space level which reflected on their results.

These references are divided into four categories to make them easy to analyze, United Nation Publications and General Studies, studies conducted in developing countries, studies conducted in developed countries, and the perceived value studies in the developing and developed countries.

Upon completion of analyzing the previous cases, the output will be a matrix for every category which will be focusing on four major aspects; urban planning, architectural design issues, sustainability and social issues in three levels: representations of space (conceived), spatial practice (perceived space) and representational space (lived space) of social housing project focusing on the interaction between the three levels by emphasizing the participation of the community and focusing on the user's needs especially in the method of updating the matrix for future projects.

The first category references was the general studies and in particular, the United Nations studies which have a worldwide vision and cumulative knowledge in social housing aspects due to large experiences since the Second World War, at the time which the U.N had the main role in developing the country's policies and housing aspects.

According to the report of world economic situation and prospects, in 2018, the countries were divided into three groups: developing, the developed, and transitional countries. Syria grouped under the developing countries, so the second category includes the studies conducted on developing countries in terms of their similarity in the economy and other conditions; while the third category is composed of studies in developed countries due to the high degree of welfare of their citizens which influences basic rights and social housing considerations to learn from.

Some perceived value studies are taken into consideration during this buildup of the social housing evaluation matrix because

“post-occupancy evaluation studies conducted in developed and developing countries indicated that social housing projects faced many problems in meeting the needs and expectations of the population “(Ornstein et al 2011).

How the users can be involved and participate in developing their home as final and real users of these houses are very critical. For this reason, there were considerations on the perceived value in social housing by the support studies in the second and third categories.

The three dimensions/levels of space (lived, conceived and perceived) were implicit in the selected references with different scales. A literature review is carried out for each category with a summary for the main and sub aspects and their indicators.

3.2.1 United Nations Publications And General Studies

In the first category, in particular, the United Nations studies, the results were general guidelines for social housing designs as outlines that should be focused on in the design phase which was clear in UNECE (2006). Guidelines on social housing were developed by a team of international experts from across the European region. It began in 2003 with the first workshops and continued till 2005 with two extra workshops under the sponsorship and support of the United Nations. It reviewed several issues relating to social housing in Western Europe and gave recommendations and results through the analyses of many cases in Europe.

While there is a periodic guideline about social housing by UNECE; in the last report of UNECE Region (2015) the research focused on three aspects, the quality of construction, the required health conditions and the extent of integration of residents in the design, construction, regeneration, and maintenance of social housing, which have been applied in various social housing projects in the European region.

Another study conducted by UNHCR (2006), explains how adequate social housing applies to specific groups including women, children, and persons with disabilities who are in need of special requirements. The report concluded that these groups should be involved in the design phase. The report also focused on the gender issue and clarified the way that women may be under discrimination in social housing.

In the article of Marvaldi and Pani (2016) the post-occupancy evaluation was adopted for some case-studies of social housing in Europe, the results of this evaluation have been analyzed into abstract issues relating to different aspects of contemporary life that can be carried into design level.

The literature review for the studies, UNECE(2006), UNECE Region (2015) , UNHCR (2006) and R.Marvaldi, E.Pani (2016) see (Appendix 2), scrutinized them in terms of the aspects such as architecture design issues, sustainability, and environmental issues and social issues and sub-aspects that every study depends on, to evaluate and improve their recommendations and guidelines for better social housing design, and the result was the initial matrix in (Appendix 3).

3.2.2 Studies Conducted In Developing Countries

This category depends on five research papers that were conducted in five different countries differed in the method of building the structure of the evaluation matrix for their cases (see Appendix 2). The research by Chohan et al (2015) provided the development of the ‘Housing Quality Determines’ framework model in a table containing 24 quality determinants identified as a quality of housing which was grouped into eight sections. What is important in this research, are the richness and comprehensiveness of the resources which depend on the selection of the elements of the housing quality matrix: Scotland Housing Quality Standards (2007), Department of Housing and Urban Development USA (2004), the Commission for Architecture and the Built Environment (CABE) in the United Kingdom (2006), Design and Quality Standards. London: Housing Corporation (2004) and Design Quality Indicators. London: Building Research Establishment. (2007).

Kolli and Putta (2014) in their paper ‘Evaluation of Public Housing Schemes: A Case of Greater Hyderabad Municipal Corporation’ highlight areas that need attention to improve the performance of residential buildings and user satisfaction by meeting their needs and aspirations and the analysis is based on six dimensions of evaluation: spatial social, socio-economic, environmental and physical, carried out at four different levels – individual unit level, block level, neighborhood level and surrounding community level.

In their research ‘Building up a System of Indicators to Measure Social Housing Quality in Vietnam’ Lae, Taa and Danga (2016) make an assessment for the quality of the social housing which included 12 indicators and 55 specific component factors that covered

almost all aspects of Vietnamese social housing and the quality indicators were prepared by experts based on 1- Studying housing quality assessment systems currently used in other nations (United Kingdom, France, Switzerland, Portugal, India, South Korea), 2- Legal, economic, technical frameworks for social housing; current forms of social housing and their construction solutions and 3- Expert assessments.

One of the selected papers discusses the social housing case in the Middle East by Nasiri (2015) titled 'Planning, Policy, and Performance: An Evaluation of the Effectiveness of the Social Housing Policy of Oman'. In this research, the local conditions are taken into consideration and adapted for the UNHRP and UN-HABITAT social housing evaluation indicators which include those most widely used to measure housing adequacy. There were seven components of housing adequacy which were measured by using twelve indicators. These indicators were measured, as far as possible, both objectively and subjectively and the components of indicators as follows: 1- legal security tenure, 2- affordability, 3- the service providers, 4- habitability, 5- accessibility, 6- location and 7- cultural adequacy.

The last two sources in this category paid attention to the sustainability of social housing by the interaction and relations between the design aspects of social housing and to measure that interaction and relations it suggests; their frameworks included parameters that indicate the level of sustainability in social housing projects.

Eziyi et al (2015) in their study “ aim to measure and evaluate the sustainability of social and public housing in Ogun State”, Nigeria in the period between 2003 and 2010 according to specific social, environmental and economic parameters.

The basic underlying assumption in this study is a direct relationship between the characteristics of sustainable housing (e.g. affordability; social acceptability and quality of the environment in housing estates and others) and the sustainability of housing projects. The parameters for assessing the sustainability of public housing projects in the current study were housing affordability (economic aspects); residents' satisfaction with architectural and engineering characteristics of housing units; room occupancy rate (socio-cultural aspects), the use of construction materials and access to basic facilities by residents (environmental aspect).

The research by Azevedo and Sil (2010) titled ‘Definition of Indicators for Sustainable Social Housing: In Search for a Model’ focused on the adequacy and definition of sustainable indicators in the social housing projects that appropriate with the local environment and it is similar to the previous research when it comes to deal with evaluating the sustainability of social housing not only through environmental questions but also social and economic. It assumes that social and economic indicators should be included in any housing sustainability evaluation system and the suggested system in this research has ten aspects in the social dimension, two in economic dimension and seven in environmental.

With the same method of the first category the literature review for developing countries analyze each research of; (Chohan, Che-Ani, Shar, Awad, Jawaid and Tawil 2015) , (Kolli and Putta 2014) (de Azevedo and Rêgo Silv 2010), (Ibem and Egidario 2015) ,(Lea, Taaa and Danga 2016) and (Al Nasiri 2015) (see appendix 2) in terms of aspects and sub-aspects to evaluate and improve their recommendations and guidelines for better social housing design, and the result is in (Appendix 4).

3.2.3 Studies Conducted In Developed Countries

There are sources from three different countries -United States of America, Canada, and the United Kingdom- in this category extracted among others to examine Canada Housing Association (2017) provides a framework for the development of new rental or cooperative housing and provides basic design requirements of social housing in Manitoba province (see appendix 2). This document encompassed Manitoba housing’s standards related to the design, accessible design, energy efficiency, modesty assurance as well as other design guidelines and standards. The guideline contents are general design considerations with seven aspects, interiors focusing in the area and circulation, accessibility of the design, safety and security, exteriors focusing on the site, landscape and walk circulation, energy efficiency requirements and finally requirements of green building.

New York report in 2018 has principles and guidelines which are not intended to be compulsory; instead, they provide criteria for assessment and improvement. The Public Design Commission’s affordable housing in NYC is seeking to achieve the citywide

development goals equity, sustainability, resiliency, and healthy living through these principles with eight categories ranging from site considerations to material selection, based on the distinct phases of the New York City Public Design Commission's conceptual, preliminary, and final reviews and applied these approaches on eight case studies.

The third reference is from the United Kingdom, Waverley Borough Council (2013). The council started a program to provide 30 additional affordable houses per year. Through this program there is a redefinition of affordable and social housing according to the principle of achieving the perfect place for tenants to live in parallel with enhancing the surrounding and protecting the local character of the cities and villages. The Waverley Borough Council in this program is under "The Housing Revenue Account Business Plan 2012-2042" in the United Kingdom which identified £261 million to invest in new affordable homes over the next thirty years while being regularly reviewed by the Housing Delivery Board. The revision is to be held in the design standards and specifications, which the housing development team in Waverley Borough Council clarified in these guidance notes.

The literature review for developed countries analyze each research in terms of aspects and subs-aspects to evaluate and improve their recommendations and guidelines for better social housing design, and see the results in (Appendix 5).

3.2.4 The Perceived Value Studies

The studies in this category adopted the constructive approach which:

"concerned with devising artifacts that serve human purposes, which should be assessed against the criteria of value or utility" (March and Smith 1995).

The aim of these papers is to propose a method for evaluating social housing projects, mostly based on the perceptions of the final user and it adopted the conceptual model proposed by Woodruff and Gardial in 1996 used for establishing a hierarchy of constructs, connecting the product attributes, the consequences of use, and the benefits for the clients.

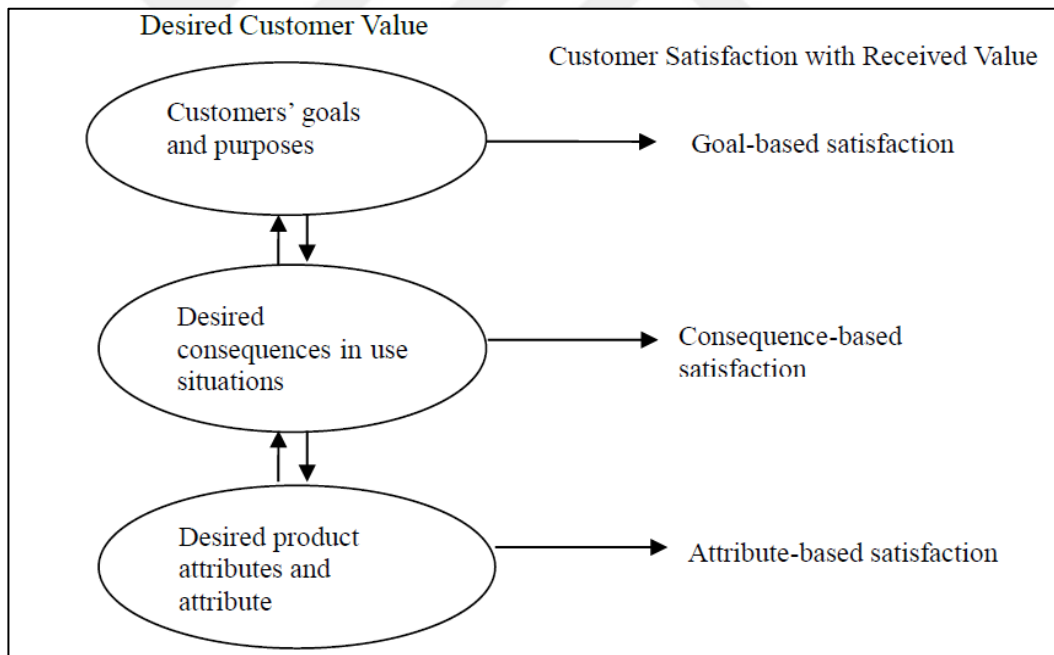
This category depended on two studies that discuss the integration of customer-perceived value in evaluating the social housing. The first one is conducted in a developing country

(Brazil) by Bonatto, Miron and Formoso (2012) and the other one in a developed country (Sweden) by Lundgren (2013).

This part supports the idea of perceived value in social housing studies in the developed and developing categories which dealt with it on a different scale and had a deep analysis for this value in the three dimensions of space conceived, perceived and lived.

The two studies employed the perceived value to measure the satisfaction of social housing users in Brazil or general residential users in Sweden through proposed conceptual model after an empirical study, by adapting concepts from the field of marketing, mainly those about value hierarchy, to the housing context. The studied satisfaction was in three levels; goals based satisfaction, consequences satisfaction and attributed – based satisfaction which was a reflection of Lefebvre’s three dimensions/components of production of space (figure 3.2).

Figure 3.2: Customer value hierarchy model by Woodruff(1997)



Source: Customer Value Hierarchy Model (Woodruff, 1997. P. 142)

3.2.5 Literature Review Findings

Theoretical background for this literature review is based on writings of Henry Lefebvre on the production of space which also helped in the selection of researches to be

examined, that adopted the three levels/dimensions of space (perceived, conceived and lived space) in the evaluation and guidelines of the studied social housing projects in different scales. There was 15 research (articles and reports) studied to select the main and sub-aspects and their indicators in social housing matrix and in general. The main aspects dealt with four issues; architecture design, urban planning, sustainability, and environmental issues and social issues, while the sub-aspects were different and vary according to the studied category with total 32 sub aspects and 94 indicators to measure and evaluate. The four aspects and their details are a result of summarizing and selecting the common interests in all references in organized make it groups to be easy to adopt for any social housing project evaluation.

It is possible to clarify how the different categories dealt with main aspects as following:

a. The UN and general study

Avoiding the monotony and repetition in social housing design and health considerations in the design such as ventilation and sunlight were the sub-aspects regarding architecture design issues, while in social issue the social mix, avoiding the segregation and increasing the feeling of belonging were the sub-aspects, and finally the sustainability and environmental issues has focused on renewable energy sources and decreasing the energy consumption. All the sub-aspects had measurable indicators allowing us to evaluate social housing projects.

b. The studies of the developing countries

Architecture design issues in this category concentrated on; Habitability with indicators determine the sufficient area for living and durable structure of the house, health, safety and security requirements, and finally accessibility, while the urban planning issues were focused on site planning and layout with indicators for facilities availability, spatial spaces, and housing block design. The social issues were taken in its attention to the social facilities and their indicators for proper distances, cultural adequacy, and affordability while the final issues were sustainability and environmental one which focused on the detailed sub-aspects like sewage and water system, material, thermal transmittance, and infrastructure services.

c. The studies of the developing countries

Due to the long experience of these countries and the high welfare of their governments, the references were more experienced and more detailed in all four aspects, in that case, architecture design issues had seven sub-aspects that determined the minimum requirements in circulation, spaces, unit design, accessibility, windows and doors and ground floor design with specific indicators; while the urban planning issues guided two sub-aspects with detailed requirements. The first was the landscape with design and elements requirements and second was site circulation and walkways with a set of indicators. In social issues, the interest was in how the social housing units can be a part of the city design without inequality and availability of different unit sizes with good quality under community, dignity and belonging titles, while regarding the issues of sustainability and environment the interest was in the materials, building process, energy efficiency requirements and the use of future technology.

In conclusion of this literature review, I came up with the following inferences:

First, the developing countries benefit from the studies of developed countries in trying to build their conceptual framework for their social housing.

Second, the basics and minimum standards in most studies were based on the UN agencies which specialize in housing and residential sector.

Third, all the references study the social housing projects in all or some of three levels/dimensions of space (perceived, conceived and lived view) but on a different scale.

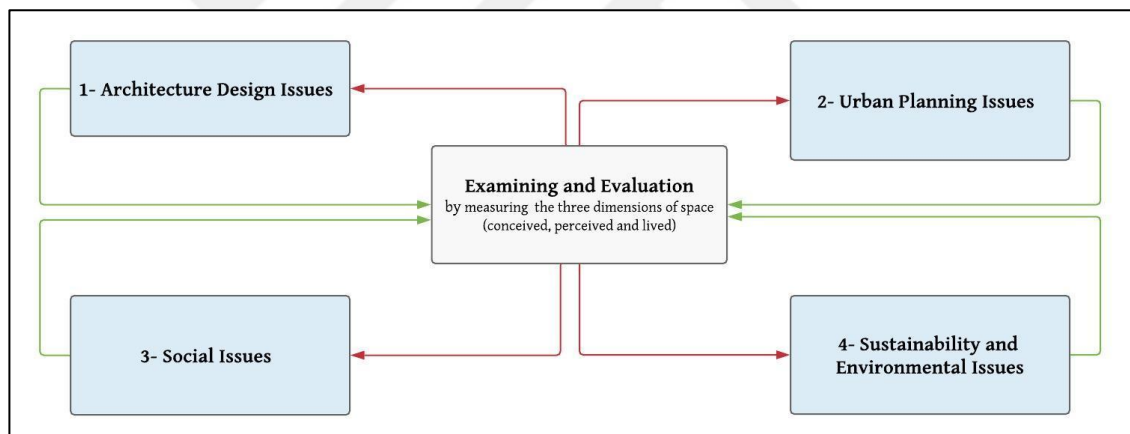
Fourth, the last category was to understand how the evaluation framework of social housing projects in the developed and developing countries build on the concept of preceded value. I found that the three levels/dimensions of space are measured by three levels of satisfaction (goal-based, consequences based, and attributes based).

3.3 THE PROPOSED INTERACTIVE SOCIAL HOUSING MATRIX

Depending on the results and findings of the literature review the proposed matrix (figure3.3) seeks to achieve the following qualities:

- a. Being comprehensive: by including all the aspects, sub- aspects and their indicators which are found in the previous literature review and their findings in an organized way with description and explanation.
- b. Being integrated: the separate aspects are considered in an integrated way that every aspect has its reflection on the other aspects which can be clear in the indicators.
- c. Being non-iterative: all the content of the matrix is collected in a way that avoids being iterative, classified in groups according to the scale of details which are clear in the sub-aspects and their indicators.
- d. Being interactive (editable): the method of the matrix design is editable which has the ability to be updated according to three dimensions space (conceived, perceived and lived) for any social housing project in terms of aspects or sub-aspects or even the indicators.

Figure 3.3: Correlation Between The Aspects of Social Housing Matrix



The aspects of the proposed social housing matrix and their sub-aspects and indicators; architecture design issues, urban planning issues, social issues, and sustainability and environmental issues are unfolded below.

3.3.1 Architecture Design Issues

This aspect includes four sub-aspects (habitability; health; safety and security ; circulation and common spaces and lastly general design characteristics), eight indicators (sufficient area for living; dimensions; durable structure of the housing unit; health safety

and security requirements inside and outside the housing units; circulation consideration inside and outside the housing units; ground floor conditions; accessibility and avoiding the monotony and repetition in social housing design) and 47 means of verification and evaluation for all the indicators (figure 3. 4).

The following tables clarify every sub- aspects with the definition and description in addition to the indicators and their means of verification and evaluation.

Figure 3.4: Architecture Design Issues

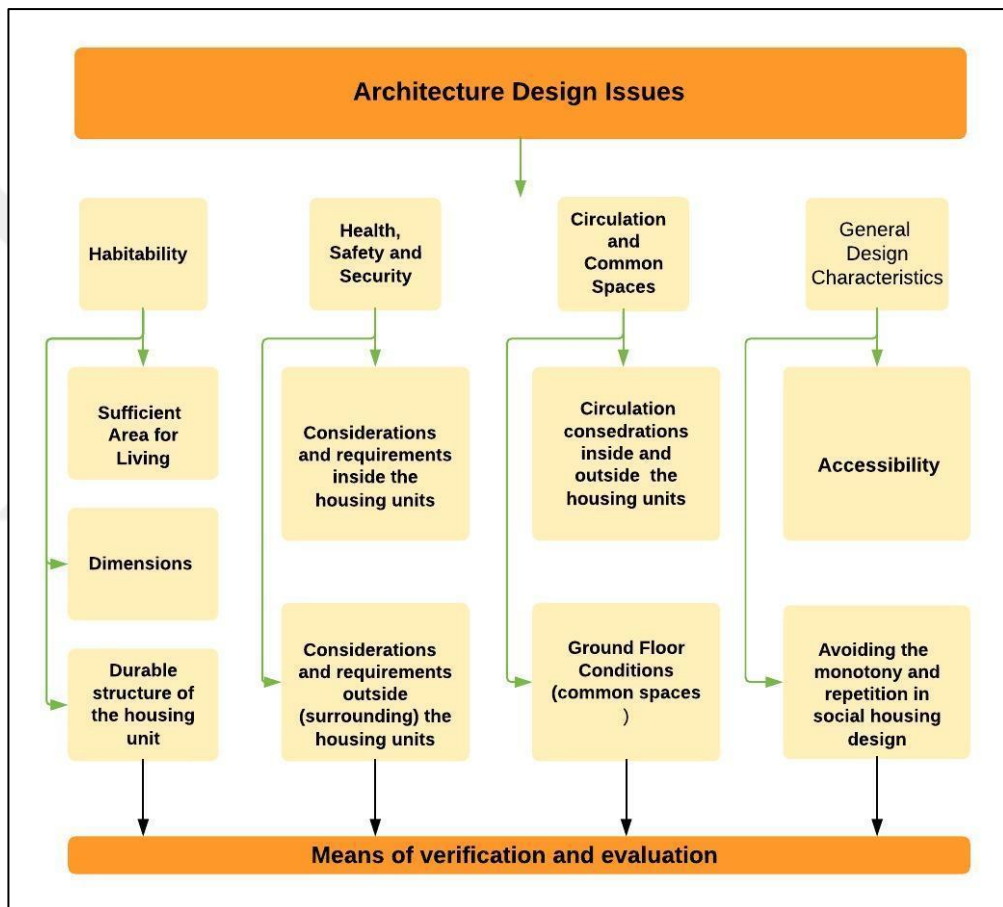


Table 3-1: Proposed Matrix – Architecture Issues – Habitability

Architecture Design Issues		
No	Sub-aspects	Definition/Description
1.1	Habitability	<ul style="list-style-type: none"> The ‘habitability’ component, according to the UN-HABITAT, means sufficient area for living as well as a durable structure of the house (UN-HABITAT and OHCHR 2003).

		<ul style="list-style-type: none"> The UN-HABITAT has used the criterion of two people in each room, not just the bedrooms. The UN-HABITAT has a specific definition for a room: a room may be defined as a space in a housing unit or other living quarters enclosed by walls reaching from the floor to the ceiling or roof covering, or at least to a height of 2 meters, of a size large enough to hold a bed for an adult, that is, at least 4m². Rooms, therefore, may include bedrooms, dining rooms, living rooms, studies, habitable attics, servants' rooms, kitchens, rooms used for professional or business purposes and other separate spaces used or intended for dwelling purposes, so long as they meet the criteria of walls and floor space. Passageways, verandas, lobbies, bathrooms, and toilet rooms are not expected to be counted as rooms, even if they meet the criteria (UNHRP2003, p. 63). <ul style="list-style-type: none"> <i>“It is important that affordable housing provides decent bedroom sizes, particularly in light of new housing benefit rules that require same-sex siblings to share a bedroom until the age of 16” (Waverley Borough Council 2013).</i>
	Indicators	Means of Verification and Evaluation
1.1.1	Sufficient Area for Living	<ol style="list-style-type: none"> Minimum 8m² for 1 person in the total area of the unit Housing with no more than two persons per bedroom Provision of the bath, toilet, and laundry Low number of floors; 3 floors in maximum Availability of a range of kitchen facilities and fittings Minimum number of staircases; one main stair and one emergency stairs Appropriate corridor and staircase width and height story matching with the local standards Balcony/patio access must be located from the living room or dining room area Availability of following spaces (Dining, living, kitchen, WC, and bathroom). Take into consideration the placement of windows and doors to promote visual and physical connections between the interior and exterior.
1.1.2	Dimensions	<ol style="list-style-type: none"> The unit door width is no less than 85cm. Unit entrance width is no less than 85cm. Select a proper patterning, size, and geometry of windows and doors to lessen the negative impacts on interior spaces.
1.1.3	The durable structure of housing units	<ol style="list-style-type: none"> The quality of installing the ceiling, door, window, tiling, painting, plastering, plumbing work, electrical wiring, etc. Housing was built in compliance with building codes Tolerance and stability of the structure Proper material selection (finishing) Adoption of conversion/extension A dwelling unit must be self-contained with its own keyed entry door.

Table 3-2: Proposed Matrix – Architecture Issues – Health, Safety, and Security

Architecture Design Issues		
No	Sub-aspects	Definition/Description
1.2	Health, safety, and security	<ul style="list-style-type: none"> According to the World Health Organization, health is: <p><i>“not merely the absence of disease and infirmity but a state of optimal physical, mental and social well-being” (WHO 1946).</i></p> <p>Health aspects were the focus of social housing programs in the late nineteenth century and these programs primarily focused on sanitation issues, natural lighting, and ventilation in the rooms and added noise protection later in response to the increased movement of vehicles and are also associated with the structural integrity of the buildings and fire safety.</p> <ul style="list-style-type: none"> From the works of Mitlin and Satterthwaite (1996), we understand that sustainable housing describes: <p><i>“Shelter that is healthy, safe, affordable and secure within a neighborhood”.</i></p>
	Indicators	Means of Verification and Evaluation
1.2.1	Considerations and requirements inside the housing units	<ol style="list-style-type: none"> 1- Availability of sunlight: sun orientation in the design to decrease the fuel consumption and to kill viruses and germs 2- Availability of insulation to avoid moisture 3- Availability of ventilation to prevent the spread of diseases 4- Availability of sewage and sanitation system 5- Appropriate of electricity installation 6- Availability of drinkable water in any scenario (network, collective points) 7- Proper sanitary appliances, e.g. water closet (WC), good quality bath or shower washbasin 8- Adequate insulation from noise 9- Availability of fire alarm systems (according to any local codes or other codes)
1.2.2	Considerations and requirements outside (surrounding) the housing units:	<ol style="list-style-type: none"> 1- Functional stormwater drainage facilities 2- Availability of secure entry systems and safe common entrance areas 3- Availability of streetlights 4- Security post at entrances 5- Availability of a building (housing units) entry system 6- Availability of adequate lighting and signage for entrances, parking, common areas, etc.

Table 3-3: Proposed Matrix – Architecture Issues – Circulation and Common Spaces.

Architecture Design Issues		
No	Sub-aspects	Definition/Description
1.3	Circulation and Common Spaces	Circulation space and common space includes areas such as lobbies, corridors, interior stairs, and service rooms. The social housing design with multi-floors the common space includes the ground floor where neighbors interact utilizing facilities like halls, garden ...etc
	Indicators	Means of Verification and Evaluation
1.3.1	Circulation concentrations inside and outside the housing units	<ol style="list-style-type: none"> 1- Maximum space allocation not exceeding 25% of the combined unit areas. 2- Availability of building entrance and lobby area (Apartment buildings) with proper requirements like heating and cooling. 3- Corridors shall be at least 1500mm wide and for seniors housing, continuous handrails on each side of the corridor shall be provided.
1.3.2	Ground floor conditions (common spaces)	<ol style="list-style-type: none"> 1- Availability of space designed for residents to gather on the ground floor. 2- Promoting visual connections between the ground-floor activity and the street. 3- Buffering the street wall by plantings or unique design elements. 4- At terraces, considering programmatic and visual connections to link to larger open spaces adjacent to or below.

Table 3-4: Proposed Matrix – Architecture Issues – General Design Characteristics.

Architecture Design Issues		
No	Sub-aspects	Definition/Description
1.4	General design characteristics	<ul style="list-style-type: none"> • It refers to the following categories; seniors housing, single non-elderly and family housing and clarifies the required features within accessible units. • Social housing has often had a leading role to new standards in housing in general such as residential properties of the 1920s in cities like Berlin, HLM properties in France, social housing in Sweden and Finland in the post-war era. In many countries, new construction and architecture methods have been closely linked to social housing programs.
	Indicators	Means of Verification and Evaluation
1.4.1	Accessibility	<ol style="list-style-type: none"> 1- Housing design is accessible for disabled people 2- Housing entrance provided with a wheelchair ramp 3- A minimum of 10% of social units should match the requirements of accessibility 4- Availability of the local accessibility requirements, if there are

1.4.2	Avoiding the monotony and repetition in social housing design	1- The contribution of architects and specialists in the design and implementation process 2- Modified and cost-effective construction methods that are adopted and aren't repetitive
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3.3.2 Urban Planning Issues

The content of this main aspect includes two sub-aspects (site planning and layout and landscape), five indicators (facilities' availability; spatial considerations and requirements; housing blocks design considerations; landscaping design considerations and requirements and finally site circulation and walkways) with 34 means of verification and evaluation for all the indicators (figure 3.5).

The following tables clarify every sub-aspect with the definition and descriptions in addition to the indicators and their means of verification and evaluation.

Figure 3.5: Urban Planning Issues

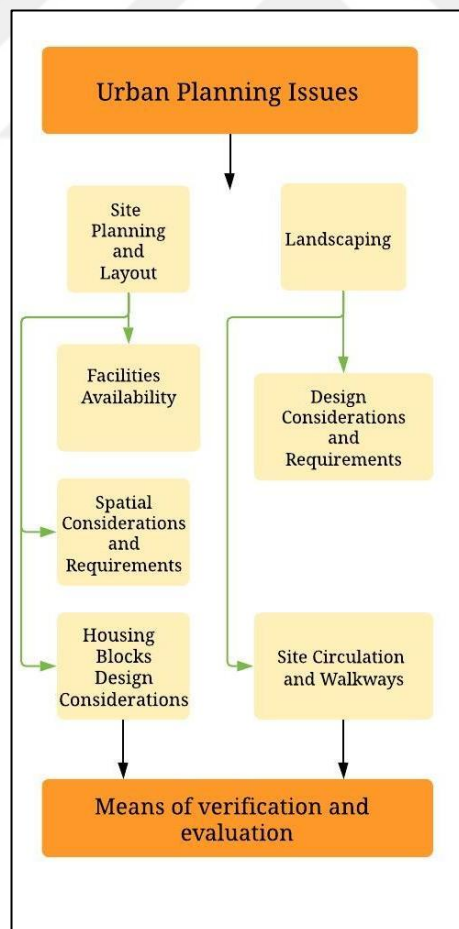


Table 3-5: Proposed Matrix – Urban Planning Issues – Site Planning and Layout.

Urban Planning Issues		
No	Sub-aspects	Definition/Description
2.1	Site Planning and Layout	<ul style="list-style-type: none"> As claimed by Lea and Danga (2016): <i>“Master plan of the building: Quality of living space is not only reflected in the area (m²) of apartments, but also in outdoor public spaces such as gardens, footpaths, and other public facilities. For social housing, the area of each apartment is not big, thus outdoor spaces should be designed to increase the quality of life for residents by opening up possibilities for people to connect with nature and enhancing social community”.</i>
	Indicators	Means of Verification and Evaluation
2.1.1	Facilities availability	<ol style="list-style-type: none"> 1- Availability of educational Facilities. 2- Availability of recreational/sporting facilities. 3- Availability of playground for children. 4- Availability of places of worship. 5- Availability of medical and health care. 6- Availability of commercial or convenience stores. 7- Police post available. 8- Availability of refuse collection bins. 9- Perimeter fence. 10- Availability of asphalt paved access roads.
2.1.2	Spatial considerations and requirements	<ol style="list-style-type: none"> 1- Distinctive character in an urban context. 2- Access to parks, schools, shops, hospital. 3- Availability of common open and parking spaces. 4- Availability of pavements/pedestrian. 5- Availability of roads hierarchy and characteristics. 6- Availability of open spaces and green areas 7- Availability of playground for children 8- Studying the potential of the location in the future development
2.1.3	Housing blocks design considerations	<ol style="list-style-type: none"> 1- Proper distance between blocks. 2- Proper blocks shape. 3- Courtyards provision and proper courtyard width. 4- Availability of privacy in the space to distinguish between public, private and semi-private spaces.

Table 3-6: Proposed Matrix – Urban Planning Issues – Landscaping.

Urban Planning Issues		
No	Sub-aspects	Definition/Description
2.2	Landscaping	<ul style="list-style-type: none"> Addresses all the circulations details in the private, semi-private and public area in the project site, provide

		architectural details required on the site and aims to find a link between the site and the dwelling.
	Indicators	Means of Verification and Evaluation
2.2.1	Design considerations and requirements	<ol style="list-style-type: none"> 1- Landscape design should be simple and require low maintenance. 2- At a minimum, all new houses must include a (usually rear) private garden. 3- All external space, private or communal, should be designed to capture sunlight where possible. 4- Buffering the unit house from the street and providing privacy by plants and design elements. 5- Availability of child play areas and passive seating for seniors in the open space.
2.2.2	Site circulation and walkways	<ol style="list-style-type: none"> 1- Amenity Space should be accessible from interior common spaces and have secure outdoor furniture. 2- Adequate size to accommodate service vehicles. 3- Pedestrian and car entrances to be clearly identifiable. 4- Accessible roads and isolated areas for garbage collection trucks. 5- Walkways suitable for disabled persons in slope and width, ramps and paths width according to local codes. 6- Availability of parking for every unit. 7- Consider concentrating any commercial activities along the main thoroughfares and allow for residential and more passive uses alongside streets.

3.3.3 Social Issues

The content of the social issues has two sub-aspects (social cohesion and cultural adequacy), six indicators (avoiding stigmatization and social segregation in the design of social housing unit, increasing the feeling of belonging to the same community, social mix, choice, affordability and sense of dignity and the feeling of home) and 16 other means of verification and evaluation for all the indicators (figure 3.6).

The following tables clarify every sub-aspect with the definition and description in addition to the indicators and their means of verification and evaluation.

Figure 3.6: Social Issues

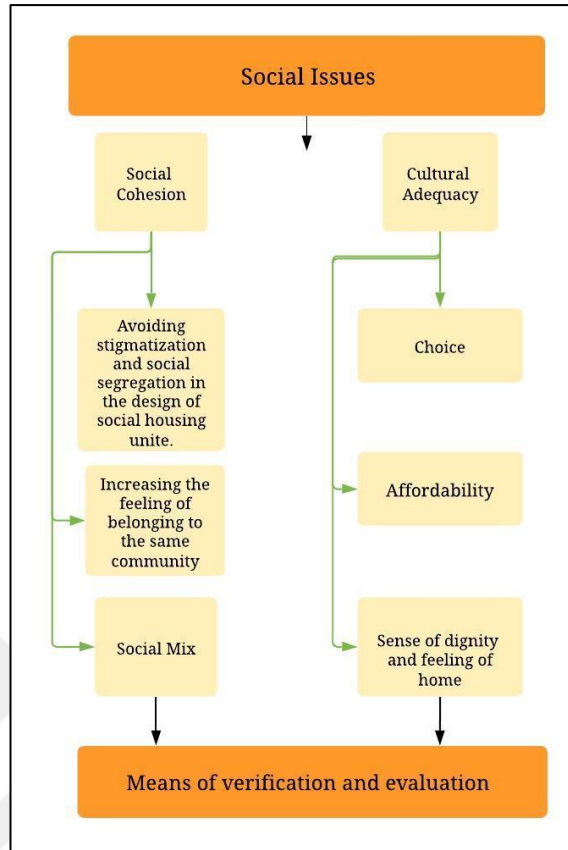


Table 3-7: Proposed Matrix – Social Issues – Social Cohesion.

Social Issues		
No	Sub-aspects	Definition/Description
3.1	Social Cohesion	<ul style="list-style-type: none"> There are a number of conceptual debates surrounding social cohesion and the role that housing can play in it for instance according to (Porte’s and Landolt 1996). <i>“There is considerable social capital in ghetto areas, the assets obtainable though it seldom allows participants to rise above their poverty”</i> Residentially based networks perform an important function in the routines of everyday life, which are the basic building blocks of social cohesion given that through them we learn tolerance, cooperation and acquire a sense of social order and belonging (Forrest et al. 2001).
	Indicators	Means of Verification and Evaluation

3.1.1	Avoiding stigmatization and social segregation in the design of social housing unite.	<ol style="list-style-type: none"> 1- The standard of social housing should reflect and take into consideration the specific national design conditions. 2- Provision of flexible floor plans which respect cultural diversity and different lifestyles. 3- The activities that faster belonging to the housing complex and its physical space, as well as the design of the common and communication areas should be clear.
3.1.2	Increasing a feeling of belonging to the same community	<ol style="list-style-type: none"> 1- The design of the common and communication areas should be clear. 2- Availability of equipped areas and places for the creation of local employment opportunities for young people; the implementation of anti-social behavior programmers.
3.1.3	Social mix	<ol style="list-style-type: none"> 1- Precautions to be taken to avoid the “ghettoization” of social housing. 2- Taking into consideration the gender issue and people special needs (e.g. the disabled and the elderly). 3- Avoiding reflects homogeneous communities by ensuring a mix of age groups, type and size of households which reflected in the design.

Table 3-8: Proposed matrix – Social Issues – Cultural Adequacy.

Social Issues		
No	Sub-aspects	Definition/Description
3.2	Cultural Adequacy	<ul style="list-style-type: none"> ● According to the UNHRP (2003): <i>“Cultural adequacy may be the most difficult component of housing adequacy to measure using quantitative methodologies”.</i> ● Nasiri (2015) explains this difficulty as such: <i>“This is because this aspect measures people’s feelings about the place which is difficult to quantify. That is why this component of housing adequacy has not been applied by many scholars in assessing the adequacy of housing units. Nevertheless, the UNHRP suggests that the involvement of the household in the housing policies may be a good surrogate measure for the cultural identity indicator. Household involvement may be the solution in one way or another”.</i>
	Indicators	Means of Verification and Evaluation
3.2.1	Choice	1- Availability of different size and type for the social house units
3.2.2	Affordability	<ol style="list-style-type: none"> 1- The household pays no more than 30 percent of their income to get access to housing. 2- The design of social housing is no less quality than local housing design standards.

3.2.3	Sense of dignity and feeling of home	<ol style="list-style-type: none"> 1- Facade design enhancing a building's character and identity both in the existing community and for its residents. 2- Ambient to events, socialization, and social facilities. 3- 400 meters to the social facilities such as cultural center and sports center. 4- The house is located within two kilometers of the nearest hospital or health center. 5- 400-meter distance or a five-minute walk is an accepted standard for walking to services and facilities (such as religious centers) in many countries.
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3.3.4 Sustainability And Environmental Issues

The content of this aspect includes two sub-aspects (decreasing the energy consumption by appropriate building techniques and the infrastructure services), six indicators (depending on the renewable sources as a primary source for energy; decreasing the thermal transmittance capacity; applying the energy efficiency requirements in materials and processes; availability of sewage and sanitation system with minimum requirements at least; controlled water source and future-proof) and 18 other means of verification and evaluation for all the indicators (figure 3.7).

The following tables clarify every sub-aspect with the definition and description in addition to the indicators and their means of verification and evaluation.

Figure 3.7: Sustainability and Environmental Issues

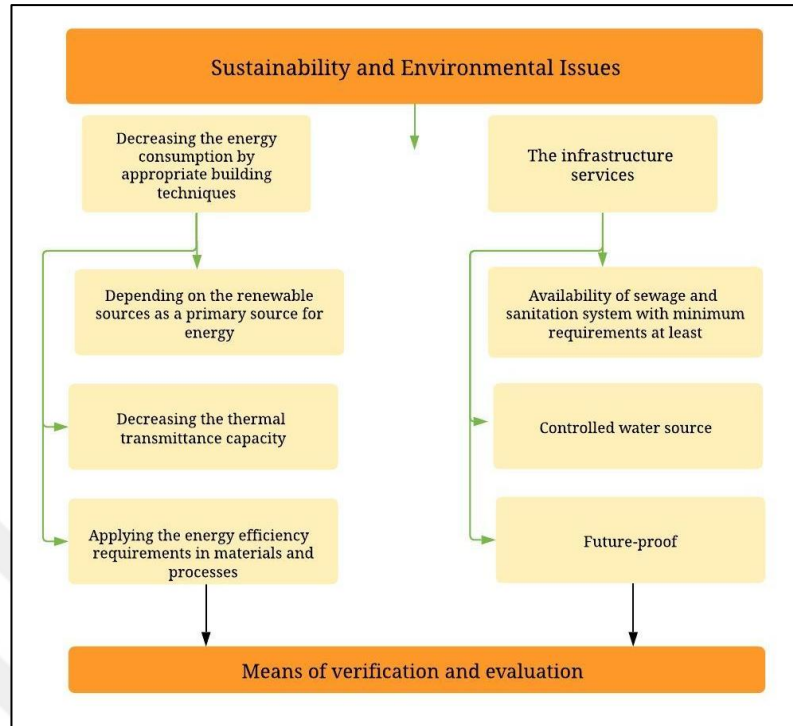


Table 3-9: Proposed matrix – Sustainability and Environmental Issues – Decreasing Energy Consumption by Appropriate Building Techniques.

Sustainability and Environmental Issues		
No	Sub-aspects	Definition/Description
4.1	Decreasing the energy consumption by appropriate building techniques	Adopting the low-energy buildings and avoiding the passive house technic in terms of the consumption for heating and cooling through increasing the dependency on alternative power resources, taking in the consideration the new technical building methods to increase the isolation and consider the orientation of the social housing unit.
	Indicators	Means of Verification and Evaluation
4.1.1	Depending on the renewable sources as a primary source for energy	1-Increasing the percentage of the solar system and other renewable sources production to the need at the social housing unit’s level
4.1.2	Decreasing the thermal transmittance capacity	1- Applying the “thermal zoning” approach in the rooms of social housing units 2- Decreasing the compact buildings planning in social housing units 3- Applying a system to select the materials according to the environmental load 4- The roofs and the walls designed according to the standards of local thermal transmittance as possible

4.1.3	Applying the energy efficiency requirements in materials and processes	<ol style="list-style-type: none"> 1- Where possible, all habitable rooms should receive direct sunlight with a priority given to living, dining and kitchen space. 2- Glazing to all habitable rooms should not be less than 20% of the internal floor area of that room. 3- Using building materials that maximize the number of credits for sound insulation under the Sustainable Housing Act in the local codes 4- Using warm and welcoming materials 5- Increasing the use of natural lighting 6- Using educational graphics to promote
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Table 3-10: Proposed Matrix – Sustainability and Environmental Issues – The Infrastructure Services.

Sustainability and Environmental Issues		
No	Sub-aspects	Definition/Description
4.2	The infrastructure services	<p>Social housing units should be serviced with all the basic infrastructure like water, sewage, hygiene system, electricity, and drinkable water in the case to provide a decent life for the residents especially those vulnerable persons and low-income who benefits from the social housing projects.</p> <p>The appropriate infrastructure will help in avoiding pollution and sustain the units and facilities in the social housing projects.</p>
	Indicators	Means of Verification and Evaluation
4.2.1	Availability of sewage and sanitation system with minimum requirements at least	<ol style="list-style-type: none"> 1- Availability of solid waste management 2- Housing is connected to a sewerage network system 3- Sewerage final destination: A proper distance to the water stream and reservoir 4- Availability of refuse/garbage collection system
4.2.2	Controlled water source	<ol style="list-style-type: none"> 1- Applying a system for the water quality assessment according to the government standards 2- Housing shall be connected with piped drinkable water
4.2.3	Future-proof (the future using of the social housing projects in terms of expanding and changing)	<ol style="list-style-type: none"> 1- Take into account and facilitate the potential use of future technologies 2- Ability to expand and adapt to future needs

4. EXAMINING THE PROPOSED INTERACTIVE SOCIAL HOUSING MATRIX

The result of the previous chapter was a proposed interactive social housing matrix that I will examine with two experiences belonging to two different approaches (post-World War II; the temporary housing program in England focusing on Birmingham as a case study and developing countries in the 21st-century elemental housing program in Chile as a case study).

The findings of this study will help improve and enhance the contents of the proposed matrix before the discussion with the Syrian experts and applying it to Ataa social housing as a case study in northern Syria. The selected cases to examine the proposed matrix were selected according to the common conditions and circumstances with northern Syria which will be explained in the introduction of each case. There will be findings at the end of each case that the matrix applies to.

4.1 POST-WORLD WAR II SOCIAL HOUSING

According to Charlesworth (2010):

“War and architecture have a long and often parasitical relationship; the building and unbuilding of urban centers, the making of enclaves, walls and segregated residential and city zones have been fundamental to urban form and human experience. The destruction of buildings and cities has therefore always been an integral part of winning and losing wars”

This also applies to the crisis and its consequences in Syria. In that sense post-second war world social housing projects deserve special attention. The case in this of prefabricated bungalows in England will be study and analysis on the term of proposed matrix aspects which mentioned in the previous paragraph.

After the Second World War, Nazi raids destroyed entire areas of London and other cities, the postwar government launched a reconstruction process that included the construction of social housing as a response for the huge need and to ensure a fast alternative for people with destroyed homes. The reconstruction process include the temporary housing programme, the plan was to produce 2 million units with an estimated life product up to 15 years and it considers the large social housing programme in the history of Britain.

The prefabricated bungalow was a type of post-second World War social housing in Britain:

“After the Second World War, a new type of state-subsidized house appeared in Britain. The two-bedroom temporary bungalow was produced ostensibly to provide much-needed housing in the immediate post-war period and some 156,623 houses were supplied between 1945-1949 as part of the scheme. The bungalows differed from pre-war state-subsidized housing in a number of ways including their method of construction. For the first time in Britain, one of the ideals of the Modern Movement was realized: a house was manufactured on a production line in a factory.” (Vale 1992).

There were four types of prefabricated units differing in their materials but also in their methods of design approach and manufacturing. The features of those four types, including their plan descriptions, manufacturing methods, costs and general information about implementation processes are given below:

The first type was the Arcon bungalow and this model was designed and implemented by the Arcon Group, which includes architects, and a group of industrialists and construction contractors (figure 4.1). Arcon worked on many alternative designs and prototypes for this project. By September 1944 the firm was included in cooperation and organization of work among three other groups. The redesign processes were complicated by the nature of the factory-made bungalow production and at the end, they produced the final version (The Arcon Mark IF 1945).

Figure 4.1: Arcon Type



Source: VALE, B.1995.PREFABS A History of the UK Temporary Housing Programme book, England

For the first model, all components were manufactured before the construction of the site. In any industrial process, the architects produced drawings of the revised components, but then they were translated into tasks for separate manufacturers, all organized by contractors.

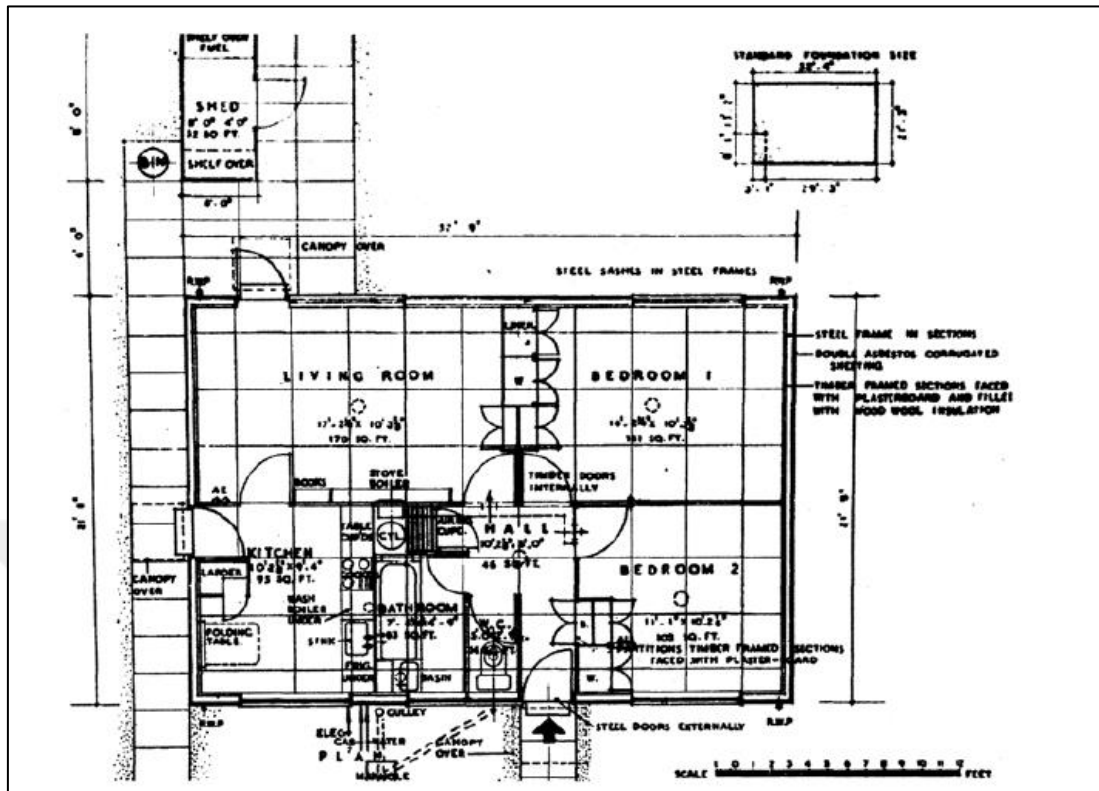
The time has shown that the decision to proceed with experimental production before the main production was the right decision. This type was featured by the corrugated asbestos cladding and curved edges of the Bengal gable which gave a shape of the typical prefabricated unit (Arcon 1948).

The following table explains the model details:

Table 4-1: Arcon Prefabricated Info

Temporary Housing Programme			
Prefab Type	Area	Date of Production	Main Materials
The Arcon	About 65 m ²	1943	steel frame house clad with asbestos cement (asbestos fibres in a calcium silicate plaster)
Plan Description			
<p>The entrance (hall) divides the building into two zones: Public and service areas are on one side while private bedrooms are on the other. Upon entering the unit, the wet spaces are placed together and close the entrance door. While , the bathroom and WC are entered from the main hall, while there is no passage to the kitchen from the hall area. It has a service entrance connected to the living room with a door. The living room is placed next to the kitchen and is entered from the main hall. Two private bedrooms are adjacent and are entered from the hall area just across the entrance (figure 4.2).</p>			

Figure 4.2: Arcon Type Plan



Source: VALE, B.1995.PREFABS A History of the UK Temporary Housing Programme book, England

Manufacturing Method

The design consists mainly of a steel frame with an exterior cladding of asbestos cement. Tubular steel was used to be the first in peacetime as it is found in the welded roof supports, wedges and arches.

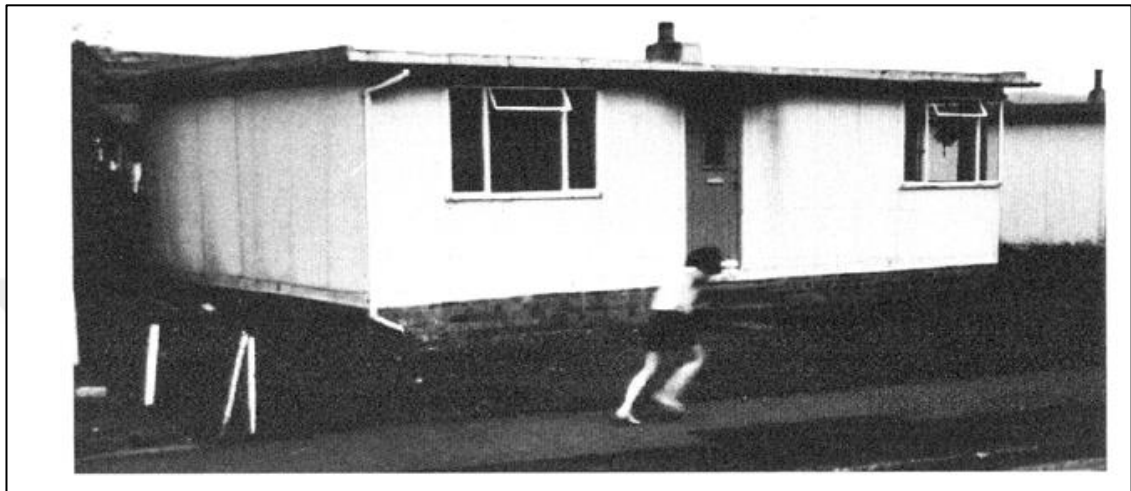
In this design, the windows were adopted to a much larger size than were used in small houses and metal doors also contained welded panels at the bottom to ensure rigidity, as another new application for housing.

Several companies cooperated in the production and development of the model. The corrugated walls of the panels were a feature of the Arcon bungalow, with a double layer of cement to increase thermal insulation (by creating a cavity between the layers) and resistance to rain penetration.

The second type was the Uni-Seco bungalow and it developed by the Selection Engineering Co who produced a system for the installation of small wood panels for the

construction of emergency huts, developed in the form of ready-made wood in the factory, assembled on-site on a pre-prepared basis (figure 4.3). The building was isolated using Seco-mastic (a flexible sealing material that is leak-proof and weather-resistant) which was installed on all external surfaces (Gloag and Wornum 1946).

Figure 4.3: Uni-Seco type



Source: VALE, B.1995.PREFABS A History of the UK Temporary Housing Programme book, England

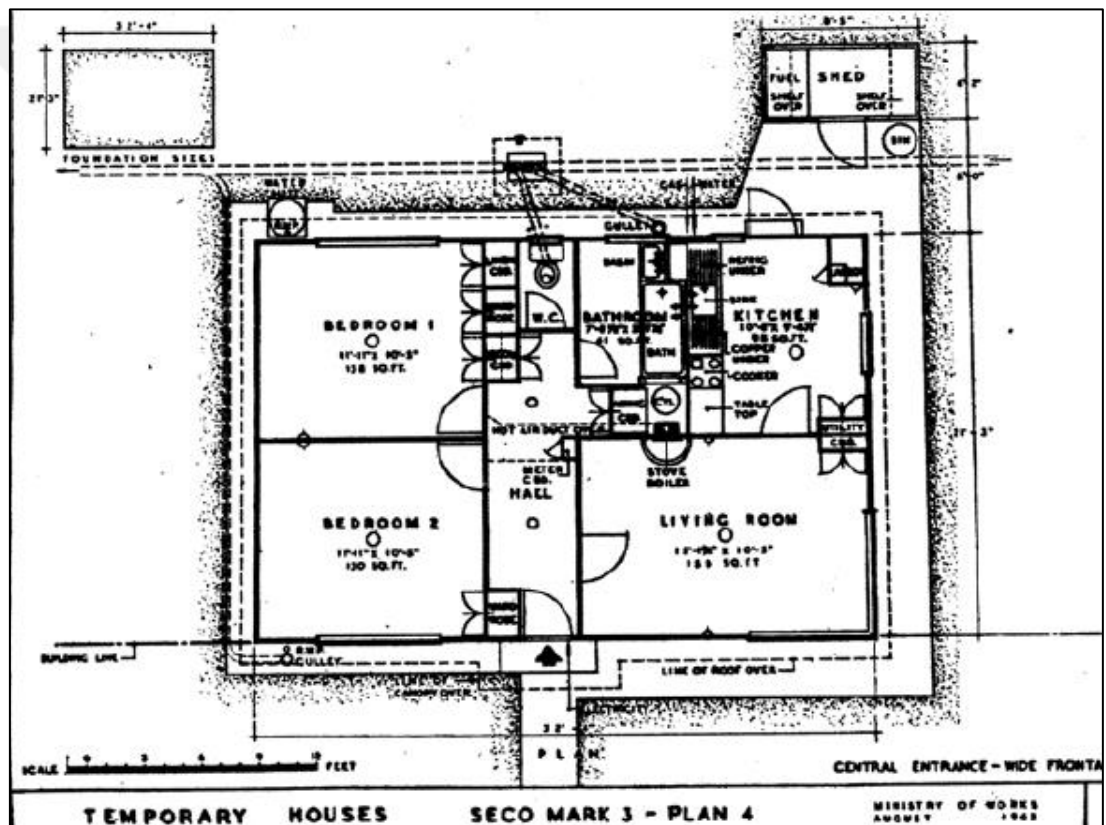
The following table explains more about this type:

Table 4-2: Uni-Seco Prefabricated Type Info

Temporary Housing Programme			
Prefab Type	Area	Date of Production	Main Materials
Uni-Seco	About 71m2	1945	Timber-framed and asbestos cement clad panels.
Plan Description			

The plan organization is similar to Arcon model with two zones on both sides of the entrance: Living and service zone on one side of the entrance, private spaces on the other. This time, the living room is placed close to the entrance while the service spaces are just next to it. There is a connection between the living room and kitchen, and the kitchen has a service entrance. The Bathroom and WC are placed at the back with direct entrance from the extension of the main hall. The total area was larger than the previous model Arcon bungalow (figure 4.4). It included the possibility of a narrow or wide facade through the exchange of windows in the bedrooms from the long facades to the empty back wall (Greenhalgh 1944).

Figure 4.4: Uni-Seco 1945



Source: VALE, B.1995.PREFABS A History of the UK Temporary Housing Programme book, England

Manufacturing Method

The design depends on the ‘kit-of-parts’ design approach and ignores the mass-produced unit approach.

One Uni-Seco system used lightweight beams and columns so that each structural member could be easily handled by two men. Such construction was used for single-volume hatted buildings. Rigid wall, door, and window units were then fixed between the structure. The second system was cellular in format and used standard partitions and corridor units which effectively carried the outer cladding of the hut (Vale 1995).

The third type was called the Tarran type, It adopted an existing reinforced concrete panel and light timber frame construction to be a system for permanent prefab house. The concept of this type started with Tarran Industries Ltd which had a long history with prefab houses started during the first World War and continued during post-second World War years with a large enhancing in the details and technologies (Bowley 1966).

The plan was to contribute 400,000 units a year to 20 factories across the country. By reviewing the temporary housing program this type was located in the north of England and in Scotland, near the production sites and this is partly due to the fact that Taran is heavier and therefore more expensive to carry a total weight of 14 tons compared to an average weight of 8 tons for the remainder Bungalows types (figure 4.5).

Figure 4.5: Tarran Type



Source: VALE, B.1995.PREFABS A History of the UK Temporary Housing Programme book, England

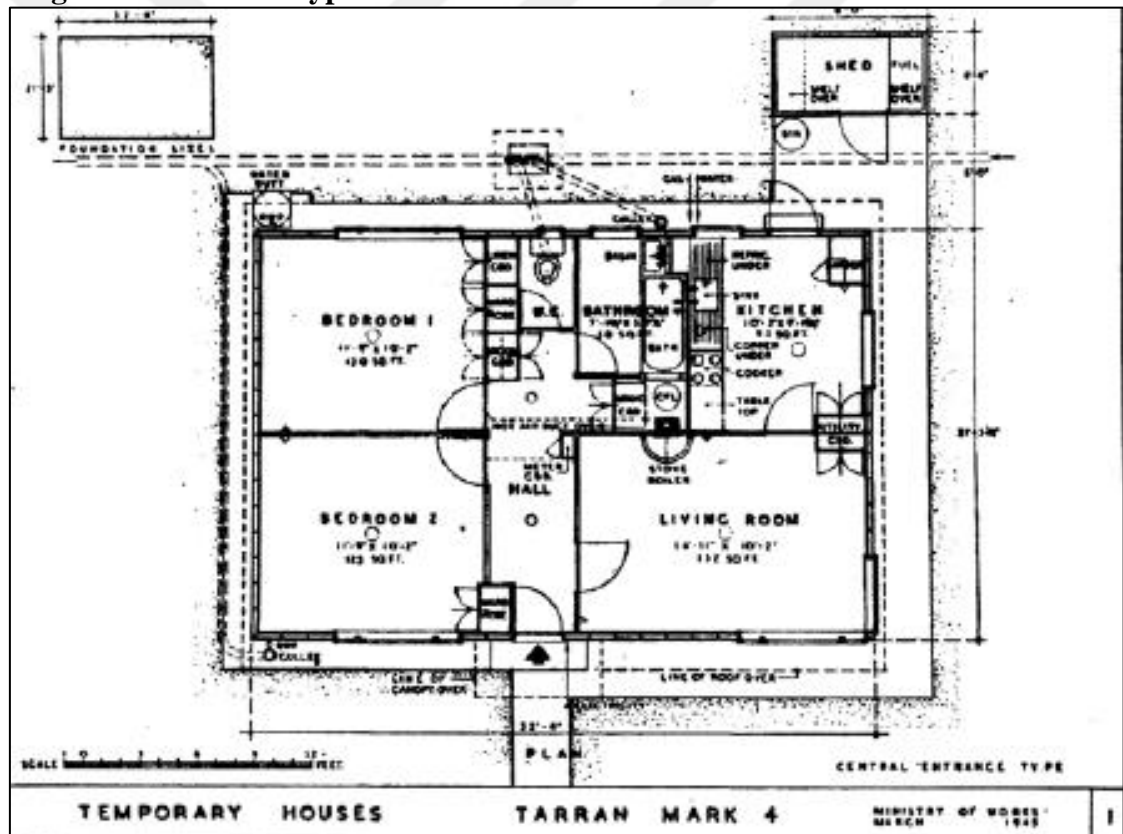
The following table explains more about this type:
Table 4-3: The Tarran Prefabricated Type Info.

Temporary Housing Programme Area			
Prefab Type	Area	Date of Production	Main Materials
The Tarran	About 71 m ²	1944	Reinforced concrete panel and light timber frame

Plan Description

Taran designed a two-story house using the same pre-fabrication system of uni-sec, while the final design has been adopted as a simple rectangle, divided into two zones having the same plan organization with Uni-Seco bungalow. A corner window has also been added in the living room (figure 4.6).

Figure 4.6: Tarran Type Plan



Source: VALE, B.1995.PREFABS A History of the UK Temporary Housing Programme book, England

Manufacturing Method

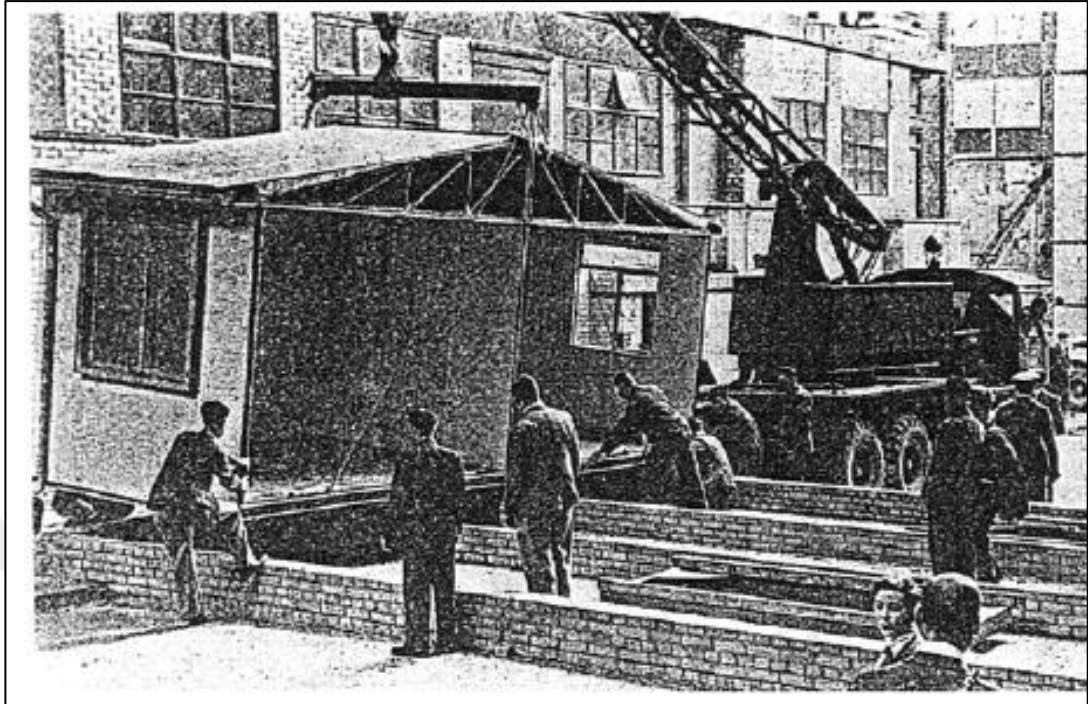
The structure of this model has been developed to be in six hours and needs only 12 men. The lack of timber led Tarran to reconsider constructed the experience of using prefabricated concrete slabs that generated a new type and lignacrete panels are made of Portland cement with a group of chemically treated and thus organically inactive substances, launched in 1944 (Vale 1995).

The final type was the aluminum bungalow, introduced in 1945 at 'Aluminium from War to Peace Exhibition'. Five factories were in charge of production: the Bristol Aeroplane Co., Weston-super-Mare, built the prototype; Vickers-Armstrong at Blackpool and Chester; Blackburn Aircraft, Dumbarton; and AW. Hawksley, Gloucester made the internal type of this bungalow. . The aircraft workers and technicians who were loaned by these companies carried out the work skillfully and companies did not rely on ordinary construction workers (Vale 1995).

This type was considered the masterpieces of pre-fabricated design in that time which developed in the details and set up a mechanism. It adopted the aircraft factories and the high tech in the military industries to solve the housing problem that caused by the war (Hubbard 1985).

The insulation was provided by lightweight concrete with internal ventilation of the plasterboard, and externally, the roof sections were finished in aluminum sheets made in a double layer with inner corrugated sheets covered with bitumen and externally covered with an aluminum layer. The life expectancy was not less than forty years and was up to 60 years according to the producers.

Figure 4.7: The Aluminum Bungalow Type



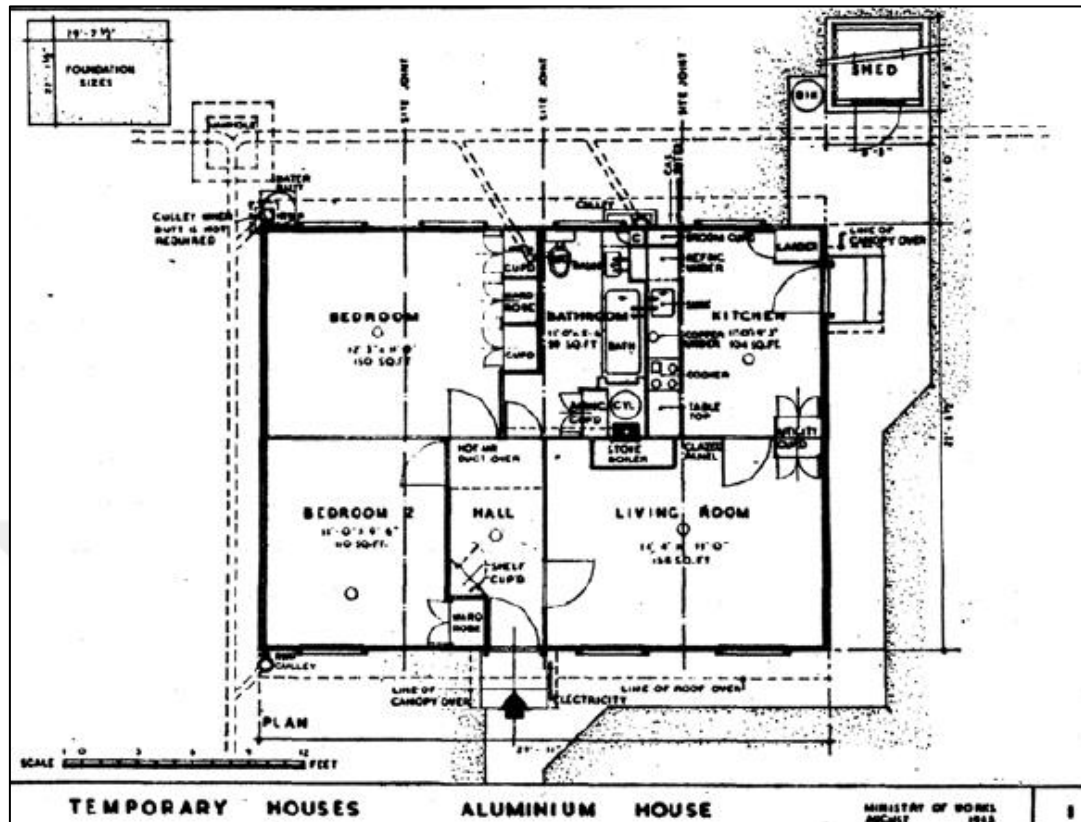
Source: VALE, B.1995.PREFABS A History of the UK Temporary Housing Programme book, England

The following table explains more about this type:

Table 4-4: The Aluminum Bungalow Type Info

Temporary Housing Programme			
Prefab Type	Area	Date of Production	Main Materials
The Aluminium	About 71 m ²	1945	Reinforced concrete panel and an aluminum frame
Plan Description			
<p>The development of the design was made by making the four parts equal and capable of land transport with an area of (7 * 2.3 meters). Because of this division, the usual design of the Bungalow was modified. the toilet was placed in the bathroom instead of being provided separately. Moreover, rather than two same-sized bedrooms one small, one larger bedrooms are provided and circulation areas are minimized in the design. Four equal parts decision came along with very clear spatial divisions and clustering (figure 4.8).</p>			

Figure 4.8: The Aluminium Prefabricated Type Plan



Source: VALE, B.1995.PREFABS A History of the UK Temporary Housing Programme book, England

Manufacturing Method

As the house in the factory has been manufactured in four sections, together with all the internal services and equipment and finishing decorations, each section has been lifted to the slab prepared by a 5-ton crane. The units are temporarily supported on hydraulic jacks, allowing the units to be combined and equal before permanent installation, only one link was requested for each site service (waste, water, electricity and possibly gas). It was believed that 'full site construction requires 30 to 40 hours of work, depending on the experience of the staff (Vale 1994).

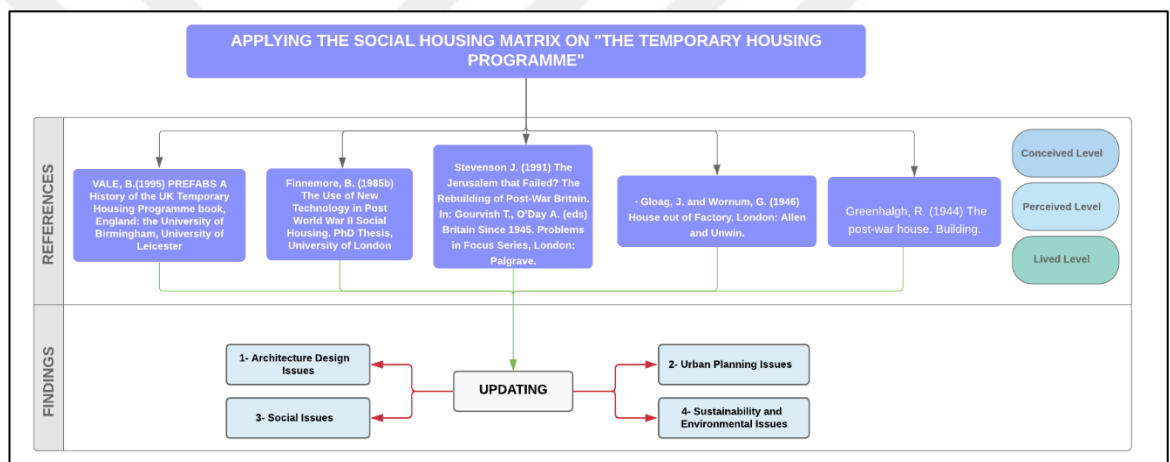
These four new bungalows used materials that were in short supply because of the war, for example, timber, has been used in the most economical way possible. Alternatively some used materials that were available but which had not previously been associated with the housing, for example, aluminum, has been adopted for the manufacturing of

bungalows produced under this programme. These types sometimes named by the company that produced it or according to the main material it was manufactured from.

4.2 EVALUATION OF PREFABRICATED BUNGALOWS IN ENGLAND

As the previous section was exploring the temporary program in England focusing on the prefabricated bungalows project, the aim of this part will be to examine the proposed interactive social housing matrix on this project and to check whether it works efficiently (figure 4.9).

Figure 4.9: Examining Method Chart Case (1)



The marks below (figure 4.10) will be used to evaluate the project according to the proposed matrix then I will come out with a SWOT analysis for the case according to the matrix and finally there will be a discussion about the findings related to the results of the matrix applied.

Figure 4.10: Marks Method Examining

<input checked="" type="checkbox"/>	The mean of verification was applied	<input checked="" type="checkbox"/>	The mean of verification wasn't applied	★	The mean of verification was applied in a different way
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The application of the matrix to the prefabricated bungalows case will start with architectural issues explained in the following tables:

Table 4-5: Applying proposed matrix – Architecture Issues – Habitability Case (1)

1.1	Sub-aspects	Habitability
	Indicators	Means of Verification and Evaluation
1.1.1	Sufficient Area for Living	<p>1. Minimum 8m² for 1 person in the total area of the unit <input checked="" type="checkbox"/></p> <p>The average area for 1 person (average number of family members 5) was 12 m².</p> <p>2. Housing with no more than two persons per bedroom <input checked="" type="checkbox"/></p> <p>Provision of the bath, toilet, and laundry <input checked="" type="checkbox"/></p> <p>3. Low number of floors; 3 floors in maximum <input checked="" type="checkbox"/></p> <p>4. Availability of a range of kitchen facilities and fittings. Minimum number of staircases; one main stair and one emergency stairs <input checked="" type="checkbox"/></p> <p>5. Appropriate corridor and staircase width and height matching with the local standards <input checked="" type="checkbox"/></p> <p>6. Balcony/patio access must be located from the living room or dining room area <input checked="" type="checkbox"/></p> <p>7. Availability of following spaces (Dining, living, kitchen, WC, and bathroom). <input checked="" type="checkbox"/></p> <p>8. Take into consideration the placement of windows and doors to promote visual and physical connections between the interior and exterior. <input checked="" type="checkbox"/></p> <p>Although the project was implemented post-WWII, the criteria for living space were clearly and comfortably achieved, which explains their continuity for a longer life time than the originally estimated .</p>
1.1.2	Dimensions	<p>1. The unit door width is no less than 85cm. <input checked="" type="checkbox"/></p> <p>2. Unit entrance width is no less than 85cm. <input checked="" type="checkbox"/></p> <p>3. Select a proper patterning, size, and geometry of windows and doors to lessen the negative impacts on interior spaces. <input checked="" type="checkbox"/></p>
1.1.3	The durable structure of housing units	<p>1. The quality of installing the ceiling, door, window, tiling, painting, plastering, plumbing work, electrical wiring, etc. <input checked="" type="checkbox"/></p> <p>2. Housing was built in compliance with building codes <input checked="" type="checkbox"/></p> <p>3. Tolerance and stability of the structure <input checked="" type="checkbox"/></p> <p>4. Proper material selection (finishing) <input checked="" type="checkbox"/></p> <p>5. Adoption of conversion/extension <input checked="" type="checkbox"/></p> <p>6. A dwelling unit must be self-contained with its own keyed entry door. <input checked="" type="checkbox"/></p> <p>The structure of pre-fabricated design at that time was very stable which developed the details and set up a mechanism, adopted by the aircraft factories and the high tech in the military industries.</p>

Table 4-6: Applying The Proposed Matrix – Architecture Issues – Health, Safety, and Security Case(1)

1.2	Sub-aspects	Health, safety, and security
	Indicators	Means of Verification and Evaluation

1.2.1	Considerations and requirements inside the housing units	<p>1.Availability of sunlight: sun orientation in the design to decrease the fuel consumption and to kill viruses and germs☑</p> <p>2.Availability of insulation to avoid moisture☑</p> <p>3.Availability of ventilation to prevent the spread of diseases☑</p> <p>4.Availability of sewage and sanitation system ☑</p> <p>5.Appropriate electricity installation☑</p> <p>6. Availability of drinkable water in any scenario (network, collective points) ☑</p> <p>7.Proper sanitary appliances, e.g. water closet (WC), good quality bath or shower wash basin☑</p> <p>8.Adequate insulation from noise☑</p> <p>9.Availability of fire alarm systems (according to any local codes or other codes) ☑</p> <p>The existence of essentials in health and safety was considered luxury in post-war housing, however, these units have achieved 90% of the requirements of health and safety according to the proposed guideline.</p>
1.2.2	Considerations and requirements outside (surrounding) the housing units:	<p>1.Functional stormwater drainage facilities ☑</p> <p>2.Availability of secure entry systems and safe common entrance areas ☑</p> <p>3.Availability of streetlights☑</p> <p>4.Security post at entrances ☑</p> <p>5.Availability of a building (housing units) entry system☑</p> <p>6.Availability of adequate lighting and signage for entrances, parking, common areas, etc. ☑</p>

Table 4-7: Applying Proposed Matrix – Architecture Issues – Circulation and Common Spaces Case (1)

1.3	Sub-aspects	Circulation and Common Spaces
	Indicators	Means of Verification and Evaluation
1.3.1	Circulation concentrations inside and outside the housing units	<p>1.Maximum space allocation for circulation not exceeding 25% of the combined unit areas. ☑</p> <p>2.Availability of building entrance and lobby area (Apartment buildings) with proper requirements like heating and cooling. ☑</p> <p>The housing unit wasn't multi-story, so this mean didn't apply.</p> <p>3.Corridors shall be at least 1500mm wide and for seniors housing, continuous handrails on each side of the corridor shall be provided. ☑</p>
1.3.2	Ground floor conditions (common spaces)	<p>1.Availability of space designed for residents to gather on the ground floor (Apartment buildings) ★</p> <p>About every 10 bungalow units formed a gathering space for the residents to be a common area.</p> <p>2.Promote visual connections between the ground-floor activity and the street (Apartment buildings). ☑</p> <p>The housing unit wasn't apartments building type, so this mean didn't apply.</p> <p>3.Buffering the street wall by plantings or unique design elements. ☑</p>

		<p>4. At terraces, considering programmatic and visual connections to link to larger open spaces adjacent to or below. ★</p> <p>Every unit had a private open space (backyard garden). The units didn't have the terraces and totally depend on the gardens and open space which related directly to the units.</p>
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Table 4-8: Applying the proposed Matrix – Architecture Issues – General Design Characteristic Case (1)

1.4	Sub-aspects	General design characteristics
	Indicators	Means of Verification and Evaluation
1.4.1	Accessibility	<p>1. Housing design is accessible for disabled people ☒</p> <p>2. Housing entrance provided with wheelchair ramp ☒</p> <p>3. A minimum of 10% of social units should match the requirements of accessibility ☒</p> <p>4. Availability of accessibility requirements (if the local housing administration has one if not should be clarified) ☒</p> <p>The unit design did not take into consideration the accessibility requirements.</p>
1.4.2	Avoiding the monotony and repetition in social housing design	<p>1. The contribution of architects and specialists in the design and implementation process ☒</p> <p>2. Modified and cost-effective construction methods that are adopted and isn't repetitive ☒</p> <p>The pre-manufactured system is unifying the parts produced as much as possible and therefore naturally there are repetition and monotony, which made the project not innovative and of simple design.</p>

The result of urban planning issues was as the following tables:

Table 4-9: Applying the Proposed Matrix – Urban Planning Issues – Site Planning and Layout Case (1)

2.1	Sub-aspects	Site Planning and Layout
	Indicators	Means of Verification and Evaluation
2.1.1	Facilities availability	<p>1. Availability of Educational Facilities. ☒</p> <p>2. Availability of recreational/sporting facilities. ☒</p> <p>3. Availability of playground for children. ☒</p> <p>4. Availability of places of worship. ☒</p> <p>5. Availability of medical and health care. ☒</p> <p>6. Availability of commercial or convenience stores. ☒</p> <p>7. Police post available. ☒</p> <p>8. Availability of refuse collection bins. ☒</p> <p>9. Availability of perimeter fence. ☒</p> <p>10. Availability of asphalt paved access roads. ☒</p> <p>The program provided basic facilities to serve residential units with minimum requirements.</p>

2.1.2	Spatial considerations and requirements	<p>9- The distinctive character in an urban context. <input checked="" type="checkbox"/></p> <p>10- Access to parks, schools, shops, hospital. <input checked="" type="checkbox"/></p> <p>11- Availability of common open and parking spaces. <input checked="" type="checkbox"/></p> <p>12- Availability of pavements/pedestrian. <input checked="" type="checkbox"/></p> <p>13- Availability of roads hierarchy and characteristics. <input checked="" type="checkbox"/></p> <p>There was no need for roads because the cars were not so widespread at the time.</p> <p>14- Availability of open spaces and green areas <input checked="" type="checkbox"/></p> <p>15- Availability of playground for children<input checked="" type="checkbox"/></p> <p>16- Studying the potential of the location in future development <input checked="" type="checkbox"/></p>
2.1.3	Housing blocks design considerations	<p>5- Proper distance between blocks. <input checked="" type="checkbox"/></p> <p>6- Proper blocks shape. <input checked="" type="checkbox"/></p> <p>7- Courtyards provision and proper courtyard width. <input checked="" type="checkbox"/></p> <p>8- Availability of privacy in the space to distinguish between public, private and semi-private spaces. <input checked="" type="checkbox"/></p>

Table 4-10: Applying the Proposed Matrix – Urban Planning Issues – Landscaping Case (1)

2.2	Sub-aspects	Landscaping
	Indicators	Means of Verification and Evaluation
2.2.1	Design considerations and requirements	<p>1.Landscape design should be simple and require low maintenance. <input checked="" type="checkbox"/></p> <p>2.At a minimum, all new houses must include a (usually rear) private garden. <input checked="" type="checkbox"/></p> <p>3.All external space, private or communal, should be designed to capture sunlight where possible. <input checked="" type="checkbox"/></p> <p>4.Buffering the unit house from the street and providing privacy by plants and design elements. <input checked="" type="checkbox"/></p> <p>5.Availability of child play areas and passive seating for seniors in the open space. <input checked="" type="checkbox"/></p> <p>The project had child play areas but it ignored the senior’s areas.</p>
2.2.2	Site circulation and walkways	<p>1.Amenity Space should be accessible from interior common spaces and have secure outdoor furniture. <input checked="" type="checkbox"/></p> <p>2.Adequate size to accommodate service vehicles. <input checked="" type="checkbox"/></p> <p>3.Pedestrian and car entrances to be clearly identifiable. <input checked="" type="checkbox"/></p> <p>4.Accessible roads and isolated areas for garbage collection trucks. <input checked="" type="checkbox"/></p> <p>5.Walkways are suitable for disabled persons in slope and width, ramps and paths width according to local codes. <input checked="" type="checkbox"/></p> <p>The project ignores the disabled person’s requirements.</p> <p>6.Availability of parking for every unit. <input checked="" type="checkbox"/></p>

		<p>In general, there is no mention of the parking areas because the using of cars in the design phase was rare and limited to the general services vehicles like fire trucks ...</p> <p>7.Consider concentrating any commercial activities along the main thoroughfares and allow for residential and more passive uses along side streets. ☑</p>
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The result of social issues was as in the following tables:

Table 4-11: Applying the Proposed Matrix – Social Issues – Social Cohesion Case (1)

3.1	Sub-aspects	Social Cohesion
	Indicators	Means of Verification and Evaluation
3.1.1	Avoiding stigmatization and social segregation in the design of social housing unite.	<p>1.The standard of social housing should reflect and take into consideration the specific national design conditions. ★</p> <p>The design achieved all the requirements of the local house design and some articles mentioned that the pref-housing unit was a kind of luxury in terms of spaces and types of equipment in the units.</p> <p>2.Flexible floor plans which respect cultural diversity and different lifestyles. ☑</p> <p>3.The activities that faster belonging to the housing complex and their physical space, as well as the design of the common and communication areas should be clear. ★</p> <p>The design of the prefabricated -unit with easy access to the garden and adequate common areas from the ground floor, helped in the activities of belonging and made the unit live with longer the planned life duration (10 years).</p>
3.1.2	Increasing a feeling of belonging to the same community	<p>1.The design of the common and communication areas should be clear. ☑</p> <p>2.Equipped areas and places for the creation of local employment opportunities for young people; the implementation of anti-social behavior programmers. ☑</p>
3.1.3	Social mix	<p>1.Avoiding the “ghettoization” of social housing. ☑</p> <p>2.Taking into consideration the gender issue and people special needs (e.g. the disabled and the elderly). ☑</p> <p>The housing units design didn’t take into consideration the gender issues being a temporary programme after a devastating war with the goal to bridge the gap of housing shortage in all the country.</p> <p>3.Avoiding homogenous communities by ensuring a mix of age groups, type and size of households which reflected in the design. ☑</p>

Table 4-12: Applying The Proposed Matrix – Social Issues – Cultural Adequacy Case(1)

3.2	Sub-aspects	Cultural Adequacy
	Indicators	Means of Verification and Evaluation
3.2.1	Choice	1.Availability of different size and type for the social house units☒
3.2.2	Affordability	1.The household pays no more than 30 percent of their income to get access to housing. ☑ 2.The design of social housing is no less quality than local housing design standards. ☑
3.2.3	Sense of dignity and feeling of home	1.Facade design enhancing a building’s character and identity both in the existing community and for its residents. ☒ The aesthetic value of the design was not an important value and monotony was dominant as the result of the adoption of one industrial model. In general, the role of the architects was to facilitate the division of manufacturing of the parts of pref-housing unit as much as possible, and therefore the housing units were characterized by repetition and similarity. 2.Ambient to events, socialization, and social facilities. ☑ 3.400 meter to the social facilities such as cultural center and sports center. ☑ 4.The house is located within two kilometers of the nearest hospital or health center. ☑ 5.400-meter distance or a five-minute walk is an accepted standard for walking to services and facilities (such as religious centers) in many countries. ☑

For the final aspect in the matrix, sustainability and environmental issues the following tables show the results:

Table 4-13: Applying The Proposed Matrix – Sustainability and Environmental Issues – Decreasing The Energy Consumption by Appropriate Building Techniques Case (1)

4.1	Sub-aspects	Decreasing the energy consumption by appropriate building techniques
	Indicators	Means of Verification and Evaluation
4.1.1	Depending on the renewable sources as a primary source for energy	1.Increasing the percentage of the solar system and other renewable sources production to the need at the social housing unit’s level☒

4.1.2	Decreasing the thermal transmittance capacity	<p>1.Applying the “thermal zoning” approach in the rooms of social housing units☑</p> <p>2.Decreasing the compact buildings planning in social housing units☑</p> <p>3.Applying a system to select the materials according to the environmental load★</p> <p>The pre-housing unit design spent more attention to the thermal performance by treating the walls panels to be close to the cement block in the thermal isolation level. The ceilings were in all designs based on a wooden frame with asbestos panels in both sides and insulation material between</p> <p>4.The roofs and the walls designed according to the standards of local thermal transmittance as possible☑</p>
4.1.3	Applying the energy efficiency requirements in materials and processes	<p>1.Where possible, all habitable rooms should receive direct sunlight with a priority given to living, dining and kitchen space. ☑</p> <p>2.Glazing to all habitable rooms should not be less than 20% of the internal floor area of that room. ☑</p> <p>3.Using building materials that maximize the number of credits for sound insulation under the Sustainable Housing Act in the local codes☑</p> <p>4.Using warm and welcoming materials☑</p> <p>5.Increasing the use of natural lighting☑</p> <p>6.Using educational graphics to promote☑</p>

Table 4-14: Applying The Proposed Matrix – Sustainability and Environmental Issues – The Infrastructure Services Case(1)

4.2	Sub-aspects	The infrastructure services
	Indicators	Means of Verification and Evaluation
4.2.1	Availability of sewage and sanitation system with minimum requirements at least	<p>1.Availability of solid waste management☑</p> <p>2.Sewerage final destination: A proper distance to the water stream and reservoir☑</p> <p>3.Housing is connected to a sewerage network system☑</p> <p>4.Availability of refuse/garbage collection system☑</p>
4.2.2	Controlled water source	<p>1.Applying a system for the water quality assessment according to the government standards☑</p> <p>2.Housing shall be connected with piped drinkable water☑</p>
4.2.3	Future-proof (the future using of the social housing projects in terms of expanding and changing)	<p>1.Taking into account and facilitating the potential use of future technologies☑</p> <p>2.Ability to expand and adapt to future needs☑</p> <p>The design of the prefabricated units as a whole was done on the basis of 'kit-of-parts' and thus the decomposition, replacement, and expansion are present, which made the actual life of the units more than the planned life.</p>

After applying the proposed matrix I came up with findings and results, that are similar in condition to the current situation in Syria and post-second World War Britain, in terms of the huge need for emergency housing units in addition to the great destruction in homes

resulting from the war. This emphasizes the need to benefit from the temporary housing program in Britain to develop the proposed matrix.

In general, the project feeds the matrix with some recommendations and comments in terms of:

First, the prefabricated mechanism should be taken into consideration in the Syrian case. It is worth mentioning that the used technology at the time was very advanced.

Second, provision of spacious spaces with equipped kitchen, bathroom, and basic furniture despite the urgent need and temporary character. Hence the design of social housing units, in any case, should have good quality for basic needs under any condition.

Third, attention should be taken when selecting the building materials and their characteristics in terms of the availability in the local environment, high technology, installation, and thermal transportation.

Finally, the following SWOT analysis clarifies how the project responded to the proposed matrix:

Table 4-15: SWOT Analysis Case (1)

	POSITIVE	NEGATIVE
INTERNAL	<p>Strengths: Architectural issues : 1. The project adopted a high technology in implementing the housing unit by adopting the aircraft factories and military industries mechanism especially in the stabling and firming of the structure and the thermal isolation.</p> <p>2. Although the project was implemented post-WII as a part of the temporary program comfortable living spaces are provided on average 12m² for one person with a family consist of 5 persons on average.</p> <p>3. Backyard as a private spaces are provided for each social housing unit.</p> <p>4. Use of the most available local building materials used in the area.</p> <p>5. The idea of the project design (incrmentality) was the most important feature of these projects and it was a revolutionary idea in the field of housing at that time.</p> <p>6. The projects spent great attention to the essential requirements in health and safety subaspect which made the units apply 90% of proposed indicators</p> <p>Social Issues: The residential units were with high quality and met all the main living requirements (kitchen equipment – bathroom) of local housing standrs.</p> <p>Sustainability: The project spent great attention to the thermal performance and material with low environmental impact.</p>	<p>Weaknesses: Architectural issues : 1. What is taken negatively on pre-fabricated designs is the quest to unify the production parts, which reduces the creativity in the design to a great level, in addition to the production of boring and repetitive designs. That was very clear in the pref-housing projects of the Britain temporary housing program.</p> <p>2. The accessibility indicator was not sufficiently applied in the project. In terms of universal design principles some deficiencies are detected (absence of necessary precautions for seniors and disabled persons....).</p> <p>3. The design of common areas were inclear in the project and every 10 bungalow unit formed unclear gathering space for the residents.</p> <p>Urban Planning : 1. The project neglected the issue of the structure of roads availability and parking space was limited to the general services.</p> <p>2. The project ignored the senior’s areas.</p> <p>Social Issues: Adopt one model for all the residents without concentration to the social background of family size and with no choice.</p>

EXTERNAL	<p><u>Opportunities :</u> Sustainability:</p> <ol style="list-style-type: none"> 1. The project has a distinctive infrastructure with good systems; sewage, water, sanitation and garbage collecting which were one of the important features of the project. 2. Overall, the project was able to achieve the basics of public services within any residential community. 	<p><u>Threats :</u></p> <ol style="list-style-type: none"> 1. The project was based entirely on pre-manufactured technology and thus neglected traditional and local construction methods. 2. The bungalows unit design was a suitable model for the temporary housing program, but with the high price of properties has become a need for multi-floor solutions. 3. The architectural aesthetic value was neglected and the construction system limited the role of architects to enhance the design quality .
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4.3 SOCIAL HOUSING IN DEVELOPING COUNTRIES IN 21 ST-CENTURY

In this part of the thesis, I will apply the proposed index to one of the social housing projects in developing countries, particularly Elemental Housing Programme in Chile due to some similarities to the situation in Atmaa projects: The extreme need of housing due economic or natural disasters, the drastic decrease in income, the increment in the number of slums, the increasing poverty especially after the economic disaster in 2008 and new construction mechanism.

Regarding to the Elemental, besides his own architectural firm AA, architect Alejandro Aravena runs what he calls a ‘do tank’, together with the Chilean oil company Copec and the Catholic University of Chile. The below quotation explains the motivation of the project designer:

“Less money means more creativity. The context I am working in is full of restrictions and rules, caused by scarcity. It forces me to the very edge of my capacities, which I like. The more restricted the context and the more difficult the question, the more relevant the answer can become” (Aravena 2016,p10)

Founded in 2000, Elemental seeks to launch large-scale housing projects and public infrastructure in an unconventional way to promote social development and fight poverty in Chilean cities (Marinovic and Baek 2017).Elemental proposed the incrementality principles to face the scarcity of means which stem from the low availability of resources. Housing Market tends to do two things, diminution and displacement to face this scarcity;

either by minimizing the spaces (threatening the quality of life) or by displacement happened through selecting low-cost lands which are far away from the city.

The principles of incrementality Elemental adopted were:

“if you can't do everything, focus on: A. what is more difficult. B. What can't be done individually, and C. What will guarantee the common good in the future” (De Ferrari 2013,p:35)

The famous Four projects developed by Elemental are Quinta Monroy (Iquique, Chile) 2003-04, The Monterrey's housing project (México), 2008, The Barnechea's housing project (Región Metropolitana de Santiago, Chile), 2010 and finally Villa Verde housing project (Constitución, Chile), 2012-13. After briefly introducing the first three projects to gain an insight into the principles of Elemental I will explore Villa Verde Project in more detail and apply the social housing matrix I developed to evaluate it.

The first project was The Quinta Monroy's housing project (Iquique, Chile) built between 2003-04 for 93 families / 5.205 m² and 714 inhabitants per hectare. There were two options for the area of the units; house surface area 70 m² with 36m² initial + 34m² enlargement and apartment surface area 72 m² with 27 m² initial + 45m² enlargement (figure 4.11).

Figure 4.11: Quinta Monroy's housing project



Source: www.alejandroravena.com

The second project was The Monterrey's housing project (México) built in 2008, The total area of the project was 6 hectares in industrial areas of Santa Catsrins neighborhood

while 2,200 m² used as green space and the buildings are located around these areas (figure 4.12). The project had 70 house units with three floors. The first floor of the units could be extended from 40 m² to 58 m² and on the second floor, the units could be extended up to 76 m². The project provided the main structure for easy and cheap future extension cost (Aravena and Iacobelli 2013).

Figure 4.12: Monterrey's housing project



Source: www.alejandroravena.com

The third project was the Barnechea's housing project (Región Metropolitana de Santiago, Chile) built in 2010, it was built on informal settlement land and each house has three floors, one bathroom, and three bedrooms. The unit size was 44.5 m² as a core area and 27.7 m² as an expansion area the unit materials were from clay bricks, wood, and steel beam (figure 4.13). Type of growth made with extension of the second and third floors inside the internal shell, with informally expanded into their backyards or/and front yards (Vargas 2014).

Figure 4.13: The Barnechea's housing project



Source: www.alejandraravena.com

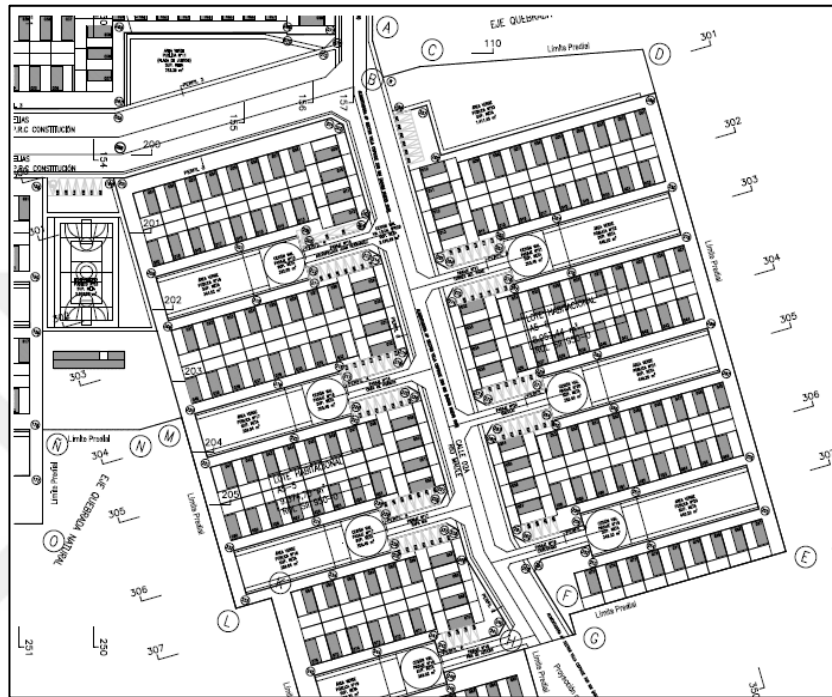
The fourth project will be the case study Villa Verde's housing project (Constitución, Chile), built in between 2012-13. The reason behind this project was a severe earthquake that occurred on February 27, 2010, off the southcentral coast of Chile, leading to extensive damage in the built environment and followed with the tsunami, causing more than 500 deaths. More than 50,000 temporary dwellings have been constructed and housing subsidies have been disbursed to many people who have been left without homes. In July 2013 the government reported that about 74 percent of the 22,000 housing reconstruction projects it had supported had been completed. The Villa Verde project by *Elemental* company, which provides workers' homes for the Arauco Forest Company, was one of these projects. In this first phase of this project, 484 houses were built, with three community centers (A H Wibowo and D Larasati 2018).

Like other housing projects in *Elemental*, the main concept depended on the user-led expansion in the layout. *Elemental* proposed combining funds available for temporary emergency shelters and social housing to provide better quality shelters with higher initial costs that could be reused in the incremental social housing system (Aravena and Iacobelli 2016).

Aravena's proposal involved designing half of a good house are designed instead of a full house. Yet, next to every build-section there is a section with main foundations and with same space area for the expansion in the future by the residents. Initially, small units could extend to 80 square meters in time. The innovation in this project does not come

from new materials, new technologies or new construction systems but it is a result of having the courage to follow common sense ideas, to understand the needs of the people of Constitution, and to view the problem in terms of both micro and macro-environments (figure 4.14).

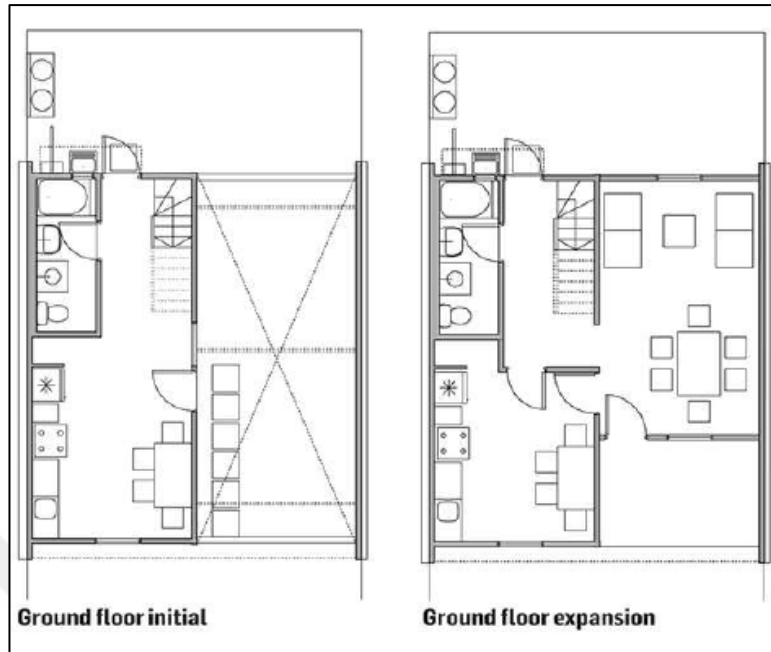
Figure 4.14: Villa Verde's housing project - phase 1 site plan



Source: www.alejandroravena.com

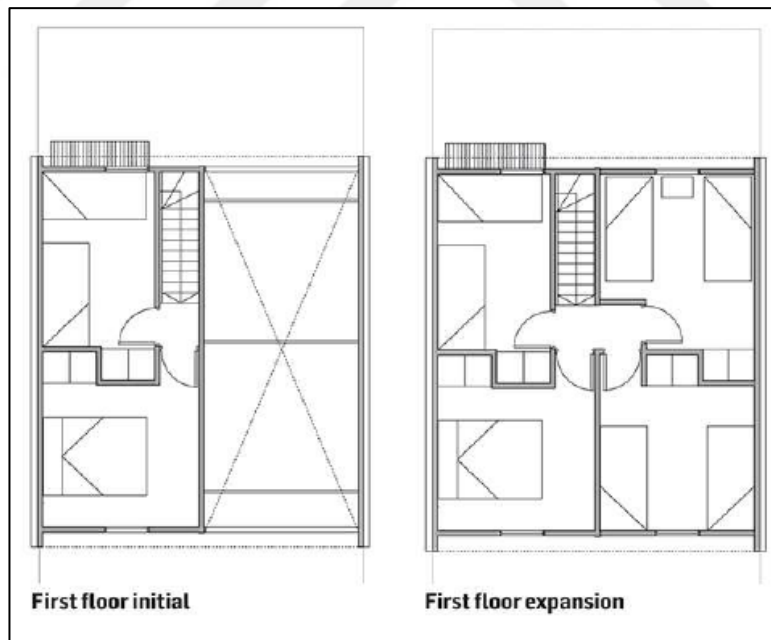
The housing unit design consists of two floors. On the ground floor, this basic building has a small common space that combines the kitchen, dining room and living room, as well as a bathroom and laundry area outside (figure 4.15 and 4.16). The buildings are constructed with timber frames, supported on concrete foundations, roofed in zinc, and clad internally in 10mm gypsum board and externally in 6mm fiber cement board (Aravena and Iacobelli 2013).

Figure 4.15: Villa Verde's housing ground-floor plans



Source: www.alejandroravena.com

Figure 4.16: Villa Verde's housing first-floor plans



Source: www.alejandroravena.com

Figure 4.17: Villa Verde's housing pics

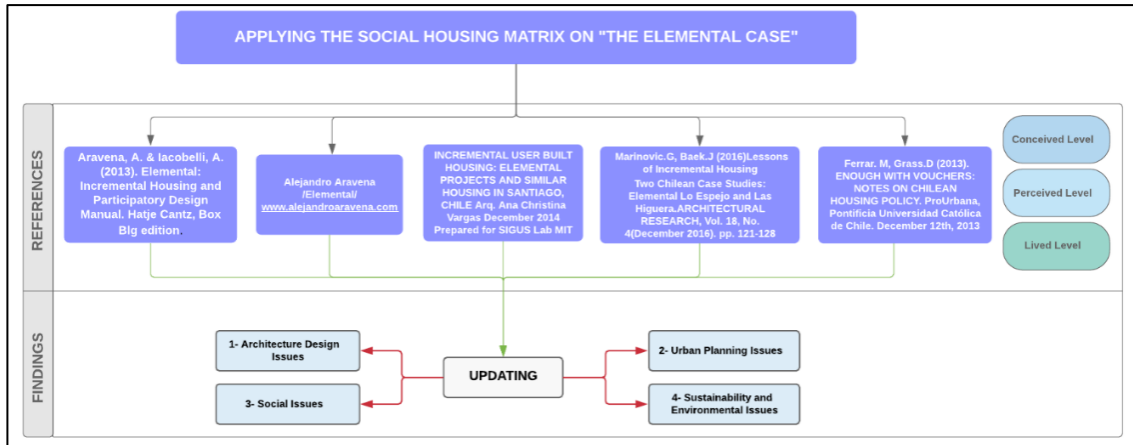


Source: www.alejandroravena.com

4.4 EVALUATION OF ELEMENTAL HOUSING PROGRAMME: VILLA VERDE'S HOUSING

The same methodology will be used in this case as in the prefabricated bungalows case, and this section will examine the proposed interactive social housing matrix on this project (figure 4-18).

Figure 4.18: Examining Method Chart Case (2)



Starting with architecture design issues the following tables show the results:

Table 4-16: Applying The Proposed Matrix – Architecture Issues – Habitability Case (2)

1.1	Sub-aspects	Habitability
	Indicators	Means of Verification and Evaluation
1.1.1	Sufficient Area for Living	1. Minimum 8m ² for 1 person in the total area of the unit <input checked="" type="checkbox"/> It depends on the family size, for a family with numbers equal or less than 5 members the mean is applied in the initial floor plan (for one person 8 m ²) 2. Housing with no more than two persons per bedroom <input checked="" type="checkbox"/> It depends on the family size, for a family with members equal or less than 5 members the mean isn't applied in the initial floor plan (1 bedroom for parents and another for children). 3. Provision of the bath, toilet, and laundry <input checked="" type="checkbox"/> 4. Low number of floors; 3 floors in maximum <input checked="" type="checkbox"/> 5. Availability of a range of kitchen facilities and fittings Minimum number of staircases; one main stair and one emergency stairs <input checked="" type="checkbox"/> 6. Appropriate corridor and staircase width and height story matching with the local standards <input checked="" type="checkbox"/> 7. Balcony/patio access must be located from the living room or dining room area <input checked="" type="checkbox"/> 8. Availability of following spaces (Dining, living, kitchen, WC, and bathroom). <input checked="" type="checkbox"/> 9. Take into consideration the placement of windows and doors to promote visual and physical connections between the interior and exterior. <input checked="" type="checkbox"/>
1.1.2	Dimensions	1. The unit door width is no less than 85cm. <input checked="" type="checkbox"/> 2. Unit entrance width is no less than 85cm. <input checked="" type="checkbox"/> 3. Select a proper patterning, size, and geometry of windows and doors to lessen the negative impacts on interior spaces. <input checked="" type="checkbox"/>

1.1.3	Durable structure of housing units	<p>1.The quality of installing the ceiling, door, window, tiling, painting, plastering, plumbing work, electrical wiring, etc. <input checked="" type="checkbox"/></p> <p>2.Housing built in compliance with building codes★ The structure system is similar to the local construction methods.</p> <p>3.Tolerance and stability of the structure<input checked="" type="checkbox"/></p> <p>4.Proper material selection (finishing) <input checked="" type="checkbox"/></p> <p>5.Adoption of conversion/extension<input checked="" type="checkbox"/></p> <p>6.A dwelling unit must be self-contained with its own keyed entry door. <input checked="" type="checkbox"/></p>
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Table 4-17: Applying The Proposed Matrix – Architecture Issues – Health, Safety, and Security Case(2)

1.2	Sub-aspects	Health, safety, and security
	Indicators	Means of Verification and Evaluation
1.2.1	Considerations and requirements inside the housing units	<p>1.Availability of sunlight: sun orientation in the design to decrease the fuel consumption and to kill viruses and germs<input checked="" type="checkbox"/></p> <p>2.Availability of insulation to avoid moisture<input checked="" type="checkbox"/></p> <p>3.Availability of ventilation to prevent the spread of diseases<input checked="" type="checkbox"/></p> <p>4.Availability of sewage and sanitation system <input checked="" type="checkbox"/></p> <p>5.Appropriate electricity installation<input checked="" type="checkbox"/></p> <p>6.Availability of drinkable water in any scenario (network, collective points) <input checked="" type="checkbox"/></p> <p>7.Proper sanitary appliances, e.g. water closet (WC), good quality bath or shower wash basin<input checked="" type="checkbox"/></p> <p>8.Adequate insulation from noise<input checked="" type="checkbox"/></p> <p>9.Availability of fire alarm systems (according to any local codes or other codes) <input checked="" type="checkbox"/></p>
1.2.2	Considerations and requirements outside (surrounding) the housing units:	<p>1.Functional stormwater drainage facilities <input checked="" type="checkbox"/></p> <p>2.Availability of secure entry systems and safe common entrance areas <input checked="" type="checkbox"/></p> <p>3.Availability of streetlights<input checked="" type="checkbox"/></p> <p>4.Security post at entrances <input checked="" type="checkbox"/></p> <p>5.Availability of a building (housing units) entry system<input checked="" type="checkbox"/></p> <p>6.Availability of adequate lighting and signage for entrances, parking, common areas, etc. <input checked="" type="checkbox"/></p>

Table 4-18: Applying The Proposed Matrix – Architecture Issues – Circulation and Common Spaces Case (2)

1.3	Sub-aspects	Circulation and Common Spaces
	Indicators	Means of Verification and Evaluation
1.3.1	Circulation concentrations inside and outside the housing units	<p>1.Maximum space allocation not exceeding 25% of the combined unit areas. <input checked="" type="checkbox"/></p> <p>2.Availability of building entrance and lobby area (Apartment buildings) with proper requirements like heating and cooling. <input checked="" type="checkbox"/></p> <p>The housing unit wasn't apartments building type, so this mean didn't apply.</p>

		3. Corridors shall be at least 1500mm wide and for seniors housing, continuous handrails on each side of the corridor shall be provided. <input checked="" type="checkbox"/> ★ general comment that every housing unit had backyard.
1.3.2	Ground floor conditions (common spaces)	1. Availability of space designed for residents to gather on the ground floor (Apartment buildings). <input checked="" type="checkbox"/> They gather in common space, which was designed to be a space for every housing block which includes 25 units. 2. Promote visual connections between the ground-floor activity and the street (Apartment buildings). <input checked="" type="checkbox"/> The housing unit wasn't apartments building type, so this mean didn't apply. 3. Buffering the street wall by plantings or unique design elements. <input checked="" type="checkbox"/> 4. At terraces, consider programmatic and visual connections to link to larger open spaces adjacent or below. <input checked="" type="checkbox"/>

Table 4-19: Applying The Proposed Matrix – Architecture Issues – General Design Characteristic Case (2)

1.4	Sub-aspects	General design characteristics
	Indicators	Means of Verification and Evaluation
1.4.1	Accessibility	1. Housing design is accessible for disabled people <input checked="" type="checkbox"/> 2. Housing entrance provided with wheelchair ramp <input checked="" type="checkbox"/> 3. A minimum of 10% of social units should match the requirements of accessibility <input checked="" type="checkbox"/> 4. Availability of accessibility requirements (if the local housing administration has one, if not should be clarified) <input checked="" type="checkbox"/> The unit design did not take into consideration the accessibility requirements in general.
1.4.2	Avoiding the monotony and repetition in social housing design	1. The contribution of architects and specialists in the design and implementation process <input checked="" type="checkbox"/> 2. Modified and cost-effective construction methods that are adopted and isn't repetitive <input checked="" type="checkbox"/> ★ The design succeeded in eliminating redundancy and monotony in the housing units by leaving the expanding part implemented by the users according to their budget

The urban planning issues according to the proposed matrix had the results in the following tables:

Table 4-20: Applying The Proposed Matrix – Urban Planning Issues – Site Planning and Layout Case (2)

2.1	Sub-aspects	Site Planning and Layout
	Indicators	Means of Verification and Evaluation

2.1.1	Facilities availability	<ul style="list-style-type: none"> 1.Availability of Educational Facilities. <input checked="" type="checkbox"/> 2.Availability of recreational/sporting facilities. <input checked="" type="checkbox"/> 3.Availability of playground for children. <input checked="" type="checkbox"/> 4.Availability of places of worship. <input checked="" type="checkbox"/> 5.Availability of medical and health care. <input checked="" type="checkbox"/> 6.Availability of commercial or convenience stores. <input checked="" type="checkbox"/> 7.Police post available. <input checked="" type="checkbox"/> 8.Availability of refuse collection bins. <input checked="" type="checkbox"/> 9. Availability of perimeter fence. <input checked="" type="checkbox"/> 10. Availability of asphalt paved access roads. <input checked="" type="checkbox"/>
2.1.2	Spatial considerations and requirements	<ul style="list-style-type: none"> 1.The distinctive character in an urban context. <input checked="" type="checkbox"/> 2.Access to parks, schools, shops, hospital. <input checked="" type="checkbox"/> 3.Availability of common open and parking spaces. <input checked="" type="checkbox"/> 4.Availability of pavements/pedestrian. <input checked="" type="checkbox"/> 5.Availability of roads hierarchy and characteristics. <input checked="" type="checkbox"/> 6.Availability of open spaces and green areas <input checked="" type="checkbox"/> 7.Availability of playground for children<input checked="" type="checkbox"/> 8.Studying the potential of the location in future development <input checked="" type="checkbox"/>
2.1.3	Housing blocks design considerations	<ul style="list-style-type: none"> 1.Proper distance between blocks. <input checked="" type="checkbox"/> 2.Proper blocks shape. <input checked="" type="checkbox"/> 3.Courtyards provision and proper courtyard width. <input checked="" type="checkbox"/> 4.Availability of privacy in the space to distinguish between public, private and semi-private spaces. <input checked="" type="checkbox"/>

Table 4-21: Applying The Proposed Matrix – Urban Planning Issues – Landscaping Case (2)

2.2	Sub-aspects	Landscaping
	Indicators	Means of Verification and Evaluation
2.2.1	Design considerations and requirements	<ul style="list-style-type: none"> 1.Landscape design should be simple and require low maintenance. <input checked="" type="checkbox"/> 2.At a minimum, all new houses must include a (usually rear) private garden. <input checked="" type="checkbox"/> 3.All external space, private or communal, should be designed to capture sunlight where possible. <input checked="" type="checkbox"/> 4.Buffering the unit house from the street and providing privacy by plants and design elements. <input checked="" type="checkbox"/> 5.Availability of child play areas and passive seating for seniors in the open space. <input checked="" type="checkbox"/> <p>The project had child play areas but it ignored the senior’s areas.</p>
2.2.2	Site circulation and walkways	<ul style="list-style-type: none"> 1.Amenity Space should be accessible from interior common spaces and have secure outdoor furniture. <input checked="" type="checkbox"/> 2.Adequate size to accommodate service vehicles. <input checked="" type="checkbox"/> 3.Pedestrian and car entrances to be clearly identifiable. <input checked="" type="checkbox"/> 4.Accessible roads and isolated areas for garbage collection trucks. <input checked="" type="checkbox"/>

		<p>5.Walkways suitable for disabled persons in slope and width, ramps and paths width according to local codes. <input checked="" type="checkbox"/></p> <p>The project ignores the disabled person’s requirements.</p> <p>6.Availability of parking for every unit. <input checked="" type="checkbox"/></p> <p>One car parking for every two social housing units is provided.</p> <p>7.Consider concentrating any commercial activities along the main thoroughfares and allow for residential and more passive uses along side streets. ★</p> <p>The commercial activities are concentrating on the center of the layout of the social housing units</p>
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The third aspect examined the social issues and the results was as follows:

Table 4-22: Applying the Proposed Matrix – Social Issues – Social Cohesion Case (2)

3.1	Sub-aspects	Social Cohesion
	Indicators	Means of Verification and Evaluation
3.1.1	Avoiding stigmatization and social segregation in the design of social housing unite.	<p>1.The standard of social housing should reflect and take into consideration the specific national design conditions. <input checked="" type="checkbox"/></p> <p>2.Flexible floor plans which respect cultural diversity and different lifestyles. <input checked="" type="checkbox"/></p> <p>3.The activities that faster belonging to the housing complex and its physical space, as well as the design of the common and communication areas should be clear. <input checked="" type="checkbox"/></p> <p>★ The project is distinctive in terms of national design conditions and providing the opportunities to the families to make the design of the extensions of the floor plans in line with their culture and lifestyle (in a way similar to the local approach adopted in the units called incremental construction approach).</p>
3.1.2	Increasing a feeling of belonging to the same community	<p>1.The design of the common and communication areas should be clear. <input checked="" type="checkbox"/></p> <p>2.Availability of equipped areas and places for the creation of local employment opportunities for young people; the implementation of anti-social behavior programmers. <input checked="" type="checkbox"/></p> <p>★The project gave the users the feeling of belonging to the community by giving them the ability to add and edit the design and reflect their identity through the expanded section of the unit.</p>
3.1.3	Social mix	<p>1.Avoiding the “ghettoization” of social housing. <input checked="" type="checkbox"/></p> <p>The project has succeeded in avoiding the “ghettoization” of social housing through accommodating mixed families with different characteristics and avoiding the gathering of the same groups in one location.</p> <p>2.Taking into consideration the gender issue and people special needs (e.g. the disabled and the elderly). <input checked="" type="checkbox"/></p> <p>The project ignored the requirements of people with special needs.</p> <p>3.Avoiding homogeneous communities by ensuring a mix of age groups, type and size of households which reflected in the design. <input checked="" type="checkbox"/></p>

Table 4-23: Applying The Proposed Matrix – Social Issues – Cultural Adequacy Case(2)

3.2	Sub-aspects	Cultural Adequacy
	Indicators	Means of Verification and Evaluation
3.2.1	Choice	1.Availability of different size and type for the social house units☑ There wasn't the availability of different size and type for the social house units provided but in the intimal phase that is compensated with the potential for future growth and expansion (incremental approach).
3.2.2	Affordability	1.Household pays no more than 30 percent of their income to get access to housing. ☑ 2.The design of social housing is no less quality than local housing design standards. ☑
3.2.3	The sense of dignity and feeling of home	1.Facade design enhancing a building's character and identity both in the existing community and for its residents. ☑ 2.Ambient to events, socialization, and social facilities. ☑ 3.400 ter to the social facilities such as cultural center and sports center. ☑ 4.The house is located within two kilometers of the nearest hospital or health center. ☑ 5.400-meter distance or a five-minute walk is an accepted standard for walking to services and facilities (such as religious centers) in many countries. ☑

The last aspect examined in this case was sustainability and environmental issues, results clarified in the tables below:

Table 4-24: Applying The Proposed Matrix – Sustainability and Environmental Issues – Decreasing The Energy Consumption by Appropriate Building Techniques Case (2)

Sustainability and Environmental Issues		
	Indicators	Means of Verification and Evaluation
4.1.1	Depending on the renewable sources as a primary source for energy	1.Increasing the percentage of the solar system and other renewable sources production to the need at the social housing unit's level☑ All the housing units had at least two renewable sources for heating and electricity.
4.1.2	Decreasing the thermal transmittance capacity	1.Applying the "thermal zoning" approach in the rooms of social housing units☑ 2.Decreasing the compact buildings planning in social housing units☑ 3.Applying a system to select the materials according to the environmental load ★ The construction system was as follows timber frames, supported on concrete foundations, roofed in zinc, and clad internally in 10mm gypsum board and externally in 6mm fiber cement board. 3.The roofs and the walls designed according to the standards of local thermal transmittance as possible☑

4.1.3	Applying the energy efficiency requirements in materials and processes	1. Where possible, all habitable rooms should receive direct sunlight with a priority given to living, dining and kitchen space. <input checked="" type="checkbox"/> 2. Glazing to all habitable rooms should not be less than 20% of the internal floor area of that room. <input checked="" type="checkbox"/> 3. Using building materials that maximize the number of credits for sound insulation under the Sustainable Housing Act in the local codes <input checked="" type="checkbox"/> 4. Using warm and welcoming materials <input checked="" type="checkbox"/> 5. Increasing the use of natural lighting <input checked="" type="checkbox"/> 6. Using educational graphics to promote <input checked="" type="checkbox"/>
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Table 4-25: Applying The Proposed Matrix – Sustainability and Environmental Issues – The Infrastructure Services Case (2)

4.2	Sub-aspects	The infrastructure services
	Indicators	Means of Verification and Evaluation
4.2.1	Availability of sewage and sanitation system with minimum requirements at least	5- Availability of solid waste management <input checked="" type="checkbox"/> 6- Housing is connected to a sewerage network system <input checked="" type="checkbox"/> 7- Sewerage final destination: A proper distance to the water stream and reservoir <input checked="" type="checkbox"/> 8- Availability of refuse/garbage collection system <input checked="" type="checkbox"/>
4.2.2	Controlled water source	3- Applying a system for the water quality assessment according to the government standards <input checked="" type="checkbox"/> 4- Housing shall be connected with piped drinkable water <input checked="" type="checkbox"/>
4.2.3	Future-proof (the future using of the social housing projects in terms of expanding and changing)	1. Taking into account and facilitating the potential use of future technologies <input checked="" type="checkbox"/> 2. Ability to expand and adapt to future needs <input checked="" type="checkbox"/>

After applying the proposed matrix, I came up with the following findings and results. I think the project applied most indicators of the interactive social housing matrix with additions in some of them which update the matrix: yet, there were some indicators that were not taken into account in this project. In general, the project feeds the matrix with some recommendations and comments in terms of:

First, with the respect to the local context and culture regarding the family privacy through increasing the number of the bedrooms.

Second, the social housing should follow the buildings practices of the local environment and design concept should be in harmony with the local styles to be more acceptable,

Third, social housing units should take into consideration the different types of social

housing (apartment, terrace, blocks, separated units...). This requires updating some means of verifications of the matrix in an aligned way with the type the matrix is going to examine. Finally, the following SWOT analysis clarifies how the project responded to the proposed matrix and summaries the results.

Table 4-26: SWOT Analysis Case (2)

	POSITIVE	NEGATIVE
INTERNAL	<p><u>Strength:</u> Architectural issues :</p> <ol style="list-style-type: none"> 1.Backyard as aprivate space for each social housing unit. 2.Use of local building materials in the area. 3. The structural system used is a local structural system. 4. The idea of the project design (incrementally) is an idea used in most slums and middle-class buildings in Chile in an unorganized way. <p>Urban design:</p> <ol style="list-style-type: none"> 1. The project distinguishes the private spaces, public area (street), and collective space. Hence, it creates an urban context with a special character. 2. Collective space with not greater than 25 families, help to maintain social relationships which can be considered as an addition to the matrix. <p>Social Issues :</p> <p>The project design gives the users the feeling of the belonging to the community by giving the ability to add to and edit the design and reflect their identity through the expanding section of the housing unit</p>	<p><u>Weakness:</u> Architectural issues:</p> <ol style="list-style-type: none"> 1.The minimum of dimensions and the number of bedrooms were not appropriate to different family sizes. 2. The project has provided one type of housing without taking into consideration the difference between the characteristics of resident families (size - culture ...) that seems to be insufficient. Yet the proposed extension scenarios paves the ground for variations. 3. The final scenario plan which is at least 72m2 or 4 bedrooms (3x3m) might not be achieved due to the residential family budget. 4. The accessibility indicator was not sufficiently applied in the project. In terms of universal design principles some deficiencies are detected(absence of necessary precautions for seniors and disabled persons....).
EXTERNAL	<p><u>Opportunities:</u> Sustainability: The project has a distinctive infrastructure with good systems; sewage, water, sanitation and garbage collecting which were one of the important features of the project.</p>	<p><u>Threats:</u> Incremental social housing approach has benefits in the owned social housing type while there will be a challenge in terms of the cost and ownership of the extension part in the rental social housing type.</p>

5. INTERACTIVE SOCIAL HOUSING MATRIX IN SYRIAN CONTEXT AND THE CASE STUDY

After examining the proposed interactive social housing matrix, with the previous two cases and with all the aspects and contents, in general, it successfully dealt with all the topics of the previous projects and provided a SWOT analysis for them with some recommendations and comments to develop some content. Now I think it is ready for exposure to Syrian experts to apply in the context of social housing projects in northern Syria.

In this chapter I will focus on the context of northern Syria to update the proposed interactive social housing matrix accordingly, I will revise it with the Syrian experts through a focus group discussion in Gaziantep then I will explore the social housing project attempts in northern Syria through two cases in order to understand the context in the area deeply.

Due to time limitation, I will examine and evaluate one main aspect of the matrix that is social issues according to experts' recommendations in the field- Ataa social housing complex.

I will use the method of field study composed of quantitative and techniques namely a mixed method research, then I will share the findings of the research under certain themes related with main and sub-aspects of the social issues.

5.1 REVIEW OF INTERACTIVE SOCIAL HOUSING MATRIX ACCORDING TO SYRIAN EXPERTS

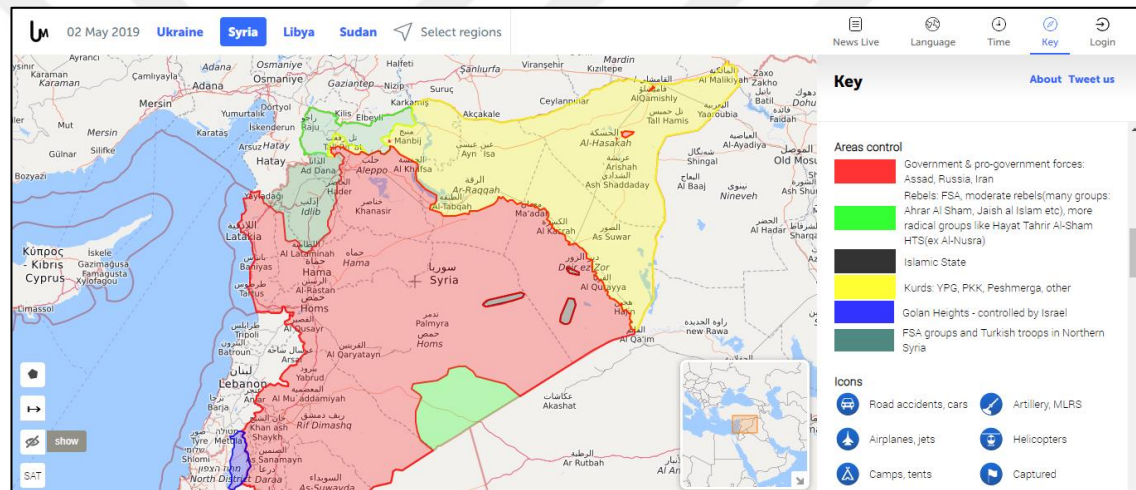
The situation in Syria since 2013, was based on the sharing of areas between several parties (like the Syrian regime, the opposition, Syrian democratic forces, etc...) which led to the deterioration in the work and services of the governmental institutions which was already suffering greatly before the war.

In terms of the institutions and authorities responsible and concerned about housing in the study area after the war in 2011, they can be divided into (study area is located in

northern Syria, extending from the Turkish borders in the north of Idlib province to the south as seen in figure 5.1 /green color area).

The first authority is Syrian Interim Government and its institutions which is the alternative government of the Syrian opposition, which has been formed by the opposition umbrella group, the National Coalition for Syrian Revolutionary and Opposition Forces founded on March 18, 2013, with headquarters based in Azaz, with 7 operational ministries (etilaf 2013). The role of this body is to coordinate and facilitate the work of the humanitarian, non-governmental organizations and UN agencies in the area and sometimes it has its own shelter and housing projects.

Figure 5.1: Study Area



Source: <https://syria.liveuamap.com/>

The second part is local Syrian non-governmental and humanitarian organizations, which established at the start of the war in Syria as a response to the immense humanitarian need, their work developed over time focusing on multi-sectors, especially emergency shelter. The intervention of these organizations in shelter and housing based on the Syrian experts; who were working in the housing governmental institutions or had previous experiences (Enab Baladi 2018).

The third part is international non-government and humanitarian organizations, which is more than 35 organizations from different countries that have worked in the study area since 2012, working under the Security Council decision NO. 2165 which allowed the entry of humanitarian aid across the Syrian borders without the need to request permission

from the Syrian government, which in turn means the continuity of access to the study field through official permission from the Turkish government for up to two months prior to entry.

While the fourth part is UN agencies that responds to crises and wars through sectors and stages, (figure 5.2) and there is a sector for shelter to support housing for all affected people. The response follows many stages with different actions starting with emergency and finishing with reconstruction. The humanitarian actions developing in the shelter sector through the response phases, for instance, providing tents, establishing camps and collective centers and rehabilitation of the damaged houses until the bigger actions of supporting reconstruction.

Figure 5.2: UN Response Sectors



Source: <https://www.unocha.org/>

The main challenge in applying the proposed matrix in the Syrian context is the absence of formal Syrian housing authorities in northern Syria in addition to the absence of a body representing the Syrian experts in housing. Hence I adopted a method to deal with the current situation which was conducting a meeting with representatives from the different bodies mentioned previously because the Syrian experts who are working or interested in the housing sector in the north of Syria were spread between them, in addition, the research achieved a good level of access to experts knowledge through this kind of meeting. A local organization called ATAA for humanitarian relief association that I worked for asked the OCHA (United Nations Office for the Coordination of

Humanitarian Affairs) office in Gaziantep to conduct a workshop for Syrian experts to discuss the proposed matrix .There were three main reasons to conduct the meeting in the OCHA office in Gaziantep:

a. Invitation through the UN Office would be more formal in addition to that the local and international organizations and bodies working in shelter and housing in northern Syria would be more interested in attending and participating as long as the meeting will be conducted in OCHA office.

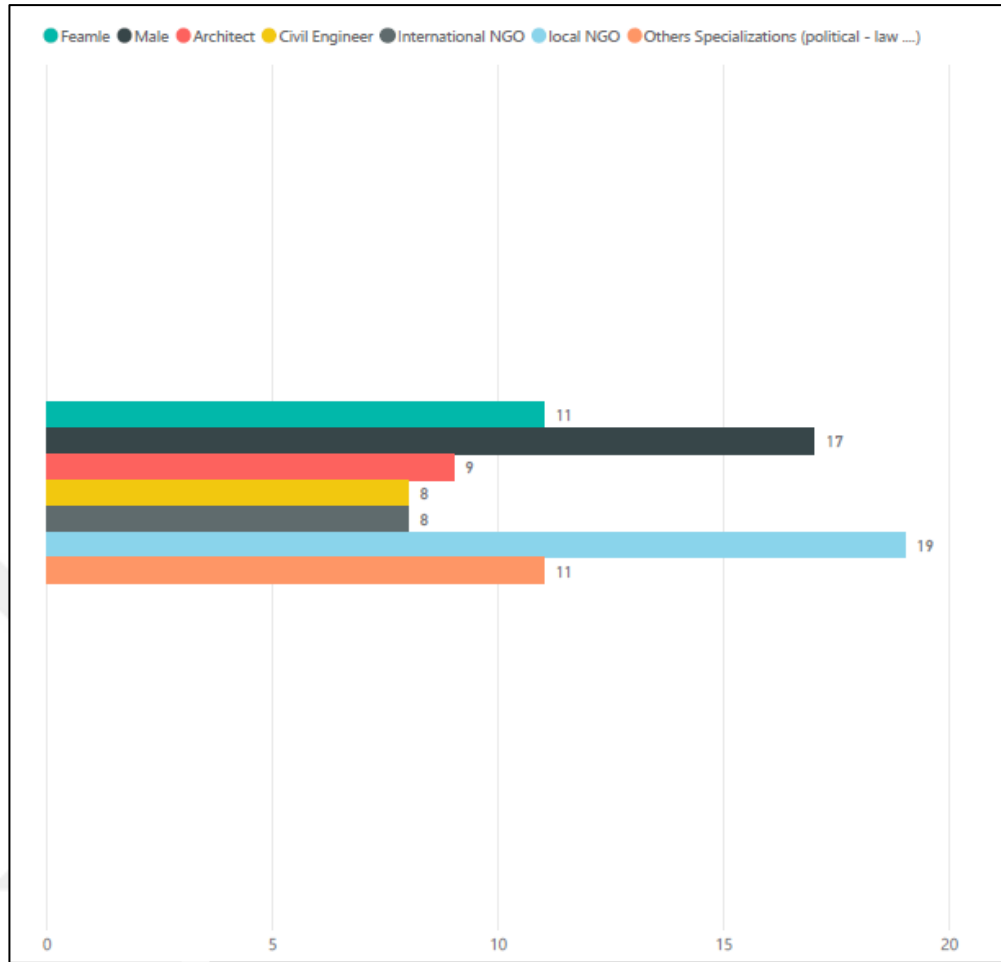
b. The United Nations Office would be a secure venue for the meeting of a large number of housing experts and representatives of international and local organizations and bodies.

c. Most of the Syrian experts, NGO's and INGO's are working for northern Syria from Gaziantep, so participation in the workshop would be easier.

Unfortunately, the workshop needed a long discussion with the UN officers taking almost ten days, in the end, they agreed to conduct the meeting in the UN building, but without a formal representative from their side, according to them the subject of the workshop is not under their AoR (Area of Responsibility) and the building shelter units is out of their area of responsibilities in the UN clusters. Finally, I got the permission to conduct the workshop under the supervision of SNL (Syrians Network League) and ATAA organization and it was conducted on the 29th of March /2019 from 13:30 to 17:30.

Regarding the participants in the meeting, the chart below clarifies their gender, type of non-governmental organization that they belong to and their professions and they were 28 experts from 27 international and local NGOs (figure 5.3).

Figure 5.3: Participants In The Meeting



I prepared the meeting agenda in advance, which was adopted by his advisor after a discussion about the length and content of it (figure 5.4).

Table 5. 1: Syrian Experts Meeting Agenda

#	Description	Duration	Speaker
1	Welcoming	10 min	
2	Introduction about the thesis topic (presentation).	20 min	Abdulaziz Al Mansour
3	Introduction about the social housing approach in architecture (presentation).	30 min	Assoc. Prof. Dr. Nilay Ünsal Gülmez (Bahçeşehir University-Istanbul)
4	Break	10 min	
5	NGO's cases presentations (north of Syria):	40 min	Organization's representatives

	Qatar Red Crescent social housing project case and ATAA social housing project case		
6	Break	10 min	
7	Discussion on the four aspects of the proposed social housing matrix through a focused group discussion	60 min	Abdulaziz Al Mansour as a facilitator
8	Break	10 min	
9	Continuing the FGD	50 min	Abdulaziz Al Mansour as a facilitator

The general orientations of the FGD were that most of the attendees agreed there is a need to develop and set guidelines to this kind of housing and to start building social housing as an alternative to tents and temporary shelter in northern Syria. Wael, who works as an administrator in the ATAA humanitarian relief organization explained this situation as such:

“After all, people for seven years, have been living in tents in the hope that this year will be the end of this disaster. If not maybe the next one, while all of the funders refuse the idea of building, are these solutions by ATAA and QRC for Syrian social housing good enough to be implemented in reality to replace refugee camps in case this dilemma continued for four to five more years Whether we like it or not, those refugee camps are still there”.

In addition, they agreed that there is a need to specify quality guidelines in terms of spaces, they totally agreed that the living spaces should have a minimum space limit to preserve the dignity and humanity of the inhabitants, in a way that an individual should live between 4 and 8 meters squared area as a minimum taking in consideration the Syrian context housing.

Yasser a civil engineer, and shelter department manager in Syria relief organization put emphasis on the necessity of proper size of the living units:

“I cannot make for them a house without a toilet, and that is basically a simple shader because this is not suitable for the context in Syria”.

They also gave great attention to the urban design issue in the Syrian context by asking to emphasize the content of the proposed matrix in terms of the urban planning issue specifically regarding the facilities, availability, spatial considerations, and requirements, housing block design consideration, as Ahmed who is a former architect in IHH explained:

"Sometimes, a model gets designed in such a way a collection of buildings are built in the middle of nowhere giving the look just like a tree at the center of the desert, This way a building does not conform to the on-ground planning available right now. Freed areas are essentially considered more of suburban areas than cities. Moreover, IHH has done a project called Almadinah Aljadidah which was a multi-floored building different from the building fabric of the area".

Regarding the social aspects of the current social housing projects in Syria, the participants agreed that the level of dealing with it was varied and sometimes was absent (figure 5.4). Hassan, who is an architect, confirmed that

"I am an architect; my main job is to build in response to the needs of the citizens regardless of who they are. We are trying to let people live with dignity without ignoring their social requirements which happened in the previous projects".

Figure 5.4: Meeting Photos (1)



There was a kind of compatibility in terms these projects are a response to the need of the people. These projects attempt implemented by the NGO's, which make their standards start from the field and the needs supplied with limited requirements as a solution to the immense demand for shelter which was caused by the Syrian crisis. These projects are designed in a bottom-up method of planning which emphasizes the concept of the guide in terms of feedback and instructiveness which is important in the Syrian context.

Jalal who is an architect and an administrative in Afaq academy supported this by claiming that:

"Since we have been in a state of war for seven to eight years, it can also take longer, up to twenty, thirty years. Anyone of us living here when they see, especially during winter, the

images of tents, will think of it as an unacceptable situation. Then, they would start asking questions of why this came to be and how to change it "

And Yasser again explained the need to enhance and develop the shelter projects and the response standards which all the NGOs working according to:

"At first, if these camps were built according to certain quality standards, specific plans, etc. This problem would not have occurred. This led us to face these issues at the moment needing us to find a solution to this problem that exists in current camps "Yasser.

Most of the attendees agreed with most of the indicators of the matrix focusing on the urban planning issues like availability of service facilities (school, market, kindergarten, religious place, etc.) and social facilities (cultural center, sports areas, children play area, playgrounds, gathering areas, etc.). Moustafa who is a civil engineer and a researcher at Gaziantep University focused on the necessity of that long term solution:

"I would like to talk about infrastructure. From reading the previous events in similar cases like what happened in Yarmouk camp for Palestine refugees in Syria or Ain al-Hilweh camp in Lebanon and looking into the future, in my opinion, we should study the design of infrastructure and facilities for this project for at least the upcoming 25 years similar to cities in order to prevent it from the failing after 5 or 10 years" Moustafa

Figure 5.5: Meeting Photos (2)



There was a suggestion from most of the participants to assign the political and law issues as separate aspects in the urban planning issue in terms of the property of the land and the future use of the housing. Property rights and the current situation in terms of absence of

housing authorities in most of northern Syria areas and depending just on local councils and some temporary authorities appeared as significant problems. Zharaa who is a researcher in-law issues related to conflict topics confirmed that opinion (figure 5.6).

"We can build social housing projects but we have to be careful about the political policies and laws" Zharaa.

Regarding this topic, more than one project was mentioned focusing on the property rights in conflict zones such as the NRC project (Norwegian Refugee Council) which called HLP (Housing Land and Property) in the Syrian Arab Republic in the time of conflict, and the following participants explained that; starting from Dima who is political researcher and works in Orient policy center.

"when providing a long-term living solution for those people and providing them with all their needs, then with time directly or indirectly, I will become an associate in the demographic change that is happening in the country" Dima.

There was a general concern from all the participants on the need to add legal requirements. When presenting experiences from similar countries in social housing projects, the situation was less complicated than the Syrian situation. Participants agreed that legal aspects regarding the location and choice of land for the project and the method of contracting with the beneficiaries. Shall also be considered housing matrix under the urban planning issues. Ayman again confirm that the Syrian situation is different and more complicated, and the research should take that in consideration in terms of the political issues:

"This question arises due to the importance of the issue at hand, but the other important point is for our legal colleagues to share with the architects how to solve the legal issues of real estate and land ownership. This is a big problem because if we analyze the current Syrian situation in comparison to other countries, such as Japan, Germany and others, we will find that Syria is an exceptional case. If we now begin any housing projects, despite the type of housing it is whether social or communal or any other type, the crisis is still in place and we do not have a legitimate party to go back to in regards to the legal aspects to make sure that the project follows the law according to the country's rules and guidelines, and these aspects I think under the urban planning issues" Ayman.

In addition, Ayman Darwish who is a civil engineer in Emaar Foundation explained how the situation is complicated and the research should take care of all the circumstances:

"You should concentrate on coming up with an architectural design in a defined plan that takes into consideration the Syrian's requirements of privacy, the current crisis, the educational needs, and our culture but at the same time I think you should put down some

assumptions such as legal and environmental aspects so that anyone reading this study will recognize that this study is considering all these complicated aspects” Ayman.

It was pointed out from the participants that this guide should reflect the current situation in northern Syria, and it should not be fixed with the ability to be developed and updated according to the changes in the general situation, socially, politically, economically, etc.

They confirmed indicators shall be interactive as the basis of a guide structure and these indicators could change according to the updates in the contextual circumstances in northern Syria.

Figure 5.6: Meeting Photos (3)



Ayman again confirmed that:

“The current time we are in now, where there is no political solution and there is no interim government, or even in the coming period where there is a legitimate government controlling all the Syrian land. As there are no abiding laws making sure the reconstruction period is completely taken into consideration or even the final period where there is a legitimate government and abiding laws that guarantee the real estate for the reconstruction and the third parties sponsoring this reconstruction; these three periods. Your proposed matrix should be able to cover any of them because each period will have a completely different nature, so if we are talking about the reconstruction of social housing. Then you are able to build houses and buildings without a problem; it all depends on what you are suiting your proposal on; you need to see on which period your project would work.”

Dr. Myasar Alhasan, who is a lecturer at the University of Azaz, and chairman of Nahdet Watan foundation explained the situation as such:

“I will raise an important point, I see that it is very important that you set these examples on the current situation, including the coming periods, in my opinion, the challenge here is to set down your proposal to be successful on a current situation. Because I see that there is a big difference when we compare our situation with a previous situation such as Britain’s case after the WWII, as there was a political agreement and there was money invested, these details need to be captured, in order to set these criteria on each of the situations in the different periods. I think the challenge is, in our current time, you need to set a timeline, as this will depend on giving you different design considerations” Myasar.

It has been agreed that the approved methodology is good and gives the opportunity of saving time and not making mistakes in the previous four topics discussed with some additions. It is possible to improve the matrix to be more comprehensive in terms of the development of urban planning topics. The possibility of expanding it by adding regional planning in terms of selecting the project sites and linking them to the development of existing cities.

Dr. Myasar put emphasis on positive conditions of the method of applying the matrix to the previous studies, he said:

“There has been a waste of money and many mistakes in these examples of social housing, in our case we need to learn from their mistakes and come out with a good summary from their learnings, so we do not make the same mistakes and we come out with a successful attempt, moving away from any negative aspects” Myasar.

During the session, there were some issues related to the subject of social housing during this period of war in Syria, which has been referred to and discussed by some of the attendees who have experience in such projects. Ahmed who is a former architect in IHH explained the issues of the differentiation of land prices and the various types of land ownership for social housing projects. He states that not all non-governmental organizations are able to obtain land under the current situation, which leads to a difference in the cost value, depending on the location of implementation. This leads to the lack of stability in the cost of projects, as well as choosing different sites to obtain the cheapest land without taking any standards into consideration and ignoring the achievement of any indicators in the field of urban planning in terms of accessibility and links to the surrounding areas and major services. Ahmed proposed such a solution for this problem:

“We don’t have to focus on the Atmaa area. We have the example of Jabal Barin and some other areas that are empty, we have to benefit as much as we can from public land to decrease the social housing unit cost. What we see now in current projects of different costs is due to the locations being chosen without any previous study of the land or cooperation with local authorities in northern Syrian order to benefit from the available public land” Ahmed.

Saied who is a civil engineer working at Watan foundation mentioned a topic that caused a debate between the attendees in terms of the sense of belonging through naming housing projects in the names of supporters of the opposition party in Syria or donors. There were two viewpoints: the first says that it is normal in such projects which are considered as competition between rich families in the Gulf area to provide such projects as an aid to the Syrians. In the reconstruction of Beirut, we find areas named after donors or key personnel after the end of the civil war, while the other viewpoint clarifies that such practices as loosening and weakening the identity and belonging in the residents (figure 5.7):

“The children will come in 10 years without a true identity and without a true home; we have built the temporary camp or area, then it will be included in the nearby village or city. I can say that I lived in Azaz or Atmah this past period, but I would not say that I lived in Al-Rukban camp or a camp that is named after an organization just to give more exposure to that organization. Let’s give geographical names to the areas in Syria so we don’t lose Syria, these projects are all centered in places far from the cities, they are causing us to lose our identities” Saied.

Mohand, who is a civil engineer in Qatar Red Crescent organization supported the second view since these projects are carried out by non-governmental organizations where aid is part of their scope of work.

“I would like to add something here, in 2015 we were given \$239,000 by a family in Qatar, and so other families started competing with them in the next months, in order to fund housing projects in their own names, and it became a contest between the wealthy families to build their own villages in Syria” Mohand.

One participant raised the social issue of accepting vulnerable people to move to social housing and leave camps. Ahmed who is a former architect in IHH further explained that the culture of reliability during the war and the request for assistance is a factor that reduces the acceptance of the transition to social housing in order to benefit from the assistance possible provided to the population during their stay in camps:

“Another issue that was seen during the floods in the camps, as people were scared to even leave the camps. A few suggested projects were to replace the tent with a built room in its place. The room is about 20 meters squared, from a total of 200 tents that we chose, only 120 of them accepted to move out. What is the reason?” Ahmed.

Figure 5.7: Meeting Photos (4)



Ayman Darwish who is a civil engineer in Emaar foundation suggested that the construction should take place in the places where the current camps are located and begin to gradually improve the transformation of the existing camps into social housing projects. He argues that these areas are more secure because of their proximity to the Turkish border, which is a partial shift at a lower cost because the residents there have already begun to modernize the services in that area and their land has been publicly owned or documented in the past years:

“The solution is using the camps we have currently, and changing the tents to temporary buildings, or temporary small camps, we should not go with a permanent solution as there is no architectural design for the whole of Syria, because you will be running the constructional design for the whole of the country” Ayman.

Saied pointed out that the topographic study of the project location should be included in the location determination in terms of urban planning. It is considered a necessary indicator in decreasing the cost of the social housing units by saving in the costs of water and sewage networks as well as the road network if the project location was selected carefully. He claimed that:

“I remembered one last point and this is a technical aspect, in the Google Earth image from Atmeh, there is now something else the CCCM and Shelter cluster are working on which is the topographic study, which can also be added to the research as an indicator when we want to select the project location”.

In general, there was the consensus for the need of a technical guide that sets the minimum quality limits in the four main aspects mentioned in the matrix and considered in this discussion, and it is the first step to implement such projects in easy and controlled way.

There should be a continuity to the discussions and development of the matrix and the presentation of the new and periodic meetings to view projects and developments in the form of a working group, Dima who is an architect in ATAA humanitarian relief association suggested to complete the efforts in supporting the discussions in terms of developing the guidelines:

*“We suggest as participants, that this workshop should become a start to other more specific workshops, i.e. a separate workshop for sustainability in regard to the social housing, another workshop to discuss the legal aspects and more importantly planning and design”
Dima.*

Figure 5.8: Meeting Photos (5)



In addition, the participants are spending a great effort with local organizations to convince the UN of the feasibility of implementing such projects currently. It was emphasized that these projects will improve the current response by the UN and refrain other similar projects to move away from the camps and this workshop and the result of the thesis will be supporting this effort.

The general answer, when asked about which aspect of interactive social housing matrix should the research examine in the field due to the limited time and permission required to enter Syria, the focus was on the social aspects of this type of housing as a new model is tested by the Syrians at this stage of the war. The participants were more knowledgeable and contributed to urban planning and architecture issues with reference to their

observations. Yet since this is a new attempt in Syria, they stated the significance and necessity of researches on social issues that most of the time was neglected.

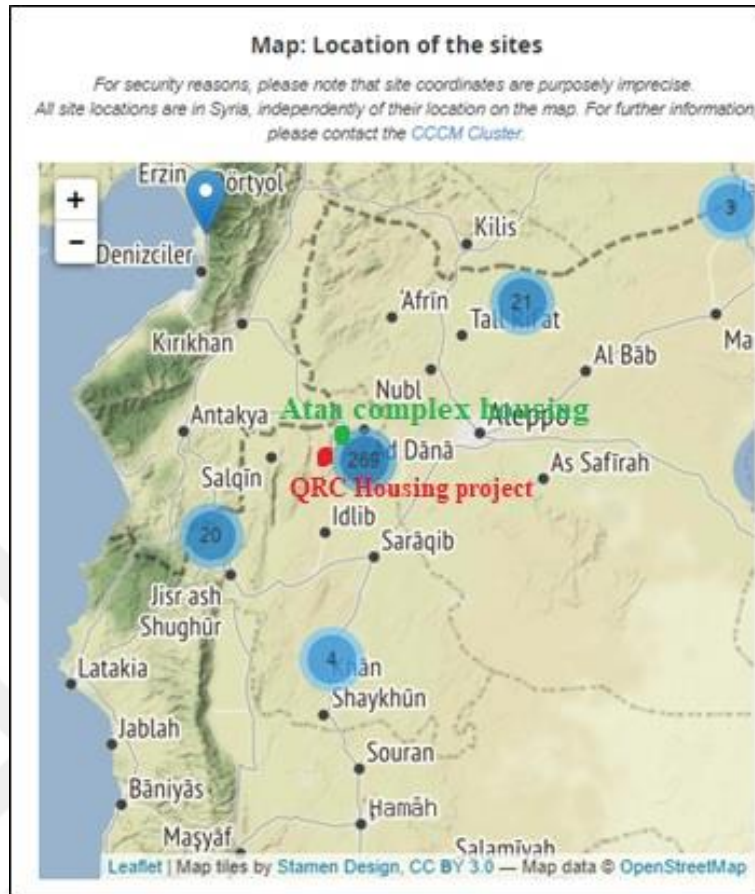
Wael confirmed in the meeting the will in the Syrian organizations to enhance the living conditions in the housing projects northern Syria:

“Mr. Omar (UN worker) said a little while ago that this is a good thing that we Syrians are looking for something useful for us, outside from the UN or other parties that are enforcing some aspects on us. So we need to come up with a plan on how we can collectively come up with the architectural design as mentioned in the discussion, and make use of the legal aspects and make sure that the person or people this is targeting will make use of this housing to live in a good environment” Wael.

5.2 SOCIAL HOUSING ATTEMPTS IN NORTHERN SYRIA

Before focusing on the selected case study project, I will first introduce social housing project attempts in Northern Syria and will explore the important projects. Depending on CCCM (2019) (The Global Camp Coordination and Camp Management Cluster supports field operations) map (see figure 5.9 and in appendix 1 for high resolution) for the settlements in northern Syria and according to the previous FGD (focused group discussion), the main two social housing projects implemented in northern Syria were by two non-governmental organizations; Ataa organization as a local, and Qatar red crescent as an international one.

Figure 5.9: Camps and Settlements Map - CCCM



Source: <https://unhcr-xborder-turkey.github.io/ISIMM/>

5.2.1 Qatar Red Crescent Social Housing Projects

“To assist and empower individuals and vulnerable communities without prejudice or discrimination, The Qatari Red Crescent (QRC) was established in March 1978 as the first voluntary charity organization in Qatar. In Asia and Africa to implement and follow up the relief and development programs launched for the benefit of the afflicted and the vulnerable in disaster and crisis areas, The missions and offices of the Qatar Red Crescent are separated and in Syria there were mission working from Gaziantep in Turkey and cross the borders to provide the aid in coordination with United Nations and Turkish government” (QRC 2019).

Between 2015 and 2017, five housing projects were implemented by the QRC and its partners in Syria close to the Turkish border. The projects built a total of 1,100 mud houses using a traditional and cost-effective construction technique, mainly with local materials, to support displaced people in a highly volatile context. The projects provided vocational training, job opportunities, and local market reinvigoration. They also

contributed to social cohesion in targeted communities and longer-term sustainable development, by supporting investments and enhancing local capacities and knowledge (Shelter department in QRC).

The objectives of this project were to provide cost-effective, environmentally friendly and sustainable decent shelter to populations affected by the ongoing conflict, while also providing vocational training and job opportunities to about 40% of the beneficiaries. This project was built on utilizing the existing knowledge and expertise of the beneficiaries which were Internally Displaced People (IDPs). Close coordination with neighboring local communities, i.e. host communities, was incorporated with the project’s implementation plan to ensure the promotion of a greater sense of community ownership, and engagement. This guaranteed their positive involvement in the project implementation and post- implementation maintenance as part of QRC exit strategy. It also contributed to various aspects of social cohesion by providing vocational training and income generation opportunities to both IDPs and host communities in the targeted locations while contributing towards a less-fragile social safety network. The project made sure to consider social norms, prioritize socially vulnerable groups, contributing to local market reinvigoration and adopted environmentally friendly approaches. The project was successful in its multi-faceted impact in an acute humanitarian crisis such as war-torn Syria through bridging emergency humanitarian response to early recovery and thus contributing to stabilization efforts.

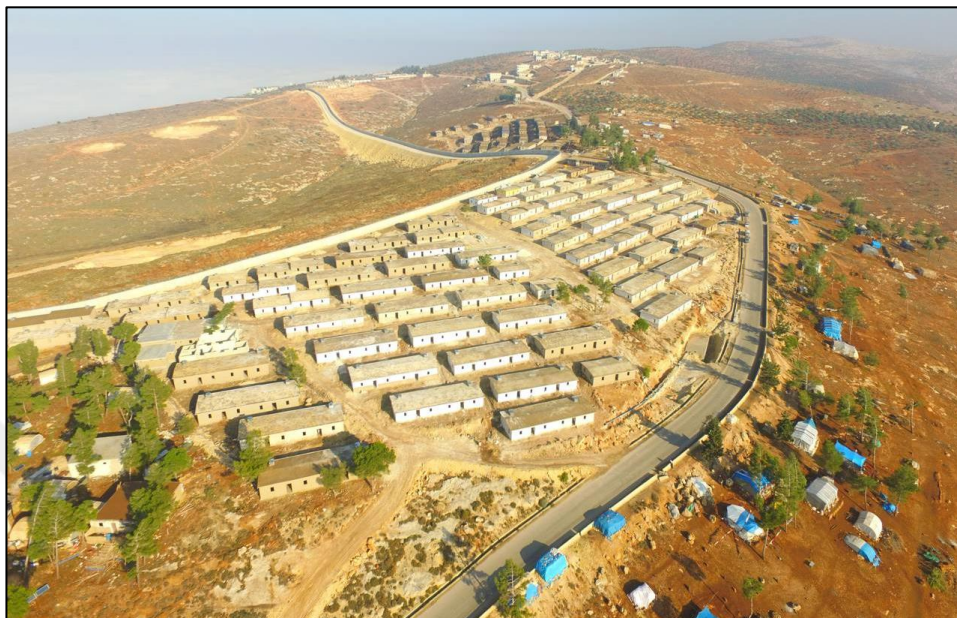
The below tables and figures give more details about the bog four QRC social housing projects:

Table 5. 2: Al Fardan Charity City- Mud Housing Project

Al Fardan Charity city- Mud Housing project	
Construction cost per unit (USD)	4871.43
Number of inhabitants per shelter	8
Number of rooms (not including kitchen & bathroom/toilet)	3
Occupancy status (shelter)	public property return to local council administration
Occupancy status (site)	public property
Ridge height (m)	0.3
Stories	1

Total interior area (m2)	60m2
Wall height (m)	2.3
Year of construction (first completed shelters)	2017

Figure 5.10: Al Fardan Charity City- Mud Housing Project



Source: <https://shelter-database.org/shelter/182>

Table 5.3: Decent Living Project -Mud housing in Afes

Decent Living Project -Mud housing in Afes	
Construction cost per unit (USD)	2600
Number of inhabitants per shelter	5
Number of rooms (not including kitchen & bathroom/toilet)	2
Occupancy status (shelter)	public property return to local council administration
Occupancy status (site)	public property
Ridge height (m)+ See drawing	0.3
Total interior area (m2)+ See drawing	36
Wall height (m)+ See drawing	2.3
Year of construction (first completed shelters)	2016

Figure 5.11: Decent Living Project -Mud Housing In Afes



Source: <https://shelter-database.org/shelter/183>

Table 5. 4: Bin Sariya Charity City - Mud Hosing Project

Bin Sariya Charity City - Mud Hosing Project	
Construction cost per unit (USD)	5248.75
Number of inhabitants per shelter	8
Number of rooms (not including kitchen & bathroom/toilet)	3
Occupancy status (shelter)	public property return to local council administration
Occupancy status (site)	public property
Ridge height (m)+ See drawing	0.3
Stories	1
Total interior area (m2)+ See drawing	60
Typology	
Wall height (m)+ See drawing	2.3 m
Year of construction (first completed shelters)	2017

Figure 5.12: Bin Sariya Charity City - Mud Hosing Project



Source: <https://shelter-database.org/shelter/180>

Table 5. 5: Abdul Jaleel Abdul Ghani Charity Village-Mud Housing Project

Abdul Jaleel Abdul Ghani Charity Village-Mud Housing project	
Construction cost per unit (USD)	3600
Number of inhabitants per shelter	8
Number of rooms (not including kitchen & bathroom/toilet)	3
Occupancy status (shelter)	public property return to local council administration
Occupancy status (site)	public property
Ridge height (m)+ See drawing	0.3
Stories	1
Total interior area (m2)+ See drawing	60
Wall height (m)+ See drawing	2.3
Year of construction (first completed shelters)	2017

Figure5.13: Abdul Jaleel Abdul Ghani Charity Village-Mud Housing Project



Source: <https://shelter-database.org/shelter/179>

The locations were targeted primarily due to their proximity to IDP camps as the project aimed to offer better accommodation options to IDPs living in tents. Locations were chosen in consultation with the local stakeholders such as local councils and municipalities to ensure that the land plots were publicly owned and were not subject to any legal dispute. The local council provided information and documents relating to property ownership. Housing, Land, and Property (HLP) rights of both shelter beneficiaries and land/property owners were considered to avoid any legal disputes in the future. The organization contracted local organizations to conduct surveys to identify IDP communities close to each project location and propose selection criteria for the housing beneficiaries, as well as to conduct a mapping of existing manpower and define selection criteria for the vocational training and income-generating opportunities (Mohannad 2019).

For the eligibility criteria; firstly, households had to fulfill three conditions: 1) being displaced; 2) being unable to reach their original home; and 3) consisting of six or more family members. Based on these, the project team obtained the names proposed by the local councils to begin the validation process. The second selection was based on two requirements: 1- The family does not possess any property that is habitable and accessible (land or home). 2- The family does not receive any shelter-related assistance (cash for rent or insured property from other NGOs).

Additional selection criteria were used only if the number of eligible beneficiaries according to the first and second thresholds was higher than the number of housing units available. These included:1- women-headed households 2- Child-headed households (under 18 years)3- Elderly-headed households (older than 60 years)4- Households headed by persons with special needs or with a permanent disability due to conflict (Mohannnd 2019).

The projects implemented in five locations in Harem and Idleb districts, Idleb governorate with total beneficiaries 1,100 households (7,219 individuals) 3,500 workers with access to job opportunities (40% from the above group).The housing units size were 60m² (525 units), 36m² (309 units), and 24m² (266 units), shelter density was 6.8m² per person in average and the cost was in average USD60 per square meter (Mohannnd 2019).

QRC made a comparison for each type of Shelter project and thermal insulation of mud construction, the result shows the efficiency of using local martial (mud) in terms of thermal insulation:

Table 5.6: Thermal Insulation of Mud Construction

#	Shelter type	Date	Time	Location	Temperature difference
1	tent	15/07/2017	12:10 PM	Harim/Idleb	1.7
2	caravan	15/07/2017	1:40 PM	Harim/Idleb	3.1
3	Cement blocks	15/07/2017	2:17 PM	Harim/Idleb	4.1
4	Mud housing-decent living 1	15/07/2017	12:56 PM	Harim/Idleb	9.1
	Mud housing- Al Fardan	15/07/2017	1:26 PM	Harim/Idleb	8.3

Source: QRC shelter report 2018

Then QRC conducted training lectures in Turkey for Syrians how to deal with mud and took in consideration the community engagement topic (figure 5.13 and 5.14), In the planning phase, displaced households were consulted on the size and internal divisions of the houses, the house plan was modified as per their requests and taking into consideration cultural customs, such as having two rooms to separate women and men or give privacy for elder household members (Mohannnd 2019).

Figure 5.14: Mud Construction Training By QRC



Source: QRC shelter coordinator Mohannd

A small front garden was also added to allow for social interactions between neighbors that the local authorities and host community dignitaries were consulted on the pros and cons of the projects for their communities. Some of the beneficiaries also participated as construction workers. Since mud-housing construction was in use in the host communities in the past, elders followed the construction process and shared their knowledge. This helped the implementation team to overcome challenges such as finding alternative sources for local materials when the Turkish-Syrian border was closed. A feedback mechanism was set up and complaints sent to the field offices and communicated via phone to the relevant departments in the main office in Turkey.

Figure 5.15: Lectures of Mud Construction



Source: QRC shelter coordinator Mohand

Traditionally, mud housing techniques were used in rural areas as a communal activity, where all family members would participate. However, during the crisis, the view of women's role in public life had taken a conservative turn (figure 5.16) (e.g. armed groups preventing women to work). It was also very difficult to find skilled women in targeted communities. Nonetheless, a few women did assist their husbands in building their homes out of necessity and, though it was frowned upon at first, this was eventually accepted (Mohand 2019).

Figure 5.16: Woman Working In Mud House



Source: QRC shelter coordinator Mohand

While the exit strategy that QRC planned to transfer and turn over the project was as follows, to ensure a smooth exit, a local council was established by the beneficiaries for each location, with all related records of built houses and infrastructure designs, list of occupants and a manual for the annual maintenance. Members of these local councils received training on the basic principles of technical project management and governance; financial management of the project, including the collection of symbolic fees for the continuation of municipal services and the continuous maintenance of the facilities; training on managing beneficiary contracts and criteria to identify new beneficiaries if any of the current beneficiaries left. They were also trained on beneficiary feedback through establishing a complaints mechanism (Mohand 2019). In general, there were successful projects depending on the building culture of northern Syria respecting the privacy of the Syrian community.

5.2.2 Ataa Humanitarian Relief Association Social Housing Projects

“ATAA is a non-profit charitable association interested in humanitarian work inside Syria and where the Syrian refugees live. It seeks to develop the Syrian society and to strengthen its standards of living conditions, was licensed and registered in Turkey as a national organization in 2013 since opening its first office in Reyhanlı in Hatay Province. Ataa is Providing temporary or transitional accommodation for the affected families, rehabilitating their houses, and sheltering the IDPs in organized temporary collective centers that guaranty the safety and protection from the changeable weather conditions”.(Ataa profile, 2018)

Ataa began its humanitarian response to the Syrians in the north of Idlib province in 2013 with the construction of temporary camps in the area of Atmaa, which currently includes 288 IDP camps out of 336 camps in northern Syria which counts for 85% of these camps. In 2014, Ataa shifted from camps to the construction of some housing for the most vulnerable families as a simple dwelling in small areas of 18m² to be an alternative to the tents and it was free with the provision of facilities and basic needs. In late 2015, Ataa began a tender to build social housing projects under its management as a reaction to the long periods of emergency response in Syria and because of the inability of setting up camps requiring large-scale refurbishment and maintenance each year as well as the accompanying problems of tents (Khaled Al Issa 2019).

Thus, a social housing approach was launched to help vulnerable IDPs find stable shelter and security. According to Dimaa shelter coordinator and architect in Ataa in answering how Proposals for Intervention Developed in ATAA/ Atmaa Area, she mentioned to the developing projects until started with first social housing project and explained that Ataa started with establishing and managing 12 camps for IDPs, following the SPHERE standards (Sphere is a global movement started in 1997 aiming to improve the quality of humanitarian assistance) in the establishment of camps to be a model of organized camps (dimensions and planning - facilities - infrastructure camp) supporting the residents to manage their camps by administrative training .

Figure 5.17: Ataa Camps



Source: Ataa profile 2018

There was also a transitional housing units project with 100 housing units have been implemented with an area of 18m² to 25m² between 2013-2014. It is designed according to one criterion due to similarity or to some extent the matching of needs amongst the population as they are of the same vulnerable groups in society which has many similarities in its characteristics. There was a problem with forming of a society composed of a single vulnerable group can be called a closed society based on weak social relations and persistent problems of lack of awareness. The problem of the so-called ghetto society is the inability to integrate into the surrounding communities, left great social problems in terms of harmony within the community (Dimaa 2019).

According to the shelter department in Ataa (2019) the first social housing project (figure 5.18) which selected to examine by the interactive social housing matrix as case study to

measure and evaluate the social issues in the next section, was completed in 2015 with 520 social housing units and the apartments are distributed over 65 residential blocks, in Atmaa area.

Figure 5.18: Ataa First Social Housing Project



The second social housing project (figure 5.19) by Ataa was implemented in 2017, The number of residential apartments in the complex are 748, and apartments are distributed over 44 residential blocks, consists of two rooms, a kitchen, bathroom and toilet area of 38m². The construction of residential blocks is on concrete foundations, topped by a bridge of reinforced concrete. The walls are of concrete blocks and the roofs are reinforced insulated concrete, the floors are made from local tiles; walls are clad with concrete cement from the inside and outside, each housing unit has the main metal door and a metal protection for the windows from the outside, with an internal wooden lock for the room. The services and facilities were as follows: mosque, administration office, school, clinic, police station, boarding school, parks, internal market, and external market, and it is near to the first project in Atmaa area.

Figure 5.19: Ataa Second Social Housing Project



Regarding the current and future social housing projects of Ataa, according to Dimma (2019), the third-social housing project (figure 5.20) benefited from previous experiences of the engineering and social team specialists in Ataa and it is in the first phase of implementation. The project is consisting of 1385 housing units with an area ranging from 38 to 50 m², and it is also in Atmaa area.

Figure 5.20: Third-Social Housing Project



Source: Ataa shelter department 2018

While the last project will be in the area under the Turkish government protection in Jarabulus (figure 5.21), the project is approximately 33,500 square meters and is divided into two phases, the social housing units' area range between 38m² to 60 m².

Main services have been designed to serve this residential community, with a built-up area of 2077 m² distributed over the service buildings; The mosque with an area of 470 m², school 615 m², clinic 248 m², 17 commercial shops 562 m² and administration office 180m².

Figure 5.21: Fourth-Social Housing Project



Source: Ataa shelter department 2018

According to the shelter and protection department in Ataa, the housing criteria were; commitment to affected areas and being displaced person subjected to forced exclusion from safe areas who have been left with no near solution for their return.

They tried to create a heterogeneous with following community segments ratios; poor families and fall under the poverty line with 50%, families of the holders of academic degrees with 20%, families of martyrs and widows with 20%, families with disabilities and war injuries with 5% and finally families of good income earners with 5% (Ataa Shelter Department 2019).

The contracting mechanism and announcement of available housing vacancies published through all Ataa offices inside northern Syria and in cooperation with local councils in those areas, Ataa shelter department confirmed that Ataa believes these social housing units are Providing: decent housing for vulnerable group, Securing job opportunities during the construction process and for residents through commercial facilities and services; basic services for the vulnerable groups, such as education, health, training and rehabilitation; the opportunity for residents to participate in the management of their residential complex through training and involvement; integrated infrastructure from parking to stadiums and parks, striving to create a balanced social fabric free of discrimination and taking into consideration gender issues through safety and security procedures (Ataa shelter department 2019).

5.3 CASE STUDY: EXAMINING SOCIAL ISSUES AT FIRST ATAA HOUSING COMPLEX PROJECT IN ATMAA

In this sub-chapter ATAA’s first social housing project is selected to be examined by the proposed interactive social housing matrix, focusing on the social issues according to the FGD recommendations and the time limitation in terms of examining all the aspects of the matrix.

I selected the project for few reasons; first, it is the biggest and oldest social housing projects in northern Syria and I was able to get high cooperation from Ataa association since I worked with them in previous projects in northern Syria.

As mentioned before, the date of implementation of this project was in 2015, and the number of residential housing units in the complex is 520 distributed over 65 residential blocks in 4 main sectors. Each sector has a walled garden with trees, ground plants, and children's playgrounds, each social housing unit consists of two rooms and internal bathroom of an area of 35m², equipped with water, electricity and sewage services, with complete furnishing. kitchen and utilities, and the roofs of the units were isolated with concrete insulation to prevent water leakage, while the project services and facilities are: mosque, administration office, school, clinic, police station, boarding school, parks, internal market, the external market, and infrastructure.

The following table presents the results of the demographic analysis families living in the complex, for the following table I used the quantitative data from two sources (Ataa database and CCCM database see appendix 6):

In terms of the Ataa complex housing families types, the result was 715.

Table 5. 6: Demographic Analysis of Families at Ataa Social Housing Project

Demographic analyzing families	
Total families	715
Family Type	
Extended Family in ATAA Complex Housing	52
Two families in the same Unit in ATAA Complex Housing	135
Nuclear Family in The Project in ATAA Complex Housing	333
Single-Family	33
Head of the family	

The family headed by a Woman	201
A family headed by a Man	515
Average Age of Women Headed Family	42
Average Age of Man Headed Family	48.6
The education level of Families	
Studied at the university and did not complete	23
illiterate	82
Institute Graduate	37
Master graduate	1
primary education	220
Secondary Education	250
studied at the institute and did not complete	3
university graduate	92
University student	7
Health Status of families	
Good health conditions	632
normal	28
normal	9
War injury	14
With disability	30
Current Job of families	
Agriculture	4
Health Caring	13
Media	2
None	354
Servicing	151
Small Project	7
Teaching	43
Technician	52
Trade	22
living Status of Families	
bad	187
good	109
medium	338
very bad	31

This demographical households analysis for the residents who are living in the first Ataa housing complex is important in terms of selecting the samples and understanding about the background of the families because the interactive social housing matrix will be

applied to social aspects. The evaluation of the social issues will employ mixed methods, consisting of quantitative, qualitative methods for collecting the data.

Quantitative data is gathered through a structured questionnaire targeting Ataa social housing project residents, while qualitative data collected through in-depth interviews with 20 residents representing different segments of first Ataa housing complex residents additionally observation methods are also employed during the field visits.

5.3.1 Key Questionnaire Findings

Quantitative data was gathered through a pre-developed semi-structured questionnaire. It is designed to examine and evaluate the social issue's aspect of the proposed social housing matrix and it consisted of 31 questions separated on three categories (family demographic, social cohesion as a sub-aspect of social issues and culture adequacy as a sub-aspect of social issues) (see appendix 7).

The questionnaire had a 90% confidence level and a precision level of plus or minus 5%, the following online sample size calculator was used to calculate the sample size:

Figure 5.22: Online Sample Size Calculator

Who We Are | What We Do Well | Our Clients |

Find out what's better...

Better Tools | Better Surveys | Better Analytics

Sample Size Calculator

Sample Size Calculator

- The Slider Scale
- The Rank Sort
- The Stack Sort
- The Rating Scale
- The Image Rank Sort
- The Heat Map
- Hot Text
- The Virtual Shelf

Determine Sample Size

Confidence Level: 90% ?

Confidence Interval: 10 (%) ?

Population: 2500 ?

Calculate Clear

Sample Size: 66 ?

Find Confidence Interval

Confidence Level: 90% ?

Sample Size: 66

Population: 2500

Percentage: 50 (%) ?

Calculate Clear

Confidence Interval: 10 (%)

Source: <http://www.raosoft.com/samplesize.html>.

According to ATAA info, which was analyzed previously, the targeted project has a total population of 2,500, so the sample size of 66 was chosen and probability proportionate size sampling was used to determine the appropriate sample size for the targeted location.

The duration of the questionnaire was approximately 25 minutes and the project was divided into 8 sectors where the survey was conducted in all sectors. The figure 5.23 shows the distribution of the questionnaire through whole the project area (see appendix 1 for high resolution).

Figure 5.23: First Ataa Complex Housing Project Site Plan



Source: Ataa shelter department

Regarding the data processing, Kobo toolbox was used for improved quality and efficiency in data collection and the prime analysis. These data were coded in Microsoft Excel used to generate graphs and tables that are presented in the thesis and the pivot table was also used. The duration of conducting the questioners was four days.

5.3.1.1 HOUSEHOLD DEMOGRAPHICS

The sample population was gendering biased, the majority of respondents who participated in the assessment were males (90.91%). Household headship was predictably dominated by males while females constituted a small portion (9.09%). Average respondent age was 39 years while the household size was about five persons per household. Population age structure showed a very young youthful population and high dependency ratio as seen in the following table.

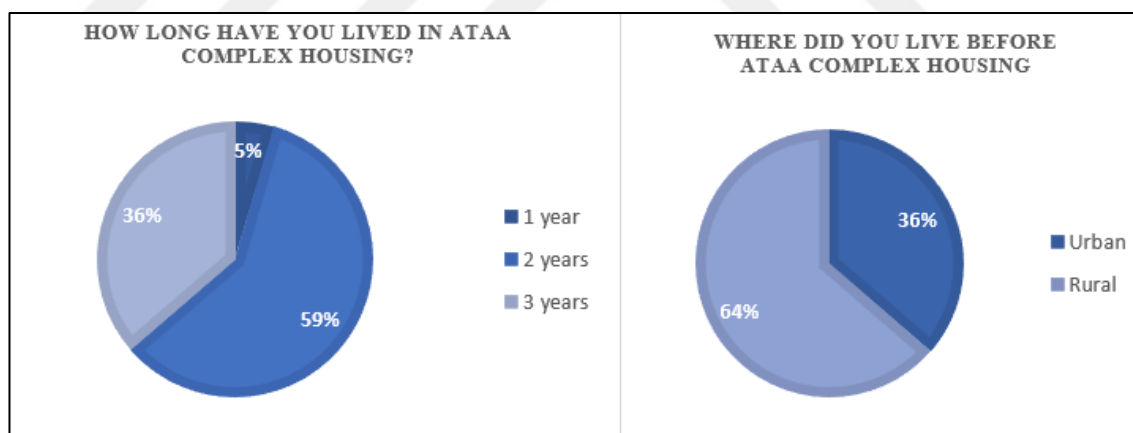
Table 5. 7: Sample Population Demographics

Demographic variable	Percent
Respondent sex	
Male	90.91
Female	7.09
Mean respondent age	39 years
Mean household size	5

Family Type	
Nuclear Family	81.82
Single-parent Family	7.85
Extended Family	10.61
Marital status of the household head	
Single	92.42
Married	1.52
Separated	6.06
Population age distribution	
Under 2 years	8
24-59months	13
5-18 years	30
19-59 years	38
60years plus	5

The households came from different background the majority of the sampling were from rural area (64%). Yet majority (59%) have been living in Ataa complex housing for 2 years followed by 3 years (36%) and 1 year (5%) which clear by figure 5.24:

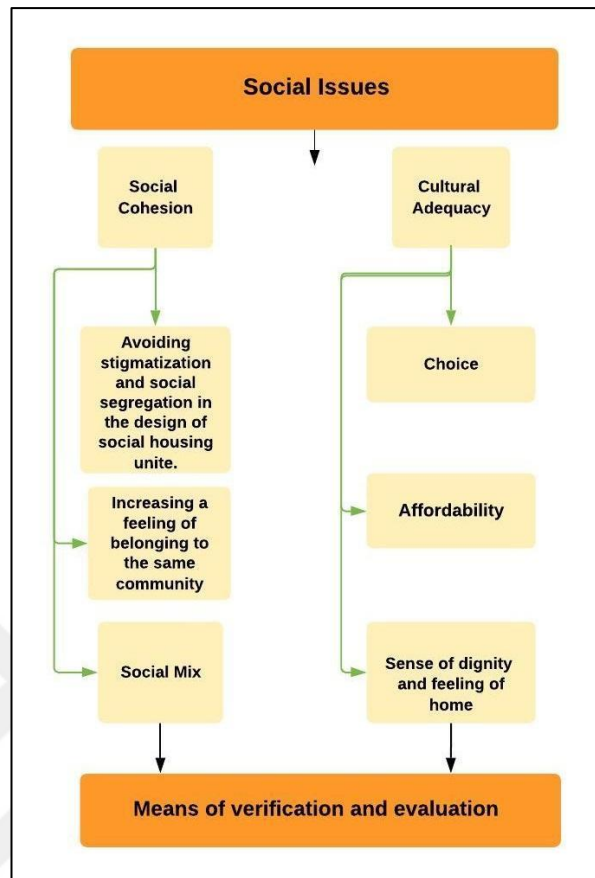
Figure 5.24: Households Background And Duration Of Living In The Project



5.3.1.2 Social Cohesion

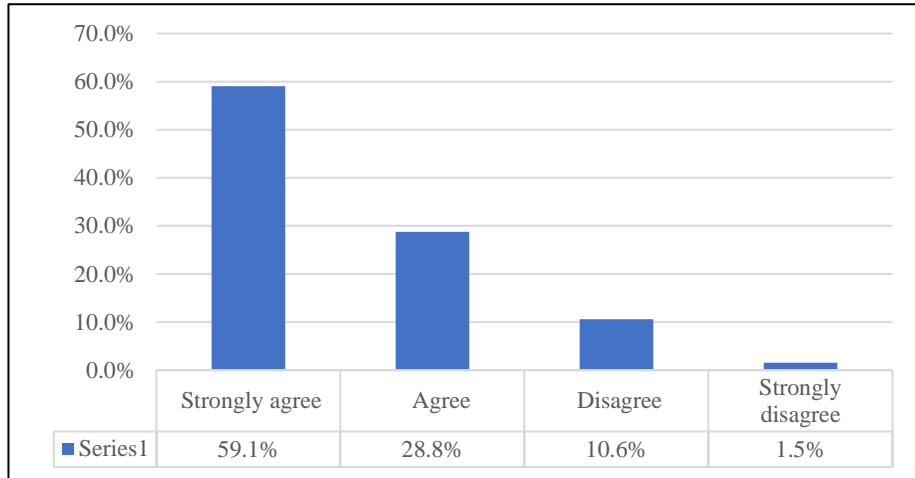
To measure and evaluate how the project dealt with social cohesion aspect, the questionnaire was semi-structured with few open-ended questions regarding the respondent's feedback and the results can be seen in the following (figure 5.25):

Figure 5.25: Social issues



First indicator was about avoiding stigmatization and social segregation in the design of social housing unit which is evaluated by three questions: The first question was if the standard of building in social housing unit they are living in is aligned with they lived before (not different from the houses units standards in the quality of materials, equipment, outside facilities). The answers were as (figure 5.26) shows.

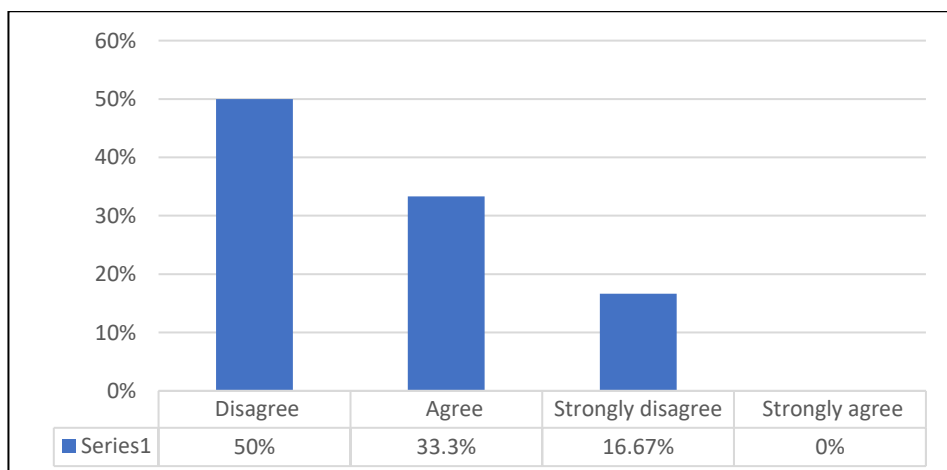
Figure 5.26: Social Issues- Social Cohesion- Indictor 1- Question 1



The results reveal that the majority (59.1%) strongly agree with that so it is possible to claim that the project was successful in terms of the standard of building in social housing unit they are living in is aligned with they lived before.

The second question was if the standard of building in social housing unit they living in is aligned with the houses in the surrounding area (not different from the houses units standards in the quality of materials, equipment, outside facilities).The answers were as (figure 5.27) shows.

Figure 5.27: Social Issues- Social Cohesion - Indictor 1- Question 2



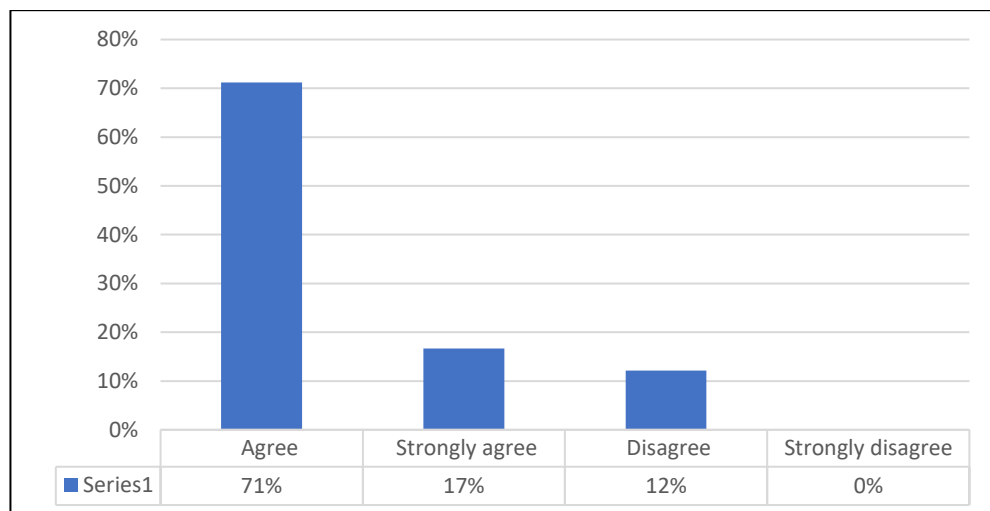
The results were quite different (66.67%) disagree hence we can say that the project partially failed in the social housing unit they living in is aligned with the houses in the surrounding area.

The third question was if the resident thinks that housing unit, he/she is living in has a flexible floor plan which respects his/her culture and your lifestyle? The respondents answered no with 71% while 29% answered yes.

When the asked why no, their answers were focusing on some points such as : lack of privacy and the housing unit design is not compatible with the customs and traditions of the community in terms of bathroom combination with the toilet, the main door directly overlooking the street and finally the lack of rooms or place separate the male from the female. Other added to that the housing units are so close, the kitchen is too small to hold e basic tools like gas, washer, and refrigerator, there is no garden for the unit house and lack of private space in front of the housing units.

While the second indictor was about increasing the feeling of belonging to the same community which is evaluated by two questions: The first one was if the design of the common and communication areas are clear in Ataa complex housing? The answers were as (figure 5.28) shows.

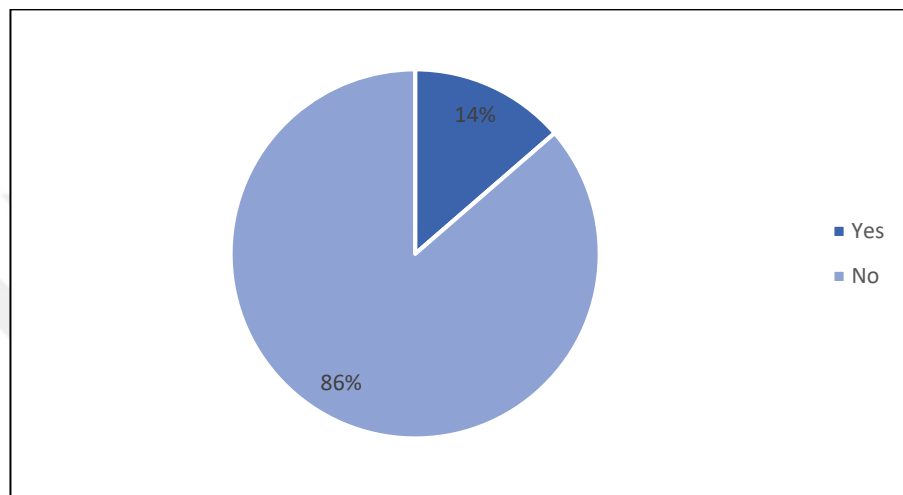
Figure 5.28: Social Issues- Social Cohesion -Indictor 2- Question 1



The majority of the respondents (81%) agreed on the clear design of the common and communication areas are clear while (12%) disagreed.

The second question was does Ataa complex housing has equipped areas and places for the creation of local employment opportunities for young people? The answers were as figure 5.29 shows.

Figure 5.29: Social Issues- Social Cohesion - Indictor 2- Question 2

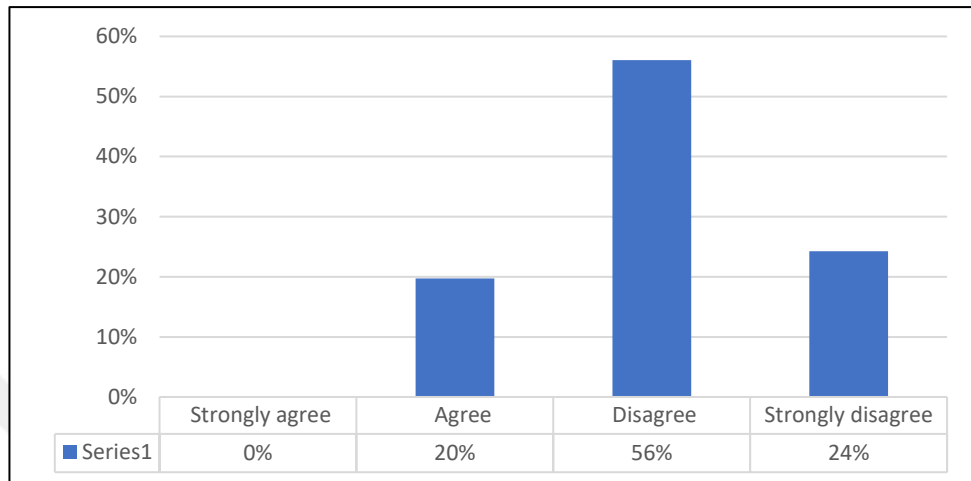


There were (86%) of respondents answered “No” to this question which indicates the neglect in creation of local employment opportunities. The responders explain why they answered yes (14%), by mentioning that there are shops in the projects but there are no jobs for young people and there is a lack of livelihood.

The last indicator was about a social mix which evaluated by three questions; the first question was” do you feel that you live in “ghetto” an isolated urban area from your surrounding?” 18% from the respondents answered yes, explained that for many reasons like the new reality after the war which has forced people to be cautious, especially in such a residential community where residents from most areas of Syria live. They mentioned to the fence that surrounding the residential complex and the security point at the entrance that they aren't familiar with it in their former homes. Some of them explain that the housing units are numbered and similar in terms of design and finally they claimed that there was a kind of non-integration feeling with the culture of the Atma area, especially who came from urban areas.

The second question was do you agree that housing units and the facilities in the Ataa complex housing consider the gender issue and people with special needs (e.g. the disabled and the elderly)? The answers were as (figure 5.27) shows.

Figure 5.30: Social Issues- Social Cohesion - Indicator 3- Question 2



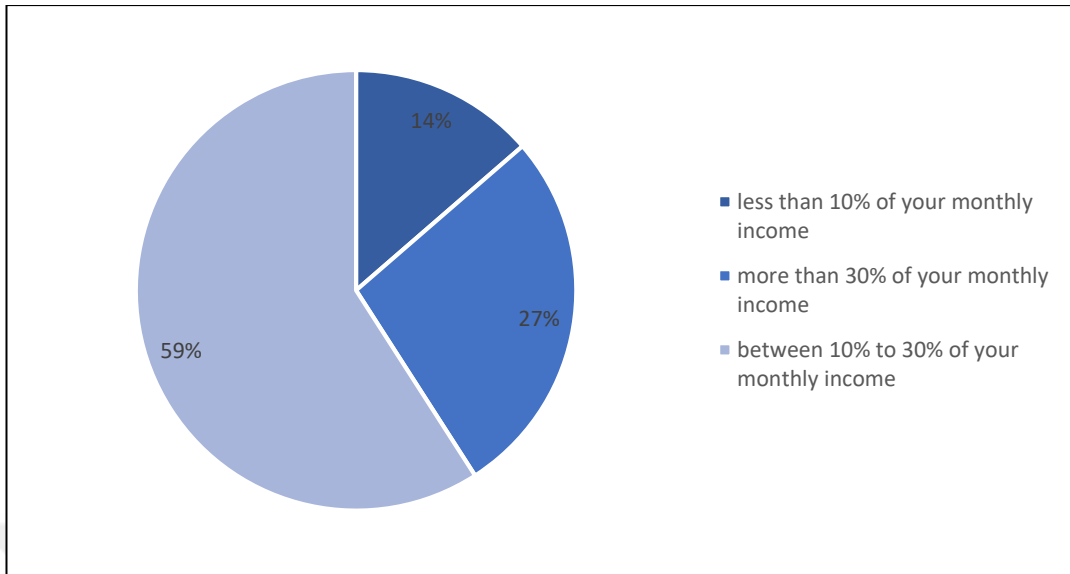
The majority (80%) disagreed on consider the gender issue and people with special needs which reveals another weak aspect of the project. And regarding the question about ensuring a mix of age groups, type and size of households Ataa housing complex all the respondents answered yes. So the project seems to achieve heterogeneous community.

5.3.1.3 Cultural Adequacy

Culture adequacy is the second aspect examined in terms of the three indicators. The first one is the choice it was clearly in the design that the housing complex doesn't have different size and type of housing units and all the respondents confirmed that.

The second indicator was the affordability which is evaluated by two questions: the first question was about how much the respondents monthly pay for accommodation in Ataa housing complex units? The answers were as (figure 5.31) shows.

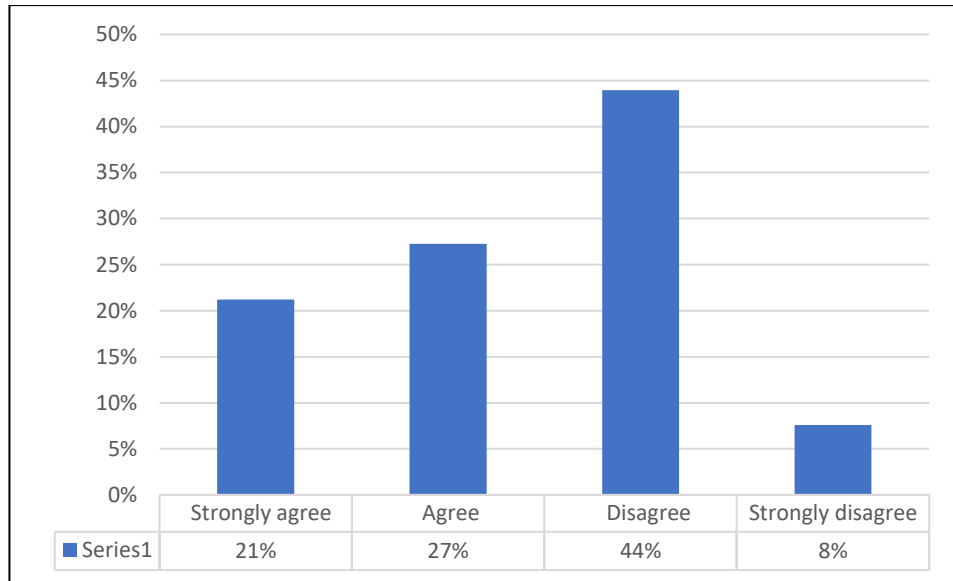
Figure 5.31: Social Issues- Culture Adequacy - Indictor 2- Question 1



Apparently, most of the respondents (59%) pay between 10% - 30% of their income, followed by 27% paying more than 30% of their income, in total who pay less than 30% compose 73% of total respondents which an important in terms of the affordability of social housing.

The second question was about if the design of Ataa complex housing is no less quality than the local housing design standards (services buildings, housing units, urban planning, gardens.....). The answers were as figure 5.32 shows.

Figure 5.32: Social Issues- Culture Adequacy - Indicator 2- Question 2



The results show that half of the respondents are satisfied and the other is n't satisfied with the quality of the housing units.

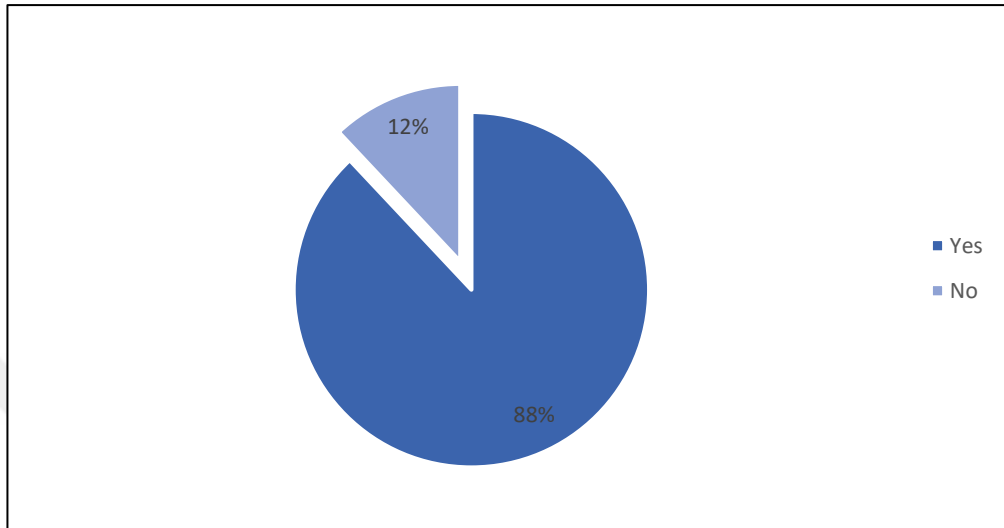
The third indicator was about Sense of dignity and feeling of home with five questions to evaluate; the first question was if the residents feel that her/his housing unit facade design has a character and reflect a certain identity (it is not just a shelter or block)?

The respondents answered no with 67 %, due to many design considerations like; the privacy isn't taken into consideration, for instance, the doors and windows are facing the street directly. They mentioned the entrance design which is very poor and didn't protect them from the climate effects or provide privacy for the residents. Some explain that there is no preliminary space for the residential unit, which led to the fact that most of the residents built an extension to provide privacy and increasing the unit space. While others said there is no drying clothes and tools space, so the residents used the faced for these purposes.

The second question was if her/his housing unit is ambient to events, socialization, and social facilities? The respondent answered with 73% yes while 27% said no.

The third question was if her/his housing unit is located with more than 400 meters(five minutes walking) to the social facilities (cultural center, sports areas children play area, playground, gathering areas.....? The answers as (figure 5.33) show.

Figure 5.33: Social Issues- Culture Adequacy - Indictor 3- Question 3



(88%) of the respondents agreed with that so the project seems successful in terms of closeness of social facilities. And who answered no, mentioned that the minimum distance was 100m while the maximum is 2 k.m.

The fourth question was if her/his housing unit is located within two kilometers of the nearest hospital or health center? 82% answered with yes, and who answered no, mentioned that distance less than that and it was between 200m and 500m.

The fifth question was if her/his housing unit is more than 400-meters distance or a five-minute to services facilities (school, market, kindergarten, religious place)? 82% answered with yes, and who answered no, mentioned that distance less than that and it was less than 200m. In 3rd, 4th and 5th questions, it measured the closeness to the social and service facilities as important indicators that prevent the feeling of isolation and increase the feeling of belonging to the environment.

5.3.2 Findings Of Interviews

There were limitations of collecting qualitative data by the interviews like; time, permissions from the local authorities and availability of the organization field team that operates the housing complex and supporting the interviews process (ATAA relief association).

These limitations led me to limit the numbers of the interviews to 20. The aim while making the sampling was to cover all the residents with different characteristics and community level. Hence the sampling included two families headed by women, three with different living statuses, two with different family size, four with the different family origin, four with different education level, three according to the type of job and two with different health statutes. Related to gender issues there were four women from twenty interviewees due to the conservative environment dominating the complex housing project I had to make the interviews with women through a female assistant while some of the men didn't give their real names which can be traced back to fear and the poor security situation even after 9 years of war.

The interviews tried to understand the social issues in the housing complex. The two aspects of the social issues were examined in this interview see (appendix 8) through ten opened questions. Even with this structure of the questions which provided the possibility for a long conversation with the interviewees, the answers weren't extensive due to many reasons like the special focus indicators, giving clear and close answers, the variation of interviewees according to the group responding socially and educationally ... etc.

5.3.2.1 Social Cohesion

In terms of avoiding stigmatization and social segregation in the design of social housing unit as a first indicator to measure the social cohesion by the interviews in the project, there was a general orientation from all the interviewees that some design issues wasn't appropriate with theirs, especially in terms of purity (Tahara) in their traditional like setting; the toilet and bathroom were very close to each other. Moreover, They felt less feeling of privacy in the housing unit as claimed by Abdul Jabbar:

"Housing units do not respect our privacy and there is a huge difference with our former residence so we can never compare our situation to the current one, the rooms are small and I have boys, girls me and my wife with no isolated place for them and give us privacy"(Jawad Abdul Jabbar, 35, male).

Some as in the case of Umm Jihad complained about the unit doors against each other, the isolation of the joint walls between housing units was under the required level, and there wasn't separate space for children (male-female).

"It is different from our original housing in terms of space even if the family is small our former houses had more spaces, where we suffer from a lack of privacy in the house we are sharing and knowing most talks of neighbors because of the shared apartments with each other the same wall and the thickness of walls and cracks in them" (Umm Jihad,40,female).

Such design issues according to the interviewees were a reason to increase the stigmatization and segregation in terms of the feeling of stereotyping and repetition in design, which gives a sense of non-acceptance, and without focusing on their requirements regarding their culture and traditional practices.

Some interviewees pointed out that the sense of community isolation increased by their inability to exercise some of the activities that were accompanied by the design of their former home or amendments to it that they cannot practice in these housing units and with no alternative facility for this activity. For instance, Mohammed Yasin explains this situation through the size of the units that do not allow them to adopt the space for certain activities:

"The small space that cannot be modified in accordance with our activities to make the housing unit more suitable for our families and our way of life, which increase the sense of discrimination from the rest of the people outside the complex with their ability to add and change their houses in an appropriate method to their " (Mohammed Yasin,50,male)

Figure 5.34: Interviews Photos (1)



All the interviewees emphasized that community diversity is existing in the residential units in terms of size and types of families, which helps to increase the sense of community integration without the feeling of segregation based on specific characteristics for the residents, for instance, Yasser Abu Mohammed confirmed that by talking about the micro Syrian society with different families size, culture background and variety of their provinces.

"Housing for all regardless of their original place and there is no block of a single character or bear a certain orientation is a mixed fabric of the Syrians" (Yasser Abu Mohammed,43, male).

According to the previous discussion, the interviewees were asked what they think can increase avoiding of stigmatization and social segregation in future projects, in general, there were recommendations in terms of the design semi-public/private in spaces of the housing units. They refer a transition starting from the public space to the semi-public to the private space before entering the housing units related to their local culture, especially the residents who came from rural areas, like Mustafa hopes that the future social housing design takes into account increasing the spaces to suit the Syrian family requirements in terms of their original environment, as he explained :

"We hope we have a garden for each apartment and the streets between the apartments more wider actually we are used to the spacious spaces in our former homes and green spaces in front of our homes as a space for sharing conversations between neighbors" (Mustafa,28,male).

They pointed out that what they hope in future projects is what they disliked in the previous question, noting that improving these things increases their integration in the region and reduces the sense of social separation in the housing unit design. About Mohammed reconfirmed the issue of the respect the religious practices when designing future projects as enhancing to what the interviewees pointed out. He said:

"Take into account the location of bathrooms and toilets in the housing unit and be separate from each other and considering the religious practice in the directions and the separation" (Abu Mohammed,47, male)

The interviews targeted persons with disabilities, and they mentioned to the housing unit design should meet their requirements in decreasing their feeling of stigmatization in such a project. Yasser who has a disability in his left leg explain his need for special requirements in the housing unit doesn't exist in the Ataa project, he explained that:

"I do not feel alienated in this housing and I have a war injury which caused my disability, so I feel distressed by asking for help from others due to the lack of housing design details help who are suffering like my case, so there should be an expansion of spaces and the allocation of units that take into account the situation of the disabled in terms of special units for them" (Yasser Abu Mohammed,43, male).

When they were asked about the second indicator if the ATAA housing complex succeeded in increasing the feeling of belonging to the same community, there was a general orientation that the housing was succeeded in that comparatively in terms of availability of social facilities with no social obstacles and there are meetings between the people, while the existence of some squares and gardens promotes social communication which is available to all without discrimination. For example, Abu Nazir who fled with his family from a rural area south of Idlib and settled in this project, mentioned to the necessity of gathering the people at public space in terms of decreasing the alienation feeling and he explained how the housing complex succeeded in providing these spaces:

"The public facilities in the housing are good and easy to reach, where there are no restrictions or conditions for use as it is available to all at any time to be as a place to gather and talk between neighbors which makes us feel that we are part of this place actually we have become interested in things and affairs of us especially as we share the concerns and the ravages of war" (Abu Nazir,36, male).

Some of the respondents mentioned to the feeling of alienation from their home especially for who lived in the ATAA complex less than two years or who forced to leave his home are more than others. Mahmud who is lived in the housing project for less than one year after he forced to leave his home in the countryside of Damascus, claimed:

"Actually, we feel a lot of alienation, but the conditions forced us to adapt with the new society, and the availability of some parks and a common mosque helps us to adapt and build new relationships with our neighbors" (Mahmud,30, male)

Some interviewees explained how the facilities and equipment that cause increased community belonging have some drawbacks like; it is fewer than the population, no meeting places other than the mosque, the gardens are designed without taking into consideration the privacy, there are no sufficient places for children or for vocational training and non-formal education courses. Abdul Basset and Abu Melhem clarify how the social facilities aren't enough for all the residents with their different age group and gender, especially with the limited space in residential units, Abdul Basset explains:

"Most of the time we are in the houses, although there are some social facilities, and it is n't enough for all the residents that our children, women, and youth will use it. sometimes we cannot reach the gardens because the women are there and the social environment prevent mixing"(Abdul Basset,24, male).

While Abu Melhem confirmed that:

"Parks are mediated by residential blocs and face them, causing a lack of privacy for visitors to the park and for residents in the units that meet them. And these parks are the only respite for us where we meet with our neighbors to entertain ourselves or even to meet with relatives and neighbors because we don't have enough space in housing units to receipt the visiting families" (Abu Melhem,26, male).

There were some recommendations and suggestions from the interviewees about how to increase the feeling of belonging to the same community in future social housing projects. Here the focus was on designing places for community communication such as halls or theaters; awareness-raising on how to deal with the differences in residents' cultures and traditions, as well as considering the gender sensitivity through the design process of the social facilities; considering vocational training centers to accelerate the adoption of new IDPs with the new community and finally, thinking about persons with disabilities in design of social housing facilities. Tarek an IDP from Homs city mentioned to the need for integration activities with the new society in Ataa housing project, he explained that:

"As residents in this project with different backgrounds, we need to know each other more in our new society which the war formed it, where there are some activities and facilities will

help such as spaces for meetings, weddings, seminars and effective plays to raise awareness of any particular social issue in wartime and its effects” (Tariq,33,male)

Abu Mohammed is from rural Hama living in Ataa housing project for the last 2 years, mentioned to the large percentage of women who are living in the complex and the need for more facilities:

“We need to establish a large garden far from the housing units for privacy and places for training and vocational courses that may qualify us to get a job, especially for women, where a large proportion of women reside in this residential complex” (Abu Mohammed,47, male)

Umm Khaled headed her family and her husband is dead in the war, explained her feeling about the lack of spaces:

“There's no place for laundry where most women have to put it on the street and when you saw this scene your feeling will be always as IDPs in the new community” (Umm Khaled,28, female)

Figure 5.35: Interviews Photos (2)



The last indicator in the social cohesion the interviews aimed at understanding was the social mix in Ataa social housing complex according to the view of the residents

represented by the interviewees. Most of them mentioned that the project succeeded in creating a social mix in the entire residential community.

In general, there are understanding and good relations between residents, families with different sizes and types and the secure environment help somehow.

Ali explain how the complex has different social segments and the relationships are good between the residents:

"I do not feel isolated. I made a relationship with everyone, and women have the freedom of roaming in the housing complex, in addition, the housing complex includes all age groups with different society segments" (Ali,30, male)

Yet they clarified some reservations such as; there are no units in the complex for people with special needs, no consideration of household sizes where there is a unified housing unit model in addition to the lack of gender considerations in the design of the housing unit, especially in families with many children or families headed by women.

Abdul Basset explained how the complex didn't take in consideration the variety of family's size:

"There are some families with two members inside the house while some others have more than 10 in the same house unit space which causes great suffering for us dealing with the lack of spaces" (Abdul Basset,24, male).

Umm Jihad confirmed what Abdul basset said:

"The housing unit area is small and can't be used for single families, especially when males and females are of different ages and numbers in one family" (Umm Jihad,40, female).

Two interviewees from twenty mentioned that harmonization and integration between residents are difficult in such as the project in terms of different backgrounds. And question this type of whether the social mix is right in this time, without any awareness-raising or orientations about treating this variety, for instance, Abou Mohammed claimed:

"Due to the variety of places where the families came from, I think that there will be no harmony between them. The governorates of northern Syria differs in its culture and traditions from the society of Damascus and its countryside and from the central region (Hama and Homs), not to mention the habits of the rural people and the different cities especially in the relationship between men and women" (Abu Mohammed,47,male).

Five of twenty interviewees mentioned some recommendations in terms of increasing the social mix in the future projects like designing halls for meetings with taking into consecration the privacy and gender sensitivity, conducting periodic meetings between families, seminars and competitions to identify the cultures and traditions of the other

families. Abu Melhem confirmed that the social facilities will increase the relationships between the residents and break the ice between them, he explained:

"There should be places or hall for events that lead to meetings between the residents which could be religious, social events or professional training, that can strengthen the integration between residents of any future project" (Abu Melhem,26, male).

Most of the respondents referred to the necessity of involving the considerations in terms of the size of household members, persons with disabilities and gender sensitivity in the design phase of future social housing projects. Jawad who is a teacher in the complex school explained that:

"I hope that there will be units dedicated to the disabled that take into consideration their disability, that the units will be wider and separate from the neighbors and that the family members be counted in addition to the availability of rooms to separate between the females and males because our religion has reservations about the gender-desegregation in our relationships" (Jawad, 35,male)

5.3.2.2 Cultural Adequacy

The first indicator in this sub-aspect was if Ataa housing complex provides one type for the social house units, which was clear in the plans of the housing complex and the interviewees mentioned their suffering from the mono model of the housing units, as also explained and epitomized in the previous subchapter.

The answers about the affordability as a second indicator to understand the culture adequacy in Ataa housing complex were clear in terms of the regulations, exemptions, and services they are paying for which is the operation cost including electricity, water, security, and garbage collection. Nasser clarified that paid amount is for operations costs of the complex and he knew all the regulations about the monthly cost:

"The paid amount is proportioned with the services provided like electricity, water, and security. The Water is fully on the network throughout the day and there are some exemptions from fees for poor families, disabled, widowed with a certain amount of electricity and water if they exceeded, they paid" (Nasser,34, male).

Seven of interviewees said they paid between 10% to 30% of their monthly income for the fees, five of interviewees paid less than 10% while three of them paid more than 30%. In apprehending the third indicator especially the part related to how Ataa complex gives them feeling of home, in general, the interviewees didn't agree that Ataa housing complex gives them the feeling of home. But they always compared their situation to the

people are living in camps, they consider this question as something not related to their current situation because they are looking for shelter with basic services.

Um Khaled mentioned to the big difference between her home and the housing unit that she is living in Ataa complex, but she supported the idea that this unit is good in the wartime comparing to the general situation:

"There is a big difference between here and the home I was living in, but due to the war and displacement, this is the most appropriate place to live and with some editing, it will be better. The situation in the camps is very bad for us so we consider this feeling kind of a luxury" (Um Khaled,28, female).

When they were asked about the second part of the third indicator (feeling of the sense of dignity) where they are living in Ataa housing complex, they agreed that their housing units respected it and all the social facilities located in near distances with easy access. Firas who is an IDP from latakia and working in the trade confirmed that these housing units save human dignity in the wartime and provide all the basic needs, he explained:

"Our homes here preserve the rest of our dignity as forcibly displaced or displaced people, where we are not humiliated in order to get the basics of life, such as shelter, water, electricity, and the main facilities so that we can teach our children and heal our patients" (Firas,42,male).

Twelve out of twenty interviewees mentioned some issues related to the design of the project that does not help in increasing the feeling of home and sense of home-likeness ,they tried to add some details related to their identity to the facades of their units which they succeeded in with some of them and failed with others, like adding parts as protection from the rain at the entrance or expanding the entrance to get extra space that gives the families some privacy. Abou Mohammed, he edited his unit faced to get more space and make it more appropriate for his family, and he explained:

"The housing units are directly on the road and anyone in the street can see the inside of the house when we open the outdoor of our apartment, so some of us have been forced to make changes to the facades to provide space in front of the house that can be used as a breather, in spreading laundry and placing plants" (Abu Mohammed,47, male).

According to the previous discussion about the sense of dignity and feeling of home, the majority of the respondents mentioned many things that can increase it in future projects like; more social and services facilities, private space for the housing units and more facilities caring about children.

Abdul Jabbar from a rural area in Damascus working in agriculture focused on providing the semi-private space in the future housing projects as a place to the traditions that suit their dwelling culture and as he explained below:

"In order to feel as I am in my home, the housing unit should be like my old one in terms of space in front of the house and take into account the privacy, our culture, and traditions in the designs" (Abdul Jabbar,35, male).

Naseer mentioned the role of social and cultural facilities in increasing the sense of belonging in the future project by raising the awareness about this topic:

"We need several facilities to help us accelerate the integration into the new environment. The establishment of a cultural center and a cultural library helps in raising awareness among most residents and we need for medical laboratory close to the housing units" (Nasser,34, male).

To conclude, it is possible to say that the findings of interviewees gave an insight into the existing situation at Ataa project and how to develop and improve the social issue's aspects of the proposed matrix.

Figure 5.36: Interviews Photos (3)



5.3.3 Updating The Social Issues In The Proposed Matrix According To The Findings:

This paragraph will explain the way of updating the content of the proposed social housing matrix in terms of the findings of post-occupancy evaluation, it is worth to mention this updating is a sample of how the evaluation in the lived space level can feed and update the matrix according to the comments and recommendations of the users to increase the community participation in designing of the matrix.

The previous post-occupancy evaluation for the social issues in the matrix that applied in the case study in Atmaa area comes with following updated and editing to the social issues sub-aspects (social cohesion and culture adequacy).

5.3.3.1 Updates Of Social Cohesion (The First Social Issues Sub-Aspect):

Most of the evaluation findings in this sub-aspect focused on increasing the overall community chosen through the integration between the residents, so adding a specific indicator to measure it was a necessity. While in the Increasing a feeling of belonging to the same community indicator there were two additional means of verifications and another editing. The below table clarifies the editing and updating of the sub-aspects all the added parts in yellow color.

Table 5.9: Updates of the Proposed Matrix – Social Issues – Social Cohesion.

Social Issues		
No	Sub-aspects	Definition/Description
3.1	Social Cohesion	<ul style="list-style-type: none"> There are a number of conceptual debates surrounding social cohesion and the role that housing can play in it for instance according to (Porte’s and Landolt 1996). <i>“There is considerable social capital in ghetto areas, the assets obtainable though it seldom allows participants to rise above their poverty”</i> Residentially based networks perform an important function in the routines of everyday life, which are the basic building blocks of social cohesion given that through them we learn

		tolerance, cooperation and acquire a sense of social order and belonging (Forrest et al. 2001).
	Indicators	Means of Verification and Evaluation
3.1.1	Avoiding stigmatization and social segregation in the design of social housing unite.	<ol style="list-style-type: none"> 1. The standard of social housing should reflect and take into consideration the specific national design conditions. 2. Provision of flexible floor plans which respect cultural diversity and different lifestyles. 3. The activities that faster belonging to the housing complex and its physical space. 4. The design of the common and communication areas should be clear.
3.1.2	Increasing a feeling of belonging to the same community	<ol style="list-style-type: none"> 1. The design of the common and communication areas should be clear. 2. Availability of equipped areas and places for the creation of local employment opportunities for young people; the implementation of anti-social behavior programmers. 3. Availability of social facilities-based on the Syrian family's social needs like; a multi-used hall for weddings, consolation, etc. 4. The availability of permanent or transition activities related to making changes/modifications in the social facilities reflected the user's participation, for instance, community gardens.
3.1.3	Social mix	<ol style="list-style-type: none"> 1. Precautions to be taken to avoid the “ghettoization” of social housing. 2. Taking into consideration the gender issue and people special needs (e.g. the disabled and the elderly). 3. Avoiding reflects homogeneous communities by ensuring a mix of age groups, type and size of households which reflected in the design.
3.1.4	Integration between the residents and the social housing project community	<ol style="list-style-type: none"> 1. Availability of programs for raising awareness about how to deal and practice with this new type of housing and its facilities. 2. Availability of informative guide, meetings, events, activities and even booklets on multi-functional use of space and operations in terms of social housing. 3. Availability of integration program through social facilities like theaters.

5.3.3.2 Updates Of Culture Adequacy (The Second Social Issues Sub-Aspect):

The post-occupancy evaluation for this sub-aspect comes with two additional indicators with their means of verification the privacy and participation, in addition, to emphasize the previous ones with some editing to the means of verification. The below table clarifies the editing and updating of the sub-aspects all the added parts in yellow color.

Table 5.10: Updates of Proposed matrix – Social Issues – Cultural Adequacy.

Social Issues		
No	Sub-aspects	Definition/Description
3.2	Cultural Adequacy	Cultural adequacy is the way housing is constructed, the building materials used and the policies supporting them must appropriately enable the expression of cultural identity and diversity of housing, respect and consider the expression of cultural identity and ways of life.
	Indicators	Means of Verification and Evaluation
3.2.1	Choice	1.Availability of different size and type for the social house units.
3.2.2	Affordability	1. The household pays no more than 30 percent of their income to get access to housing. 2. The design of social housing is no less quality than local housing design standards.
3.2.3	Sense of dignity and feeling of home	1.Facade design enhancing a building’s character and identity both in the existing community and for its residents. 2.Ambient to events, socialization, and social facilities. 3.400 meters to the social facilities such as cultural center and sports center. 4. The house is located within two kilometers of the nearest hospital or health center. 5.400-meter distance or a five-minute walk is an accepted standard for walking to services and facilities (such as religious centers) in many countries. 6. User’s need and their local culture reflected on the housing units plans.
3.2.4	Participation	1. Users participate in the design phase by discussing the prototypes of these projects with them. 2. The resident's identity and personality are clear in the housing units design. 3. The design details or facilities in social housing projects take into consideration the ability to change and flexibility in a suitable way to resident’s needs.
3.2.5	Privacy	1. Consider the humanitarian protection standards through enhancing the safety, dignity in the social facilities and programs for assist people to recover from the physical and psychological effects of threatened or actual violence, coercion or deliberate deprivation. 2.The plans of the social housing units respect privacy, especially in the entrance and sleeping rooms. 3. The used materials have a high degree of isolation in terms of achieving privacy.

6. DISCUSSION AND CONCLUSION

In the previous chapter, the case study Ataa social housing project in Atmaa area northern Syria has been examined according to the proposed matrix which focused on one main aspect (social issues) on its own due to the limitations of time and other obstacles, aiming to enhance and develop the practices of social housing in northern Syria.

According to the findings of the field study, I think the surrounding environment and the current events related to the effects of the war in Syria increases the feeling of satisfaction and acceptance of the housing units as a shelter more than a home.

The reflection of that was clear on the interviews which became more difficult when we spoke about the social issues, especially avoiding stigmatization and social segregation in the design of the social housing units and increasing the feeling of belonging to the same community. This led to supporting the concept discussed in the FGD meeting to take into consideration the current conditions and situation and develop the social housing proposed guide to reflect this development in the context and be aligned with the war timeline according to the changing situations.

According to that, the social housing projects attempts the context of northern Syria was provided under the aid interventions in terms of the shelter and protection for IDPs and vulnerable people through the NGOs. Here, utilizing the humanitarian principles as much as possible in the provision of assistance in cases of war and merging it with the guide, due to the characteristics of the situation in northern Syria will be supporting the concept of influencing the formation of a complete basis for the development of contemporary social housing models in northern Syria.

These principles respect the local environment and context in terms of providing aid to vulnerable people which should be taken into consideration when any part thinks to provide a social housing project. In this regard, many indicators in the social housing projects design should be related to these principles such as religious, privacy and the differentiation in the relationships between genders according to the local environment, in addition where the protection principles which concerned with the safety, dignity, and rights of people affected by disaster or armed conflict, should have been integrated into the design of social housing projects with explicit indicators, especially in the current

situation in Syria, where a large percentage of beneficiaries from this project are vulnerable people.

I think future projects of social housing will continue with the same funding method from humanitarian interventions, so it is important to emphasize the role of humanitarian principles in the guidelines in terms of respecting the local environment.

The effect of the original environment was clear throughout the case study; for instance, the residents who had large areas in their previous homes, especially those coming from the countryside, found it difficult to accept the limited economic spaces and always considered it to be one of the obstacles to the integration within the new environment.

As another note, the heterogeneous family environments and the mixing of the people wasn't a familiarity in Syrian cities before the crises, where people are accustomed to living with people with the same characteristics. Now, in such housing, they have to coexist with people that have varied habits and traditions which may make them feel nostalgic for their old homes and environments, where the basic social fabric was based on regional and social strata.

For instance, according to the NGO operating the housing complex, the basic concept of the social mix is making the complex a small Syrian society. Hence these projects are rehearsing whether the residents succeed in adapting with the new society and forming relationships despite their different regions and traditions. I think these projects are considered a step towards future housing projects that can help the integration of the Syrian society after the war.

It was clear from the answers in the qualitative and quantitative results that the current housing is suitable in many aspects despite some deficiencies under the current circumstances of the war, while the constant developments and the accelerated changes in the general situation in northern Syria require that any guideline should have continuous interaction between its aspects. This situation makes the interactive social housing matrix method a suitable proposal. As a result, the proposed social housing guide should be linked to the local context and be aligned with constantly changing requirements of time focusing on the user's need and reflecting their local culture.

By returning to results of examining the social issues in the studied case, I found out that there is a need for an informative guide, meetings, events, activities and even booklets on multi-functional use of space and operations in terms of the social housing and raising awareness about how to deal and practice with this new type of housing and its facilities. As most families dealt with social housing in the same way they used to in their previous homes in terms of Syrian family traditions, for instance, activities they performed, the relationships between the neighbors and others, this led to a constant reluctance to integrate with housing the new.

Examining the case clarified that there were common practices between Syrian families in the use of their former homes regardless of their social, economic status and where they come from. Therefore, the new housing should provide the solutions through facilities based on the analysis of the Syrian family's social needs, which is based on their previous use of houses, the proposed matrix should reflect that in some indicators under the social issues.

As a result of examining the case, the permanent or transitional activities related to making changes /modifications in the housing units by the residents were fewer, very limited and didn't reflect their identity or increase their belonging to the new community. Such attempts and activities increase the community cohesion overall. At the level of lived space in the social housing projects, residents always attempt to make the design suitable for their social, religious and traditional needs they bring from their displacement areas. For that reason, design details or facilities in social housing projects should take into consideration the ability to change and flexibility in a suitable way to that needs.

I think responding to the resident's needs will be by increasing the participation of them in these projects, especially in the design phase by discussing the prototypes of these projects with them. This process will let the resident's identity and personality be more clear which help in enhancing the social cohesion in the social housing units design. Hence participation should be added as an indicator to measure and evaluate the aspect of the social issue in the proposed matrix.

As one of the outputs of the war in Syria, millions of people were forced to leave their homes to northern Syria and found themselves as residents in such as these projects, with a different region, cultural aspects, and practices. This carries out challenges and

opportunities in terms of increasing the integration and the acceptance between the various categories and segments of Syrian society. The possibility of acceptance of the other and differences, especially that the war in Syria began to take an exclusionary character, can be through these projects as a step toward the peacemaking and accept the others. NGOs emphasis on social housing projects in Syria with mixed groups provides opportunities to Syrians to recognize how they can live together after the war in the opposite of the situation before the war where they lived separately based on region or clan. These projects include the subject of social integration, and such projects try to remove differences in traditions and cultures and improve the sense of belonging of the Syrian community through increasing the mixing in the social fabric of the resident's community that the housing projects before the crisis ignored it.

I think what makes the task more difficult for architects to design these projects is that the social aspect is very critical and depends highly on the evaluation of the community situation in all its aspects to come with a suitable solution.

According to the findings of the case study and FGD with Syrians experts , the difficulty of these housing projects in northern Syria was not in the technical or engineering experience but in the first place the social aspects and how to reflect it on the design, which increased the task of raising awareness in current situation in northern Syria to achieve harmony between families coming from different regions.

There was an argument the Syrian experts figured out in terms of political and law issues in the interactive social housing matrix for projects north of Syria, they proposed that these issues should be taken as separate aspects and to be measured by specific indicators in the urban planning issues like (the property of the land ; the future use of the housing units ;property rights and the current situation with the absence of housing authorities in most of northern Syria areas depending just on local councils and some temporary authorities).

In general, through applying the matrix on the cases the integration as one of the four characteristics of it, was clear through the interaction and the impact that matrix contents left in each other, where some times the results of applying some indicators give same results in more than one aspect of the matrix. For that, I think the matrix should have

integration indicators, in terms of the ability to measure and evaluate the reflection, effect, and relationship that some aspects have in each other.

The thesis was limited to measure and examine only one aspect of the matrix (social issues in lived space), it also couldn't reach to a level of determining the terms and conditions for the required editing and updating for the matrix. still, the findings of the research and feedback of the residents give some clues about the lacking indicators.

I think that the proposed matrix is a design tool for the prospective social housing in Northern Syria can be improved and updated according to the user's needs and community participation to feed all the proposed aspects while the social housing projects implemented or evaluated, actually this tool can be used in post-occupancy evaluation of social housing and be an added value in framing the outlines for establishing any future social housing guidelines in northern Syria.

In the end, the thesis tried to influence the formation of social housing models in north Syria, in terms of creating a social housing matrix for Northern Syria and examine it, with the aim of improving the quality and set a clear definition for the social housing in this current situation and give the availability of the updating it, regarding to the post-war social housing projects.

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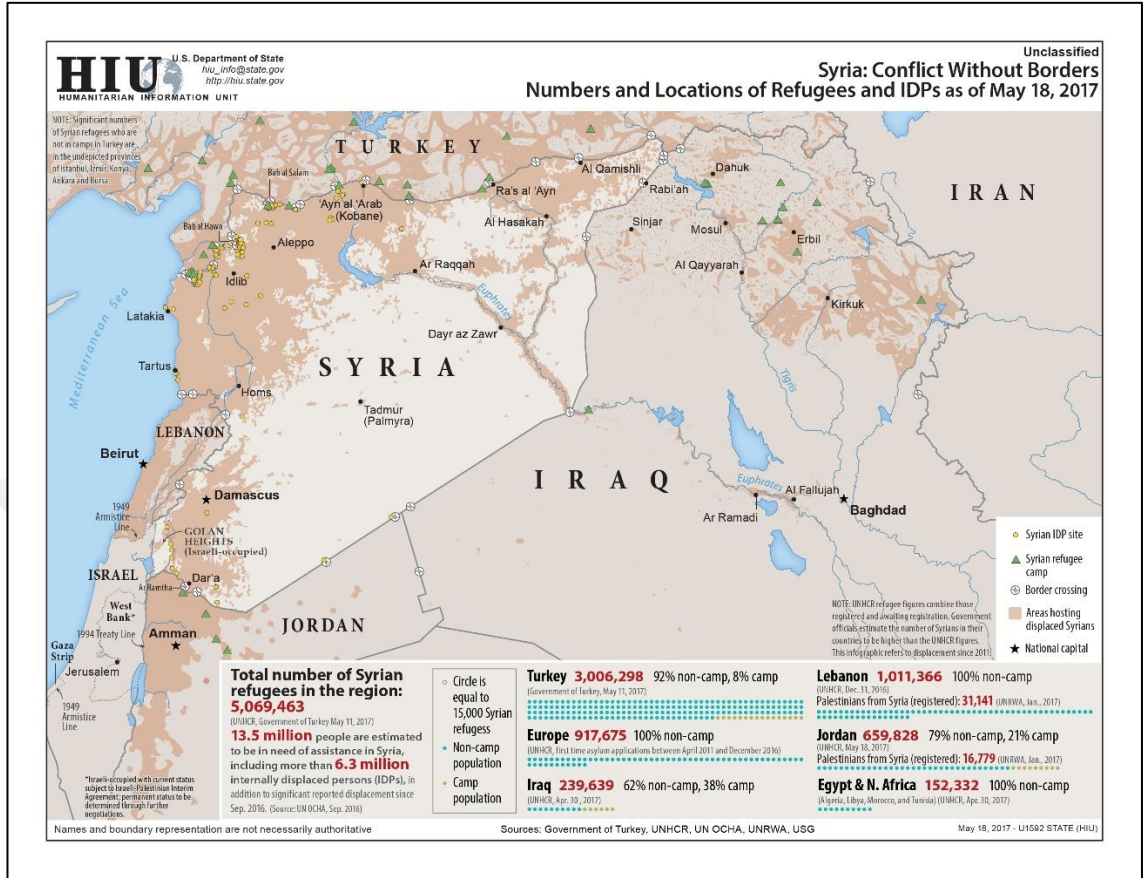
Zanazzi, M., and Legoupil, E. (n.d.). Patience: We are wrapping up the data. [online], Available from: <https://unhcr-xborder-turkey.github.io/ISIMM/> [accessed May 10, 2019].

APPENDICES



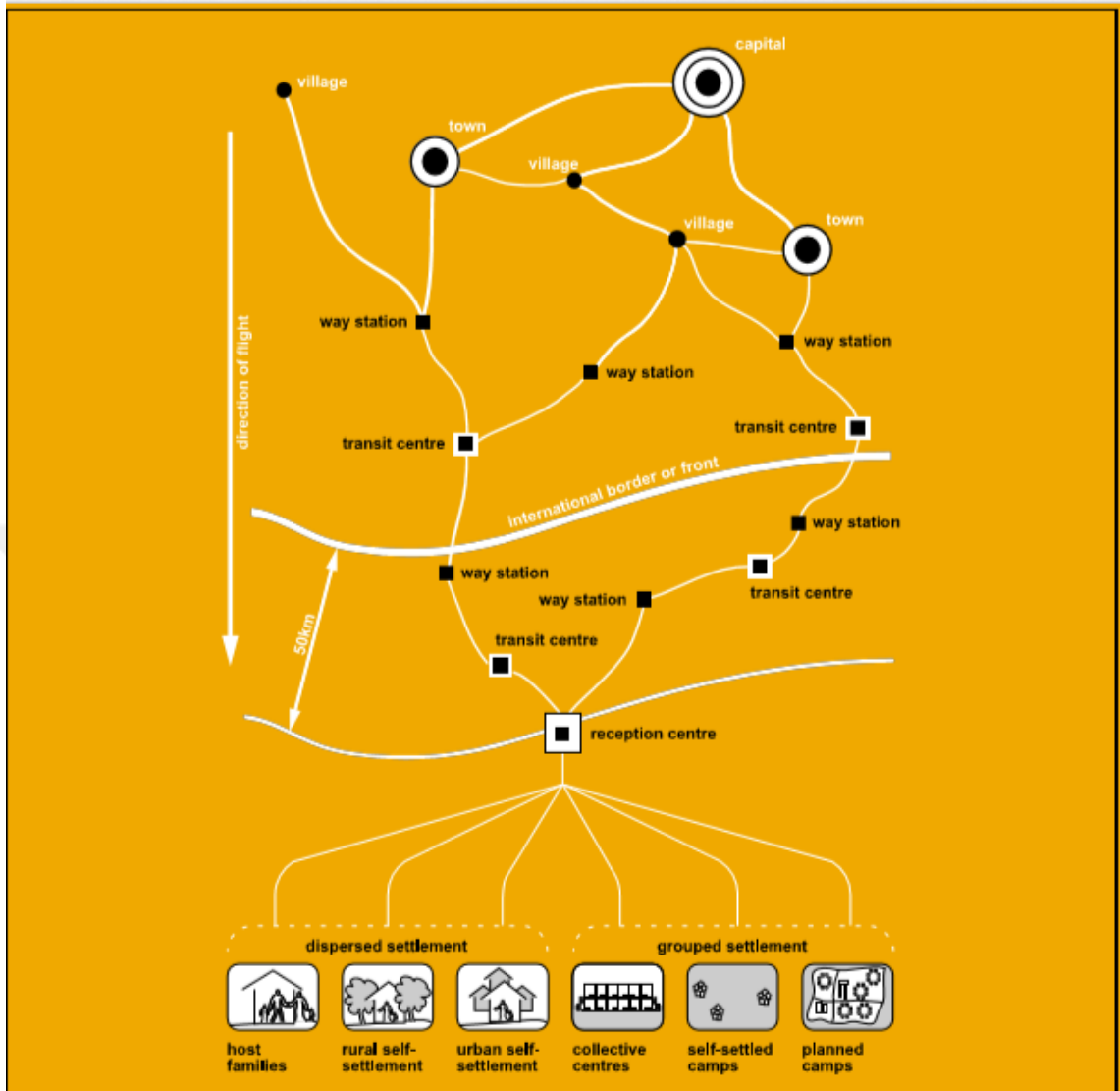
Appendix A.1 Figures With High Resolutions

Figure 1.1: Camps Map



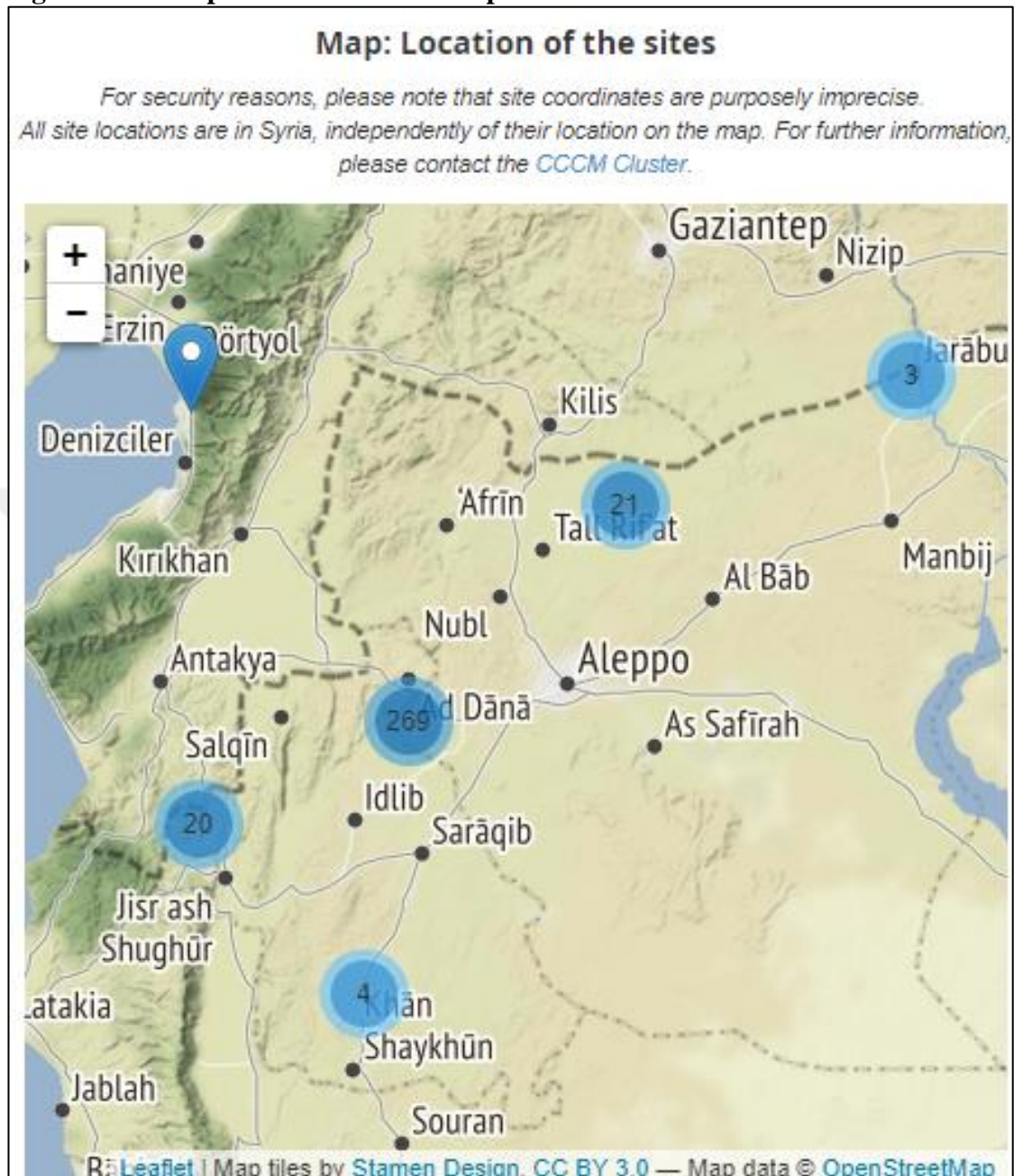
Source: <https://hiu.state.gov/>

Figure 1.2: Six transitional options



Source: Corsellis, T., and Vitale, A., (2005). Transitional settlement displaced populations. Cambridge.p10

Figure 5.3: Camps and Settlements Map - CCCM



Source: <https://unhcr-xborder-turkey.github.io/ISIMM/>

Figure 5.4: First Ataa Complex Housing Project Site Plan



Source: Ataa shelter department

Appendix A.2 The Selected References Of The Literature Review

	Social Housing Evaluation Matrix References			
	United Nation Publications and General Studies	Studies Conducted in Developing Countries ¹	Studies Conducted in Developed Countries ¹	The Perceived Value Studies
Why	Experience in the field of social housing as a result of the existence of specialized institutions to follow up and develop the principles, standards and guidelines for the preservation the right to housing, which was approved by the General Assembly of united nations after the Second World War	The existence of many vulnerable groups compared to other countries which need for economic solutions within certain criteria to avoid the housing problem	The many experiences of these countries in the field of social housing, which reflects the welfare of the citizen	it is focusing on customer's opinion of a product's value to him or her. It may have little or nothing to do with the product's market price, and depends on the product's ability to satisfy his or her needs or requirements. ²
Reference 01	UNECE.united nation economic commission for Europe. (2006). Guidelines on social housing. United Nations, Geneva, Switzerland	A.Chohan, A.Che-Ani, B.Shar, J.Awad, A.Jawaid, N. Tawil. (2015). A Model of Housing Quality Determinants (HQD) for Affordable Housing. Journal of Construction in Developing Countries, 20(1), 117–136, 2015.	Design Guidelines for Multi-Unit Affordable and Social Housing. November 2017 v. 1.3.Canada	Bonato, Miron, and Formoso, "EVALUATION OF SOCIAL HOUSING PROJECTS BASED ON USER PERCEIVED VALUE HIERARCHY."
Reference 02	Office of the United Nations High Commissioner for Human Rights.(2006). The Right to Adequate Housing. Geneva, Switzerland	N. Al Nasiri.(2015). Planning, Policy and Performance: An Evaluation of the Effectiveness of the Social Housing Policy of Oman. The University of Queensland. 2015.	N.J.D. de Azevedo, J.J.Rêgo Silva.(2010). DEFINITION OF INDICATORS FOR SUSTAINABLE SOCIAL HOUSING:IN SEARCH OF A MODEL. <i>Int. Journal for Housing Science</i> , Vol.34, No.2 pp. 79-92, 2010.Published in the United States	J. Brito, C. Formoso.(2014). Using the Means-End Approach to Understand Perceived Value by Users of Social Housing Projects. Federal University of Rio Grande do Sul (UFRGS), Porto Alegre, RS, Brazil.
Reference 03	UNECE.united nation economic commission for Europe. (2006).Social Housing in the UNECE Region Models, Trends and Challenges United Nations, Geneva, Switzerland	H.Kolli. V.Putta .(2014). Evaluation of public housing schemes: A Case of Greater Hyderabad Municipal Corporation. 2 nd Department of Urban and Regional Planning, JNA & FA University, Hyderabad	Chen, Ruo Piao, "In the Projects: Rebuilding Social Housing in New York City" (2017) Syracuse University Honors Program Capstone Projects. 1001.	
Reference 04	R.Marvaldi, E.Pani.(2016). Project Strategies and Evaluation Methods for Contemporary Social Housing. <i>The Plan Journal</i> 1 (1): 45-57, 2016	L.Lea, A.Taa, H.Danga.(2016). Building up a System of Indicators to Measure Social Housing Quality in Vietnam. National University of Civil Engineering (NUCE),Vitenam.	Michael E. Stone.(2003).Social Housing in the UK and US: Evolution, Issues and Prospects .University of London	
Reference 05		A. Salingaros, D.Brain,M. Duany, W. Mehaffy & E.Phillbert-Peti (all members of ESRG — Environmental Structure Research Group). (2006). Favelas and Social Housing: The Urbanism of Self-Organization.(Presented at the Brazilian and Ibero-American Congress on Social Housing, 2006.		
Reference 06		M. Sahabuddin, M. Firdhaus, G.Cristina (2015)Traditional values and their adaptation in social housing design : towards a new typology and establishment of 'Air House' standard in Malaysia. <i>ArchNet-IJAR: International Journal of Architectural Research</i> , 9 (2), pp. 31-44.		

Source: Author

Appendix A.3 The United Nations Publications And General Studies Initial Social Housing Matrix:

Table 1-1: Architecture Design Issues in United Nations Publications and General Studies of Social Housing Projects

1 - Architecture Design Issues	
1.1	Avoiding the monotony and repetition in social housing design
Definition / Description	Social housing has often had a leading role to new standards in housing in general, such as residential properties of the 1920s in cities like Berlin, HLM properties in France, social housing in Sweden and Finland in the post-war era. In many countries, new construction and architecture methods have been closely linked to social housing programs.
Indicators	<ul style="list-style-type: none"> ● The contribution of architects and specialists in the design and implementation process. ● Modified and cost-effective construction methods that are adopted and aren't repetitive.
1.2	Health considerations in the design such as ventilation and – sunlight
Definition / Description	<p>According to the World Health Organization, health is <i>“not merely the absence of disease and infirmity but a state of optimal physical, mental and social well-being” (WHO 1946).</i></p> <p>Health aspects were the focus of social housing programs in the late nineteenth century and were primarily focused on sanitation issues, natural lighting, and ventilation in the rooms and added noise protection later in response to the increased movement of vehicles and are also associated with the structural integrity of the buildings and fire safety.</p>
Indicators	<ul style="list-style-type: none"> ● Good sunlight: sun orientation in the design to decrease the fuel consumption and to kill viruses and germs ● Good insulation to avoid moisture ● Good ventilation to prevent the spread of diseases ● Good sewage and sanitation system ● Easy access to clean water with a good distribution of it inside the unit.

Source: author's analysis

Table 1-2: Social Issues in United Nations Publications and General Studies of Social Housing Projects

2- Social Issues	
2.1	Avoiding stigmatization and social segregation in the design of social housing units
Definition / Description	Community isolation can be caused by minimal standards compared to community standards or even the low quality of construction.
Indicators	<ul style="list-style-type: none"> • The standard of social housing should reflect and take into consideration the specific national design conditions.
2.2	Increasing a feeling of belonging to the same community
Definition / Description	Residentially based networks perform an important function in the routines of everyday life, which are the basic building blocks of social cohesion given that through them we learn tolerance, cooperation and acquire a sense of social order and belonging (Forrest et al, 2001). These relationships are important for vulnerable groups such as poor pensioners, new immigrants, lone parents, disabled people, etc.
Indicators	<ul style="list-style-type: none"> • Flexible floor plans which respect cultural diversity and different lifestyles. • The activities that foster belonging to the housing complex and their physical space, as well as the design of the common and communication areas should be clear. • Equipped Areas and places for the creation of local employment opportunities for young people; the implementation of anti-social behavior programmes
2.3	Social cohesion by the social mix
Definition / Description	<p>According to (Portes and Landolt, 1996: 20): <i>“There is considerable social capital in ghetto areas, the assets obtainable though it seldom allows participants to rise above their poverty...”</i></p> <p>There are several conceptual debates surrounding social cohesion and the role that housing can play in it.</p>
Indicators	<ul style="list-style-type: none"> • Avoiding the “ghettoization” of social housing. • Taking into consideration the gender sensitivity and people special needs in the design of the social housing units (e.g. the disabled and the elderly) • Ensuring a mix of age groups, type, and size of households which reflected in the design.

Source: author’s analysis

Table 1-3: Sustainability and Environmental Issues in United Nations Publications and General Studies of Social Housing Projects

3- Sustainability and environmental issues	
3.1	Depending on the renewable sources as a primary source for energy.
Definition / Description	<i>“Where additional energy for heating is still needed, it is increasingly provided from renewable sources: solar energy, wind energy, natural soil heat, use of warm air from industry or even from the subway system (Vienna), hot thermal water, waste incineration or timber”</i> as Ecological Building Practices in Europe (2001) mentioned.
Indicators	<ul style="list-style-type: none"> ● Percentage of the solar system and other renewable sources production to the need at the social housing unit’s level. ● Percentage of the solar system and other renewable sources production to the need at the social housing facilities level.
3.2	Decreasing the energy consumption by appropriate building techniques
Definition / Description	<i>“Building regulations and subsidy conditions have greatly contributed to energy reduction in several countries. While “low-energy buildings” have, in many cases, become the norm in new housing (as in Sweden, Finland, Germany, Austria), new solutions aim at the “passive house” (which needs no additional heating energy under normal circumstances). Such solutions are even more interesting in the case of low-income target groups in social housing, where energy costs are often high”</i> (UNECE 2006).
Indicators	<ul style="list-style-type: none"> ● Applying the “thermal zoning” approach in the rooms of social housing units. ● Decreasing the compact buildings planning in social housing units.

Source: author’s analysis

Appendix A.4 The Initial Social Housing Matrix Of Studies Conducted In Developing Countries:

Table 1-4: Architectural Design Issues in Studies Conducted in Developing Countries for Social Housing Projects

1- Architectural Design Issues	
1.1	Habitability

Definition / Description	<p>The ‘habitability’ component, according to the UN-HABITAT, means sufficient area for living as well as a durable structure of the house according to UN-HABITAT and OHCHR (2003).</p> <p>UN-HABITAT has used the criterion of two people in each room, not just the bedrooms. The UN-HABITAT has a specific definition for a room: a room may be defined as a space in a housing unit or other living quarters enclosed by walls reaching from the floor to the ceiling or roof covering, or at least to a height of 2 meters, of a size large enough to hold a bed for an adult, that is, at least 4 square meters.</p> <p>Rooms, therefore, may include bedrooms, dining rooms, living rooms, study rooms, habitable attics, servants’ rooms, kitchens, rooms used for professional or business purposes and other separate spaces used or intended for dwelling purposes, so long as they meet the criteria of walls and floor space. Passageways, verandas, lobbies, bathrooms and toilets are not expected to be counted as rooms, even if they meet the criteria (UNHRP 2003, p. 63).</p>
Indicators	<p>Sufficient Area for Living:</p> <ul style="list-style-type: none"> ● Diversity characteristics of housing units: 3-bedroom and 2-bedroom units. ● Provision of bath, toilet and laundry. ● Low No. of floors; 3 floors maximum. ● Availability of a range of kitchen facilities and fittings. Minimum number of staircases; one main stairs and one emergency stairs. ● Appropriate corridor and staircase width and floor height matching with the local standards. ● Housing with no more than two persons per bedroom. ● Easy movement inside the building. ● Availability of public spaces in the building; lobby, communal and other spaces (such as parking areas) <p>Durable structure of the house:</p> <ul style="list-style-type: none"> ● The quality of installed ceilings, doors, windows, tiling, painting, plastering, plumbing work, electrical wiring, etc. ● Housing was built in compliance with building codes. ● Tolerance and stability of structure ● Proper material selection (finishing) ● Adoption of conversion /extension
1.2	Health, Safety and Security
Definition / Description	<p>From the works of Mitlin and Satterthwaite(1996) we understand that</p> <p><i>“shelter that is healthy, safe, affordable and secure within a neighborhood”</i></p> <p>As a defition for the health aspect in the desognong the social housing.</p>

Indicators	<ul style="list-style-type: none"> ● Appropriate Internal conditions, e.g. natural lighting, ventilation, dampness, humidity, and temperature ● Appropriate Electricity installation ● Availability of drinkable water in any scenario (network, collective points, etc.) ● Proper sanitary appliances, e.g. water closet (WC), good quality bath or shower wash basin ● Adequate insulation from noise ● Water supply ● Functional stormwater drainage facilities ● Availability of Secure entry systems and safe common entrance areas ● Availability of streetlights ● Security post at entrances ● Security against fire (based on the Fire Department Code): It is taken as a reference the code, standards and technical laws related to protection in firing incidents. However, it allows other additional ways for the users' security and for the undertaking of security into these situations.
1.3	Accessibility
Indicators	<ul style="list-style-type: none"> ● Housing design accessible for disabled people ● Housing entrance provided with a wheelchair ramp

Source: author's analysis

Table 1-5: Urban Planning Issues in Studies Conducted in Developing Countries for Social Housing Projects

2- Urban Planning Issues	
2.1	Site planning and layout
Definition / Description	<p><i>“Master plan of the building: Quality of living space is not only reflected in the area (m²) of apartments, but also in outdoor public spaces such as gardens, footpaths, and other public facilities. For social housing, the area of each apartment is not big, thus outdoor spaces should be designed to increase the quality of life for residents by opening up possibilities for people to connect with nature and enhancing social community” (Lea, Taa, and Danga, 2016).</i></p>

Indicators	<ul style="list-style-type: none"> ● Distinctive character in urban context <p>Facilities Availability:</p> <ul style="list-style-type: none"> ● Availability of educational facilities ● Availability of recreational/sporting facilities ● Availability of playgrounds for children ● Availability of places of worship ● Availability of medical and health care ● Availability of commercial or convenience stores ● Police post available ● Availability of refuse collection bins ● Perimeter fence ● Asphalt paved access roads <p>Spatial Features:</p> <ul style="list-style-type: none"> ● Access to parks, schools, shops, hospitals ● Availability of common open and parking spaces ● Availability of pedestrian pavements ● Availability of roads hierarchy and characteristics ● Availability of open spaces and green areas ● Availability of playgrounds for children ● Studying the potential of the location in the future development
2.2	Housing block design
Indicators	<ul style="list-style-type: none"> ● Proper distance between blocks ● Proper block shape ● Courtyard provision and proper courtyard width ● Availability of privacy in the space: distinguish between public, private and semi-private spaces

Source: author's analysis

Table 1-6: Social Issues in Studies Conducted in Developing Countries for Social Housing Projects

3- Social Issues	
3.1	Ambient to events, (socialization and social facilities)
Definition / Description	<p><i>“There must be an area addressed to events like meetings, gatherings, parties or other events which promote the socialization of the undertaking users. This area is considered adequate when its dimensions, localization, and infrastructure provide appropriate controlled access of authorized people and vehicles, in a comfortable and secure condition” (Azevedo and Silv, 2010).</i></p> <p>The distances of social housing units to the social facilities were determined less than 0.5 km (Nasiri 2015).</p>
Indicators	<ul style="list-style-type: none"> ● Proper distance to the social facilities such as cultural center, sports center as following : - The house should be located within two kilometers of the nearest hospital or health center.

	<ul style="list-style-type: none"> - 400 meters distance or five-minute walk is an accepted standard for walking to services and facilities (such as religious centers) in many countries.
3.2	Cultural adequacy
Definition / Description	<p>According to the UNHRP (2003);</p> <p><i>“Cultural adequacy may be the most difficult component of housing adequacy to measure using quantitative methodologies”.</i></p> <p><i>“People’s feelings about the place is difficult to quantify. That is why this component of housing adequacy has not been applied by many scholars in assessing the adequacy of housing units. Nevertheless, the UNHRP suggests that the involvement of the household in the housing policies may be a good surrogate measure for the cultural identity indicator; household involvement may be a solution, in one way or another”.</i> (Nasri, 2015)</p>
Indicators	<ul style="list-style-type: none"> ● Households to be offered a choice of housing to live in.
3.3	Affordability
Definition / Description	The social housing is provided for free to low-income people but there is an additional monthly fee for particular services. According to the review of the studies in developing countries category, the affordability is determined with one indicator.
Indicators	<ul style="list-style-type: none"> ● The household pays no more than 30 percent of their income to get accessible housing services

Source: author’s analysis

Table 1-7: Sustainability and Environmental Issues in Studies Conducted in Developing Countries for Social Housing Projects.

4- Sustainability and Environmental Issues	
4.1	Sewage system with low impact on the environment
Definition / Description	<i>“In case of not having a public sewerage system in the nearby area, not-treated sewage out-coming must be far away from the water reservoir, in order not to pollute the undertaker’s nor the neighborhoods” (Azevedo and Silv, 2010).</i>
Indicators	<ul style="list-style-type: none"> ● Sewerage destination: A proper distance is required in relation to how close water stream and reservoir are. ● Availability of solid waste management
4.2	Material with no mixed environmental load
Definition / Description	<i>“Materials considered environmentally adequate are those with no damage incidents to the environment, such as pollutants (CFC, asbestos, etc.) or that are not classified on the extinction list (many types of wood)” (Azevedo and Silv, 2010).</i>
Indicators	<ul style="list-style-type: none"> ● Apply a system to select the materials according to the environmental load.

4.3	Controlled water source
Definition / Description	In case of the undertaking, having a well for water
Indicators	<ul style="list-style-type: none"> ● Apply a system for the water quality assessment according to the government standards
4.4	Thermal transmittance capacity and alternative power sources
Definition / Description	<i>“Thermal transmittance is the quantity of heat which is transmitted through a structure when a thermic difference is noticed between the internal and external surface.” (Azevedo and Silv, 2010).</i>
Indicators	<ul style="list-style-type: none"> ● The roofs and the walls designed according to the standards of local thermal transmittance where possible ● Availability of alternative power sources
4.5	The infrastructure services
Indicators	<ul style="list-style-type: none"> ● Housing is supplied with piped drinkable water ● Water Housing is connected to a sewerage network system ● Availability of a refuse/garbage collection system

Source: author’s analysis

Appendix A.5 The Initial Social Housing Matrix Of Studies Conducted In Developed Countries:

Table 1-8: Architecture Design Issues in Studies Conducted in Developed Countries for Social Housing Projects.

1- Architecture Design Issues	
1.1	Circulation and service rooms
Definition / Description	<i>“Circulation space includes areas such as lobbies, corridors, interior stairs, and elevators. Service rooms include areas such as electrical rooms, mechanical rooms, general storage areas (non-resident), garbage/recycling rooms and maintenance rooms.” (Canada Housing Association 2017)</i>
Indicators	<ul style="list-style-type: none"> ● Maximum space allocation not exceeding 25% of the combined unit areas ● Availability of a building entrance and lobby areas (Apartment buildings) with proper requirements like heating and cooling ● Corridors shall be at least 1500mm wide and for seniors housing, provide continuous handrails on each side of the corridor. ● One elevator is appropriate for a two to five story building. Considerations for a second elevator may be given to a building that is five stories or more.
1.2	Common Spaces
Indicators	<ul style="list-style-type: none"> ● Availability of laundry facilities ● Availability of resident storage has a minimum internal height of 2m

1.3	Dwelling unit design
Definition / Description	<p>This sub-aspect is about what should be the spaces the social housing units include with their dimensions and measures:</p> <p><i>“It is important that affordable housing provides decent bedroom sizes, particularly in light of new housing benefit rules that require same-sex siblings to share a bedroom until the age of 16” (Waverley Borough Council 2013).</i></p>
Indicators	<ul style="list-style-type: none"> ● A dwelling unit must be self-contained with its own keyed entry door, contain a full bathroom, kitchen or kitchenette and an independent climate control. ● Dimensions includes: <ul style="list-style-type: none"> - Minimum 15m², maximum 27m² for 1 person. - A unit door width with no less than 85cm. - Unit entrance width with no less than 85 cm. - Balcony/patio access must be located from the living room or dining room area. ● Living spaces includes: <ul style="list-style-type: none"> - Availability of following spaces (Dining, living, kitchen, WC and bathroom). - Two WC’s for social house units with more than 5 persons. ● For terraces, consider programmatic and visual connections to link to larger open spaces adjacent or below.
1.4	Accessibility
Definition / Description	Refers to the following categories, seniors housing, single non-elderly and family housing and clarifies the required features within accessible units.
Indicators	<ul style="list-style-type: none"> ● A minimum 10% social units should match the requirements of accessibility. ● Following the local featured required within the accessible unit.
1.5	Health, safety and security
Definition / Description	This sub-aspect is focusing on design issues in social housing units related to building access, keying, energy source controlling, health, safety, and fire safety.
Indicators	<ul style="list-style-type: none"> ● Availability of fire alarm systems (according to any local codes or other codes) ● Applying the safety codes (according to any local codes or other codes which include spaces and validation) ● Availability of a building entry system ● Availability of adequate lighting and signage for entrances, parking and common areas
1.6	Windows and doors
Indicators	<ul style="list-style-type: none"> ● Taking into consideration the placement of windows and doors to promote visual and physical connections between the interior and exterior ● Selecting a proper patterning, size, and geometry of windows and doors to decrease the negative impacts on interior spaces and programs

	<ul style="list-style-type: none"> ● Window size, frames, and sunshades shall be functional and decorative elements of design
1.7	Ground floor conditions
Definition / Description	<i>"The design of a ground floor, including fenestration, landscaping, and materials, should enhance a building's presence on the street and accommodate interior programs. Ground floors should be programmed to be as active as possible, considering shared spaces for residents and visual connections to the street." (NYC Public Design Commission 2018).</i>
Indicators	<ul style="list-style-type: none"> ● Availability of space designed for residents to gather on the ground floor ● Promote visual connections between the ground floor activity and the street ● Buffering the street wall by plantings or unique design elements

Source: author's analysis

Table 1-9: Urban Planning Issues in Studies Conducted in Developed Countries for Social Housing Projects.

2- Urban Planning Issues	
2.1	Landscaping
Definition / Description	<i>"The most impactful design decisions are often made during the site planning phase, laying the groundwork for a project that positively contributes to the lives of its residents and to its neighborhood, and creating a framework for the rest of the design development. The placement and positioning of a project should respond to neighborhood context, adjacent infrastructure and activities, and, in some cases, consider flexibility for future development. Design and development teams, City agencies, and community partners must coordinate site planning early in project development to ensure that projects integrate with existing built fabrics and work to further enhance neighborhoods" (NYC Public Design Commission 2018).</i>
Indicators	<ul style="list-style-type: none"> ● Landscape design should be simple and need minimum maintenance ● Appropriate location of trees and plants according to buildings and water/sanitation lines ● At a minimum, all new houses must include a (usually rear) private garden providing at least 50 m² of usable amenity space ● All external space, private or communal, should be designed to capture sunlight where possible ● Maximize flexible use in the design of the large open spaces ● Buffering the house units from the street and providing privacy by plants and design elements. ● Availability of play and passive seating for seniors in open spaces
2.2	Site circulation and walkways
Indicators	<ul style="list-style-type: none"> ● Amenity space: <ul style="list-style-type: none"> - Accessibility from interior common spaces - Having secure outdoor furniture - Having children play area ● Adequate size to accommodate service vehicles. ● Pedestrian and cars entrances clearly identifiable

	<ul style="list-style-type: none"> ● Accessible roads and isolated areas for garbage collection trucks ● Walkways suitable for disabled persons in slope and width, ramps and paths width according to local codes ● Parking for every unit ● Considering vehicular, bike, and pedestrian circulation through and around the site ● Considering connection of any commercial activities along main thoroughfares and allowing for residential and more passive uses along side streets
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Source: author's analysis

Table 1-10: Social issues in Studies Conducted in Developed Countries for Social Housing Projects.

3- Social Issues	
3.1	Choice
Definition / Description	<i>"Homes that provide a range of sizes and types to reflect local needs and provide choice to households on the housing register" (Waverley Borough Council 2013).</i>
Indicators	<ul style="list-style-type: none"> ● Availability of different size and type for the social house units.
3.2	Community
Definition / Description	<i>"Homes that respect and enhance the character of the local area and create mixed communities where people want to live". (Waverley Borough Council 2013).</i> Creating mixed communities of all types of families and ages.
Indicators	<ul style="list-style-type: none"> ● Respect the existing design culture/context and building practices. ● The design of social housing is no less quality than the local housing design standards.
3.3	Sense of dignity and feeling of home
Definition / Description	<i>"Facades are a building's "face" to the neighborhood, bringing together massing and material decisions to create presence and character. While a street-facing facade can help to create a welcoming identity for the building and its residents, buildings often have visible rear and side facades, giving additional opportunities for design. The facade of a building should be designed with colour, material, and articulation that form a coherent image. Different faces should be designed in response to interior programs and site conditions. It may be appropriate, for instance, to have distinct and complementary facade designs for street- and rear-facing sides of a building. A beautiful facade can help give residents and neighbours a sense of dignity and feeling of home" (NYC Public Design Commission 2018)</i>
Indicators	<ul style="list-style-type: none"> ● Facade design enhancing a building's character and identity both in the existing community and for its residents ● Using functional components, such as sunshades or window frames, to provide depth and shadow lines

Source: author's analysis

Table 1-11: Sustainability and Environmental Issues in Studies Conducted in Developed Countries for Social Housing Projects.

4- Sustainability and Environmental Issues	
4.1	Materials and processes
Definition / Description	<i>“By selecting sustainable materials as part of a high-performance building envelope, designers can reduce environmental impact and energy costs and durable, easily maintained materials can contribute to the longevity of a building; up-front investment in materials and construction details often result in cost savings over time by reducing the need for renovations” (NYC Public Design Commission 2018).</i>
Indicators	<ul style="list-style-type: none"> ● Use building materials that maximize the number of credits for insulation under the Sustainable Housing Act in the local codes ● In these countries there are a list of specifications for the materials and list of unacceptable materials ● Using warm and welcoming materials, natural lighting, and educational graphics to promote use
4.2	Future-proof (the future using of the social housing projects in terms of expanding and changing)
Definition / Description	<i>“Homes that are robust but flexible, with the ability to adapt to the changing needs of existing and future tenants” (Waverley Borough Council 2013).</i>
Indicators	<ul style="list-style-type: none"> ● The social housing units take into account and facilitate the potential use of future technologies ● Ability of social housing units to expand and adapt to future needs
4.3	Energy Efficiency Requirements
Definition / Description	All the studies in this category mentioned to the government guidelines and codes in terms of energy efficiency and green building, so the indicators were summary to general principles of sustainability in these developed countries.
Indicators	<ul style="list-style-type: none"> ● Depending on energy efficiency method by reducing the need for lights and meeting some heating requirements through passive solar gain includes : <ul style="list-style-type: none"> - Where possible, all habitable rooms should receive direct sunlight with a priority given to living, dining and kitchen space - Glazing to all habitable rooms should not be less than 20% of the internal floor area of that room

Source: author’s analysis

Appendix A. 6 Ataa Database And CCCM Database

Extended Family in ATAA Complex Housing	52
Two families in The same Unit in ATAA Complex Housing	135
Nucleaur Family in The Project in ATAA Complex Housing	333
Single Family	33

Unit House with less or Equal 5 persons	382
Unit House with More 5 Persons	138

Family headed by a Woman	201
Family headed by a Man	515

Average Age of Women Headed Family	42
Average Age of Man Headed Family	48.6

Family headed by a Woman(Education level)	199
studied at the university and did not complete	4
illiterate	34
Institute Graduate	8
primary education	65
Secondary Eduction	75
studied at the institute and did not complete	1
university graduate	10
University student	2

Family headed by a Man (Education level)	515
studied at the university and did not complete	19
illiterate	47
Institute Graduate	29
Master graduate	1
primary education	155
Secondary Eduction	175
studied at the institute and did not complete	2
university graduate	82
University student	5

Family headed by a Woman (Health Stautes)	199
Good health conditions	189
normal	7
With disability	3

Family headed by a Man (Health Stautes)	515
Good health conditions	442
normal	21
normal	9
War injury	14
With disability	27

Family headed by a Woman (Current Job)	199
Health Caring	4
None	188
Servicing	3
Teaching	3
Trade	1

Family headed by a Man (Current Job)	515
Agriculture	4
Health Caring	9
Media	2
None	191
Servicing	151
Small Project	7
Teaching	40
Technician	52
Trade	21

Family head by Eduction level	
studied at the university and did not complete	23
illiterate	82
Institute Graduate	37
Master graduate	1
primary education	220
Secondary Eduction	250
studied at the institute and did not complete	3
university graduate	92
University student	7

Family head by Health Stautes	
Good health conditions	632
normal	28
normal	9
War injury	14
With disability	30

Family head by Curreent Job	
Agriculture	4
Health Caring	13
Media	2
None	354
Servicing	151
Small Project	7
Teaching	43
Technician	52
Trade	22

Married	618
Widowed	97

Family head by livivng Stautes	
bad	187
good	109
medium	338
very bad	31

Family Memebrs	
Smallest Fmaily (1)	33
Largest Family (15)	2
Average Family (6.75)	59.5

Appendix A.7 Thesis Questionnaire

INTRODUCTION			
Introduce yourself and explain the purpose of the assessment to the respondent			
INFORMED CONSENT			
<i>This assessment is voluntary and your answers to this interview are confidential and will not be released to anyone.</i>			
<i>With your permission, may I begin the interview?</i>	<i>Yes</i>	<i>No</i>	<i>NO - End interview</i>
A. INTERVIEW DETAILS			

A1	Date		A2	Interviewer name	
B. HOUSEHOLD DEMOGRAPHICS					
B1	Respondent sex	1= Male	2=Female	B2	Respondent age
B3	Family Type	Nuclear Family		Single-parent Family	Extended Family
B4	Sex of HH head	1= Male	2=Female	B5	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed
B6	Total # Family living in the house				
B7	Where did you live before ATAA complex housing?	Urban		Rural	
B8	How long have you lived in ATAA complex housing?	Less than a year	1 year	2years	3 years
C. Social Cohesion					
C. Avoiding stigmatization and social segregation in the design of social housing unit.					
C.A 1	The standard of building in social housing unit you live in is aligned with you were lived before (not different from the houses units standards in the quality of materials, equipment, outside facilities).			1. Strongly agree 2. Agree 3. Undecided 4. Disagree 5. Strongly disagree	
C.A2	The standard of building in social housing unit you live in is aligned with the houses in the surrounding area (not different from the houses units standards in the quality of materials, equipment, outside facilities).			1. Strongly agree 2. Agree 3. Undecided 4. Disagree 5. Strongly disagree	
C.A2	Do you think that housing unit you live in has a flexible floor plan which respects your culture and your lifestyle?			1.Yes	2.No
C.A 3	If No, why?				
C.B Increasing a feeling of belonging to the same community					
C.B1	In Ataa complex housing the design of the common and communication areas are clear.			1. Strongly agree 2. Agree 3. Undecided 4. Disagree 5. Strongly disagree	
C.B2	Does Ataa complex housing has equipped areas and places for the creation of local employment opportunities for young people?			1.Yes	2.No
C.B3	If yes, please explain how?				
C.C Social mix					
C.C 1	Do you feel that you live in “ghetto” an isolated urban area from your surrounding?			1.Yes	2.No
C.C 2	If Yes, How?				
C.C3	Do you agree that housing units and the facilities in the Ataa complex housing consider the gender issue and people with special needs (e.g. the disabled and the elderly)?			1. Strongly agree 2. Agree 3. Undecided 4. Disagree	

		5. Strongly disagree	
C.C 4	Do you think that Ataa housing complex ensuring a mix of age groups, type and size of households?	1.Yes	2.No
D. Cultural Adequacy			
D.A Choice			
D.A 1	Does Ataa housing complex provide different size and type for the social house units?	1.Yes	2.No
D.B Affordability			
D.B1	How much your monthly payment for accommodation in Ataa housing complex units? Help him/her by dividing his/her monthly payment for the housing unit and other services on his/her income	1. less than 10% of your monthly income	2. between 10% to 30% of your monthly income of more than 30% of your monthly income
D.B2	The design of Ataa complex housing is no less quality than the local housing design standards (services buildings, housing units, urban planning, gardens.....)	1. Strongly agree 2. Agree 3. Undecided 4. Disagree 5. Strongly disagree	
D.C Sense of dignity and feeling of home			
D.C 1	Do you feel that your housing unit facade design has a character and reflect a certain identity (it is not just a shelter or block)?	1.Yes	2.No
D.C2	If No, why?		
D.C 3	Does your housing unit is ambient to events, socialization, and social facilities?	1.Yes	2.No
D.C 4	Does your housing unit is more than 400 meters(five minutes walking) to the social facilities (cultural center, sports areas children play area, playground, gathering areas.....)?	1.Yes	2.No
D.C 5	If No, how much is the distance?		
D.C 6	Does your housing unit is located within two kilometers of the nearest hospital or health center?	1.Yes	2.No
D.C 7	If No, how much is the distance?		
D.C 8	Does your housing unit is more than 400-meters distance or a five-minute to services facilities (school, market, kindergarten, religious place)?	1.Yes	2.No
D.C 9	If No, how much is the distance?		

Appendix A.8 Thesis Interviews

A.8.1 Residents Interviews Of Ataa Complex Housing

INTRODUCTION									
Introduce yourself and explain the purpose of the interview to the respondent									
INFORMED CONSENT									
<i>This interview is voluntary and your answers to this interview are confidential and will not be released to anyone. In addition, we will not contact anyone you know about this interview.</i>									
<i>With your permission, may I begin the interview? Yes No NO - End interview</i>									
E. INTERVIEW DETAILS									
A1	Date			A2	Interviewer name (if he wants to answer)				
F. HOUSEHOLD DEMOGRAPHICS									
B1	Respondent se	1= Male	2=Female	B2	Respondent age				
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed				
B5	Total # Family living in the house			0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plu s	Tot al
	Males								
	Females								
B6	Where did you live before ATAA complex housing?	Urban				Rural			
B7	How long have you lived in ATAA complex housing?	Less than a year		1 year	2 years	3years			
G. Social Cohesion									
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?									
For example (Standards of building, facilities, the design of the floor plan respect your culture and your previous lifestyle, building materials, finishing....) are less than other housing units like others badly described them as residents of the Ataa housing complex...									
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?									
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?									
For example (common and communication areas, opportunities, areas to interactive, social meeting facilities) are available without restrictions for all, easy access, service and clear									

C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like (are you feeling you are living in an isolated urban area from your surroundings, respect the gender issue, requirements of people special needs applied, the mix of age groups, type and size of households) and does that reflect in the design of the housing units or not (same housing unit design for all)
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
H. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms (comparing your income to the tax you pay, explaining the services you pay for, any complaint about the quality level of services buildings, units, garden)
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like (the standards of the design of the unit's facade, plans and building materials quality, availability of social facilities, your satisfaction about the distance from your housing unit to the cultural center, sports center, health center religious centers and children play area
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
<ul style="list-style-type: none"> - Nuclear Family - Single-parent Family - Extended Family

A.8.2 Residents Interviews Of Ataa Complex Housing Participant 01:

A. INTERVIEW DETAILS					
A1	Date	30/4/2019	A2	Interviewer name (if he wants to answer)	Tariq Alabarash
B. HOUSEHOLD DEMOGRAPHICS					
B1	Respondent	1= Male	2=Female	B2	Respondent age: 33
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed

B5	Total # Family living in the house	0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males				2	1	3
	Females				3	1	4
B6	Where did you live before ATAA complex housing?				Urban	Rural	
B7	How long have you lived in ATAA complex housing?	Less than a year	1 year		2years	3years	
C. Social Cohesion							
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?							
Tight space, toilet and bathroom are very close to each other and there is not enough space - residential rooms versus each other and the door opposite the door and the street narrow - and high humidity in winter and high heat in summer - and the ceiling gives high heat and nets directly overlooking the street and there is no room to separate girls from boys time Sleep and no guest room and no privacy							
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?							
Expanding the rooms and separating the toilet from the bathroom and expanding it and removing the apartments from each other and roof insulation Building a garden and a private space in the house and expand the street between the apartments							
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?							
There are no obstacles and there are meetings between parents but there is no dedicated meeting between parents except the mosque and there is no place for weddings							
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?							
The presence of a place dedicated to meetings, weddings, seminars and effective plays.							
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like							
There is a difference in some cultures such as putting rubbish in front of the door by the people of the countryside, but there is understanding and good relations with them and there are no special facilities and taking into account the special needs and there is no difference in apartments							
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?							
Periodic Meetings Establish a meeting room to ask the problems and obstacles that arise in the community and be at the same time a place for concerts, plays, weddings and introductory contests between the community							
D. Cultural Adequacy							
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?							
I don't agree, all the units the same size and type.							
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms							
Widows and people with special needs are exempted from the cost. The village provides services such as electricity, water and hygiene.							
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like							
A big difference as there is no privacy and the neighbor hears our conversations The doors of the apartments are opposite each other and there are no spaces between the apartments The quality of building materials is not good and cracked and the presence of high humidity and high heat and there is no special room for girls and distances between apartments and the mosque and school and garden							

D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
The space is narrow and the bathroom and toilet with some - lack of privacy lack of garden - lack of private room for females - lack of private space for the house

A.8.3 Residents Interviews Of Ataa Complex Housing Participant 02:

A. INTERVIEW DETAILS								
A1	Date	30/4/2019	A2	Interviewer name (if he wants to answer)	MOUSTAFA ALASALEH			
B. HOUSEHOLD DEMOGRAPHICS								
B1	Respondent	1= Male	2=Female	B2	Respondent age: 28			
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed			
B5	Total # Family living in the house		0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males			2	1	1		4
	Females				2	1		3
B6	Where did you live before ATAA complex housing?				Urban	Rural		
B7	How long have you lived in ATAA complex housing?		Less than a year	1 year	2years	3years		
C. Social Cohesion								
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?								
Toilet and bathroom are close to each other where must be separated, house units adjacent to each others where don't not insure the privacy for them and house units outdoors are in front of eachothers, as well the house unit is very humidity in winter and hot in summer, the streets between the apartments are very narrow and there is no space for the home such as a yard								
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?								
Increase the size of rooms and kitchen, bathroom and toilets should be separated, assign a space between house units and use the thermal insulation for house units, in addition to build a yard for each one of house unit and expand the streets between the house units.								
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?								
There is no any obstacle however there is no area assigned for meetings								
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?								
Having a place for meetings, ceremonies, seminars and shows								
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like								
There is a social mix in the village but there are no facilities cares about people with special needs, as well the rooms are all like some								
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?								

build a lounge for meetings Periodic meetings between the people Entertainment seminars, competitions and shows
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why? I don't agree, it provides one kind
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms exempt the widows and special seeds people, I paid more than 30% of my monthly income for offered utilities such as electricity, water and hygiene.
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like There is a difference in the distribution of rooms and the location of bathroom and toilet, as well it doesn't have a garden and or a balcony, in addition to the lack of enough space between the house units, where our conservations inside the house can be heard by the neighbors The quality of building materials is low, where there are many cracks in the house, as well the house unit does not protect against humidity in winter and hot in summer.
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects? bathroom and toilet sizes are small - lack of privacy - no garden - no special room for girls - no special space for home such as yard

A.8.4 Residents Interviews Of Ataa Complex Housing Participant 03:

A. INTERVIEW DETAILS								
A1	Date	30/4/2019	A2	Interviewer name (if he wants to answer)	Abu Ghazi			
B. HOUSEHOLD DEMOGRAPHICS								
B1	Respondent	1= Male	2=Female	B2	Respondent age: 50			
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed			
B5	Total # Family living in the house	0-2yrs		2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males					2		2
	Females				1	1		2
B6	Where did you live before ATAA complex housing?				Urban	Rural		
B7	How long have you lived in ATAA complex housing?	Less than a year	1 year		2years	3years		
C. Social Cohesion								
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit? The house has a narrow space that does not take privacy, but the physical conditions make it a suitable place. In addition to large errors in the construction process and quality, the house is not well insulated, not to heat or moisture. Having a bathroom and toilet together within a narrow space. The								

building is not good compared to the building within Atma village. The presence of my house near the school causes a loud noise
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?
The apartment area should be larger and the rooms better distributed to provide some privacy. The bathroom is separated from the toilet. The wall has better insulation of moisture and sounds
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?
The presence of families from different areas within the community and since about two years made us adapt to the situation well and the presence of some squares and gardens enhances social communication available to all
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?
Sometimes social habits are everywhere and different cultures can affect a sense of belonging
C.5 Explain about the social mix of the residents in the ATAA complex housing from your view as a resident like
The houses within the community do not take care of people with special needs There are different sizes of families. Single building design
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
Special needs must be taken into account in the design. The area should be larger for larger families. There are empty spaces between the apartments
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
All apartments within the pool have one design and the rooms themselves
D.2 Describe as a resident how ATAA housing complex take care about the affordability indicator in providing the housing units in terms
For families with average monthly income, the cost of housing within this community is acceptable compared to the services provided by electricity, water and housing
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
There is a big difference between him and the house that I used to live but under the war and displacement is the most suitable place to live with the need for some adjustments The presence of doors is very close to each other and affects privacy and never gives freedom
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
The doors are right on the street Lack of space in front of the house The presence of houses in close proximity and windows facing each other

A.8.5 Residents Interviews Of Ataa Complex Housing Participant 04:

A. INTERVIEW DETAILS					
A1	Date	30/4/2019	A2	Interviewer name (if he wants to answer)	Abu Mohammed
B. HOUSEHOLD DEMOGRAPHICS					
B1	Respondent	1= Male	2=Female	B2	Respondent age: 47
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2= Married 3=Divorced 4=Separated

				5=Widowed				
B5	Total # Family living in the house	0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total	
	Males			2	1		3	
	Females				1	1	2	
B6	Where did you live before ATAA complex housing?				Urban	Rural		
B7	How long have you lived in ATAA complex housing?	Less than a year	1 year		2years	3years		
C. Social Cohesion								
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?								
Different from the original housing in terms of space and design and can not be changed radically because of space constraints, but the modifications are simple There is no privacy in the house, especially with the adjacent residential blocks and their walls with each other and the lack of space in front of the house, but the door directly on the street.The bathroom and toilet are shared in a very small space that does not respect purity and impurity. The sinks are shared with the kitchen sink, which is likely to have food leftovers. The building materials are not good as the cracks are clear, causing the neighbors to hear sounds, rainwater seeping and moisture increasing.								
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?								
Increase the area of the apartment and its independence. Increase the insulation of walls and ceilings and choose good materials and equipment in construction. Reinforcement of foundations and walls of apartments more to prevent cracks and increase the thickness of walls and surfaces. Taking into account the location of benefits in the apartment and to be separate from each other and take into account religious teachings in the directions and separation of banks from each other								
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?								
The gardens are located in the middle of the communities and the blocks around them and are oriented towards them, so children can not play them most of the time to avoid the noise that worries residents.The clinic is an administrative and inaccessible after 2 pm, although there are some cases that require constant health care at late times.Not enough places for children to entertain.There are no vocational training places and courses								
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?								
Increase children's play areas.Set up a large extreme garden and place benches out.Establishing a place for training and courses that may qualify for job opportunities, especially for women, with a large percentage of women heads of households within the community. Set up shifts in the clinic within the village or at least an ambulance with a driver in front of the clinic at night or a pharmacy on duty.Improving garden facilities such as safe plastic toys for children and seats for adults								
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like								
Due to the small size of the apartment, it is often not possible to receive guests, especially with no separate rooms. Because of the multitude of families living in the community, there can be no harmony between them								
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?								
Increase the area of the apartment and provide more privacy so that the rooms are independent of each other. The presence of venues or events hall that will be a reason for meetings, events or professional training, thus strengthening the integration between the residents of the community. Take care of the design more within the apartment								
D. Cultural Adequacy								

D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
Families are different from each other in terms of number of individuals, diversity, customs, cultures and integration with each other and therefore housing must meet these matters and provide independence for the family
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
Over 30% of my monthly income is paid as house rent. Note that any repair within the apartment is at the expense of residents such as replacement of faucets, repair of banks, repair of electricity, Persons who have no income should be exempted from paying rent or providing employment
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
The facade of the house is directly on the road and can appear inside the house when the apartment door is opened. There is no place for training and job creation. Building materials are not good. Most of the facades have been changed to provide a private space in front of the house that can be used as an outlet and to spread laundry and planting pots for self-entertainment
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
Increase the building space and provide privacy within it well. Allocate a balcony in front of each housing unit to increase breathing and privacy and for use in cleaning and spreading laundry. Use good building materials and care for designs to suit different social fabric. Set a street lighting maintenance worker continuously on the streets to provide a sense of security especially when walking at night

A.8.6 Residents Interviews Of Ataa Complex Housing Participant 05:

A. INTERVIEW DETAILS								
A1	Date	30/4/2019	A2	Interviewer name (if he wants to answer)	Abu Melhem			
B. HOUSEHOLD DEMOGRAPHICS								
B1	Respondent	1= Male	2=Female	B2	Respondent age: 26			
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed			
B5	Total # Family living in the house	0-2yrs		2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males				1	1		2
	Females			1		1		2
B6	Where did you live before ATAA complex housing?				Urban	Rural		
B7	How long have you lived in ATAA complex housing?	Less than a year	1 year		2years	3years		
C. Social Cohesion								
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?								
Different from the original house in terms of space and independence of rooms, design and quality of building materials where moisture seeps continuously from the floor, walls and ceiling,Bathroom and toilets are common and small and sinks are shared with the kitchen.There are Internet and electricity towers on the roofs and may have to be repaired at any time that may not be suitable for families.The								

apartments on the corners of the blocks have cracked walls due to poor foundation, poor construction materials and lack of supports
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?
Increase the space. Quality in building materials, design and implementation. Reinforce the apartments especially those on the corners more to prevent cracks. Construction of electricity towers and Internet on columns separate from the roofs of apartments. Observance of religious traditions and separation of toilet from bathroom
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?
Gardens are located in the middle of the blocks and face them, which is not privacy for visitors to the park and the residents of the apartments they face. There are not enough places for children to play and enough leisure space, There are no places to hold vocational and educational training to help later find a job, especially as unemployment is widespread. Garden facilities are very scarce and are not as safe for children as iron toys.
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?
The establishment of avoided gardens, the last housing units to provide comfort for families, especially women when they visit and place seats in them and to be accessible easily, especially for people with disabilities, and to be plastic toys. Establishing suitable places for children to play and entertain such as swimming pools and purposeful lounges. Establishing vocational training places within the community
C.5 Explain about the social mix of the residents in the ATAA complex housing from your view as a resident like
The space is very small and not suitable for all families. Home design never fits with a disability at home, especially in bathrooms. It is not possible to integrate with most of the population due to the pluralism of the community. It is positive to feel somewhat safe in the camp because there are guards at the gathering door
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
Increase the area of the apartment and provide more privacy so that the rooms are independent of each other and isolate the WC from each other make them extreme and not in the center of the house so cause embarrassment in case of guests. The garden is preferred to be large and isolated from apartments, serviced by seats and easily accessible by people with disabilities. Serving gardens with safe plastic toys for children
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
There is no equality in housing so that all families, no matter how small or large, live in the same area. Does not take into account the design with disabilities
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
We do not pay for housing because the service is not provided for rent, but the service is at the expense of the person living in the community. 10-30% is paid for water and electricity service
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
There is no privacy in the housing unit has been built a wall in front of the apartment or insulated position to provide privacy and increase the space in front of the house and install a clothesline. Medium quality building materials Social facilities are about 3 km away from the gathering area such as cultural centers and sports clubs and if there is a sports center in the camp, and if there is it is far away about 1 km from the gathering
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
Increase the apartment area and the independence of the rooms within it. Isolate the bath and toilet from each other and take into account religious matters, purity and isolation. Build a small garden or wall for each apartment as an outlet and use it to spread the laundry and Establishing halls for events, training and meetings that strengthen the social fabric. Increase the quality of building materials and technology in design

A.8.7 Residents Interviews Of Ataa Complex Housing Participant 06:

A. INTERVIEW DETAILS								
A1	Date	30/4/2019	A2	Interviewer name (if he wants to answer)	Abu Nazir			
B. HOUSEHOLD DEMOGRAPHICS								
B1	Respondent sex	1= Male	2=Female	B2	Respondent age: 36			
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed			
B5	Total # Family living in the house	0-2yrs		2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males				1	1		2
	Females			1		1		2
B6	Where did you live before ATAA complex housing?				Urban	Rural		
B7	How long have you lived in ATAA complex housing?		Less than a year	1 year	2years	3years		
C. Social Cohesion								
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation (the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?								
The integration of pigeons with the bathroom is contrary to the customs of Muslims, especially in terms of purity -The apartments lack pillars (pillars) causing cracks in the walls .The drain is located at the highest point in the house and water accumulates at the lowest point due to the irregularity of the earth's drain .The windows are not suitable and lighting is very weak .The space of the apartment is very narrow as there is no place to separate males from females .Locks are very poor which causes easy dislocation . The kitchen is too narrow and its outlets are too small to come out of cooking odors and enter the air . There are no doors for all the dividers in the house. High moisture causing thoracic diseases of children (child asthma)								
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?								
There are more rooms for large families .Separate the bathroom from the toilet.The distance between the house and the stree .Place the water drain at the lowest point in the house for easy drainage .Expand the bathrooms and toilets so that they can be used in the development of tools such as washing machine . Having a veranda to maintain privacy.								
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?								
Good and easy to access there is no restrictions.								
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?								
The existence of a cultural center.Having a special place for women (joys and sorrows)								
C.5 Explain about the social mix of the residents in the ATAA complex housing from your view as a resident like								
Houses do not preserve privacy because the walls are not thickened as the neighbor's sound is heard to the neighbor.There are no requirements for the disabled in the mosque during prayer.The height of the door to the house is difficult for the movement of the disabled, the elderly and even								
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?								

Thickening the walls better by separating the walls from each other. The presence of chairs dedicated to the elderly in the mosques .The presence of chairs dedicated to the sick and disabled in the school
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
.I do not agree to increase the size of the rooms to suit the size of families. Increase the area of baths and toilets
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
Consideration of social status in terms of monthly fees (I do not pay)
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
The front of the housing unit is not suitable either in terms of its view on the street directly and the lack of balcony prevent entry of rain in the winter door and windows. There is no cultural and sports center and the distance to the religious and health center is convenient as it is in the middle of the compound
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
A space in front of the apartments. The existence of a cultural center Having a children's playground. Having one large garden for all condominiums

A. 8.8 Residents Interviews Of Ataa Complex Housing Participant 07:

A. INTERVIEW DETAILS									
A1	Date	30/4/2019	A2	Interviewer name (if he wants to answer)	Umm Jihad				
B. HOUSEHOLD DEMOGRAPHICS									
B1	Respondent	1= Male	2=Female	B2	Respondent age: 40				
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed				
B5	Total # Family living in the house	0-2yrs		2-5yrs	5-18yrs	18-59yrs	60plus	Total	
	Males				1			1	
	Females					2		2	
B6	Where did you live before ATAA complex housing?				Urban	Rural			
B7	How long have you lived in ATAA complex housing?	Less than a year		1 year	2years	3years			
C. Social Cohesion									
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation (the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?									
Different from the original housing in terms of space even if the family is small. There is no privacy in the house where most of the neighbors talk is heard because of the participation of apartments together with the same wall and the thickness of the walls and cracks. The kitchen is very small and most of the items are put out like a washing machine and others within the space built in front of the house The bathroom and toilet are shared in a very small space that does not respect purity and impurity. The sinks are shared with the kitchen sink, which is likely to have food leftovers.									

C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?
Increase the area of the apartment and its independence.Increased insulation of walls and ceilings and selection of good materials and equipment in construction Consider the location of bathroom and toilet in the apartment and be separate from each other
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?
The gardens are located in the middle of the communities and the blocks around them and are oriented towards them, so children can not play them most of the time to avoid the noise that worries residents.The clinic is an administrative and inaccessible after 2 pm, although there are some cases that require constant health care and late Not enough places for children to entertain.There are no vocational training places and courses
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?
Increase children's play areas and entertainment such as swimming pools, educational and recreational halls.Set up a large extreme garden and place benches out.Establish a place for training and courses that may qualify for employment opportunities.Set up shifts in the clinic within the village or at least an ambulance with a driver in front of the clinic at night.
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like
The area of the apartment is very small like a prison and all apartments are the same space and they do not take into account the presence of males and females. Guests are not welcome in the apartment because of the small space on the one hand and because of the toilet site in the middle of the apartment on the other, which causes embarrassment
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
Increase the area of the apartment and provide more privacy so that the rooms are independent of each other.Isolating the bathroom and toilet from each other made them extreme and not in the center of the house, causing embarrassment in case of guests
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
Not suitable for all families because they vary in size and number of individuals as large families do not find enough room when sleeping as well as the presence of disabilities sometimes or the loss of one of the parents and this requires different designs of apartments to suit families in terms of number and diversity and health status and social status of each family
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
More than 30% of my monthly income is paid as rent for the house. Any repair within the apartment will be at the expense of residents such as replacement of faucets, sink repair, electricity repair, You can pay for water and electricity services, but you do not have to pay the rent for a service that is not implemented
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
The small size of the apartment reflected on all affiliations, there is no privacy, even when talking on the phone with another person, the talk is heard by neighbors, The facade of the house is directly on the road and can appear inside the house when the apartment door is opened.There is no place for training and job creation
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
Increase the building area and provide privacy within it.Allocate a balcony in front of each housing unit to increase breathing and privacy and for use in cleaning and spreading laundry.Maintenance of street lighting continuously in the streets to provide a sense of security especially when walking at night

A. 8.9 Residents Interviews Of Ataa Complex Housing Participant 08:

A. INTERVIEW DETAILS									
A1	Date	28/4/2019		A2	Interviewer name (if he wants to answer)	Umm Khaled			
B. HOUSEHOLD DEMOGRAPHICS									
B1	Respondent	1= Male	2=Female	B2	Respondent age: 40				
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed				
B5	Total # Family living in the house			0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males					1			1
	Females						2		2
B6	Where did you live before ATAA complex housing?					Urban	Rural		
B7	How long have you lived in ATAA complex housing?		Less than a year	1 year	2years	3years			
C. Social Cohesion									
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?									
<ol style="list-style-type: none"> The facilities are narrow and small The kitchen can only accommodate one person and there is no place to put tools in it The integration of the bathroom with the toilet is far from purity One drainage for both rooms and its presence under the sink is not suitable for the difficulty of rinsing and access to water The lack of a door to the entrance and bathrooms and toilet Very weak luminaires entering the kitchen The lack of sunshade for windows and door prevent the entry of rain in the winter The sanitary drainage is directly connected to the bathroom drain which leads to many problem. 									
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?									
<ol style="list-style-type: none"> Separate the bathroom from the toilet The distance between the house and the street Place the water drain at the lowest point in the house for easy drainage Installation of doors for joints Expand bathrooms and toilets further The presence of a veranda to prevent the entry of rain in winter The presence of more than a healthy drainage of the apartment 									
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?									
Good and safe envireoment for everyone									
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?									
<ol style="list-style-type: none"> Establishment of a cultural center Establish a sports center There is a place to spread the laundry where most women have to spread it on the street 									
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like									

I don't feel like living in an isolated area. Cramped houses. Neighbors can only rarely visit the narrow space. Special needs are not considered in the services. There is a mix of age groups in the pool. Same design for all residential units
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
1. Design the apartments in proportion to the number of family members 2. Taking into account people with special needs
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
Yes, I do not agree with the distribution of rooms according to the number of family members
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
For us suitable but for other families that do not have any very difficult income
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
The design of the facade is not suitable and does not take into account the privacy of the housing, so most families had to build a space in front of the units to maintain privacy. More quality of building materials (high humidity) having good mosque and gardens and easy access
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
A space between the apartments Increase the area of the apartment and separate the bathroom from the toilet

A.8.10 Residents Interviews Of Ataa Complex Housing Participant 09:

A. INTERVIEW DETAILS									
A1	Date	29/4/2019	A2	Interviewer name (if he wants to answer)	Um Saleem				
B. HOUSEHOLD DEMOGRAPHICS									
B1	Respondent	1= Male	2=Female	B2	Respondent age: 40				
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed				
B5	Total # Family living in the house			0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males					1			1
	Females						2		2
B6	Where did you live before ATAA complex housing?					Urban	Rural		
B7	How long have you lived in ATAA complex housing?		Less than a year	1 year	2years	3years			
C. Social Cohesion									
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation (the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?									

Compared to neighboring camps is better compared to the neighboring building construction in the neighborhood is better .The large proximity between the housing units, which causes no isolation and privacy (votes are transmitted within houses .Narrow space both in terms of rooms. .Large humidity that causes no diseases.The lack of a shed for houses to put tools such as carpets and heaters .Having a bathroom with a toilet is far from purity and negates habits
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?
Increase the bath and toilet area and the number of rooms to suit large families.Separate the bathroom from the toilet .Availability of a distance separating the house from the street .Place the water drain at the lowest point in the house for easy drainage .Installation of doors for joints.Having a shed to put tools on them..The presence of a balcony to prevent the entry of the sun in summer and rain in the winter directly into the apartment leading to suffering in housing
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?
It is Clear and easy to access everyone can use.
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?
Having a place for children to play other than parks (playground)
C.5 Explain about the social mix of the residents in the ATAA complex housing from your view as a resident like
Lack of feeling of isolation and privacy through housing because of the proximity of the apartments on each other and interview the apartment of the apartment causing embarrassment.There are not enough requirements for people with special needs as he cannot walk alone.There is a mix of age groups and different types in terms of type and size .The same condominium design for both large and small family
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
Design the apartments in proportion to the number of family members. Residential construction where suitable for people with special needs
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
Yes, I do not agree with the distribution of rooms according to the number of family members
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
Consideration of social status.Persons with disabilities, widows and the poor were exempted from monthly fees
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
The interface is not suitable because there is no privacy reservation.More quality of construction materials cracked in the walls, high moisture and non-wall paint that causes dirt adhesion and difficult to remove.There is no cultural or sports center. As for the religious center, the distance is good because it is in the middle of the gathering
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
Having a veranda to maintain privacy.There is an entrance for each apartment Separate the bathroom from the toilet.Having a special place to spread the laundry.

A.8.11 Residents Interviews Of Ataa Complex Housing Participant 10:

A. INTERVIEW DETAILS								
A1	Date	27/4/2019	A2	Interviewer name (if he wants to answer)	Jawad Abdul Jabbar			
B. HOUSEHOLD DEMOGRAPHICS								
B1	Respondent sex	1= Male	2=Female	B2	Respondent age: 40			
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed			
B5	Total # Family living in the house	0-2yrs		2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males					2		2
	Females			1	2	1		4
B6	Where did you live before ATAA complex housing?				Urban	Rural		
B7	How long have you lived in ATAA complex housing?		Less than a year	1 year	2years	3years		
C. Social Cohesion								
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?								
Housing does not respect privacy and there is a big difference with our previous housing and there is no forgetting compared to the rooms are small and I have young men and women and I and my wife there is no place isolates them from each other in the same unit and health facilities overlapping there is no place and the bathroom is not isolated from the toilet and can not resemble the neighboring housing and other cities And for the social groups and sects there is no difference between people and people here from all provinces and villages.								
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?								
Observing the handicapped to have places allocated to them and units assigned to them take into account their situation.								
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?								
There is no restriction on anyone - everyone knows where it is, not a particular category and everyone has access to it.								
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?								
The presence of a place that brings people together as halls and religious seminars where people meet.								
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like								
I walk around and visit neighbors, people visit me and women move around freely. As a handicap, my disability does not prevent me from wandering and going out to see people, but there is no place for us as handicapped people.								
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?								
There should be units for the disabled that take into account their disability, and that the units should be wider and separate from the neighbors and take into account the number of family members.								
D. Cultural Adequacy								

D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
All units have one design, the same number of rooms and the same facilities and nothing for people with disabilities.
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
As a disabled person, I am exempt from tax and my income is limited I hope there is work for the disabled.
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
The facade is not suitable as it does not return rain and cover up the house and reveal everything inside, The facilities are close and I have no difficulty accessing them and are not more than 200 meters away
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
In order to feel like I am in a house must be housing for my old housing in terms of space in front of the house and in terms of privacy, customs and traditions and build a wall in front of passers-by and considerations of sex and age groups.

A.8.12 Residents Interviews Of Ataa Complex Housing Participant 11:

A. INTERVIEW DETAILS									
A1	Date	26/4/2019	A2	Interviewer name (if he wants to answer)	Hamdo Abu Maher				
B. HOUSEHOLD DEMOGRAPHICS									
B1	Respondent	1= Male	2=Female	B2	Respondent age: 30				
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed				
B5	Total # Family living in the house			0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males						2		2
	Females				1	2	1		4
B6	Where did you live before ATAA complex housing?					Urban	Rural		
B7	How long have you lived in ATAA complex housing?			Less than a year	1 year	2years	3years		
C. Social Cohesion									
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation (the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?									
No - If you open the door open to pedestrians and housing is not similar or close to the housing in the village where I was living where the rooms are wider and the house is walled and there is a main entrance to the house and all units the same designs and windows and pop good quality and no units of a sectarian or tribal nature and housing randomly distributed It covers everyone regardless of the original residence and my neighbors from Aleppo and Banias									
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?									

Facilities are isolated from the rooms (separate bathroom and toilet) and there is room in front of the unit
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?
All social centers exist and strange and accessible to all and there is no restriction on one and gardens for all.
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?
It would be better if there are places for religious seminars and lectures
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like
For visits to homes are narrow and can not visit neighbors because of the lack of housing and the lack of a place to separate men from women and women gathered at the neighbors only and there is no place for them The disabled are not taken into account in this gathering and there are in the gathering all age groups and housing uniform design for all.
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
The village is typical and the services are available and the place is narrow and the design method is wrong.
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
All rooms have one size and same layout.
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
My income is limited, I am a worker and my income according to my work and I pay monthly from 5000-6000.
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
It should be better than that and the façade needs a flap where I suffer from the winter rain and rain enters and we put an insulator on the window and the epidemic runs out of water. Mosques and social centers are close and easy to reach
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
There is no housing to replace the old one because of the wig of relatives and friends.

A.8.13 Residents Interviews Of Ataa Complex Housing Participant 12:

A. INTERVIEW DETAILS							
A1	Date	28/4/2019	A2	Interviewer name (if he wants to answer)	Abdul Basset		
B. HOUSEHOLD DEMOGRAPHICS							
B1	Respondent sex	1= Male	2=Female	B2	Respondent age: 30		
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed		
B5	Total # Family living in the house	0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total

	Males				<i>I</i>		<i>I</i>
	Females				<i>I</i>		<i>I</i>
B6	Where did you live before ATAA complex housing?				Urban	Rural	
B7	How long have you lived in ATAA complex housing?	Less than a year	1 year	2years	3years		
C. Social Cohesion							
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?							
The design is inappropriate and differs significantly from the original place of residence.The house does not give any privacy of the adjacent buildings and the door versus the door.The sounds you hear from house to next door.Building materials are acceptable							
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?							
There are spaces between the apartments.Better place windows undisclosed.Increase the space and number of rooms							
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?							
Most of the time within the homes, although there are some social facilities, but sometimes we can not access the gardens because of the presence of women within these gardens and the social environment prevents from mixing to some extent Easy access to social facilities							
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?							
Lack of play areas for children or enough gardens.There are no playgrounds or places for entertainment and social events							
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like							
The house is not designed for people with special needs,In the gathering sizes of different families there are some families consisting of two people within the house and there are some families more than 10 people within the house.This causes great suffering							
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?							
The housing unit should be larger.Special needs are taken into account in the design.To take into account the size of the family compared to the size of the house and the number of rooms of the house more							
D. Cultural Adequacy							
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?							
All the apartments within the community are similar in design and are diverse in terms of family sizes and types of families.							
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms							
The fee paid is less than 10% for me.The amount paid is well proportional to the services provided by electricity, water and housing.Water is fully present on the network 24 hours a day.There are some fee exemptions for poor families							
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like							
There is a big difference between this house and the house I used to live in.There are many disadvantages such as the presence of doors on the opposite side of the street, which forced us to put a shader to give us some privacy.There are some advantages such as easy access to social facilities.Facilities are located in the middle of the pool.							
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?							
Lack of privacy and independence.Lack of space or balcony or balcony .Distances between apartments							

A. 8.14 Residents Interviews Of Ataa Complex Housing Participant 13:

A. INTERVIEW DETAILS								
A1	Date	30/4/2019	A2	Interviewer name (if he wants to answer)	Jawad al-Abrash			
B. HOUSEHOLD DEMOGRAPHICS								
B1	Respondent se	1= Male	2=Female	B2	Respondent age: 37			
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed			
B5	Total # Family living in the house		0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males					1		1
	Females					1		1
B6	Where did you live before ATAA complex housing?					Urban	Rural	
B7	How long have you lived in ATAA complex housing?		Less than a year	1 year	2years	3years		
C. Social Cohesion								
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?								
Toilet and bathroom are close to each other and should be separated and apartments are adjacent to each other and do not provide privacy for the house and the door versus the door in the apartments and high humidity in winter and high heat in summer and narrow streets between apartments and there is no private space for the house such as a garden or a small wall								
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?								
Expanding the rooms and the kitchen, separating the bathroom from the toilet, leaving spaces between the apartments, putting heat insulation, building a garden for each apartment and expanding the streets between the apartments.								
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?								
There are no barriers and there is no meeting space.								
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?								
The presence of a place dedicated to meetings, weddings, induction seminars and plays.								
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like								
There is a social mix throughout the village but there are no facilities to cater for people with special needs and the rooms are all like each other								
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?								
Establish a lounge for meetings.Periodic meetings between parents.Entertainment seminars, competitions and plays to introduce existing cultures								
D. Cultural Adequacy								
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?								
Yes provides one type of apartment								

D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
Exemption for widows and people with special needs - the services provided are electricity, water and hygiene and pay more than 30% of the monthly income
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
There is a big difference between the distribution of rooms and the location of the bathroom and toilet and there is no garden and there is no balcony and there is no distance between me and my neighbor and hear our conversations. The quality of the building materials is not good and there are cracks in the house and does not protect from moisture in winter and heat in summer.
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
The space is narrow and the bathroom and toilet with some - lack of privacy lack of garden - lack of private room for females - lack of private space for the house.

A. 8.15 Residents Interviews Of Ataa Complex Housing Participant 14:

A. INTERVIEW DETAILS								
A1	Date	26/4/2019	A2	Interviewer name (if he wants to answer)	Ali Mahmoud Salloum			
B. HOUSEHOLD DEMOGRAPHICS								
B1	Respondent se	1= Male	2=Female	B2	Respondent age: 30			
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed			
B5	Total # Family living in the house	0-2yrs		2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males					1		1
	Females					1		1
B6	Where did you live before ATAA complex housing?				Urban	Rural		
B7	How long have you lived in ATAA complex housing?		Less than a year	1 year	2years	3years		
C. Social Cohesion								
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?								
The house is good compared to the tents but very small like a prison. The area of the house is very small and specifically the kitchen. Having a bathroom and toilet together is not good. Construction materials are acceptable but we have a high humidity problem. The construction is of lower quality than the construction of neighboring residential complexes.								
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?								
The house should be larger. Kitchen and bathrooms design better and wider. Design of doors and windows with higher quality								
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?								
I am blind and I do not go outside except rare. For family members, they have full freedom of movement and access to social facilities and this enhances their sense of community.								

C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?
Lack of adequate social facilities
C.5 Explain about the social mix of the residents in the ATAA complex housing from your view as a resident like
The house does not meet the requirements of people with special needs. There is no space or space to move. The residential complex has a variety of sizes of small and large families.
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
Distribute apartments to serve a diverse social mix.
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
Yes, the pool has apartments with one design and is very similar.
D.2 Describe as a resident how ATAA housing complex take care about the affordability indicator in providing the housing units in terms
Costs are acceptable compared to services provided to middle-income families. As a person with special needs, I was exempt from these fees, especially since I cannot work and have no monthly income.
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
Dignity is essential and we live in dignity, but the lack exists in terms of building standards, doors are located opposite and very close to the street. There is no space in front of the house or a terrace to sit and even we can not open the door of the house and forced us to build a wall in front of the door of the house in order not to be exposed on the street. Having some parks and some social facilities is a positive thing.
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
Increase the area of the house as well as increase the number of rooms. Design the bathroom to suit people with special needs. Modify the home interface to give more leeway and maintain privacy.

A.8.16 Residents Interviews Of Ataa Complex Housing Participant 15:

A. INTERVIEW DETAILS									
A1	Date	25/4/2019	A2	Interviewer name (if he wants to answer)	Ali Mahmoud Salloum				
B. HOUSEHOLD DEMOGRAPHICS									
B1	Respondent	1= Male	2=Female	B2	Respondent age: 33				
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed				
B5	Total # Family living in the house			0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males			1	1		1		3
	Females					1	1		2
B6	Where did you live before ATAA complex housing?				Urban	Rural			
B7	How long have you lived in ATAA complex housing?			Less than a year	1 year	2years	3years		
C. Social Cohesion									

C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?
There is no respect for privacy and the room is small and there is no consideration for the multiplicity of individuals and rooms exposed to some and crowbar exposed to passers-by and there is a big difference between here and my old residence and the neighboring villages in terms of organization and social facilities, bathroom and kitchen are small.
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?
Rooms, kitchen and bathroom should be expanded.
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?
The place is clear as people come to it from outside the village and safety for anyone, but the garden is not suitable because it is of iron, which hurts children and must be safe plastic for children.
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?
Securing more safe space for children and equipping them better.
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like
I do not feel isolated, I am mixed with everyone and women are free to roam and the disabled are exempt from taxes, but the disabled can not enter his home without the help of people.Housing includes all age groups.It is uniform design
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
Distribute apartments to serve a diverse social mix.
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
A large family must be attentive and have privacy. A large family cannot accommodate these units.
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
3000 SP and there is no income.He proposed a reduction in housing and water wages.
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
Not satisfied with its design and is narrow and no entrance to the house and people have expanded the facade at its expense has borrowed for this.The gardens and facilities are very close and easy to access
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
The houses should be larger, the facilities are wider and the toilets will not be toward the qiblas.

A.8.17 Residents Interviews Of Ataa Complex Housing Participant 16:

A. INTERVIEW DETAILS					
A1	Date	27/4/2019	A2	Interviewer name (if he wants to answer)	Firas
B. HOUSEHOLD DEMOGRAPHICS					
B1	Respondent se	1= Male	2=Female	B2	Respondent age: 42
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced

					4=Separated	5=Widowed			
B5	Total # Family living in the house	0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total		
	Males				1		1		
	Females	1	1		1		3		
B6	Where did you live before ATAA complex housing?				Urban	Rural			
B7	How long have you lived in ATAA complex housing?	Less than a year	1 year		2years	3years			
C. Social Cohesion									
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?									
Unsuitable building standards and toilet and bathroom side some apartments are very close to each other and there are insects and there is no privacy and high humidity in winter and heat in summer and there is no room dedicated to females									
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?									
Expanding the rooms - making space between the apartments, putting heat insulation, separating the bathroom from the toilet and making a special space for the house									
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?									
Relatively few because there are no public facilities or meeting room except the mosque and school									
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?									
Create a large meeting room and activate plays									
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like									
There are in all respects and types of families but does not take into account the subject of special needs.									
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?									
Establishing a playground, cultural centers, library and a large hall where people can meet and activate entertainment plays									
D. Cultural Adequacy									
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?									
Yes all apartments are the same size									
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms									
Exemption of widows and people with special needs provides services such as electricity, water and hygiene and pay almost 20% of monthly income									
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like									
The quality of construction and design is good and not suitable for large families. Lack of a special room for girls.Apartment near each other.Lack of privacy for the house									
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?									
The space is narrow and the bathroom and toilet with some - lack of privacy lack of garden - lack of private room for females - lack of private space for the house									

A.8.18 Residents Interviews Of Ataa Complex Housing Participant 17:

A. INTERVIEW DETAILS							
A1	Date	26/4/2019	A2	Interviewer name (if he wants to answer)	Mohammed Yasin		
B. HOUSEHOLD DEMOGRAPHICS							
B1	Respondent se	1= Male	2=Female	B2	Respondent age: 50		
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed		
B5	Total # Family living in the house	0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males			1	2		3
	Females			2	2		4
B6	Where did you live before ATAA complex housing?				Urban	Rural	
B7	How long have you lived in ATAA complex housing?	Less than a year	1 year	2years	3years		
C. Social Cohesion							
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?							
The house is different from the original in terms of space and organization and there is no room for comparison.The building facilities are not suitable, which leads to dampness in the rooms, a large deterioration in the sink, a low cement plastering, which makes it descend under the walls. Neighbors which executes privacy. The presence of the bathroom with toilet jointly contradicts the obligation of religious as well as the small space that can not be modified.The houses are opposite each other and therefore can not stand on the doors of the houses once and for all, especially by women							
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?							
Increase the space.Quality in material and work.Secure privacy (a small garden for each house, better insulate the walls so that the thicker and the finest plaster materials are better).Observance of religious traditions and separation of toilet from bathroom.							
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?							
The different areas of families living in the community make the mixing on a small scale, and the limited space does not allow the reception of guests often.The presence of gardens on the average between residential blocks makes sitting in them awkward especially for women.Lack of halls or places for recreational games and events or places for the establishment of useful professional training, for example, children trip to the swimming pool in summer require them to coordinate with a car in advance to transport them within 3 km (swimming pool in Atma) and go exclusively in the day and often once in the season because the trip can not be repeated.							
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?							
The establishment of avoided gardens, the last housing units to provide comfort for families, especially women when they visit and place seats in them and to be accessible easily, especially for people with disabilities,Appointing a worker to maintain periodic street lighting and continuously switching batteries in case of failure. Establishing places for professional training and educational courses that make residents a single social fabric.Establishing suitable places for children's play and entertainment							

C.5 Explain about the social mix of the residents in the ATAA complex housing from your view as a resident like
The space is small and can not accommodate the same family, especially when the presence of males and females in the same family. Home design never fits with a disability at home, especially in health facilities.
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
Increase the area of the apartment and provide more privacy so that the rooms are independent of each other and isolate the benefits from each other make them extreme and not in the center of the house so cause embarrassment in case of guests
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
Not suitable for all families because they vary in size and number of individuals and there may be disabilities or loss of one of the parents and this requires privacy for each family can be provided a minimum increase the area of the apartment and a fence for each block separately.
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms
We are exempted from payment due to poor physical condition, but if the water bill exceeds a certain limit we pay, Usually the water and electricity bill is paid for good services, but the housing rent does not provide any service to meet him.
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
There is no privacy in the housing unit where the insulation has been installed to provide some kind of privacy and safety, for example, some pieces of clothing were stolen from the common clothesline, which is practically in the street and cannot be deployed clothes only when absolutely necessary. Most of the locks open the same apartment in the pool, which makes it unsafe if there is no possibility of changing the lock specifically. There is a health center but an administrative spiral ends at 2 pm. There is a mosque within the gathering and women can come to attend some religious classes
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
Increase the apartment area and the independence of the rooms within it. Isolate the benefits from each other and take into account religious matters and purity and isolation. Build a small garden or wall for each apartment as an outlet and use it to spread the laundry and Increase the quality of building materials and technology in design

A.8.19 Residents Interviews Of Ataa Complex Housing Participant 18:

A. INTERVIEW DETAILS									
A1	Date	25/4/2019	A2	Interviewer name (if he wants to answer)	Mahmud				
B. HOUSEHOLD DEMOGRAPHICS									
B1	Respondent	1= Male	2=Female	B2	Respondent age: 50				
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed				
B5	Total # Family living in the house			0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males				1		1		2
	Females				1		1		2
B6	Where did you live before ATAA complex housing?			Urban	Rural				

B7	How long have you lived in ATAA complex housing?	Less than a year	1 year	2years	3years
C. Social Cohesion					
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?					
The most important subject is the very narrow house area and the number of rooms in addition to the design of rooms open room on the second room. There is a kitchen between the rooms without any ventilation. Having a bathroom and toilet together within a narrow space. The house does not have any insulation neither to moisture nor heat. The design of the roof in a diagonal way is absolutely useless if it were even and we could benefit from it. The construction is of medium quality compared to other residential complexes					
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?					
The area of the apartment is larger and the number of rooms is larger. The bathroom is separated from the toilet. The house is designed to insulate moisture Good ventilation					
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?					
The truth is weird, but circumstances have forced us to adapt to society. Especially with some expanse, gardens and a common mosque. But the limited space of the houses prevents us from receiving guests and this is sometimes embarrassing					
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?					
Lack of adequate clearance. Lack of recreational places such as stadiums. Tight spaces					
C.5 Explain about the social mix of the residents in the ATAA complex housing from your view as a resident like					
There is a diverse mix of families within this gathering, but this design does not take into account people with special needs or in any way, causing great suffering for these people. There are different sizes of families living in this community. Large families suffer from limited space					
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?					
Housing unit to be larger. Special needs are taken into account in the design To take into account the size of the family compared to the size of the house and the number of rooms of the house more					
D. Cultural Adequacy					
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?					
All the apartments within the community are similar in design and are diverse in terms of family sizes and types of families					
D.2 Describe as a resident how A TATA housing complex take care about the affordability indicator in providing the housing units in terms					
The costs we pay per month are fairly acceptable less than 10% of my average monthly income. The amount paid is well proportional to the services provided by electricity, water and housing					
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like					
As for the design of the facade is not suitable at all and there are many drawbacks, the most important of which is that there is no privacy at all for the apartment once the door becomes open house on the street. Although there are some expanses and gardens, they are few compared to the population					
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?					
It is very important that there are play areas for children because most of the children play in front of their homes, which causes great noise and disturb the parents. More gardens. There is a balcony or backyard for the house					

A.8.20 Residents Interviews Of Ataa Complex Housing Participant 19:

A. INTERVIEW DETAILS								
A1	Date	24/4/2019	A2	Interviewer name (if he wants to answer)	Yasser Abu Mohammed			
B. HOUSEHOLD DEMOGRAPHICS								
B1	Respondent sex	1= Male	2=Female	B2	Respondent age: 43			
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed			
B5	Total # Family living in the house		0-2yrs	2-5yrs	5-18yrs	18-59yrs	60plus	Total
	Males			1	1	1		3
	Females				2	1		3
B6	Where did you live before ATAA complex housing?				Urban	Rural		
B7	How long have you lived in ATAA complex housing?		Less than a year	1 year	2years	3years		
C. Social Cohesion								
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?								
Housing for all regardless of their place of origin and there is no block has a single character and the unit does not respect privacy and the interface is not good and the house is exposed and does not compare with the old residential nor with the neighboring villages, but here I feel independence, where housing is like a royal								
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?								
Expansion and allocation of units that take into account the situation of the disabled and take into account the number of individuals and have more independence and that there is a separation separated from the neighbors								
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?								
Clear and easy to access and no restriction on them and gardens must be equipped with more safety equipment								
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?								
Safety must be observed in the gardens and there are seats for people								
C.5 Explain about the social mix of the residents in the ATAA complex housing from you view as a resident like								
There is no isolation I know people and people know me and exchange visits and there are no restrictions on women and the existence of workshops to teach the Koran to women and the disabled does not take into account in terms of services and housing								
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?								
Should make special units for the disabled and their own bathroom								
D. Cultural Adequacy								
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?								
Yes, all rooms are similar in size and design								

D.2 Describe as a resident how ATAA housing complex take care about the affordability indicator in providing the housing units in terms
I pay from 5000-6000 (3000 electricity 1500 house 2000 water and does not fit my income.Please ease the price of amps
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
Have a balcony and an external wall.Social centers are nearby
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
Each house has its own independence, the facilities are wider and the destination is more private

A.8.21 Residents Interviews Of Ataa Complex Housing Participant 20:

A. INTERVIEW DETAILS									
A1	Date	28/4/2019	A2	Interviewer name (if he wants to answer)	Nasser				
B. HOUSEHOLD DEMOGRAPHICS									
B1	Respondent	1= Male	2=Female	B2	Respondent age: 43				
B3	Sex of HH head	1= Male	2=Female	B4	Marital status of household head 1= Single 2=Married 3=Divorced 4=Separated 5=Widowed				
B5	Total # Family living in the house	0-2yrs		2-5yrs	5-18yrs	18-59yrs	60plus	Total	
	Males				1	2		3	
	Females				1	3		4	
B6	Where did you live before ATAA complex housing?					Urban	Rural		
B7	How long have you lived in ATAA complex housing?		Less than a year	1 year	2years	3years			
C. Social Cohesion									
C.1 Do you think as a resident that ATAA complex housing succeeded in avoiding stigmatization and social segregation(the residents who live in ATAA housing unit doesn't feel that they are a group that has socially characteristic grounds that are perceived and serve to distinguish them) in the designing of its housing unit?									
1. The situation was better in our homes Design in these houses moans of utilities located in the middle of the apartment.2. Having a bathroom and toilet in one place combined, this is contrary to the customs of Muslims in terms of purity.3. The apartments lack pillars (pillars) causing cracks in the walls.4. The drain is located at the highest point in the house and water accumulates at the lowest point due to the irregularity of the earth's drain.5. The windows are high and small which causes lack of ventilation in the apartments.6. Exterior door of the apartment detector for the house directly.7. Locks are very poor which causes easy dislocation.8. The kitchen is very tight.9. There are no doors for all the dividers in the house.10. The walls are coated with cement only, which causes the inability to clean them									
C.2 According to the previous discussion what do you think can increase the avoiding of stigmatization and social segregation in future projects?									
1. Public facilities shall be placed at one end of the apartment and not in the middle. .2Separate the bathroom from the toilet. .3The distance between the house and the street .4The presence of supports (pillars) to prevent cracking walls .5Place the water drain at the lowest point in the house for easy drainage									

6 .Make windows larger for better airflow and to renovate and ventilate rooms. .7Installation of doors for joints. .8Expand the benefits further to make better use of them (there is a place to put household items). .9The presence of a veranda to prevent the entry of the sun in summer and rain in the winter.directly into the apartment leading to suffering in housing .10Paint the walls with paint material for easy cleaning
C.3 Please explain as a resident if ATAA housing complex succeeded in increasing the feeling of belonging to the same community for you as a resident?
The presence of gardens, mosque, school and dispensary as a good building and good cadre, but lacks the presence of Medication related to chronic diseases such as diabetes and pressure and the absence of a laboratory for analysis, which we have to travel a distance of 3 km to conduct tests
C.4 According to the previous discussion, what do you think can increase the feeling of belonging to the same community in future projects?
Establishing a cultural center and library for cultural matters .Serving the health center better in terms of medicines .The presence of a laboratory for analysis
C.5 Explain about the social mix of the residents in the ATAA complex housing from your view as a resident like
The lack of isolation and privacy through housing, the existence of apartments opposite to other apartment .There are not enough requirements for people with special needs through easy mobility alone .The housing complex contains various sizes of small and large families
C.6 According to the previous discussion, what do you think can increase the social mix in future projects?
Design the apartments in proportion to the number of family members .Taking into account people with special needs and the presence of a syphilis bathroom and the lack of high entrance for easy movement narrow space
D. Cultural Adequacy
D.1 Ataa housing complex provides one type for the social house units? Explain if you agree or not, and why?
I do not agree that a large family will have a large apartment to suit its size
D.2 Describe as a resident how ATAA housing complex take care about the affordability indicator in providing the housing units in terms
For the disabled, the widow and the poor, they are exempted from the monthly fees, one free electric anber and a certain amount of water in case they are exceeded
D.3 Do you think as a resident that ATAA housing complex gives you a sense of dignity and feeling of home like
Some apartments are facing each other causing embarrassment to the citizen. The presence of high moisture cracked in the walls.The interface of the unit is not suitable as it is directly on the street . Lack of balcoyn to maintain privacy .There is no cultural center and sports center and there is a religious center and suitable in terms of construction, furniture and distance
D.4 According to the previous discussion, what do you think can increase the sense of dignity and feeling of home in future projects?
A space between the door of the house and the street.Having a veranda to maintain privacy.There is an entrance for each apartment so that it is isolated from the neighboring apartment

CURRICULUM VITAE

Name & Surname: Abdulaziz Al-Mansour

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Place and Year of Birth: Idleb 17/10/1987

Foreign Language: English

Primary Education: (Alrrayida Alarbia and 2000)

Secondary Education: (Alhasan Ibn Alhaitham and 2006)

Undergragate: (Albath University and 2012)

Name of Institute: Graduate School of Natural and Applied Sciences

Name of Master's Program: Architecture (English-Thesis)

Working Life:

Co-founder at Divvan Architectural Design Company 2018 until now.

Program Officer at ATAA humanitarian relief association 2017 until now.

Water Sanitation and Hygiene Promotion projects manager at IYD (Uluslararası İnsani Yardımlaşma Derneği) 2015 to 2017.

Monitoring Evaluation Learning and Accountability manager at IHR (International Humanitarian Relief organization) 2014-2015.

Architect at ART for GFRC 2012 -2014.