THE PHENOMENOLOGICAL SIGNIFICANCE OF DWELLING IN ARCHITECTURE

THE CASE OF EASTERN BEKA'A VALLEY - LEBANON

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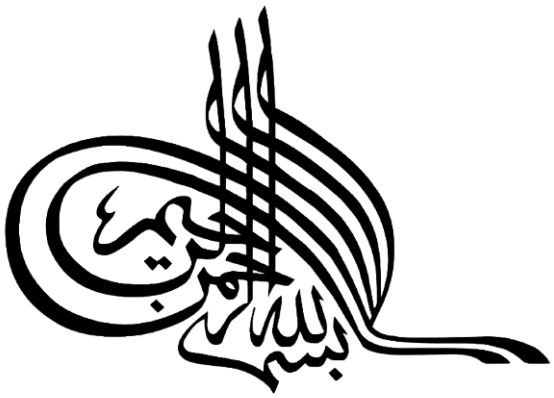
SUBMITTED TO THE DEPARTMENT OF COMPOSICIÓN ARQUITECTÓNICA. PROGRAMA DE DOCTORADO EN ARQUITECTURA, EDIFICACIÓN, URBANISTICA Y PAISAJE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR AT THE UNIVERSITAT POLITECNICA DE VALENCIA

MAY 2020

UNIVERSIDAD POLITECNICA DE VALENCIA



Dedication: To the long Awaited, my Mother, and Father

''العلم اصل كل خير، والجهل اصل كل شر"

الامام علي ابن ابي طالب (ع)

"Knowledge is the root of all good, and ignorance is the root of all evil."

Ali Ibn Abi-Taleb

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Abstract

Phenomenology in recent years has gained throttle in the philosophical domain; more specifically, the phenomenological methodology had its most significant impact on architectural interpretation and understanding. It is unusual how the phenomenological discourse appeared in the architectural prospect on the decays of structuralism and semiotics. On the other hand, in humanities and philosophy, the growth of structuralism happened only after the decline of phenomenology. These paradoxical conditions are explained due to the translation delay of philosophical ideas and their implementation in architecture. In this research, we dig into the essential question of architectural experience by studying architecture through its phenomenological significance as a dwelling attitude to its inhabitants. The study is on dwellings in the eastern Bekaa region -Lebanon, on houses built between two significant eras, a time frame that shows the essential difference between two construction methods and the transitional phase in-between. Showing case the different typologies that generated in the same area, comparing the area's vernacular architecture and sustainable designs, addressing whether these typologies had any effect on the dweller's socio-cultural and socio-economical dynamics.

The area of study is still virgin to different phenomenological interpretation, as the drastic change of typologies occurred in the past 50 years. Dwellers just recently overcame the transitional phase, from applying vernacular construction means, to applying new construction technologies with globalized materials. The area permits us to question the primary existential question of being-in-world, and how citizens coped with their environment in order to sustain their existential being through architectural means.

We examine the following phenomenon by learning from dwelling theorists and phenomenologists, focusing on phenomenologists such as Martin Heidegger, Merleau-ponty, and Christian Norberg-Schulz in an attempt to correlate phenomenology with sustainability.

Additionally, interpreting architecture hermeneutically through the Arabic parables to comprehend it better in concern with its cultural context.

Resumen

El papel de la fenomenología ha sido clave en el terreno filosófico. La metodología fenomenológica ha tenido un impacto significativo en la interpretación y comprensión arquitectónica. Puede parecer absurdo cómo el discurso fenomenológico aterriza en la arquitectura a partir de la desintegración del estructuralismo y la semiótica, mientras que en el campo de las humanidades, y concretamente en el ámbito filosófico, el estructuralismo se desarrolla, precisamente, a partir del declive de la fenomenología. Esta situación paradójica se explica a raíz de la demora en la traducción de las ideas filosóficas y su implementación en la arquitectura.

En esta investigación se pretende profundizar en la cuestión esencial de la experiencia arquitectónica a partir de la comprensión de los modos de habitar. El estudio se desarrolla en el conjunto de viviendas de la región oriental de Bekaa (Líbano), a partir de casas construidas en dos periodos significativos, periodos que permiten distinguir entre dos modos de construir contrastados, con una fase de transición intermedia. Se muestran las diferentes tipologías que proliferaron en una misma área, permitiendo comparar las arquitecturas vernáculas y los diseños sostenibles, planteando a su vez si estas tipologías tuvieron algún efecto en la dinámica sociocultural y socioeconómica de sus habitantes.

El interés del área de estudio radica en considerarse un terreno virgen para abordar diferentes interpretaciones fenomenológicas, ya que el cambio drástico de tipologías ocurrió en los últimos 50 años. Los habitantes superaron la fase de transición recientemente, partiendo de la aplicación de medios de construcción vernáculos hasta la aplicación de nuevas tecnologías de construcción con materiales globalizados. El área nos permite cuestionar la cuestión existencial primaria del ser-en-el mundo, y cómo los ciudadanos cooperaron con su entorno para mantener su ser existencial a través de medios arquitectónicos.

Examinamos el siguiente fenómeno aprendiendo de los teóricos de la vivienda y los fenomenólogos, centrándonos en fenomenólogos como Martin Heidegger, Merleau-Ponty

y Christian Norberg-Schulz. Además, interpretando la arquitectura hermenéuticamente a través de las parábolas árabes para comprenderla mejor en relación con su contexto cultural.

Resum

El paper de la fenomenologia ha sigut clau al terreny filosòfic. La metodologia fenomenològica ha tingut un impacte significatiu a la interpretació i comprensió arquitectònica. Pot semblar absurd com el discurs fenomenològic aterra a l'arquitectura arran la desintegració de l'estructuralisme i la semiòtica, mentre que al camp de les humanitats, i concretament a l'àmbit filosòfic, l'estructuralisme es desenvolupa precisament partint del declivi de la fenomenologia. Aquesta situació paradoxal s'explica arran el retard a la traducció de les idees filosòfiques i la seua implementació a l'arquitectura.

A aquesta investigació es pretén aprofundir a la qüestió essencial de l'experiència arquitectònica partint de la comprensió de les maneres d'habitar. L'estudi es desenvolupa al conjunt d'habitatges de la regió oriental de Bekaa (Líban), partint de cases construïdes a dos períodes significatius, períodes que permeten distingir entre dos maneres de construir contrastades, amb una fase de transició intermèdia. Es mostren les diferents tipologies que van proliferar a una mateixa àrea, permetent comparar les arquitectures vernacles i els dissenys sostenibles, plantejant a l'hora si aquestes tipologies van tindre cap efecte a la dinàmica sociocultural i socioeconòmica dels seus habitants.

L'interès de l'àrea d'estudi radica en considerar-se un terreny verge per enllestir diferents interpretacions fenomenològiques, ja que el canvi dràstic de tipologies va ocórrer als darrers 50 anys. Els habitants van superar la fase de transició recentment, partint de l'aplicació de mitjans de construcció amb materials globalitzats. L'àrea ens permet qüestionar la qüestió essencial primària de l'ésser-al-món i cóm els ciutadans van cooperar amb el seu entorn per mantenir el seu esser existencial per mitjan de mitjans arquitectònics.

Examinem el següent fenomen aprenent dels teòrics de l'habitatge i els fenomenòlegs, centrant-nos en fenomenòlegs com Martin Heidegger, Merleau-Ponty y Christian Norberg-

Schulz. A més, interpretant l'arquitectura hermenèuticament mitjançant les paràboles àrabs per comprendre-la millor en relació amb el seu context cultural.

ACKNOWLEDGEMENTS

I have been indebted to many in the process of writing this thesis. I would like to thank God for all the blessings that He gave me and all that He did not give me. This indeed was a life-changing experience, where all the suffering and long nights have made it all worth the reward of satisfaction at the end. I would like to thank my mother and father for their continuous guidance and support, without whom I would not have been the man that I am today. You believed in me and kept pushing when no one did. Moreover, the support, motivation, and information that my sister Dr. Soumaya and my wise brother Reda have provided.

I owe my most profound appreciation to my advisor Dr. Guillermo. Thank you for your enthusiasm and the invaluable models of your knowledge you had provided encouragement, freedom, and guidance when each was necessary. Moreover, thanks to every entity and library documents at the Universitat Politècnica de València, giving me access to all the needed information while providing a suitable environment for knowledge and education.

I owe thanks to numerous individuals and institutes who shared encouragement in abundance, especially Baalbek's and Nabisheith's municipal members, for opening up all the archives. I thank all these scholars for their generosity and the inspiration that their work has provided.

To my beloved wife and partner, Dana, thank you for being able to handle my stressful days, while being there always as a support, you shared the journey with me and made it a joy. Finally, to our lovely little Sophia, the joy of our lives, we both can't wait to see you baba.

INTRODUCTION

A house that has been experienced is not an inert box. Inhabited space transcends geometrical space. ***Gaston Bachelard***

1.1 Context

In the past century, the question of architecture and its essential role has been questioned by several theorists and philosophers. It is peculiar that the phenomenological discourse appeared at the architectural scene after the decline of structuralism and semiotics. At the same time, as in philosophy and the humanities, it turned into the decline of phenomenology in the Sixties that brought on the development of structuralism. This ambiguous situation can be explained via the time-lapse between when instant philosophical thoughts are articulated and their translation into the architectural field.

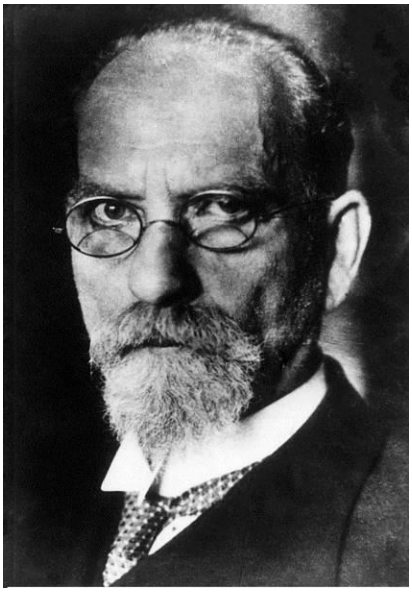


Figure 1 Edmund Husserl Source: Mondadori Portfolio (1910)

Phenomenology in its new form, owes its fundamental thrust to Edmund Husserl and Martin Heidegger. Husserl launched the phenomenological movement in philosophy with the reason for developing it into a way of precise philosophical investigation. Other theorists such as Christian Norberg-Schulz, Gaston Bachelard, and Maurice Merleau-Ponty, argued about the dwelling experience and its essence. The subjective importance, according to these theorists, that dwelling in a space is a poetic experience referring it to be an existential phenomenon that raises conscious awareness building on Heidegger's being-in-the-world.

Norberg-Schulz additionally presented another idea that would expand, later on, that of Genius loci, Literally the ''spirit of the place'' (Norberg-Schulz, 1981). Norberg-Schulz alluded to Heidegger's exposition on abiding and the underlying etymological foundations of ''building'' which return to ''dwelling'', focusing on the house role as a ''concretization of existential space''. In addition, ''building space'' which he defined as a ''concretization of existential space'', delineated by

a chronicled study of different architectural works, whether they are villages or towns to specific architectural artifacts, exposed to a classification as far as the spatial ideas of center, path, and domain, as well as a qualitative explanation in terms of their phenomenological attributes. Existential space was thus defined as qualitative space (Haddad,2010).

Heidegger also indicted the inability of dwelling for modern man. Norberg-Schulz articulated the expectation that the revival of this figural quality, as apparent in several post-modern projects, will again make dwelling possible. Despite the cautionary statement against the fall into eclecticism, he indicates his optimistic note that this recovery of figural quality would become principal to a recovery of dwelling, in which phenomenology would play a significant role as the catalyst for the rediscovery of the poetic dimension in architecture. Nevertheless, Heidegger stresses the ability of our vernacular architecture and simple dwellings to emphasize the role of an authentic architecture.

The notion of vernacularity in architecture in recent decades, portrayed as a label that seems more of a marketing scheme rather than an authentic approach. Furthermore, it is thought that contemporary architecture is heading towards sustainability, connotating that this new trending notion has demarcated a new era of architecture, architecture that it lost its essential path through modernism, a path that is objective in its core rather than natural and humane. Nevertheless, if we actively study our past, architecture will convey a different story, as architecture has been sustainable since its cradle, as it was all about fulfilling human's daily needs through interconnectedness with its natural surroundings (Vegas et al., 2014).

In the current zeitgeist, citizens of the world lost their essential means to sustainability due to the prioritization of the fast-paced developed world.

Cooping with a fast-paced world, became more critical of the interconnectedness with the surrounding environment. It is just recently, with the trending of sustainability, that we started thinking of ways to save our planet. Recently, professionals started looking at case studies from the past in order to counterbalance the effective technological method of sustainability with ancient passive methods of sustainability, hence, looking in-depth into our vernacular architecture.

Figure 2 Vernacular architecture of the Bekaa Valley - Yahfoufa Source: Author (2020)

On the other hand, due to the contemporary habits, citizens have not lost control and exploited their external habitats only, but also, lost control of their inner beings in the process of subjoining the fast-paced technological world. Hence, widening the gap of the - subjective/objective – Empirical/rational — Spirit/body … split. A split that theorists such as Sayn Mohantym, Foster, and Benet, critiqued, and its significant architectural role. Searching for an adequate answer to this split, and looking for common ground can be found by introducing a new methodology that would relate both dimensions. The fact that architecture implies an existential process of dwelling on earth, utilizing empirical data that might create a common ground for us to redefine and relate sustainability with phenomenology.

In this research, we dig into the essential question of architecture experience by studying architecture through its phenomenological significance as a dwelling attitude to its inhabitants. The studied area is located on the eastern part of Bekaa Valley, Lebanon - more specific "El Nabi Sheith" - and it will be on dwellings built between two significant eras; an era that built sustainable dwellings through vernacular knowledge, and another that built to catch up with the modernized world. The studied time frame (1920 - 2020) shows the essential difference between two construction methods and attitudes. Showing case, the

Figure 3 Bekaa Valley from El Nabisheith Source: Author (2017)

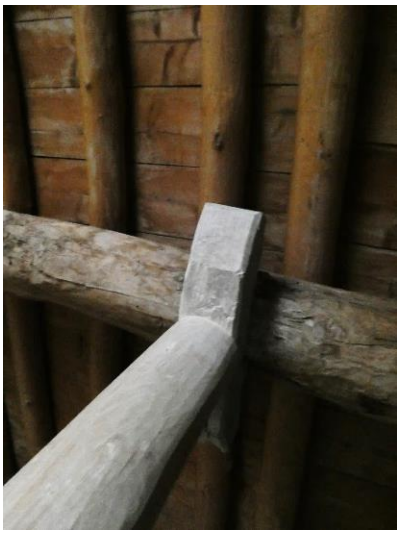


Figure 4 "Shama'a" (Column) with the "Taj" (Capital) in a dwelling in El Nabisheith Source: Author (2018)

different typologies that generated in the same area in a small time-frame due to numerous reasons.

We will examine the evolution of building typologies through a chronological timeframe while dividing the construction behavior and phenomena into four eras; pre-modernization, transitional phase, Modernization and post-political modernization.
In the former, buildings were being built with no architects nor engineers; they were built by a local mason named “Mu’alim”. The local mason built according to the local understanding of basic shelter, function, and need. The shelters were food supply, and the surrounding environmental challenges. Furthermore, ornamented arts and elements of design are found, as a simple decorative touch to their dwellings, expressing their minor artistic qualities. On the other hand, later on, this traditional construction and phenomenon transformed with the introduction of new construction technologies. Abrupt use of new materials and technologies not only changed the architectural typologies, but it also altered their existential attitude and how they reacted to their built environment. Moreover, a new construction modular spread rapidly in the 21st century due to a political decision, hence, understanding the repercussions of such decisions on both the socio-cultural and economic factors.

Figure 5 Roof slab concrete pouring during fall on the verge of winter Source: Author (2018)

Architecture in its contemporary form in the studied area is ringing a bell against the past vernacular knowledge and the well-being of dwelling in a space, besides, disrupting the regional landscape and the environment.

Such phenomenon ensued due several reasons; one direct influence is due the municipal dispensing of Municipal licenses[1] without referring back to the Order of Engineers and Architects (OEA), which it resulted in a chaotic sprawl of concrete, on a land - Bekaa Valley[2] -known for its fertile soil, and its vast farming lands. The area's late expose to modern education, two devastating wars[3] , and several demographical changes[4] prevented citizens – especially the Bekaa region – from getting a proper education or maintaining their vernacular traditions.

The study's theoretical framework is on the significance of architecture experience and the phenomenological articulation of dwelling, which will facilitate our understanding of the objective-subjective role of house dwelling. The theory will be tested in the specific area in the Bekaa Valley "El- Nabisheith,"

Figure 6 Sheppard resting under the tree
Source: Author (2018)

[1] Municipal licenses (Rokh̄sat Baladeya) are given to all citizens who want to build houses less than 150 m² with ability to get an "Exception" (Estethnaa) – ability to get it through political intermediary - in which the construction can be built up to 250 m². Retrieved from the El Nabisheith municipal archives. Accessed 2018

[2] Is considered to be Lebanon's most important farming region, allocation around some 40% of all Lebanese arable land. The area served since the Roman empire as the grain source for the roman provinces in the Levant. Retrieved from Globaleye.org,uk . Accessed 2019

[3] Two long wars in the near past had a great impact on the country; 1975- 1991 Civil war, 1982-2000 Israel's invasion to Lebanon.

[4] Ottoman's occupation 1517 – 1917, French mandate 1920 - 1948

for the area's unique character to enrich our study. This study will allow us to compare architecture and its essential importance to inhabitants between present contemporary use and past living habits, in a trial to relate existential dwelling authenticity to architectural sustainability. Additionally, examining sustainable lessons learned from the vernacular heritage of the studied area as traditional buildings in the area are vernacular architecture, that signifies a morphological answer to both the socio-economic and characters of a society, and the environmental and climatic constrains. Besides, architectural elements and materials used are climatic responsive which are customized according to fit in this specific environment.

Figure 7 Bekaa valley by the end of summer
Source: Author (2018)

1.2 MOTIVATION, AIMS & OBJECTIVES

The motivation behind this work is due to multiple concerns that gave rise to problems that need some questioning and solution if it ought to have one. Moreover, architecture concerns about the studied area arose due to several events that transpired. Such reasons vary from construction experience, politics, deprivation, and the author's familiarity with the inhabitants of the area. Moreover, expressing the universal split between objectivity and subjectivity on an architectural common ground.

The problematic found is not only profound to this area of study, "el-Nabisheith," but it also exists in several other regions around Lebanon and the World. However, every culture reacted to this phenomenon differently due to their local methods of construction, knowledge of material use, and overall attitude towards being-in-the-world, or as Heidegger would call it "Dasein."

In specific, the problematic manifested rapidly in the studied area - in a relatively short time - due a political decision. Nevertheless, the problem persists and can be allocated through abstracting the concept of construction into a logical sequence, that might help us understand our existential foothold. Moreover, later on, in the process of writing this thesis, I discovered the lack of documented information about this area - whether it is their rich vernacular architecture methods, history, photos, or maps – in which it acted as a greater motive to proceed in this study as any information concerning this region of Lebanon acts as a great value for proceeding researchers. It is hence exploiting and

understanding the traditional sustainable methods used by the indigenous people of this area.

The present project aims to study dwellings built from the early 20th century till the early 21st century in Eastern Bekaa, Lebanon. The study is from a philosophical and practical perspective of Dwelling, being, and aestheticism, and on the other hand, from a sustainable, and empirical perspective. Houses originally in eastern Bekaa Valley, were built according to their fundamental functional need, based on basic sustainable methods to withstand different climatic changes. Our research will be based on the philosophical perspective of existential space and the morphological development of the dwelling space tenacity over time.

The difficulty in approaching this study lies in the minor works done in the selected area. Among the main scientific objectives of the research are:

1- Purpose a methodology to coherently address the dwelling space formation of the Eastern Bekaa province, showcasing their vernacular method of living.
2- Addressing the sustainable dwellings through a tri-operative approach, hence defining the environmental, socio-cultural, and socio-economic aspects.
3- Linking the Sustainable Method with the Phenomenological discourse in order to perceive if there is a direct relation between both dimensions.
4- Define a set of criteria for the enhancement of this unique phenomenon.
5- Raise awareness on the power of politics that can change an architectural typology that might affect the residence experience while reflecting on its landscape.

6- Define the existential foothold of a specific culture rather than importing a module from different cultures.
7- Define the dwelling experience of the inhabitants of the studied houses to generate a document that includes the poetic expressions and experience, which can serve as an instrument for future architects and researchers of the region.

1.3 METHODOLOGY

The investigation begins with a process of consulting sources at different levels. The methodological process is articulated around different stages that include a qualitative and quantitative analysis. On one hand, it was necessary to dedicate a period to assume the context from very diverse historical, cultural, sociological, geographic, and architectural perspectives. Given the characteristics of the research, the context should also refer to different scales on a macro and micro level, varying from urban demographics to architectural details. During the literature review process, we adapted to the *Versus project*[5] methodology in the last part, which relates vernacular features to geographical contexts, besides directing the approach behind the understood vernacular solution. The revision of the literature addresses the specific development of concepts regarding sustainable and vernacular buildings. The project's method aims to study a context from four different principles; Phenomenological, environmental, socio-cultural, and socio-economic principles. Another principal aim was to integrate the philosophical approach of phenomenology into the sustainable approach to the contextual study. The method extends the analysis to different scale

[5] The versus project (started in 2009) is a study based on key principles regarding vernacular knowledge and its contribution for sustainable development. Lessons learned from vernacular heritage are systematized through principles that define a wide number of strategies to consider and integrate sustainable contemporary architecture. This occurred due to establishing operational definitions regarding vernacular architecture and sustainable architecture. Based on the literature review and case studies from vernacular and contemporary architecture, data was collected and a research method was developed to provide operative knowledge that could be integrated on design studio processes, in order to improve the sustainability of contemporary architecture, at environmental, social and economical levels.

interventions from historical context, territorial dynamics, cultural milieu, political influences, and philosophical discourse.

- The versus methodological approach which entails understanding the sustainable quality of a context through vernacularism.

- The operative approach of establishing reviewing the literature of the three principles; Environmental, Socio-cultural, and Socio-economical principal.
- The international scale: concerning international dwelling theorists, especially post-war resolutions, or political issues that have repercussions at the national level. Also, the theoretical influences on reality through an international panorama.
- The national scale: concerning the national phenomenon of understanding dwelling in its authentic cultural context by digging into the etymology of the word. Also deducing how the theory is defined at the national level and its cultural comprehension.
- To understand the demographical change that led to the settlement of current residents in such an environment.
- The specific national framework: referring to the national importance for artistic quality and aesthetics. Furthermore, how it was affected by a pre-globalization dispute.

Bibliographic supports are referenced in this paperwork and, they have been obtained from multiple sources (university library, Municipalities, Residents' personal photographic archives, historical archives for photographic access, public libraries, and digital files obtained through the internet). In the section of the state of the matter, the most outstanding references are outlined. Along with this information, the set associated with:

- Phenomenological treaties by theoreticians and philosophers

- Academic references through the documentation associated with engineering training schools in the specific area (Lebanese University Laboratory Research).
- The archives of both municipalities; Baalbek and Nabi sheith.
- The archeological records of the different houses in the designated area given by either the locals or the corresponding municipality.
- Interviews with local Mukhtars.
- Qualitative surveys circulated in the area of study.
- Historical photographs of the eastern Bekaa Villages.
- Governmental papers for official documents entailed the decisions claimed.
- Personal photo archives of locals.

At the end of this document, I will highlight the set of a photos, maps, and some processed information from archives such as Lebanese University Lab, Baalbak Archives, Municipality documents, Municipality of restoration and archeology, UNDP documented Files. The files are found in both formats hardcopy and softcopy. The documentations are obtained by different means: digitized files certified photocopies or own photographs made in the corresponding study.

1.4 CHAPTER SUMMARIES

Chapter 1

In the first chapter, we start by presenting a brief introduction to phenomenology in general, afterward, we introduce the site studied, and the problematic found, showcasing how the problem found is not only limited to the case of Bekaa valley. However, it is recurrent in different parts of the world. Hence, studying the vernacular heritage of the area and how its typology changed due to different factors, can give us a hint on how architecture can develop due to minor decisions. Moreover, the architectural typology change isn't only formulated around a physical structure, but also the inhabitant's existential habits. Afterward, we express our aims from this study, its motivations, and its objectives. Finally, we exhibit our methodology to reach the outcome expected to achieve. A methodology of introducing two different approaches of architecture, one is the operative approach modified and created by the "Versus Project." The other is the "Phenomenological" approach, created by Husserl and developed by Martin Heidegger.

Chapter 2

In chapter 2, we introduce the literature review surrounding the topics of our domain. Starting with the Versus approach while understanding vernacular architecture importance and the different sustainable means. Then we apprehend the three principles of the operative approach, which consist of; the environmental, the socio-cultural, and the socio-economic principle. After going

through the Operative approach towards understanding a contact from a Macro to a Microscale level, we shift into understanding phenomenology and the several theorists who stated this approach and its dimension. Going through phenomenology and existentialism, we ought to study the dwelling essence in its cultural context. Hence, we dig into the etymological significance of dwelling in the Arabic parables, with a survey study on its contemporary connotation to the current citizens. From this literature part, we reach the case studies in chapter 3.

Chapter 3

Chapter 3 is an introduction to our case studied in the eastern Bekaa valley. We start with a macro approach to an historical and demographical overview of the studied area. Going down the funnel to understand the architecture history and construction methods of the area. Later on, we start with our three eras of construction in the studied area, starting with pre-modernization, the transition phase, and finally, with post-modernization. In the post-modernization, we showcase politics and its effect on the architectural typology, regional landscape, and existential habits.

Chapter 4

The final chapter consists of a brief summary of the whole thesis, with a conclusion that is reached through our findings in the Literature review, and the case studied in Bekaa Valley. Our research results had certain limitations and constrains that we inform the reader about. Moreover, threads of research continuation are exhibited afterward for future researchers. References, bibliography, contents, and photographic archives are found at the very end of this document.

CHAPTER 2 – THEORETICAL FRAMEWORK

"To dwell means to belong to a given place"

Christian Norberg Schulz

2.0 Introduction

In this chapter, we start by discussing a general view on the phenomenological discourse examined by philosophers and theoreticians. We introduce the phenomenological approach and its implication on our built environment. Afterwards, we continue by investigating the dwelling phenomenon in the Arabic linguistics, in a trial to understand this phenomenon in its cultural context. Later, we investigate the operative principles introduced by the versus project to be able to examine our vernacular heritage through a specific methodology. By the end of the theoretical framework we will have developed an evaluation method which allow us to look at the case studied in the Bekaa valley through two main principles: the phenomenological approach and the operative approach. The operative approach is divided into three evaluating principles: the environmental principle, socio-cultural principle, and socio-economic principles.

2.1 Phenomenology in Architecture

In the past century, the matter of architecture and its essential role has been questioned by several theorists and philosophers. Phenomenology was introduced to the world of philosophy by Edmund Husserl, and later on, his student Martin Heidegger gave it its utmost push. This modern form of Phenomenology has set to confront the primary principles of the Western Philosophy, in specific, the prolonged dualistic split between the mind and the body that has been widespread since Plato (Hale, 2017).

Figure 8 Heidegger in his blackforest hut
Source: Filosofialevida (2017)

The phenomenological movement inaugurated by Husserl, was made in the intention of becoming a new developed philosophical investigation. The intention was to introduce a new method that would merge both the empirical and rational approach. However, it was his student Heidegger who took

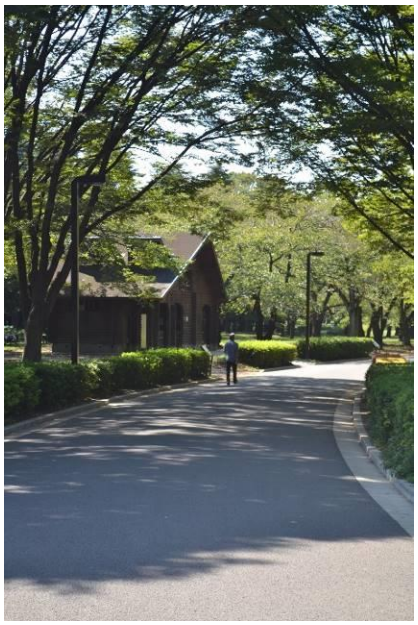


Figure 9 A traditional dwelling in a public garden in Tokyo Japan Source: Author (2015)

phenomenology into the level of the new major philosophical movement of the 20th century. This movement would later influence major philosophers such as Merleau-Ponty, Sartre, Foucault, and Derrida, in which they would introduce their own personal strata to this philosophical realm.

According to Merleau-Ponty (1945), phenomenology is the study of essences, and is an attempt to put back the subject into the equation. Nevertheless, he critiques how the empirical attitude towards epistemology had stripped out the world out of life. According to him the fundamental philosophical act is to "return to the lived of the actual experience which is prior to the objective world…" (Merleau-Ponty, 1945/1962, p57).

However, the phenomenological discourse appeared in the architectural prospect on the decays of structuralism and semiotics. On the other hand, in humanities and philosophy, the growth of structuralism happened only after the decline of phenomenology. These paradoxical conditions are explained due to the translation delay of philosophical ideas and their implementation in architecture (haddad,2010). This radical dismantling of the previous philosophical tradition was not only a de-constructivist approach, but it intended to be followed by reconstruction, a reconstruction to find a new fundamental ontology that looks at the structures of ''Being'' and how they are revealed through the structures of human existence (Moran, 2000).

What Heidegger brought into the existential philosophy was not only a questioning of a specific philosophical method but, subsequently, the questioning of a complete philosophical traditions, bringing a new era to philosophy. Although Husserl's writings have been the initiation to this new philosophical movement, yet they were not the most influential in the architectural domain. It was his student Heidegger whose ideas have been

adapted by number of architectural historians, theorists, and designers (Sharr 2007). Furthermore, a crucial early association between architectural theory and phenomenology had been introduced through the works of Christian Norberg-Schulz, even though early works of both Norberg-Schulz, and Merleau-Ponty were more strongly influenced by the Gestalt Psychology. This ideological school has developed during the early 1900s, anchored on the idea that we perceive the world as "Structured wholes" or meaning full patterns, in opposition to the sequence of sensory data perceiving, in which, we, the subject, have to "decode" into meaningful wholes (Hale, 2017).

Figure 10 Old vernacular dwelling in Bekaa Valley - Janta Source: Author (2020)

Theorists such as Christian Norberg-Schulz, Gaston Bachelard, and Edward Keplan, argued about the dwelling experience and its essence. The subjective importance, according to these theorists, that dwelling in a space is a poetic experience referring it to be an existential phenomenon that raises conscious awareness building on Heidegger's being-in-the-world.

The variable definitions for Phenomenology has been agreed upon by several phenomenologists - "a return to the things themselves" (Husserl) or " a way of seeing" (Heidegger) or as "the essence of perception" (Merleau-Ponty). (Merleau-Ponty 1962; Moran and Mooney 2002; Moran, 2005) – it still had an immense impact on architecture theoreticians and practitioners. Phenomenology became much interesting to architects who touched upon its concrete potential in its philosophical dilemma. Moreover, theorists claimed that phenomenology can provide a truer, reliable way to understand architecture. Additionally, they argue that [phenomenology can bring us closer to the existential being by locating the essence of things. However, the phenomenological approach for architects allowed them to evaluate architectural works, styles, and movements (Shirazi, 2012).

Christian Norberg-Schulz, -who expounded that phenomenology is a qualitative existential space (Norberg-Schulz, 2000)- drew a special attention on Martin Heidegger's philosophical thought. Schulz represents phenomenology as a method to understand architecture.

Another representative of the phenomenological discourse is Juhani Pallasmaa, who claims phenomenology as *"..pure looking at"* or *"..viewing its essence"* (Pallasmaa 1996, p.450). On the other hand, Karsten Harries (1991) doesn't comply to Pallasmaa's phenomenological explanation as pure and firm ground, as a substitute, he claims that dwelling and authentic thinking, does not comply of a strict goal or method but, rather, it is a journey through history.

Similarly to Pallasmaa's, philosophical thought, theorist David Seamon (2000) expounds on the phenomenological objective to locate original unities that explicates the essential core of phenomenon, on which he understand as "..careful description" (Seamon, 2007) and "..seeing with new eyes" (Seamon, 1993).

From another philosophical perspective, theorist Alberto Pérez-Gómez explains how phenomenology is able to rediscover the essential perception - and to overcome the ultimate dilemma which modern ideological faculties inherited from Descartes – in a realm when architecture lost its metaphysical aspect.

> *"By revealing the limitations of mathematical reason, phenomenology has indicated that technological theory alone cannot come to terms with the fundamental problems of architecture. Contemporary architecture, disillusioned with rational utopias, now strives to go beyond positivistic prejudices to find a new metaphysical justification in the human world; its point of departure is once again the sphere of perception, the ultimate origin of existential meaning "* (Pérez-Gómez, 1983, p. 325).

The loose of the metaphysical aspect explained by Perez (1983) can also be seen as a reflection of Heidegger's philosophy who was of a perception that modern man is not able to dwell in a contemporary modern environment. On the other hand, Norberg-Schulz expressed confidence that the restoration of the figural quality can be seen in most of the post-modern projects, as it was going to make dwelling a reality. Irrespective of the warning against falling into eclecticism, according Wilken(2014), the recovery of the figural quality is going to result in the retrieval of dwelling through which phenomenology is going to play a key role in fastening the revival of the poetic aspect in architecture (Wilken, 2013).

Figure 11 Pre-historic Ruins and dwellings in El Nabisheith Source: Author (2018)

As mentioned earlier phenomenology didn't only impact architectural theoreticians, but also, it influenced practicing starchitects such as Steven Hall, who on his behalf stresses the phenomenological sensibility towards architecture materials and elements.

> *"Phenomenology concerns the study of essences; architecture has the potential to put essences back into existence. By weaving form, space, and light, architecture can elevate the experience of daily life through the various phenomena that emerge from specific sites, programs, and architectures. On one level, an idea-force drives architecture; on another, structure, material space, color, light, and shadow intertwine in the fabrication of architecture"* (Steven Holl 1996, p. 11)

These applied interpretations and theories of phenomenology's value for the importance of architecture potential to clarify thinking about buildings and to facilitate design concepts. Though often quite different in their thematic emphases, these explanations explicate phenomenological value as a method by which problems in architecture can be discovered and clarified better. The idea

is that phenomenology can present a deeper understanding and more complete knowledge of architectural problems and ideas. (Holl, 1996).

In-order to set about constructing the phenomenological picture, it is important to start by outlining Norberg-Schulz's bigger intellectual project as it reflects his connection with place and the phenomenological theory. Norberg-Schulz's phenomenological project consists of his; Existence, Space and Architecture (1971), Genius Loci (1981), and The Concept of Dwelling (1985). In this research we will focus on his second book Genius Loci, a book that defines his main argument (Wilken, 2013).

Genius Loci

The concept of *Genius loci*, which implies a spirit of a place was labeled the concept as a major opus, as well as a sequel to his earlier works in the architectural model. Undeniably, the concept of *Genius Loci* was the most influential of Norberg-Schulz's writings since the concept was publicized at a period when questions of implication, history, and methodology took greater significance in architectural discourse. The concept took place in a post-modernist environment that retained a lot of emphasis and credibility on the themes mentioned above. Contrary to his past studies, Norberg-Schulz's study on Genius Loci focused on the phenomenological interpretation of architecture. Norberg-Schulz (1981), makes it clear that in order to be rooted existentially, human beings must expose themselves to the specific typology of their surroundings. One must live with the "place spirit" (Van Nes, 2012).

Through his photographic essay - varying from the macroscopic scale of landscapes to the macroscopic scale of architectural particulars - Norberg-Schulz planned to develop the constituting aspects of the phenomenology of a place

applying, as a keynote, the poem by George Trakl[6] titled *A Winter Evening which* had been cited in the Heidegger's "Language" essay.

"When snow falls against the window,
Long sounds the evening bell...
For so many has the table
Been prepared, the house set in order.

From their wandering, many
Come on dark paths to this gateway.
The tree of grace is flowering in gold
Out of the cool sap of the earth.

In stillness, wanderer, step in:
Grief has worn the threshold into stone.
But see: in pure light, glowing
There on the table: bread and wine."
(George Trakl, 2012, p174)

Figure 12 Ancient quarries on a hill in El Nabisheith Source: Author (2019)

[6] Georg Trakl (3 February 1887 – 3 November 1914) was an Austrian poet and brother of the pianist Grete Trakl. He is considered one of the most important Austrian Expressionist.

As far as the key lesson for this poem is concerned, the author has pointed out that the most significant aspect is the "concrete image" that poets, architects, and artists represent. In that view, the phenomenological challenge lies in revitalizing the poetic aspect of variable elements. This challenge reestablishes the absent link between the different elements that make up the universe (Norberg-Schulz, 1981). Moreover, the connection between the man-made universe and the natural universe, has over the years been evinced in different locations and settings around the world. This phenomenon has been emphasized by Norberg-Schulz, in which he created a three points connection; *visualization, complementation, and symbolization*. This connection owes its process to Heidegger's "Gathering" concept. The symbolization phase plays a major role when it comes to empowering the "Gathering" concept. Furthermore, the central thesis by Norberg-Schulz was found on the Gathering concept by Heidegger and the concept of Genius loci by the ancient Romans (Norberg-Schulz, 1981). The main intention of a building is thus to become a place, or to reveal the hidden potential of that designated

Figure 13 Pre-historic Ruins and dwellings in El Nabisheith Source: Author (2018)

environment. Hence, architecture is explained as an existential process of rediscovering a site.

Given that genius loci, it is a concept founded by ancient Romans, in specific, as per the ancient Roman, each independent being has its intellect as well as a guardian spirit. The role of the spirit, in this case, is to give life to human beings as well as places. Moreover, at the same time, the spirit residing with them from the moment they are born until the moment of death. Henceforth, it is the spirit that shapes the character of human beings or their essence, thus it shapes the place we dwell in. Indeed, the fact that Roman gods had their specific *genius* demonstrates that the concept is quite essential (Norberg-Schulz, 1981).

From a review of Norberg-Schulz's background, it can be elucidated that his religious believes has greatly influenced his views and ideas. In that context, it can be pointed that apart from the scenery inspiring the phenomenological perspective of the universe, there are other factors that influence the comprehension of the universe. Moreover, he adds that a particular sanctuary within the landscape, establishes an ideal situate for intimate dwelling. For instance, the Carceri of St Francis, which is close to Assisi, provides typical retreats where people can still encounter the existence of the initial earth forces (Norberg-Schulz, 1981).

However, what is astonishing about this setting understanding, is Norberg-Schulz's reductive grouping of sceneries and landscape into three key groups that comprise of; Romantic, Cosmic, and Classical landscapes (Fig 16, 17, & 18). Nevertheless, despite that landscapes do not easily present abstract topological settings as they look like they are closely linked to specific social or cultural features that take the form of judgments made in the past. As such, the romantic sceneries inspire close connection with earth since dwelling is in the form of refuge in the

Figure 14 Carceri of St Francis in Italy Source: Fabrizia (2016)

Figure 16 The forestry long trees of Janta during winter Source: Author (2017)

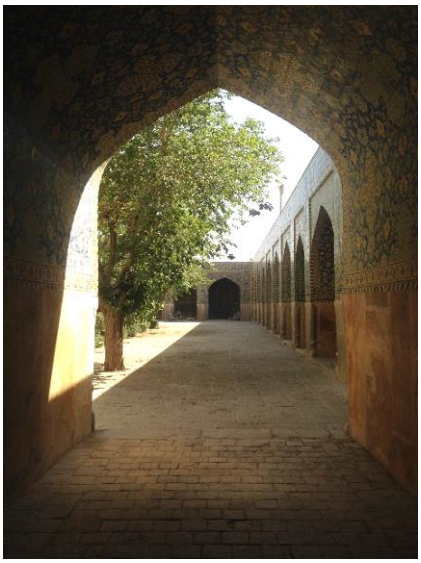
Figure 15 Cosmic landscape of the Bekaa valley Source: Author (2017)

Figure 17 Classical landscape in Sareein Tahta a village in the Bekaa Valley Source: Author (2018)

Figure 18 Nabisheith Mountains Source:Ali Hadi Moussawi(2017)

forest. On the other hand the cosmic landscape, like a desert appears to be a natural framework for a message of unity that is preached by Islam, having a vast open sceneries that empowers the resemblance of One Creator "Allah". In the case of the classical scenery, it looks as if it is an in-between condition, a condition of balance that results in a meaningful order and encourages human friendship where a person is not fascinated by the entirety or mandated to find his/her individual hiding place. The final case thus provides the ideal likelihood for a perfect gathering from a Heideggerian context. The three different types of sceneries discussed comprises of archetypes that are not always present in the unadulterated form and at times results to intricate sceneries that are composite sceneries (Norberg-Schulz, 1981).

Figure 19Sheikh Lotfollah Mosque in Isfahan Iran, Designed in the 15th century by Architect from the Bekaa valley originally "Baalbek" Sheikh Bahaa Ameli Source: Author (2017)



The reductive approach that was employed in classifying different landscapes was also employed to group places made by man implying architecture, into romantic architecture, cosmic architecture, and classical architecture. As far as classical architecture is concerned, it is easy to classify it since it has, over the years, been recognized. On the other hand, it is also important to point out that romantic architecture does not show a particular style or era, but instead, an

architecture differentiated by variety and diversity, illogical and subjective, fantastic and shadowy, even though close and enjoyable. This odd description brings together different instances from medieval German towns to the vernacular architecture of Norway, even stretching to the work by Guimard and Aalto of present times. In a similar context, cosmic architecture is applicable to the works symbolized by consistency and complete order and is ideally manifested in Islamic architecture. (Norberg-Schulz, 1981).

Figure 20 Villa Savoye (2019) *Source: Author*

Norberg-Schulz explains the "loss of place" in the contemporary world, moreover, he delves into the declining urban situation throughout the universe. In this case, Norberg-Schulz highlighted a realistic evaluation of the problems from the ruining of the urban fabric to the ultimate deterioration of character and place. Nevertheless, the writer considers that the modern movement, advocated an effort to manifest form to the "new spirit", which symbolizes a novel genius locus with the objective of assisting people "regain a true and meaningful existence", even suggesting that the previously implied "going back to things". As a result, going back to things might be seen in some of the masterpieces of modern architecture like the Villa Savoye, by Le Corbusier.

Gunila Jivén and Peter Larkham recognize four "thematic levels" from Norberg-Schulz's handling of the Genius loci concept (Jivén, G. & Larkham, P. 2003):

1. "the topography of the earth's surface"
2. "the cosmological light conditions and the sky as natural conditions"
3. "buildings"
4. "symbolic and existential meanings in the cultural landscape"

These phenomenological principles by Norberg-Schulz's are inspired from Heidegger's concept of the "the fourfold", which unites earth, sky, mortals, and divinities. As Heidegger explains:

> *" 'On the earth' already means 'under the sky'. Both of these also mean 'remaining before the divinities' and include a 'belonging to men's being with one another'. By a primal oneness the four – earth and sky, divinities and mortals – belong together in one."* (Heidegger, 1971, P.149)

According to Heidegger (1971), "Dwelling" is thought to merge these four elements as it preserves the fourfold by bringing forth the fourfold together. Therefore, for Norberg-Schulz (1981), regardless of whether it is a natural or a constructed place, the place's character is to a great extent resolved by how the "standing and rising is concretized" (Norberg-Schulz, 1981, p63). Therefore, Norberg-Schulz determines the key images of a place by glancing over the skyline and silhouette of the town, and urban setting.

Norberg-Schulz's main claim is that, when all the essential existential means are expressed then we may mention 'strong' place. It is substantial that 'strong place' cases are minimal in a modern urban setting. It is through this lack of 'strong place' issue that relates Norberg-Schulz's genius loci with the 'crisis of place' in urbanism by former writings by Mumford and Jacobs (Wilken,2013). Moreover, Norberg-Schulz claims that when a place identity is absent then the result is a "loss of place" (Norberg-Schulz, 1981).

> *"Lost is the settlement as a place in nature, lost are the urban foci as places for common living, lost is the building as a meaningful sub-place where man may simultaneously experience individuality and belonging. Lost is also the relationship to earth and sky. Modern buildings exist in a "nowhere"; they are not related to the landscape and not to a coherent, urban whole, but live their abstract life in a kind of mathematical/technological space which hardly distinguishes between up*

and down" (Norberg -Schulz, 1981, p190)

In his book "Architecture", Norberg-Schulz, expresses how modern man's identity is lost when the 'world' is lost, in its direct relation with 'places' and 'things'.

> *The loss of things and places makes up a loss of "world". Modern man becomes "worldless", and thus loses his own identity, as well as the sense of community and participation. Existence is experienced as "meaningless", and man becomes "homeless" because he does not any longer belong to a meaningful totality.* (Norberg-Schulz, 1988, p.12)

For Norberg-Schulz, this is the pinnacle of the "crisis of place". Moreover, he adds that a perfect response for this crisis is by respecting the "spirit of place" and exert effort towards creating a "strong places".

Figure 21 A vernacular dwelling emerging from the landscape in Yahfoufa - Eastern Bekaa Valley Source: Author (2020)

2.12 Existential Space

The concept of existence being spatial was initially maintained by Martin Heidegger. Indeed, it is Martin Heidegger that argued that it is not possible to split man from space, as space is not an external concept nor an internal experience. In that regards, as long as the human space is our concern, the above is viewed as what is on the ceiling, below is what is on the floor, behind is what is at the door, and all the where's are identified and cautiously understood as human beings carry on with their daily activities. Heidegger mentions that space gets its being from the places and not from the space. Hence, the theory of dwelling was developed since it is human beings' connection to places and through places, to spaces that dwelling is made up. Thus, it is only at a time when people are capable of dwelling that they can build hence the reason dwelling can be argued to be the essential property of existence (Heidegger, 1971). Bollnow (1963) have agreed to those observations, as he expounded on similar thoughts in an in-depth manner, which led him to come up with a detailed model of the existential space with different references to architectural space. In order to articulate his aim, he cited Graf von Durckheim, who noted that the concrete space of an advanced man has to be considered in its entirety comprising the crucial events practiced through it.

Thus, for the specific quality of the space, the disposition and order, show and convey the subject that experiences it and resides within it. Commencing from that point, Bollnow (1963), expounds the concept of place, primary orientations like vertical and horizontal, prior and behind, right and left, the concept of center, geographical directions, horizon, and perspective. He then proceeds to research the phenomenology of open and closed words and lastly explains the spaces of action, expressions, and human beings interactive gatherings. He ends with a focus

on the spatiality of life. However, the fact that the work by Bollnow does not have any empirical evidence to back up his poetic claims, made his work speculative and open to much of criticism.

Figure 22 Open almond field in El Nabisheith Source: Hiba Ghosn (2018)

This part has been purposed at outlining the primary basic space concepts that a human being requires to orient himself in his universe. Moreover, the majority of past researchers on architectural space have previously hindered by inexact concept definitions. However, the essential construct in this case is the importance of our existential space.

It has been argued that the advancement of existential space establishes an essential section of the original orientation. At the same time, the basic features of the structure are supposed to be public so that social integration can take place (Norberg-Schulz, 1981). Nevertheless, it is vital to take note that orientation and social integration have different facets. For instance, space is just one of the facets of existence, even though some of the facets are more important than others. However, despite that, it is essential that the significant aspects of human undertakings are not minimized due to the fact that any undertaking means

movement and connections to places. According to Heidegger (1971), it is not possible to separate existence from existential space, because the world at any time discloses the spatiality of the space that it belongs to. In that view, to be somewhere implies to be in an individual's existential space. For example, being lost means that one does not know the existential space that he/she is in, while being away means that an individual is on his/her way to somewhere else.

2.13 Heidegger-ian Dwelling

In the Heideggerian understanding of dwelling, Heidegger indicated in his conference "Building Dwelling Thinking" by begging the question, "what is it to dwell?" He questioned the difference between the working place and the actual dwelling space (William, 1963). To him, it is a matter of space perception, which we deal with daily.

> *"Bridges and hangars, stadiums and power stations are buildings but not dwellings; railway stations and highways, dams and market halls are built, but they are not dwelling places. Even so, these buildings are in the domain of our dwelling. That domain extends over these buildings and yet is not limited to the dwelling place. The truck driver is at home on the highway, but he does not have his shelter there; the working woman is at home in the spinning mill [!], but does not have her dwelling place there; the chief engineer is at home in the power station, but he does not dwell there. These buildings house man. He inhabits them and yet does not dwell in them. In today's housing shortage even this much is reassuring and to the good; residential buildings do indeed provide shelter; today's houses may even be well planned, easy to keep, attractively cheap, open to air, light and sun, but do the houses in themselves hold any guarantee that dwelling occurs in them*" (Heidegger, 1971, p.145–146)

This paragraph resonates with Heidegger's idea of nearness. He notes that all distances in time and space are shrinking. Man now reaches overnight, by plane, places which formerly took weeks and months of travel, yet the frantic abolition of all distances brings no nearness; for nearness does not consist in shortness of distance. According to Heidegger, one can live in a building daily but not feel home in or near it. To dwell in a house is not merely to be inside it spatially but belong there, to have a familiar place there. He adds that the words "residential" and "housing" may be interpreted to refer to the new production system and not their relation to people. To Heidegger, this contemporary use of language is a reflection of the production system where developers create inhabitation space for a market of unknown consumers. Such a procedure is devaluing the essential meaning of dwelling because building should not be viewed as just a process of coming up with consumer products. The contemporary relation between building and dwelling suggests an unfavorable comparison between past and present.

Figure 23 Heidegger's hut in the blackforest Source: faslanyc (1981)

> *"For building isn't merely a means and a way towards dwelling – to build is in itself already to dwell"* (Heidegger, 1971, P.146)

2.14 Heidegger's Etymology

According to Heidegger, an authentic relationship between building and dwelling is to be found in the etymology of those words. As Heidegger has suggested, both words share the same root origin in the Old German. This was not a surprise to him as both words were previously understood as one and the same thing. Heidegger continues:

> *"Bauen originally means to dwell. Where the word bauen still speaks in its original sense. It also says how far the essence of dwelling reaches. That is bauen, buan, bhu, beo are our word bin in the versions: ich bin, I am, du bist you are, the imperative form bis, be. What then does ich bin mean? The old word bauen to which the bin belongs, answers: ich bin, du bist mean I dwell, you dwell. The way in which you are and I am, the manner in which we humans are on the earth, is buan, dwelling [. . .] The old word bauen which says that man is insofar as he dwells, this word bauen, however also means at the same time to cherish and protect, to preserve and to care for, specifically to till the soil, to cultivate the vine"*
> (Heidegger, 1971, p.147)

Heidegger attempts to illustrate how the contemporary use of the words changed the conception and our behavior; Building as construction and dwelling as living. On the other hand, building and dwelling, combined together, are central to human existence. The existential I of where we belong '*I am'* and *'you are' 'ich bin' 'du bist'* means I dwell, you dwell. He is suggesting that building and dwelling sit in the core of existence. Living in a house and nurturing the house is an affirmation of being. According to his etymology, when we mention the *'I am', 'you are', 'we are'*, we are reassuring the extreme importance of building and dwelling through human existence. Therefore, construction and land cultivation are another form of acknowledgment to human existence in languages. Later on after stating the etymology of the word *'bauen'*, he explores the interrelated word '*wohnen*' 'dwelling', and I quote:

> *"The Old Saxon wuon, the Gothic wunian, like the old word bauen, mean to remain, to stay in a place. But the Gothic wunian says more distinctly how this remaining is to be experienced. Wunian means to be at*

peace, to be brought to peace, to remain in peace. The word for peace, Friede, means the free, das Frye; and fry means preserved from harm and danger, preserved from something, safeguarded. To free actually means to spare [. . .]." (Heidegger, 1971, p.148–149)

While *'bauen'* is more of an existential reassuring through the building and cultivating, the word *'wohnen'* relates to the relaxed state of being into the word dwelling. At this point in the research, the Arabic parables will be looked into for relations and comparisons between etymology and linguistic origins.

2.15 Thrownness into existence

Heidegger in 'Being and Time'[7] introduced the concept of '*Geoworfenheit*', or *'thrownness'*. The concept describes human's individual existence as "being thrown", '*Geworfen*' into the world. '*Geworfen*' describes the ambiguous nature of '*Dasein'* that relates the past with the present. The past by '*Being-toward-death*'[8] becomes part of '*Dasein*'. Understanding the ambiguous term, '*Dasein*', is regarded as a state of '*Geoworfenheit*', or '*Thrownness'* in its present form with all its sufferings, frustrations, and sorrows. To Heidegger, the hardships and frustrations are born due to the unchosen social conventions, politics, kindship and duties. The essential idea of one's own existence is a demonstration of '*Geoworfenheit*'. The idea of the past as milieu that we don't choose, yet at the same time not exclusion deterministic or obligatory, results in the notion of '*Geoworfenheit*'. In a weird manifestation, the notion of *'thrownness'* leaves humans with a contradictory or

[7] is a book written by the German philosopher Martin Heidegger in 1927, in which the author seeks to analyze the concept of Being.

[8] Being-towards-death refers to a process of growing through the world where a certain foresight guides the Dasein towards gaining an authentic perspective. It is provided by dread or death. In the analysis of time, it is revealed as a threefold condition of Being-time; the present, the past, and the future.

perhaps paradoxical passage to freedom.

2.16 Authenticity " *Eigentlichkeit* "

Architectural space might be explained as a concretization of the existential space. On the other hand, existential space is a concept emanating from the psychological field symbolizing the plan that human beings put in place so that they can attain satisfaction by relating oneself to the environment. In that context, architecture can be said to conceptualize an image that stretches past the present environment while at the same time depicting a desire to enhance human being's conditions. In that view, the existential space of human beings is therefore established by the concrete structure of the environment, though it is the desires and requirements of the man that establishes feedback. Moreover, the connection between man and the environment can thus be said to be two dimensional. Besides, it can also be pointed out that the fact that the existential space is one of the psychic structures creating part of a human being in the universe features an architectural space as its physical complement. Preferably, there needs to be an isomorphic connection between existential and architectural space, even though, in reality, that has never happened (Norberg-Schulz, 1981). As explained by the famous Swiss Psychologist Piaget, it is during mental growth that a plan is developed from the interaction that human being has with the environment and by that shows that the actions of human beings are categorized into comprehensible wholes (Bruner 1983). In addition, Bruner (1983) also noted that Piaget also explained the process of integrating assimilation and accommodation by noting that the whole assimilation entails the action of organisms on nearby objects; accommodation implies the contrary state. In that view, it is the organism and not being passively submitting to the environment that adjusts through imposing some of its own structure on it.

As expounded by Heidegger, knowledge entails an honor that is earmarked for the man who is conscious of his situation of *being a being*. Indeed, human being comprehends and commences his reflection on being from his specific location, as discussed by Heidegger (1971) when discussing the concept of Dasein. In Dasein, da implies the man's presence in the universe, and from how the man understands the universe, he marts the commencement of this existing in the world. Despite the fact that being is the most overall feature that is shared by the existents, Heidegger (1971) came up with the notion of the existence of various modes of being and, in that view, a qualitative aspect of being related to the act of presence of the da. Consequently, human beings exist though they vary since each of the human beings actualizes the likelihoods personally, they have in themselves and finds out the special relationship they have with the world. Thus, each "that-being" ends up having the "how-being" that is going to objectify itself via a particular mode of being that will then manages any anxiety that man will have about the world and that of life. It is also essential to take note that the meaning in Heidegger's (1971) view is not restricted to the fact that an individual or something exists since it also refers to the Dasein's mode of being and its connection to being as a whole. In this case, Heidegger (1971) establishes another critical difference between the authenticity and inauthenticity of Dasein, which will be established by its connection and its presence to being. Indeed, an authentic presence comprises in the acceptation of his eventual decisiveness expressed by the concept of "being-towards death" which is opposite to the unauthentic presence through which Dasein is drawn into a superficial social life and drops its character in the impersonality of "they" or fails to remember its actual finality in a trivial routine. Moreover, it also refers to the likelihood to cover their demise from themselves, which is yet the only thing that they own and makes there being a whole being. Authenticity thus implies rendering oneself possible for death by expecting it. By

attaining that essential facet of being, a human being can achieve the freedom to die his/her own personal death with there been no influence. Being-toward-death is not an adjustment that brings *Dasein* closer to its ending, in terms of clinical death, but rather it is a way of existence. Being-towards-death implies a method of understanding and acting in the world, were the Dasein Is guided towards gaining an authentic perspective.

Death is assured through its certainty, no man will defy death, but an authentic being-toward-death understands the idea and nature of death consciously as an inevitable phenomenon. No man will ever know when or how his death will be, but yet it is something of a certain. However, this ocular knowledge of ones own death shouldn't put death in a distant time-frame, as an authentic Being-toward-death understand consciously that death is already part of our daily lives.

When humans talk about death, they discuss it quickly as if it's something very far and not yet present at hand as an actuality. Trying to avoid death as if death shall never come, yet suddenly one dies as if he was never born, henceforth an act of in-authentic death (Ali, 601 AD, 2001). Death is presented as if it belongs to no one, for sure not for one's self, hence, it becomes devalued. "One dies" is interpreted as a fact, and end up meaning "nobody dies".

On the other hand, Heidegger states that an authentic being-towards-death advocates the Dasein's individual being to un-attach oneself from the "They-self". This progress frees oneself to re-evaluate life from an end point perspective.

In so doing, Dasein allows man to ease the pain of existence by understanding his/her existential potential. The anxiety and pain of existence generates from the *Thrownness (*Geworfenheit) into the world. Understanding and recognizing the uncertainty of Dasein is depicted as a state of Thrownness in the present temporality with all its sufferings, demands, and frustrations. Such anxieties are

attended due to the unchosen social conventions, duties, or kinship ties. Thrownness is a result of the idea that our past is a matrix we did not chose, yet at the same time not entirely deterministic. A thin line separates both dimensions. This paradoxical dimension opens up to a dimension of freedom and free will.

Therefore, if we adhere to our authenticity, and act in a temporal connection between the past, present, and future we will be able to dwell authentically, hence, easing the pain of thrownness into existence by Authentically Being-toward-death.

Figure 24 A dweller paying tribute to a deceased family member. Death is part of the cultural memory in this region. As paying tribute is a regular cultural must. Moreover an active memory of Being-towards-death is an active conscious manner of the dwellers Source: Author (2018)

2.2 Contextual Phenomenology

It may seem rather obvious that a structure is essentially designed for man's dwelling. The philosopher, Martin Heidegger, however, argues that not all structures and buildings are designed for dwelling, as is the case for factories and offices etc. Heidegger's "building dwelling and thinking," which he first gave as a conference in Darmstadt in 1951, is considered to be one of the most influential

texts in the 20th century due to its remarkable interpretation and perspective to architecture and the act of inhabiting a space. Contemporary architectural thinking extracts from his text and revolves around the understanding of building and dwelling as more or less abstract forms of being, without taking into account the people inhabiting space. Heidegger claims that we have forgotten to dwell in the same way as we have forgotten what it means to be in the original sense of the word. In many of his works, Heidegger seems to presuppose that the further you go back, or the deeper you dig down into the most profound layers of language, especially Greek and German, the truer are the meanings you get hold of and the more we will know about how things really are.

As mentioned earlier, one of the key terms Heidegger studied is the word 'dwelling.' He started by questioning the word *"Bauen",* building. Heidegger understands as building, Bauen, in the form of dwelling, Wohnen, and this presupposition explains why he can do without any architectural expressions and dismiss dwelling in buildings as something secondary to the philosophical discourse. By Heideggerian means, the dwelling phenomenon through the Arabic parables will be studied, relating it to the etymological essence of the word that will lead us to another understanding of the word "dwelling" in Arabic linguistic context. Understanding the word dwelling in its cultural context will give us a better insight into the essential meaning of architecture in the indigenous cultural context. We will start by retaining the etymology of the word "dwelling" through the Qur'anic text- as the Quran is labeled as the grammatical origin of the Arabic language- and then we will disseminate some answers of a survey done on the essence of the word dwelling, and what it means, in its contemporary cultural context.

2.21 Dwelling in the Arabic parables:

To start with, the word "Dwelling" in Arabic is mostly related to "*Māskan*" in its direct etymological understanding. However, if we derive the word from its essence, we reach some remarkable material. The word *"Māskan"* is derived from "*Skoon"* which means to remain still, to remain calm, and to be at ease from pain. In the Arabic language, any pain-relieving drug is called *"Musāken",* which is a verb phrase of "to give relief," or the action of relieving pain. The verb can also be used as an act of putting off, for example, "Askana Al-Nar" or "to put-off fire".

The word *"Sokoon"* is also prominent in the Arabic language as it is a modulation sign used in every word. The *"Sokoon"* is a small circle placed above the letters you want to keep silent and un-pronounced. The *"Sokoon*", " ˚ " is one of the five modulation symbols used in the Arabic language in order to facilitate the pronunciations of words and their connotation.

Another use in its plural form is the word *"Masākeen",* which refers to helpless people who are deprived and unable to sustain their daily existence. Dwelling places are also pronounced and written *"Masāken",* a plural word form of *"Maskan".* In the Quran the word *"Maskan"* highlights a new dimension of understanding the word dwelling.

In chapter 7, verse 189 the Quran mentions *"Maskan"* in the following verse

"هُوَ الَّذِي خَلَقَكُمْ مِنْ نَفْسٍ وَاحِدَةٍ وَجَعَلَ مِنْهَا زَوْجَهَا لِيَسْكُنَ إِلَيْهَا"

"It is He who created you from one soul and created from it its mate that he might dwell in security to her"[9].

In the previous verse, we can apprehend that dwelling in space is not a physical form of architecture; it is described as an emotional/mental state. The dwelling feeling of being in ease of pain is a mental state that every being strives

[9] . The Qur'an. Translated by M.A.S. Abdel Haleem, (Oxford UP, 2005)

to achieve. It is the ease of pain and relief from hardships. The state of pain release, and to dwell *"Maskan",* are not only related to physical architecture, but also to an emotional state between couples.

Another word used in the Arabic parables for a house is *"Manzel".* "*Manzel"* is derived from *"Nazal"* and *"nozol"* which means to settle or to go down. *"Nozol"* is also used as a form of transcendental knowledge. "*Nozol"* is used when describing the divine knowledge being sent down from heavens to earth to God's chosen people, or prophets; a form of knowledge sent down to humans. *"Manzel"* is used as a representation of a house. The phrase itself does not portray the same emotional depth of inhabiting space as "*Maskan". "Manzel"* is used as a physical inhabitation of space, a form of measurable entity, whereas "*Maskan"* represents the metaphysical form of inhabited space, a spatial dimension that the soul gets familiar with its ambiguous scale. The *"Maskan"* isn't necessarily defined by any physical boundary, but may be recognized by a poetic sense; a smell, texture, a woven pattern, or another intimate being that represents the space. Gaston Bachelard speaks about the poetics of space as a "hide-and-seek places where the mind can go on holiday for a while and think about nothing, which means everything; havens where the soul can pause in silence, and free itself to dream" Bachelard (1958).

2.22 "Maskan" in its contemporary understanding

After the etymological reading on "Dwelling" in the Arabic parables as a linguistic means, a survey was conducted in the research about dwelling in its contemporary use and understanding to the Lebanese people. The questionnaire has been conducted on some 200 participants disseminated between Beirut and Eastern

Baalbek[10]. The survey bared 25 questions regarding "*Maskan*", spanning through the importance, meaning, essentials, location, and lacking of a dwelling space. One of the questions which is directly related to the "*Maskan"* is "What does the word "*Maskan*" mean to you?" The most responded axiom to the word "*Maskan*" was security, followed by comfort. Other answers varied from stability, warmth, family, reassurance, calm, house, and quietness (Fig. 25).

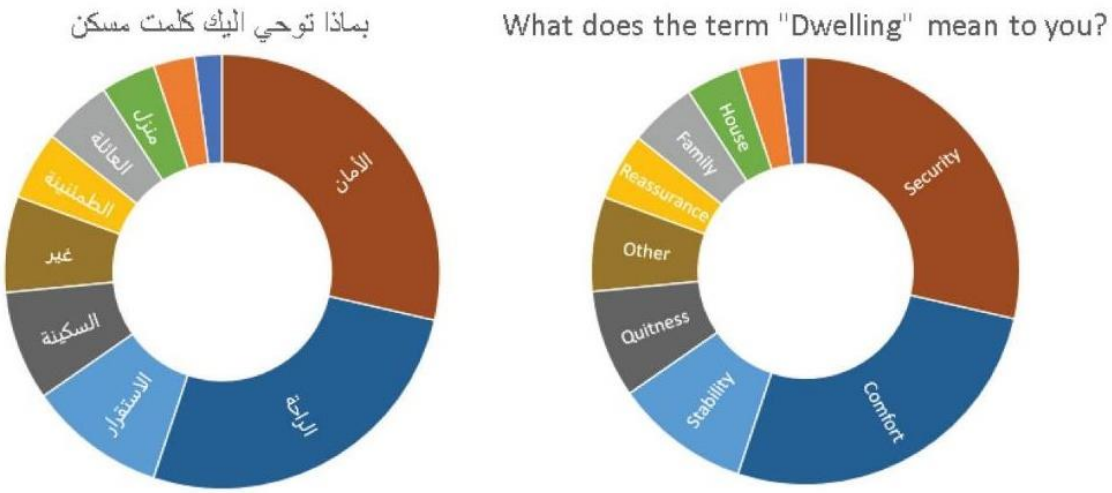


Fig. 25 Percentage answers on the relevance of the word "Maskan" Survey done by author (2018)

[10] Beirut is the capital and the largest city in Lebanon, with an estimated population in its greater area to around million people.

2.23 Heidegger and the Arabic parables

Heidegger (1927), in "Being and Time" expresses how humans suffer the thrownness *'Geoworfenheit'* to the existence, by being born into social conventions, politics, kindship, and duties not of their choosing. The Arabic word for "Dwelling", *"Māskan"* or to relieve pain is a complement to this notion, as the Arabic term inscribes how we run away from our daily hardships into our homes, dwelling spaces, and companion. The "*Māskan*" is a pain-relieving act from the *'Geoworfenheit'* into existence, expressed in the German word '*Wohnen*'. Being in *"skoon"* from our daily hardships is by going back into our comfort spaces, before returning to the harsh world. 'Being-towards-death' is a recurring process, running away from the external suffering into our comfort interior pain-relieving dwelling spaces.

Figure 26 Couples sitting in their backyard
Source: Ali Ibrahim Moussawi (1977)

2.31 Vernacular Architecture

As some critique Heidegger's dwelling concept as a return to nostalgia, we tried in our research to investigate the built architecture between the past and the present. Therefore, in a relation to classical dwellings we had to look at the vernacular architecture theories and methodologies.

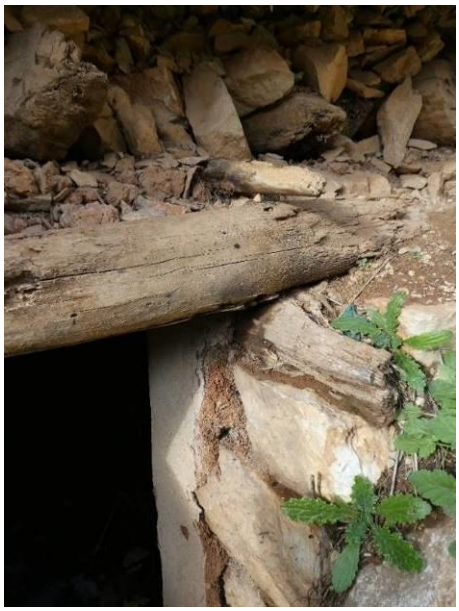


Figure 27 Construction detail of a vernacular dwelling in the Bekaa Valley Source: Author (2018)

With the latest trend in sustainable architecture, theorists started looking more at our architectural heritage and their adaptive method. Our vernacular heritage represents a great source of sustainable methods and strategies to coop with our surroundings. In the west, such heritage and its importance were not discovered only until recently. Hence, the Versus project had an objective of learning these fundamental and vernacular lessons, while exploring a new method to integrate these principles in contemporary sustainable architecture. Both ecological and sustainable methods can be learned from these vernacular heritages. Vernacular architecture is defined as traditional buildings that act as a showcase to our morphological adaptation to both the environmental and climatic constraints. Nevertheless, our traditional architecture shows our socio-cultural and socio-economical dynamics and constraints. Moreover, each region had its own unique way of adapting to different climatic responses. Materials used are perfectly tailored to fit the specific site, with all its climatic challenges. The architecture is adjusted to seismic, geographic, climate, and topographical features. Additionally, the local natural materials present a good climate adaptation while providing thermal comfort. (Corriea et al., 2014).

Figure 28 Stone Facade Wall Source: Author (2018)

2.32 Sustainable Architecture

Figure 29 Image from a dwelling in the Bekaa valley Source: Author (2018)

Sustainable architecture is architecture that pursues to reduce the destructive environmental impact of construction. The concept searches to reduce the impact by efficient and moderate use of our materials, energy, and ecosystem. The approach tends to be conscious towards ecological conservation and energy in the design of the built environment. The concept of sustainability is to make certain that our use to the available resources does not run out soon, moreover, that our construction behavior does not have a detrimental effects to our collective well-being.

It is valuable to elucidate the terms applied in present times to recognize specific architectures that have been perceived to be accountable in their connection with the environment. The need for a healthy upsurge in production and consumption period, which is contrary to the domination of fast food, results in the consumption increase of local products (Vegas et al., 2014) .As is the case in gastronomy*, kilometer zero architecture* advocates for local material, processes, and production. Likewise, kilometer zero restoration approves the renovation, consolidation, or strengthening of a building with materials that are locally available, while the crafts and techniques used are also local. By employing a local approach, the transportation of globalized materials would be avoided, hence, a several economical and environmental disputes would be achieved (Correia, et al., 2014). On the other hand, the local economies are supported, as the needed materials are purchased from local suppliers. Another concept that is related to this idea entails the notion of slow cities that involves cities that have less than fifty thousand inhabitants employing policies that are friendly to the environment, inspiring autochthonous production, pursuing a concession between modernism and tradition that ends up enhancing the quality of life of local residents and citizens.

In the case of *low-tech architecture*, the concept encourages specific production and change procedures, minimizing mechanical elements, and is inclined towards craftsmanship, as it is convinced that the processes minimize the effect of mass production (Vegas et al., 2014). Moreover, the concept of low-tech touches on the structure of construction and safeguards organizing systems that advocate for cooperation with each expert. The notion has a significant impact on the economic factors of the production process since even though it results in production being costly, it is the local producers that collects the money. On the other hand, *bioclimatic architecture* is linked with energy issues and favors the use of accessible climatic resources like rain, sun, or even the wind, among others. It mainly concentrates on the optimization of energy in architecture while protecting the comfort of its space. Moreover, any project resolution that are made by taking into consideration the architectural insertion on the site, sunshine, orientation, typological issues, material choices, or resorting, can lead to energy saving. As such, when the concept is practically applied, the concept of passive architecture that is founded on Edward Mazria's Passive Solar Energy book ended up becoming common in institutes of architecture in the early 80s. Passive architecture focused on the collection, storage, and distribution of solar energy with the absence of external supply, or according to basic construction techniques that would make it

Figure 30 Adapted vernecular ceiling to new construction materials Source: Author (2018)

Figure 31 Shambala permaculture Source: decoclub (2020)

possible for architecture with independent energy supply. Thus, the concept of bio-architecture or the bio construction architecture that has a close related interpretations of architecture as a biological unit that interrelates with the environment as well as the social, economic, cultural, and the environment. Hence, implying that architecture is purposed to ensure the needs of the dweller which must be achieved (Benyus 2002; Mumford 1967; Pearson 2001).

Figure 33 Lake side cabin by Atelier Oslo Source: Atelier Oslo (2014)

As far as the environmental aspect is our concern, it can be explained that the term "ecological" is used to enhance our sensible approach towards environmental protection. The etymological foundation to the term 'eco' implies a home. Therefore, the safeguarding of the biological home and living species have a priority over any individual concerns. The ecological attitude is developed from human understanding that the impact on our nature requires us to interprate our behavior in a way to attain a balance between the environment and fulfilling human requirements, therefore, achieving a harmony between different living organisms . In addition, it can be explained that the concept of ecological design is also associated with the concept of green design, in which is identified as green architecture or green building, as the concept strives to reduce any potential adverse impacts of architecture on human health and the environment by selecting ideal resources and methods. Ecologic architecture - which is also referred to as green architecture - would be classified into a wider category of permaculture that adheres to a similar philosophy of self-reliant life, architecture, and farming in solidarity with the natural ecosystem. It is also important to take note that there are also other concepts which are related with sustainability, such as the concept of ecological footprint that entails the environmental extent of the effect of a human community on its environment. The ecological footprint also assess the resources to approximate the environmental impact that is produced in all the construction phases of a project's lifespan, hence, assemblage of coordinated

Figure 32 A vernacular dwelling in Janta - Al Nabisheith Source: Author (2020)

operations in order to manage waste while making sure to minimize the landfill outcomes, in a process of circular economy. (Chelkoff 2002; McGrath 2014; Gibson 1986; Dunn 2007).

Figure 34 Mud and wood architecture dwelling in Mashhad Iran Source: Author (2017)

A Globalized sustainability

Tendencies and increasing responsiveness on the topic of sustainability have created a type of unarranged globalization of maintainable constructive solutions which are generally employed in different circumstances with no consideration of the precise local circumstances and resources. In that view, one risks disregarding the lessons of sustainability of the local vernacular architecture in question to unfavorably administer solutions that are truly sustainable. Even though stemming from a principle that is founded on other vernacular architectures from preoccupied lands that are situated in other environments which are known to have different climatic conditions. For instance, logs are perhaps a maintainable material close to the place where they are produced, regions endowed with forests, as is shown by the local architecture of these places. Thus, the most rational thing is to apply it in its modern architecture even though such designs would not be sustainable in dry areas or in regions where local architecture uses other alternatives that are ideally suited to the type of the natural environment in that region (Correia, et al., 2014)

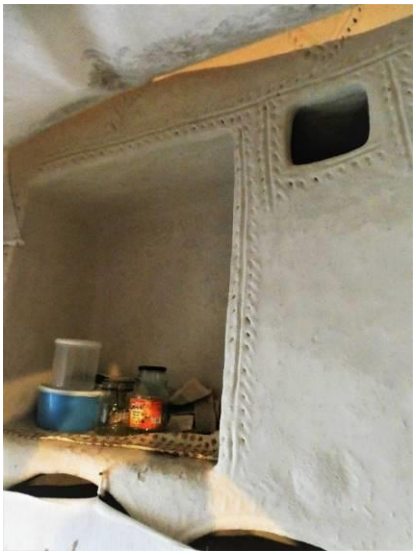


Figure 35 Artistic expression in Bekaa Valley Source: Author (2018)

Sustainable Aesthetics

Beauty and art have always played a major role in human existence. Human beings always tried to express beauty through different expressions. During the old times residents explicit their artistic qualities and aesthetic expression through tools that

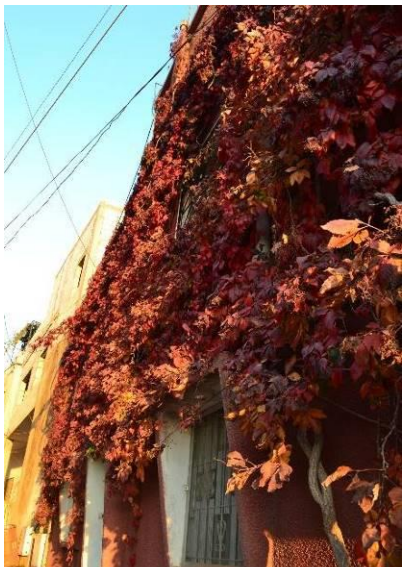


Figure 36 House entrance in El Nabisheith during spring Source: Author (2017)

are basic. As such expressions could be drawing with mud or interior space sculpting.

Recently, there are situations where modern architecture applies materials of traditional architecture to make the building more sustainable at the same time aesthetically appealing. For example, concrete walls are sometimes lined with real or fake stones, or in other cases, roofs are made from metal plagues that are concealed with a layer of vegetation, which makes them appear attractive, while at the same time it acts as a thermal insulation to the house. In such situations, the house will be considered to be sustainable. However, this type of approach cannot be described as sustainable, despite the fact that the name might fit superficially in either natural or its built surroundings, either as an intended action or a secondary outcome of the decorative sustainability (López 2007).

Figure 37 A house entrance during winter. Traces of the shedded clematis on the wall Source: Author (2017)

An ordinary example entails that of “ecolabel” which is mostly applied to high-tech architecture, which allows master high-technology architects to keep their poeticism of technological adoration with an ecological label that masks the result. This label that is utilized to demonstrate the nature caring procedure sometimes does not compensate for the energy consumption waste materials required during production process (López 2007). However, in most cases the mask is genuine and conceals the ecological insufficiencies by resorting to allegedly effective technologies or formal trace of the vernacular tradition.

2.33 Sustainable Principles

The sustainable principles approached in this thesis are adapted from the versus project approach[11].

Environmental aspect

1- Respecting nature
2- To be situated appropriately
3- Reducing pollution and waste materials
4- Contributing to health quality
5- Reducing natural hazards effects

Socio-cultural aspect

6- Protecting cultural landscape
7- Transferring cultural constructions
8- Enhancing creativity
9- Recognizing intangible values
10- Encouraging social cohesion

Socio-economic aspect

11- Supporting autonomy
12- Promoting local activities
13- Optimizing construction efforts
14- Extending the buildings lifetime
15- Saving resources

[11] The versus project is a study based on key principles regarding vernacular knowledge and its contribution for sustainable development. Lessons learned from vernacular heritage are systematized through principles that define a wide number of strategies to consider and integrate sustainable contemporary architecture. This occurred due to establishing operational definitions regarding vernacular architecture and sustainable architecture.

M. Correia, L. Dipasquale, S. Mecca (edited by), VERSUS: Heritage for Tomorrow. Vernacular Knowledge for Sustainable Architecture, ISBN (online) 978-88-6655-742-5, ISBN (print) 978-88-6655-741-8, CC BY-SA 4.0, 2014 Firenze University Press

2.331 Environmental Sustainability

Targeting the human capacity of intervention in order to decrease and even avoid negative impacts on the environment

1- **To respect environmental context and landscape**
   - Assuming an appropriate choice of site
   - Minimising the impact of interventions
   - Ensuring conditions for site's regeneration
   - Integrating with the environmental morphology
   - Understanding the feature of the site
2- **To benefit of natural and climatic resources**
   - Choosing appropriate building orientation
   - Considering the hydrography of the place and water management
   - Location buildings to take advantage of the natural landform
   - Incorporating solar energy into the overall design
   - Taking advantage of soil thermal heat
3- **To reduce pollution and waste materials**
   - Consuming local available materials
   - Using recyclable and recycled materials
   - Reducing loss of thermal heat
   - Using available energy resources
   - Planning maintenance and extending the durability of the buildings
4- **To contribute to human health quality**
   - Enhancing indoor temreture and humidity levels
   - Ensuring adequate natural ventilation
   - Guaranteeing adequate natural lighting
   - Improving natural and passive heating
   - Avoiding toxic materials
5- **To reduce natural hazards effects**
   - Developing strong and flexible construction system
   - Considering the specific characteristics of local risks
   - Integrating technical and behavioural measures to reduce vulnerability
   - Incorporating strategies for post-disaster recovery

2.332 Socio-cultural Sustainability

The socio-cultural sustainability is like a milestone of relations, sense of belonging, identity, personal and communitarian development.

6- To protect the cultural landscape
- Understanding the place and its dynamics
- Enhancing techniques of land use that enhances biological diversity
- Articulating spatial organization with productive needs
- Optimizing soil features and micro-climates through land use.
- Regulating productive activities by environmental features.

7- To transfer construction culture
- Allowing practical constructive experiences to facilitate empirical know-how
- Recognizing the value of mastery and constructive memory
- Involving younger generations in constructive processes
- Acknowledging the value of roles in traditional activities
- Facilitating the participation of local communities in decision making

8- To enhance innovative and creative solutions
- Developing collective intelligence
- Encouraging diversified building system solutions
- Integrating influences from other building cultures
- Evolving building techniques from experience

9- To recognize intangible values
- Transmitting cultural values and history
- Incorporating social rituals
- Building community character and sense of place
- Recognizing local symbolical expressions
- Enhancing of building and productive process as cultural values.

10- To encourage social cohesion
- Promoting intergenerational relations
- Ascribing value to the development of collective welfare
- Enhancing community engagement and participation
- Encouraging places for community meetings
- Building common infrastructures and marketplaces

2.333 Socio-economic Sustainability

"Due to the vernacular conceptual implications, the idea of cost is related to the concept of effort, which can be more adequate when applied to circumstances, where no capital-intensive system exists" (Zupančič, 2009).

11- To support autonomy
- Sharing resources
- Using local and accessible materials
- Promoting indigenous workmanship
- Encouraging local productivity
- Enhancing community empowerment

12- To promote local activities
- Reinforcing local food production
- Enhancing short circuits and local trades
- Promoting collective use of spaces
- Including spaces for productive activities
- Developing handicraft products made with local materials

13- To optimize construction efforts
- Optimizing the use of materials
- Assuring appropriate scale of the building
- Enhancing technical simplicity in building processes
- Reducing transportation efforts
- Encouraging the use of low-transformed materials

14- To extend the buildings lifetime
- Predicting regular substitution of building components
- Preventing erosion of building elements
- Planning maintenance of the building
- Designing flexible buildings for possible changes and extensions
- Building strong and durable structures

15- To save resources
- Using recyclable materials
- Promoting building densification and compactness
- Developing construction systems adequate to local conditions
- Enhancing natural ventilation, heating and lighting system

2.334 Environmental Sustainability in Vernacular Architecture

Vernacular teachings - partly regained in modern day within the bioclimatic design- understands human dwelling and architecture as an active system that is capable of adapting to constant changes in the environment. As such, it is the local weather and the natural materials, which are the kickoff point from which to comprehend the architectural body. According to Neila (2004), environmental sustainability comprises of the ability of human beings to intervene in decreasing or avoiding a building's adverse environmental impacts. Henceforth, responding to each change in the environment understood as the set of conditions where there are chances of life with a concern to the whole biological quality. It is broadly interlinked with the scope of the economy, particularly related to the aspects regarding energy usage and the construction life cycle. To ensure that the environmental requirements are well met, a review of the literature shows that five main approaches that are used:

Figure 38 In the image above we see a dwelling in Yahfoufa – Bekaa, built during mid-19th century. Although the house is completely destructed but the entrance wall and some of its walls still stand. On the entrance we can see an entrance door that had a wooden lintel, later on, during the late 20th century, dwellers used the abandoned "railway" steel to use it as a lintel. In the image above we can see the wooden lintel at the back and then the entrance was modified by adding the steal bar from the old railway to hold the structure. Source: Author (2020)

a) Respecting nature

Oliver (1999), explains that each building is present in an environmental context. On the other hand, the building typologies, as well as the construction techniques used, are mainly impacted by the local culture as well as the features of the site. Moreover, Fernandes et al. (2014) explained that dwellers/builders who made use of natural materials that are renewable and near them had strong coordination with the surrounding site, and on the other hand, a little impact on the environment. Normally, as explained by Sanchez-Montanes (2007), terrains aspects impact the characteristics of the building as per the genius loci of the site.

Figure 39 Abandoned train railway from Riyaq - Bekaa source: Author (2017)

Figure 40 'Mu'alem" Stone mason at work Source: Author (2020)

b. To be fittingly located

As has already been pointed out, weather and landscape features are the kick-off point from where architecture is conceived. Because of insufficient energy resources and present plant systems, local societies have guaranteed the livability and satisfaction of their dwellings by ensuring that a site's bioclimatic aspects such as type of building and orientation among others are taken advantage of. On the other hand, as explained by Coch (1998), varying global weathering conditions have resulted in different solutions whose strengths are founded in the flexibility and adaptability of building aspects to the seasonal or daily differences of climate factors. According to Oliver (1999), in the Mediterranean, buildings could be installed with gadgets that absorb sun-rays in the winter.

c. To minimize pollution and waste materials

Local habitats maximize resources to avert pollution and other environmental impacts. According to Fernandes et al. (2014), in the local traditions, materials that were used were sourced from the area that the building was built. In that perspective, these materials had artisanal production were taken out, processed, and then used on site. By doing that, the energy and the environmental costs involved in transport were reduced. As such, the vernacular building methods can be said to make it possible to use and recycle locally available resources which ensures that carbon dioxide emissions are minimized.

Figure 41 Window close up Source: Author (2018)

d. To contribute to health quality

Through architecture, dwellers are provided with the chance to reside in an environment that is healthy. According to Fathy (1986), heat radiation, humidity, pressure, wind, and other factors interact mutually with climate conditions, which buildings have to interact with so that they can offer comfort to man. On the other hand, thermal comfort hinges on the collaboration amidst both environmental and human elements. Usually, architecture enforces itself between human being and the outside space to lessen extreme climatic conditions and enhance the health and well-being of human beings. Even though buildings have static frameworks that are not able to differ with the weather and human being's rational, they are offered as a broad selection of devices that fit with various and varying climatic conditions as well as human body sensations (Achenza and Giovagnorio, 2014). In Particular, vernacular architectures comprise various examples of architectural and technical solutions to either cool or warm the inner space by taking advantage of local natural resources as well as the physical phenomenon in harmony with the environment. Henceforth, many vernacular architecture showcase elements that are created or modified to indemnify a long livability for food quality, hence their health value. It also establishes the living health through sufficient control of natural lighting, aeration, solar radiation, and humidity levels of the interior spaces

Figure 42 Interior closets made of mud to absorb humidity Source: Author (2018)

(Lloyd 2002). Some of the common examples of building orientation and spatial configurations as façade permeability comprises of, airing systems, roof shapes and pigment, as well as the buffer zones. Apart from that, material characteristics have the potential to have a positive influence on the well-being of people.

e. To alleviate the impacts of natural hazards

A home or any place that is considered to be a dwelling, must be safe and secure for those living in. In that perspective, in areas that are prone to different risks, traditional construction methods have put in place building strategies to cope with local natural risks. According to Oliver (1999), these approaches have mainly been empirically advanced over the years concerning each specific environment. They mainly use materials that are locally available such as stone and wood, among others. On the other hand, according to Caimi and Hoffman (2014), the technical solutions change as per the prospective risk, the local culture, and environmental materials, as they all tend to vary from the construction details to the territorial planning.

Figure 43 Huge wooden beam used in the vernacular dwellings. Source: Author (2018)

2.335 Socio-cultural sustainability in vernacular architecture

According to Edgar Morin, architecture is a social and cultural reality. Such moments allow people to contemplate on what housing is supposed to entail, if it was to regain the scopes of material and immaterial principles, besides, if it was to play a role in generating a more social cohesion space that humans reside in. Recently, with a global society that is increasingly trivializing culture, there remains the question of whether there is still a space for refashioning social bonds, or for converting the social and cultural variations into a wealth of importance to be reincorporated into the production of human dwellings. However, the issue of sustainable home in a new global world is questioned through the prism of social and human sciences and as per the spatial approaches proposed by scholars such

Figure 44 A family gathering under a vine, in El Nabisheith Source:Author (2017)

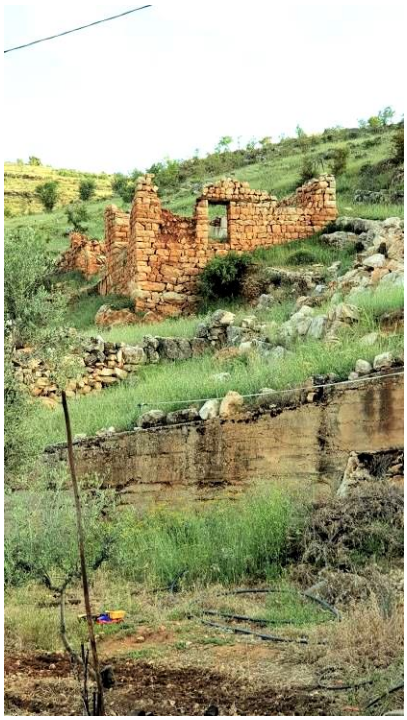


Figure 45 Vernacular architecture emerging from the landscape, Bekaa Valley - Yafoofa Source: Author (2020)

as Alberto Magnaghi and Augustin Berque. These scholars urged the reestablishment of the anthropological and social aspects of habitat (Correia, Dipasquale, and Mecca, 2014). In addition, Correia, et al., (2014) have explained that it is vital in a housing, the dimensions that were evacuated by functionalism which are re-introduced since it encompasses both symbolic and cultural dimensions.

The renewed focus on vernacular architecture could depict the rebirth of a wish of compromise with the material and immaterial values and with firms of expressions to the attractive, the good, and the genuineness experienced when admiring vernacular dwellings. Dwellings that were so pleasantly integrated in the land as a geographic, and cultural space, that mirrors man's history and memory. Thus, it is the social and cultural dimensions of civilization that is integrated in the vernacular architecture, which in reality is more meaningful. This concept pushes contemporary architecture to analyze vernacular architecture which will enable to restore back the power of the *genius loci*, explained by Christian Norberg-Schulz. This new vernacular architecture would be capable of reuniting drawing and building, the pen which is used to draw, the hand that would build, the space that is designed and the manner in which it is used (Norberg-Schulz 1981).

From a socio-cultural perspective that has been learned from vernacular architecture, it can be explained that the European vernacular architecture exemplifies both; the physical and the intangible values, which are an evidence to man's ability to create an ideal living condition. All which encompasses our socio-cultural heritage is of great importance to our current contemporary world, as it provides encouraging lessons for us to coop with our existential anxiety. Different key features of these lessons are resembled below in different points:

a) Vernacular built tradition is part of our cultural landscapes that has been established by dwellers, irrespective of whether these dwellers were farmers or craftsmen before the industrial period which revolutionized the course of the history. Indeed, more than the built objects themselves, it is the complete space of cultural landscapes that provided a patrimonial value to the vegetational cover. Moreover, water is also an aspect of cultural value as it has been tamed through canals, inland ponds, dikes, and even ports along the coastline. Therefore, it can be noted that vernacular architecture, and cultural landscapes, are one and the same space which connects flora and culture. Hence, this demonstrated quality must be preserved and passed on to next generations.

Figure 46 The old train's bridge over the Janta river made by during the French mandate. Source: Author (2018)

b) Vernacular architecture entails a testament of knowledge and understanding to those who built it. The traces of vernacular cultures reside in the land through which resource elements are noticed and connected

between the building and its environment, such as earth, stone, wood, plants, farmhouses, roofs, dwellings, and decorative details. All these elements have shown man's ability to adjust to a region, to satisfy their requirements, and to address the social as well as cultural originality of the region. However, it is important to take note that the transmission of all these scopes of the vernacular heritage and its reinvention is a major test for the future.

Figure 47 Family gathering (2018) *Source: Author*

c) Vernacular architecture conveys incredible amount of creativity that demonstrates a high level of joint intelligence and the extensive process of trial and error, to achieve the best adaptive results. That social and cultural tradition shows an exceptional level of ingenuity in the context of adapting to resources and making sure that they are used wisely. It adopts different forms which are valuable, innovative, aesthetic, and artistic. As such, the expression of ingenuity has to be an inspiration for designers and architects.

d) The social and cultural facets of vernacular architecture are also noticeable in a building code which conveys the substantial values of

those who built and dwelled in a specific place. Such communal memory communicates with the place, depicted through the different forms of purity, expression of symbolism and identity, that are linked to construction systems, and methods. Moreover, the values are also communicated in communal rites or in friendly spaces such as gardens and courtyards, which are perceived to be pleasant to reside in.

e) Apart from the underlying architecture of buildings, traditional man's dwelling, hamlets and towns, depict the dwellers' ability to exchange and live collectively and to sustain the conditions of social solidity that allows him to dwell in harmony with others. That is illustrated by the fountains as well as the Mosques, Churches, squares, covered markets, galleries, and canopies, which provide covered spaces that can be shared with other people and be used together for revelries.

Figure 48 Prayers gathering at El Nabisheith shrine Source: Ali Hadi Moussawi (2017)

2.336 Socio-Economic Sustainability in Vernacular Architecture

When discussing the revision of the literature pertaining to sustainability and the effect on vernacular architecture, it is noted that there is a constant likelihood to give preference to the learning of environmental factors, to the disadvantage of the social, cultural, and economic constraints.

Socio-economic principles

The socio-economic principles inspire the community to augment their local resources, and by doing that, it plays a vital role in the advancement of successful approaches to sustainable development which are of great value. That is likely to be attained by aiding the local communities to become more self-reliant through maintaining local production, maximizing local materials, and by opting to work with joint efforts. Moreover, community advancement is appreciated when proof pertaining to the fact that the stretching of the life span of a building, and its section has a direct influence on the local economy is taken into consideration. Maintaining, upkeep, and flexibility of the dwellings can be achieved through balanced attempts, aimed towards an approach that is highly inclusive and integrated. Apart from that, it ensures that local resources are not wasted and are going to result in a fixed and active division of resources, energy, surroundings, amenities, systems, and ordinary life.

Economy: requirements and values

The economy is strongly related to how resources are used, hence if resources are effectively used the economy ends up being successful. In the Western African country of Mali, various settlements have granaries erected for

preserving cereals. However, as far as the number of granaries and their designs is concerned, it can be noted that they vary with the cultural zones. Moreover, it is also important to point out that the numbers of the storage spaces tend to increase in case there is a bumper harvest since the families build their own granaries as per their crop harvest. On the other hand, if there is a decline in rainfall and the crop harvest decline, it is the food that is stored in the granaries owned by the community that is consumed. At such times, families have to ensure that they cope with the resources available (Ost, 2010). The economy entails means to fulfill needs by ensuring that scarcity, as well as non-renewable resources which must be effectively managed.

Effective management of local resources

For secluded communities, it is common for them to allocate a lot of their energy and resources by seeking more resourceful management. Indeed, by taking a closer look at how communities work, one can be able to take note of how the communities are keen on how available resources are efficiently managed. In some cases, rotational practices are employed in order to make sure that available resources are efficiently managed, as is the case in El Nabisheith when residents used the water from the *Ainona*[12] in a managed manner to ensure everyone receives a sufficient amount of water from the well.

Figure 49 A dweller happy with prosperous fruitful season Source: Author (2019)

Collective values are of economical values

In various parts of the globe, traditional homesteads are arranged in sustainable economic systems that prevent waste while at the same time it ensures energy saving through effective management of different resources. These specific

[12] The Ainona is a water well that used to be active almost all seasons in El Nabisheith. During summer the water gets scarce and low, hence, residents agree on specific amount of water for each family, so the water would satisfy all the residents.

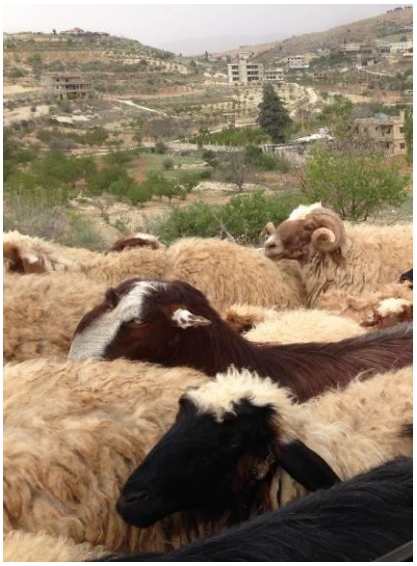


Figure 50 Cattle led by a shepherd in the Bekaa Valley. One of the most famous economic tradition with great value in the area. Source: Author (2018)

sustainable resources are also used by different communities that join forces to produce, supply, and consume their wealth (Ost, 2010). These communities' purpose is to establish restricted and effective use of existing materials, while sharing resources to assist the community. By doing that, the local communities are able to enjoy personal benefits, while at the same time ensuring a collective benefit. In that perspective, the shared values can be perceived to be economically valuable, at the same time credited to the joint approach rather than individualism.

Self-management economy

In the mountains of several European nations, groups and societies were unified in a setting that was symbolized by specific geographical and landscape elements. Specifically, in some cases there are still some secluded societies that apply an independent self-managed economy. Survival was only through the essential economic undertaking such as farming and livestock. The activities were founded on the various ways of using the land by finding out that land value as well as its features led to the construction of different housing clusters which adapted to mild summer climate and demanding winters, in response to the needs of economic exploitation (Gomes, 2014).

Effect of economic issues on local growth and development

The present neglect of various vernacular constructions resulted in the prerequisite to describe a preservation and improvement approach for rural heritage mainly through constant participation while taking into consideration the fact that natural and social resources are founded on social and economic restructuring. However, Barao, et al., (2014) noted that any preservation approach or cultural heritage promotion in rural regions resembles a purposeful intent to protect cultural and natural resources for the future generation. This is going to be likely through sustainable advancement that would guarantee an ecological

equilibrium in context management that is related to economic, social, and functional restructuring of cultural heritage at various levels.

Figure 51 Dwelling in El Nabisheith Source: Author (2019)

Examining the economic value of vernacular architecture

Over the years, the role of vernacular architecture in a given economy has been extensively discussed. Indeed, according to Giannakopoulou and Kaliampakos (2014), vernacular architecture is vital to the advancement of the cultural heritage in secluded regions. However, it can be pointed out that the ideal way to ensure maintaining and sustaining a dwelling is less costly than erecting a new building, which is by establishing the advantages of vernacular architecture in an economic context. From a review of the evaluation by Coller and Harroson (1995) and Carson (2004),the scholars who used the contingent evaluation method, found that vernacular architecture has a significant value, hence, the need to ensure that is preserved. Nevertheless, it is essential to point out that we need more quantitative analysis to be carried out so that the exact value of vernacular architecture in different regions could be established.

Effect of conservation in an economic context

Ost (2010), has discussed the topic of architecture conservation pointing out that preservation entails an economic process of apportioning resources presently with the aim of maintaining and even gaining impressive economic values in the future. That is normally accepted when discussing massive structures, as well as the different sites that are classified as world heritage. Additionally, it is to that fact that a conservation of a world heritage site can have a huge impact on the touristic sector of the whole country. However, traditional architecture preservation can be a powerful tool to improve the regional economy by the promotion of handicrafts, hotels/guest houses, building trades, and small industries.

Preservation of traditional architecture

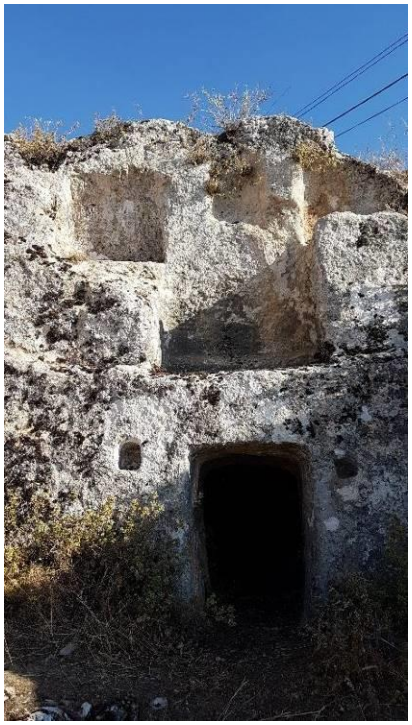


Figure 52 Pre-historic ruins left denied in El Nabisheith, that the government doesn't know about Source: Author (2018)

The extent to which a society can preserve its traditional architecture can play a significant role in the local economy since it would create additional employment opportunities. At the same time, it preserves the building handicrafts and skills. Moreover, it also permits the preservation of the cultural identity of traditional architecture in rural settlements. This would take its effect on the cultural tourism that would inspires the growth of the local economy.

2.34 Resilience of Vernacular Architecture

Figure 53 Dweller rolling a mahdale after a snowy night Source: Unknown

In the past years, a proof of human induced climate change has already started to transform the dwellers habitat. Indeed, the major transformation took place in cities causing unprecedented negative urbanization impact. These negative factors vary from increased use of natural resources, and the constant demographical changes. Alleviating the effects of changing environmental conditions is one of the main issues faced by modern day cities. In this perspective, flexibility has been added to the field of urban planning and architecture as an essential thought for enhancing the capability of adaptation human habitats during the changes. The idea of resilience or flexibility in urban discipline explains the ability of human homes to absorb shocks as well as disruptions without experiencing key modifications in its functional, physical, social, and economic system. A major aspect of a resilient urban planning entails having the capabilities to survive the expected risks as well as threats, while at the same time, taking advantage of the positive impacts caused by the conflicts. As for vernacular architecture that entails ongoing developments, it constitutes major topic with its huge adaptability to the constantly changing external situations. Understanding resilience shows that the

environment in perpetual change and for that reason, resilient architecture can be said to assume a vibrant architecture that is mainly characterized by resilience as well as flexibility.

The role of indigenous cultures in the perspective of resilience from the points already discussed about the resilience of vernacular architecture, it is obvious that there is a strong correlation between the two. Indeed, as explained by Oliver (1997), the vernacular habitats as well as buildings are linked to their environmental settings as well as the available resources which are either customarily owned or built by the community through the use of traditional tools and technologies. Irrespective of the type of vernacular architecture, it can be explained that all the types of vernacular architecture are erected to achieve certain needs. According to Oliver (1997), various factors must be taken into consideration when constructing a local building culture and for that reason, native understanding as well as the local culture are very important when vernacular architecture is used. The native understanding in this context implies the methods as well as experiences chosen and stabled by the local communities from a broadminded understanding of the local resources, limits, values and hazards. One of the most important aspect of the native understanding which differentiates it from other types of cultures, entails being diffused casually and passed jointly to other generations. When seeking sustainable design paths that will be used in future generations and also for human settlements, findings of past studies can be relied upon since by doing that, it is possible to establish flexible planning tactics by analyzing, testing, and confirming the intangible heritage of vernacular architecture. However, Berkes, et al., (2004) has explained that our architectural heritage can offer an endowed field of study focusing with advancing novel strategies of resilience aimed at withstanding capacity of systems purposed at sustainability in a universe that is constantly changing at an unprecedented rates.

According to Berkes, et al., (2000), the three main factors that are important to flexibility or resilience of vernacular architecture comprises of:

a) Experiencing climate change and transforming socio-cultural situations
b) Experiencing a specific environment after a given time
c) The knowledge being socially shared

For many years, vernacular building norm has been used by different civilizations in different parts of a world through what could be described as a trial and error process. As such, vernacular architecture can be described to entail a continuous development and illustrates various aspects and orientation that are founded upon the climatic environments, materials, and living cultures. In any specific society, the presence of a local culture means a promising advancement of consciousness that emanates from diffused cultures. Moreover, it is also important to note that indigenous knowledge plays a critical role in the manner in which societies handle disasters, crises, and major transformations. In this context, the concept of resilience becomes vital for advancing an approach to adaptation through a series of strategies which the dwellers employ the resources available to manage with serious scenarios that can emerge after the struck of a disaster. Resilience attributed to an ecosystem, compensates to restore damages once a disaster has struck, and also absorb the effects and effectively manage emergencies together with the ability to adapt and innovate in social-territorial organization. Solidifying the resilience makes it possible for societies to come up with a huge capacity to alleviate the impacts of natural disasters (Berkes, 2004).

2.35 Vernacular housing material

Vernacular materials comprises of natural, accessible, and renewable resources mainly used in housing. However, it is also important to point out that it is not exclusively possible to take account of natural resources since cultural resources could also be acknowledged as part of the relationship with the local building. Besides, building cultures, knowledge, and understanding that has been advanced in the perspective of vernacular art of building has been referred. Moreover, the prevailing stock of vernacular housing irrespective of whether it is in ruins or has not been used. Thus, a resource for areas desiring to sustain the agricultural activities which could be deteriorating or permitting the poor families to purchase a house in regions where the price of land and the subsequent construction of the house may be impossible. All over the world, human beings have erected houses by changing the materials they had access to. In that view, vernacular houses in different regions of the world directly express the diversity of the environment as well as the builder's ability to align with the local limits, specifically limits imposed by the soil type and its characteristics. Moreover, what was accessible within the building site is what was used to build with. In this case, the soil offers the base of the wall, while tree branches in the region, were used to erect a wattle that was used to mold unbaked bricks, which would later on, be used to build the walls of the house. Therefore, the local geology provided different types of building stone quality as they were gathered when fields were cultivated and were mainly obtained after huge limestone rocks that had been exposed to weather erosions. In addition, it is also important to note that stones were also obtained from quarries that had been in operations for hundreds of years. Likewise, the forest also offered different types of trees such as oak, pine, and olives, which were initially used to stack logs, though later on used to produced timber that made the frame of the house. The straw was

Figure 54 Wall detail (2018) *Source: Author*

Figure 55 Fallen ceiling of an old structure, showing the material used to construct this vernacular dwelling. Source: Author (2020)

mainly obtained from cereal crops and reeds, as well as other different types of grass that was commonly present in ponds, which offered roofing materials and fibers since at that time dwellings used these fibers to mix with the mud for their walls and roofs. Even though different local natural materials were used in house construction, it is also essential to note that the materials were also used in developing better landscape management. Indeed, the materials have greatly influenced the design of cultural identity, as is evident in vernacular architecture of the Bekaa valley.

Figure 56 Ceiling construction details Source: Author (2019)

CHAPTER 3 – EASTERN BEKAA CASE

وَبُقعَةٍ مِن أَحسَنِ البِقاع
يُبَشِّرُ الرائِدُ فيها الراعي
بِالخَصبِ وَالمَرتَع وَالوَساع
كَأَنَّما يَستُرُ وَجهَ القاع
مِن سائِرِ الأَلوانِ وَالأَنواع
مانَسَجَ الرومُ لِذي الكِلاع
مِن صَنعَةِ الخالِقِ لا الصُنّاع
وَالماءُ مُنحَطٌّ مِنَ التِلاع
كَما تُسَلُّ البيضُ لِلقِراع
وَغَرَّدَ القُمريَّ لِلسِماع
وَرَقَصَ الماءُ عَلى الإيقاع
وَنُشِرَ البَهارُ في البِقاع
كَأَنَّهُ القُسورَ في الأَسباعِ

أبو فراس الحمداني

"Region of the best districts

The Herald preaches to the shepherd

With reeds, pastures, and breadth

As if covering the valley's face

Out of different colors and forms

From which the Romans weaved the cloves

By the Creator, not that created

Water settles from swallowing

As the eggs are shed to pump

And the lunar's song to listen

And the water dances to beat

Spices spread in the Bekaa
like palaces in the seven weeks"

Abu Firas Al- Hamadani[13]

[13] A poetry written about the Bekaa valley in 950 ad by Abu Firas al-Hamdani. He . (320-357 AH / 932-968 CE). is a poet and military leader, and he is the cousin of Saif al-Dawla al-Hamdani, the prince of the Hamdani state, which included parts of northern Syria and Iraq, and its capital was Aleppo in the tenth century AD

Figure 57 Nabisheith Shrine
Source: Assad Moussawi (1969)

Figure 58 Nabisheith Shrine
Source: Assad Moussawi (1969)

3.1 Introduction

In this chapter, we introduce the context of our case study, showing a brief history of the region that led to the settlement, henceforth, the built environment. Besides, we study the environmental factors that locals adapted to in order to build their dwellings. At first, we study the different structural qualities of the vernacular architecture built in the Bekaa valley, showing case the materials and constructions methods used. Later, we analyze several dwellings in the eastern part of the Bekaa valley, dwellings that were built over three constructions eras. In the building analysis we use the framework that we have studied in the previous chapter; the phenomenological study, environmental aspects, socio-cultural aspects, and the socio-economical aspects.

3.1.1 History & Settlement

Generally human settlements exhibit as a place of interactions and relationships of social, cultural, and economic exchanges. Various excuses are noticed that pushes towards the collective human settlement. One of the most recurrent views is that human settlements were formed after the Neolithic revolution, which introduced agriculture and made human populations and cities prosper (Bairoch, & Braider, C. 1988). They add that agricultural activities stand out as an important reason for the foundation of 'true' cities. Moreover, it is definite that there are other necessities for which settlements are formed, such as security, defense, deity, and culture, as for more than 2000 years this particular region acted as the grain source for the Roman empire in the Levant region.

More precisely, our specific studied region is in the eastern Bekaa valley called Nabisheith. Residents of Nabisheith settled in these specific highlands for

religious reason, as Nabisheith village is literally translated as "Prophet-Seth"[14], in which it holds the burial place of Seth.

The village increased in size due to several migration waves. The first migration wave occurred during the "Mamaliks Dynasty[15]" in the 14th century. The Mamaliks started pushing Shiite families from Keserwan in Mount Lebanon. The settlers migrated down the mountain to the Bekaa region traveling from the western mountains to the Bekaa and then seeking refugees in the harsh terrains of the eastern Bekaa mountains (Anti-Lebanon Mountains) (Humada, 2012). The migrated families chose to settle in Nabisheith due to its religious sacredness, besides using the tough terrain as a natural defense.

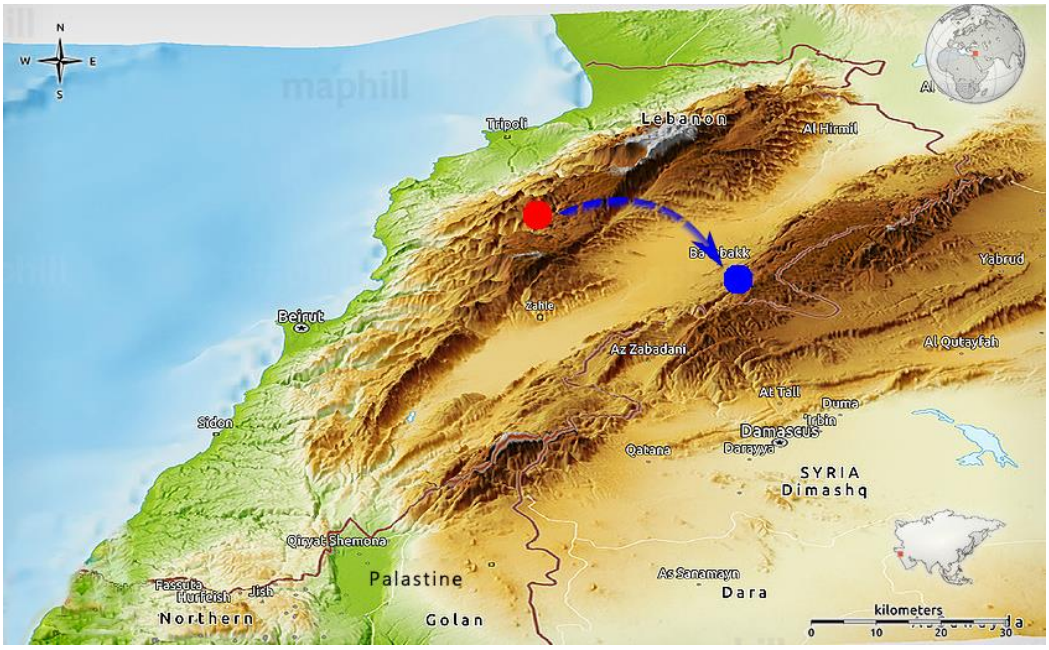


Figure 59 Demographic Settlement Source: Author after Maphill (2020)

[14] Seth is the first son of Adam and Eve after the death of Habil.

[15] Mamaliks was a medieval realm spanning Egypt, the Levant, and Hejaz. It lasted from the overthrow of the Ayyubid dynasty until the Ottoman conquest of Egypt in 1517. Historians have traditionally broken the era of Mamlūk rule into two periods—one covering 1250–1382, the other, 1382–1517.

Figure 60 Picture of the Bekaa Valley looking towards mount Saninine Source: Unknown (2014)

Moreover, Al Harafesha[16] ruled the Bekaa region - with prefixes to their name as princes - for 400 years. Al Harafesha shared the same Islamic sect of the migrators, so they seeked refuge under the Harafesha rule in the Bekaa region. When the Ottomans[17] took control of the expanse, they allowed the Harafesha to carry on ruling the Bekaa, but under several circumstances and guidelines (Humada, 2012). The Shiite families in mount-Lebanon continued their second migrating wave to the Bekaa due to oppression. The migrants used tough natural lands as a stronghold against oppressors. However, the mountainous eastern side of the Bekaa is not as fertile as the bottom part of the Bekaa valley, so residents focused on ranching rather than aggregation. Dwellers cultivated their daily and local crop needs while relying on ranching as an economic cycle, henceforth, dwellers learned to be self-sufficient. However, this led the dwellers' economic dynamics to develop around minor agricultural activities, and an in-between trade of goods. Nevertheless, Mr. Ali Ibrahim, mentions that only once a year on the *15th of Shaaban*[18] a souk/festival occur for 2 days. People gathered in the *Saha,* town square, to buy spices, and clothes, brough all the way from Syria, while on the other hand, residents would sell their victuals, cattle, and sometime barely. Excessive trading started mid-20th century, after the collapse of the Ottoman empire and the retreat of the French mandate. Hence, residence started to grow economically. Moreover, one of the main reason to limit the economy is the lack of water, although the river *Janta* lies less than 2 kms away, yet the dwellers chose to dwell around Seth's graveyard, hence the village metamorphosized around the shrine. Additionally, they never developed an aqua

[16] Al Harafesh are a ruling family from the Shite Islamic sect, that ruled in the Bekaa region from 1497 till 1865. The Harafesh rules semi-independently, as they operated under the Ottoman rule.

[17] Ottomans Empire was a state and caliphate that controlled much of Southeast Europe, Western Asia and North Africa between the 14th and early 20th centuries. It was founded at the end of the 13th century in northwestern Anatolia in the town of Söğüt (modern-day Bilecik Province) by the Oghuz Turkish tribal leader Osman I.

[18] 15th of Shaaban is a Hijri month based on the Lunar calendar. This day marks the birth of Imam Mahdi 12th Shiaa Imam.

duct to serve them. According to locals, next to Seth's grave, two seasonal water wells existed, but they recently dried out. The lack of water obliged residents to grow their crops as *Baal,* or rain-fed. Hence, agricultural activity was merely to serve their dwellings with the necessary vegetables, and not as trading activity.

3.1.2 Modern history

The area studied in the Bekaa valley[19] - Nabisheith to Douris - has experienced a significant typological alteration in a quite small time frame due to two key influences; New material use and a political decision. As with the former, new material use, it only acknowledged new materials usage, such as concrete and steel during the mid-1960s. Moreover, even the primary electrical connection was not established until the late 1960s, according to Mr. Mohammad Ahmad Moussawi, a previous major. Therefore, residents substituted timber and Stone structures for concrete and steel materials. However, the late political decision - which we will discuss in the next chapter- is what produced the most significant impact on the region's landscape and typology. Before modernization of the studied area, locals used to form their spaces according to their needs and financial ability. Their dwelling spaces were built using local materials to sustain their living habits during the harsh winters and hot summers. Dwellers formed their own interior spaces to accommodate several functions: food storage, living room, animal stables, animal food storage, bathrooms, toilets, and farming equipment. Furthermore, dwellers did not build under any official law and without any engineering support.

They built according to the local know-how material and familiarity, hence, what they learned from their parents, neighbors, and the local masons "Mu'alem". It

[19] Bekaa valley is considered to be Lebanon's most important farming region, allocating 42% of all Lebanese arable land (MOA and FOA, 2000). The area served since the Roman empire as the grain source for the roman provinces in the Levant. Sandwished between two mountains that go up to 3000m; Mount Hermout from the east and Korne sawda from the west, the sediments from both mountains inrich its soil for farming (Lateef, 2007).

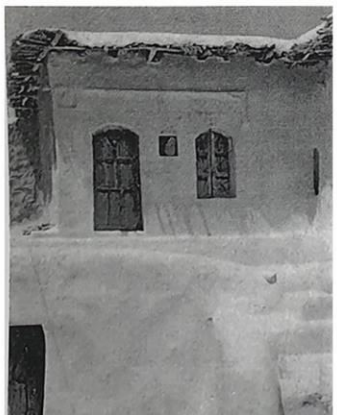
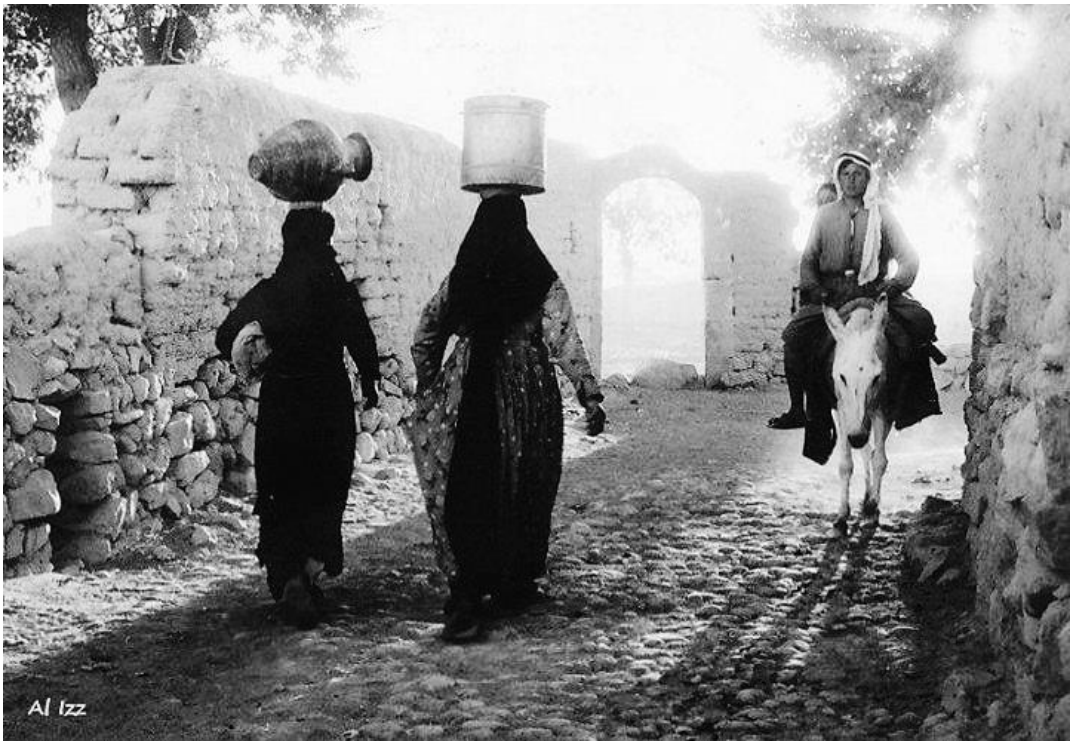


Figure 61 Images from Yonine in the Bekaa valley Source: Friedrich Ragette (1974)

Figure 62 Daily Village Life Source: Lebanese Photo Bank (1959)

was only until the 6th of March of 1951 the Order of Engineers and Architects [OEA] formed in Lebanon under the law 940, as before that a group of engineers created (Lebanese Organization for Civil Engineers and Architects) in 1934 [20].

Although the OEA was formed in the 1950s, locals relentlessly built without official documents for several reasons; the law wasn't imposed on the rural areas as the country only lately gained its Independence (1943), the country always had a centralized authority, as reimbursing its attention only to the capital and other major cities in Lebanon, 26 years after forming the OEA, the Lebanese civil war [21] started, and it remained until 1991 with the Taif agreement [22] (El Moussaoui, 2019). Moreover, in 1982 Israeli troops invaded Lebanon reaching Beirut. The state



[20] OEA, "Historical Overview", https://oea.org.lb/Arabic/Sub.aspx?pageid=70 (Accessed August 15,2019)

[21] It was a multifaceted civil war in Lebanon, lasting from 1975 to 1990 and resulting in an estimated 120,000 fatalities

[22] Taif Agreement was an agreement reached to provide "the basis for the ending of the civil war and the return to political normalcy in Lebanon". Negotiated in Ta'if, Saudi Arabia, it was designed to end the decades-long Lebanese Civil War, reassert Lebanese authority in Southern Lebanon (then occupied by Israel), though the agreement set a time frame for Syrian withdrawal and stipulated that the Syrians withdraw in two years. It was signed on 22 October 1989 and ratified by the Lebanese parliament on 5 November 1989

itself was in full chaos until retrieving its full Independence on the 25th of May 2000.

All the accommodated history pushed towards chaotic and illegal building construction over time. Although the country experienced several devastating problems, it did not lead to the most significant aesthetic upheaval yet. Likewise, Residents lived deprived lives and could not afford to build new houses. However, citizens who immigrated during the war did not invest back in their homeland, as it was not relatively safe yet until recently. After the year 2000, expats and locals started building their homes, however now mostly legal under the Order of Engineers and Architect and conferring to the laws of *municipal of work*.

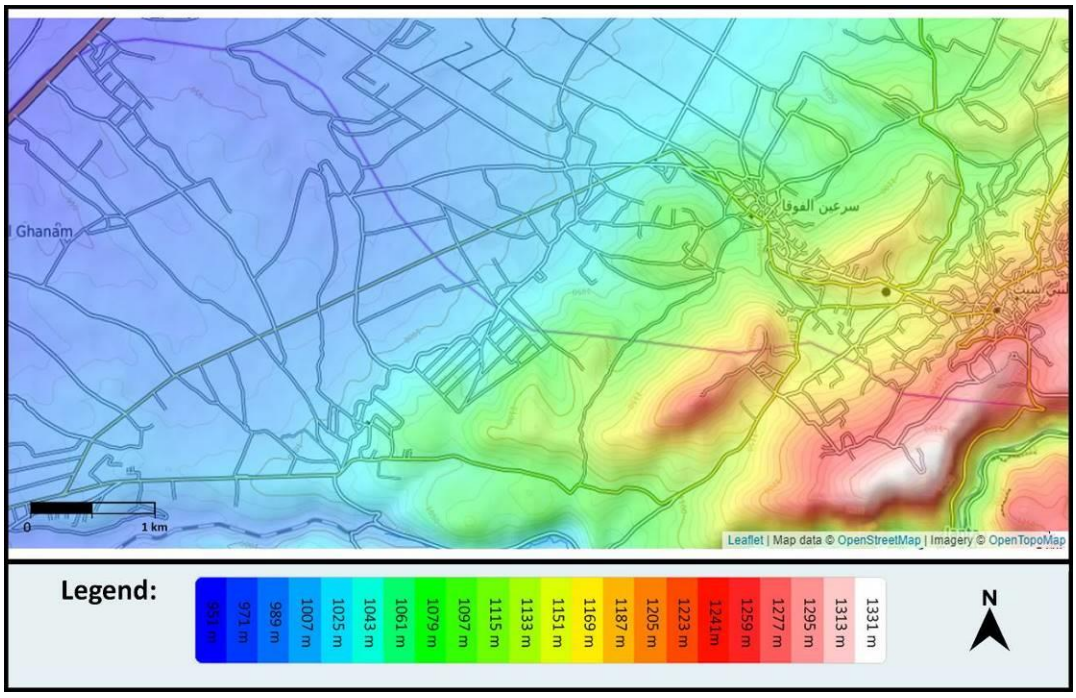
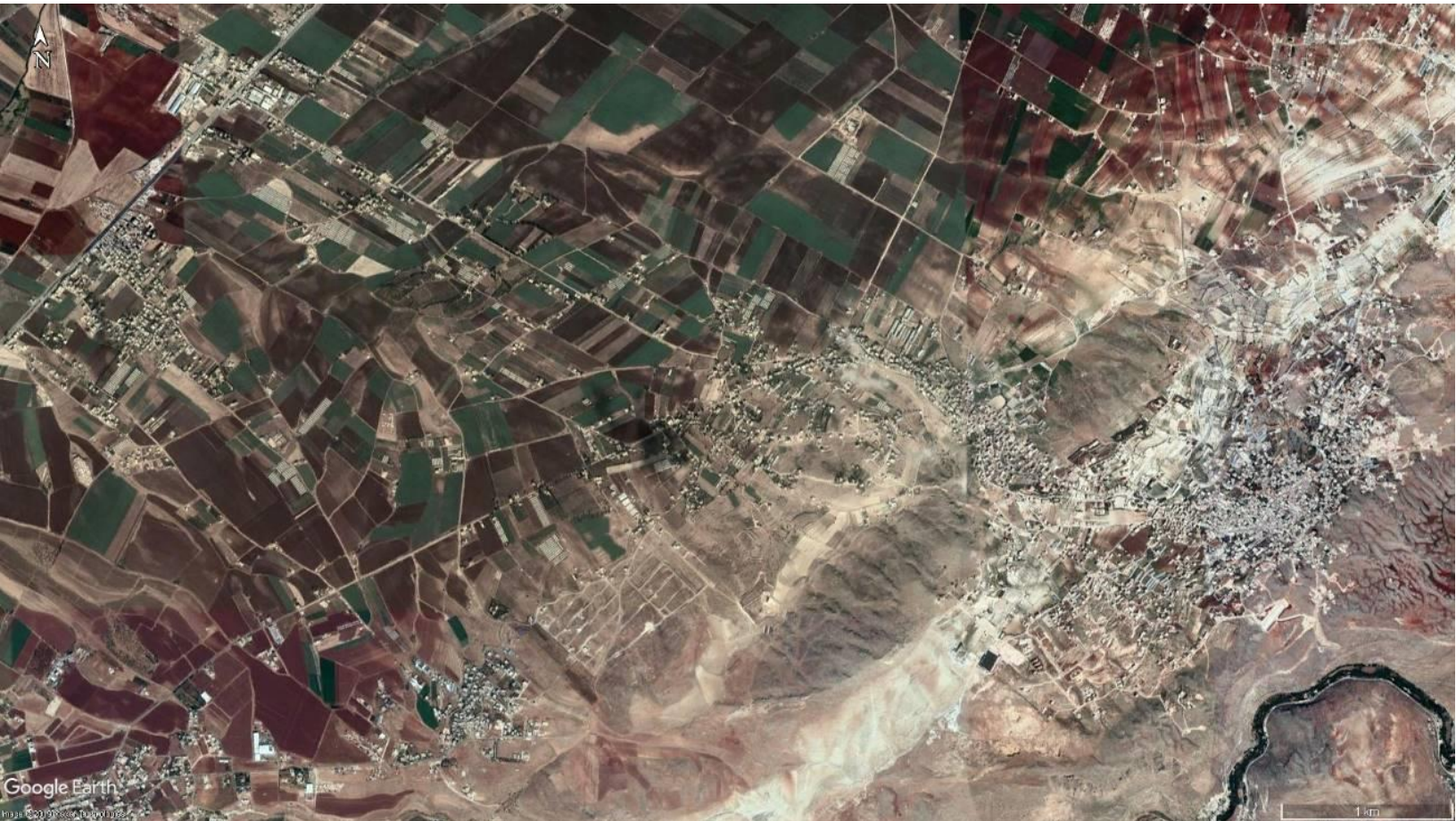


Figure 63 Topographic map Source: Author & https://en-gb.topographic-map.com/maps/lpgv/Lebanon/(2019)

According to Mr. Mohammad Ahmad, during the mid-1960s, concrete was introduced to El- Nabisheith and its peripheries. With the introduction of concrete to the area, new typologies manifested. Citizens mostly did not have the means to construct new buildings, therefore, as extension to their cultural preferences, they'd add new structures and extensions over the old habitats. Old habitats that

were made out of stone, wood, and mud. The ceilings used to be renewed on a regular basis by rolling a “Mahdale” over the mud ceiling – compressing the mud - to prevent water leakage throughout winter. With the introduction of concrete, residents replaced mud ceilings with concrete. Concrete was of a benefit, as it prevented snakes from poking the mud ceiling in search of warm spots in winter, as explained by one of the old inhabitants *Nohad Ibrahim*. Additionally, it prevented the laborious process of renovating the ceiling regularly. On the other hand, when dwellers needed to add new spaces, they stopped using the old vernacular method, but instead, they started adapting to concrete, as it was a more comfortable solution.

The transitional phase between vernacular architecture and modernized architecture patterned around new typological formation by merging new construction materials with old vernacular architecture. Hence, we see the emergence of new typologies that is the interconnection between vernacular architecture and new construction technologies.



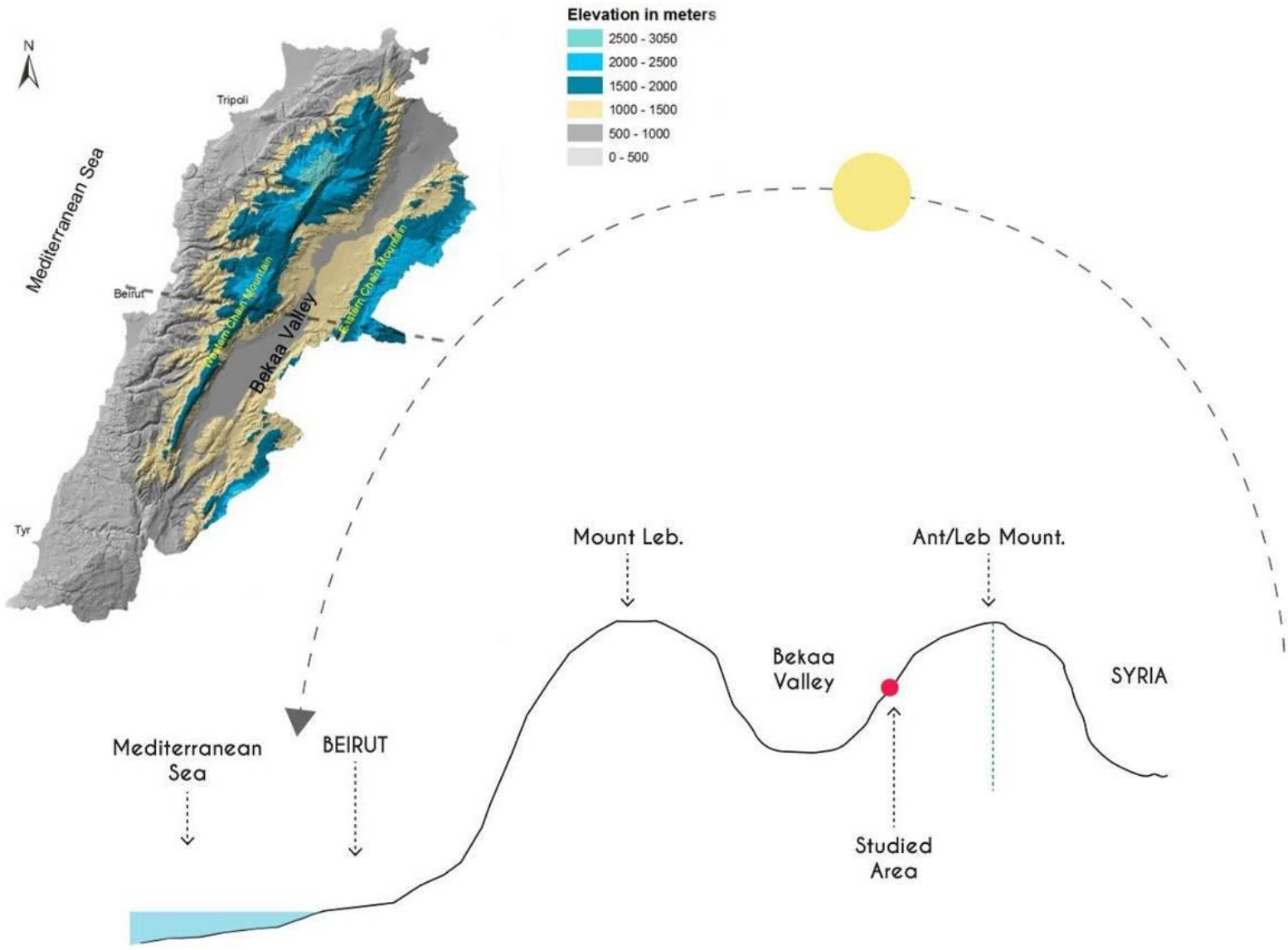


Figure 64 Map of Lebanon with orientation and study location Source: Author (2019)

Figure 65 Google earth section of the marked area from Syria to the Mediterranean sea from Beirut's side. Source: Google Earth (2020)

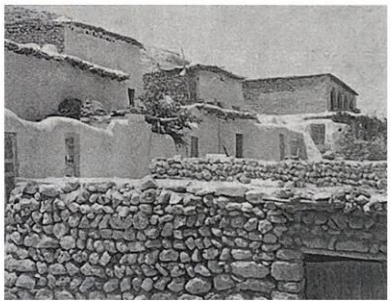


Figure 67 Images from Yonine in the Bekaa valley Source: Friedrich Ragette (1974)

Figure 66 Un-inhabited vernacular dwelling in the Bekaa Valley - Yafoofa Source: Author (2020)

This early phase of modernization still whispered *Genius Loci* of the dweller's essential habits. Besides, due to the destruction of most of the old dwelling habitats, most of the remaining structures are structures that adapted to the new technologies, which remain partially in use today.

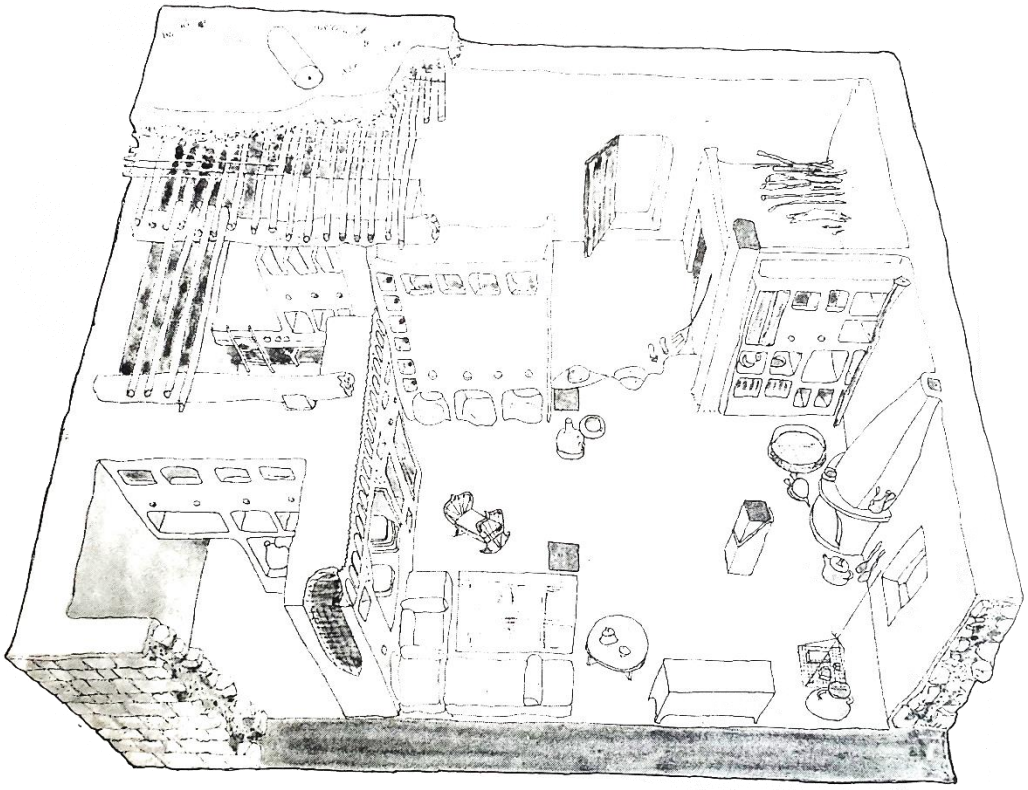
3.1.3 Pre-modernism

3.1.4 Architecture in the Bekaa Valley

The basic house in the Bekaa valley is constituted of; earth roofing on joist and beams, stone walls, posts, pillars, or inner arcades. This basic vernacular house model in the area can be found in two options. The first type is made of one unit, distinctive for the rural areas; the second type is a multiple unit houses, found in both; urban and rural environments. These two types of dwellings are generally private, thus not very open to the outside. The one-unit house is a parallelepiped unit (Kassatly, 2000). The one-unit consists of one large rectangular unit and contains load-bearing posts, pillars, arcades, and sometimes vaults. These structures would later evolve to add other spaces adjacent to the main one. The typology is formed according to the load-bearing structure, which gives the area its pattern and sets the limits of the areas dedicated to particular activities (sleeping area, food storage, animal shelter...). The roots of these kind of typologies goes back to pre-historic times (Ragette, 1974). Later, with the development of architecture, arcades, stone pillars, and vaults, replaced the initial construction system. Usually the house contains only one door that connects the interior space to its exterior, with some few windows in the walls. In the mountains, usually the dwellings are built with local dry stones. The foundation layer merges with the landscape. In the Bekaa region, earth walls and primary exterior renderings are applied to the dwellings, in which, it makes locating such houses difficult in the landscape. Multiple-unit typologies are

normally made of several cubical-elements that can be “lined up, superimposed, or staggered” (Ragetter,1974). The components usually open to the outside through small windows or a door. Each of these components is devoted for a specific function, whether it is an animal shelter, toilets, sleeping area, and materials (silkworm rearing, weaving...).

These typologies are located in all the rural areas of Lebanon and Syria, whether they are coastal, valleys, or mountains. They are generally usually built alone, as separate units on a cultivated hill side (Jal), that facilitates agricultural for dwellers.



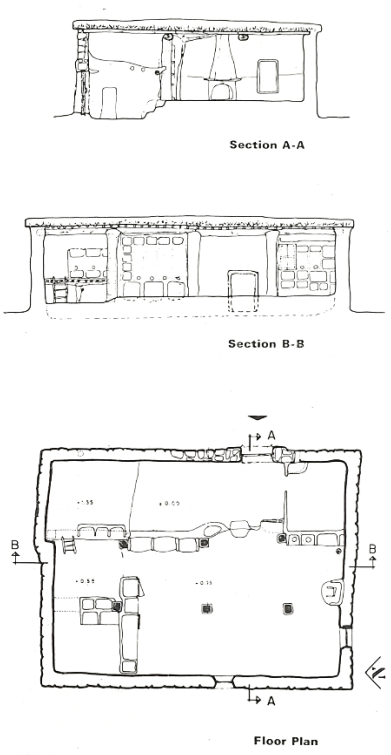
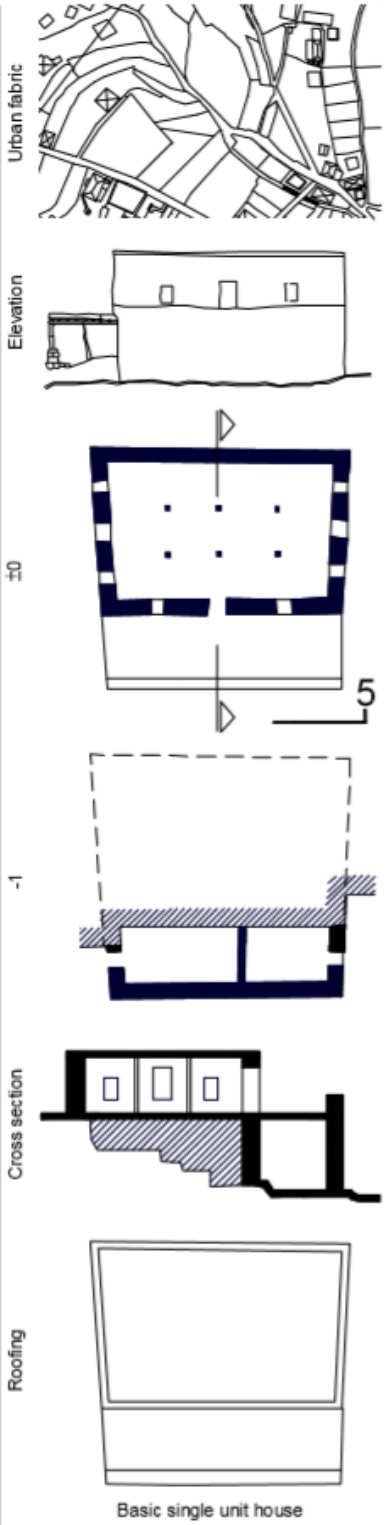


Figure 68 Isometry, sections, and a plan of a dwelling in Younine Village in the Bekaa valley. This house doesn’t have an exact date but it is estimated that it was built in the late 19th century Source: Friedrch Ragette (1974)



General vernacular case studies in the Bekaa Valley:

Use/associated activity: This is a general-purpose dwelling. It is used as home, but also as a shelter for animals and a warehouse.

Dating: The origins of this dwelling seem very old and could go back to Prehistoric times. This shape was built until the 19th century.

Altitude From sea level: up to about 1700 m high.

Orientation: The orientation of this house is relative to the location. The door generally opens on the valley. In Bekaa, it turns its back to dominant winds. In mountain areas, it follows the topography.

Ground surface covered: This dwelling takes up from 1 to 20% of the area where it is established.

Surface area of housing: It varies from 20 to 50 m2

Number of floors: 1

Number of homes: 1

Number of families: 1 family.

Average number of members per family: 4 to10 people

Functional outline The single unit of this dwelling is subdivided into functional areas with unspecific furniture (youk, curtains or simple wooden partition). The house must satisfy Minimal needs: sleeping area, shelter, a place to get warm. This explains the scarcity and size of openings. The door is generally low and small. It opens on a flat open external area where most household activities take place (cooking, eating, resting, working, hand craft...). This house can also have a fenced area in the front. It can be associated to a barn, called zribeh, and built behind or at the foot of a terrace.

Figure 69 A sample of the traditional house Source: Makaroun, Y., & Husseini, F. (2004).

The following information are from a study on **Younine**, a village in the Bekaa valley that is near the studied area.

Geographical co-ordinates: 34°04’ N ; 36°16’ E

Height above sea level: 1.150 m

Lithology: limestone

Population: 20.000: inhab.

Population density: 2,6 inhab/Ha

Average annual maximum temperatures 20°C

Average annual minimum temperatures 10,4°C

Average of maximum temperatures during the hottest month for ten years 38°C

Average of maximum temperatures during the coldest month for ten years -9,3 °C

Average rainfall 210 mm

Average number of days of rain per year: 41 days

Specific characteristics: Live traditional housing

Traditional economic activities: Agriculture, tree farms, craftsmen (carpets)

New economic activities: Commerce, breeding

Site’s communications with its territory: 110 km from Beirut .

Figure 70 Younine Village in the Bekaa Source: Makaroun, Y., & Husseini, F. (2004).

Al Qalaa Quarter

Figure 71 Images of traditional architecture in Baalbak Source: Makaroun, Y., & Husseini, F. (2004).

The following information are from a study on **Baalbek**, a main city in the Bekaa valley.

Geographical co-ordinates: 36º12'E ; 34º00' N

Height above sea level 1.150 m

Lithology Limestone and pudding stone

Population 103.000 inhabitants

Population density 234 inhabitants / ha

Average annual maximum temperatures 22,8C

Average annual minimum temperatures 7,3ºC

Average of maximum temperatures during the hottest month for ten years 42ºC

Average of maximum temperatures during the coldest month for ten years -10ºC

Average rainfall 410 mm

Average number of days of rain p/y 52 days

Specific characteristics Besides the impressive Roman site which made Baalbek worldwide famous, the town preserved a remarkable central square and an old souk. It also contains specific models of traditional architecture, particularly in the Al Qalaa district, which is right next to the Roman acropolis.

Traditional economic activities Retailing trades, sheep livestock trading, agriculture, craftsmanship.

New economic activities Small industries, national and international cultural tourism, world famous cultural activities: the Baalbek Annual Festival. Site's communications with its territory Baalbek is linked by road to Zahleh which communicates with Beirut and Damascus.

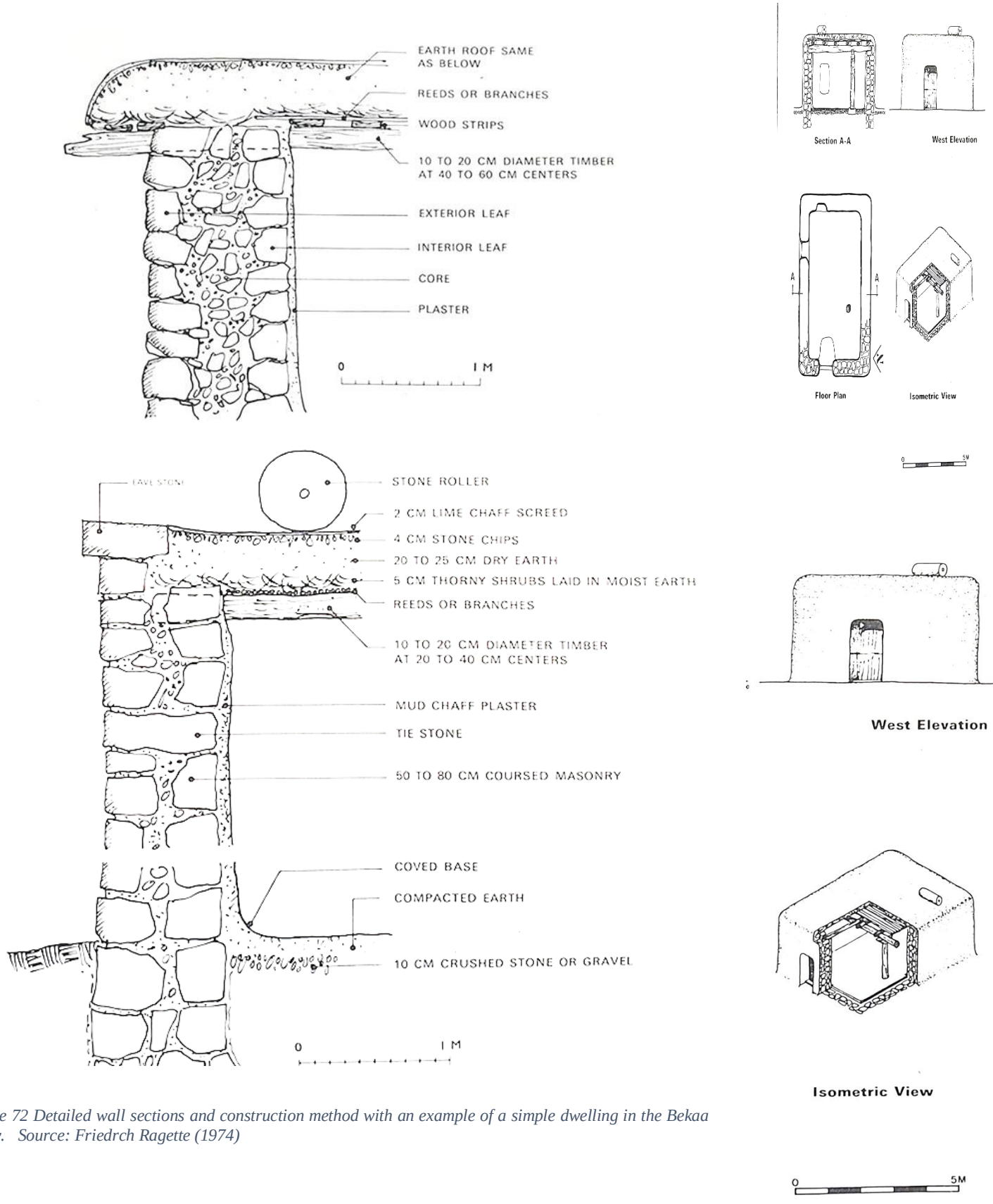


Figure 72 Detailed wall sections and construction method with an example of a simple dwelling in the Bekaa valley. Source: Friedrch Ragette (1974)

Figure 73 Images from Nabisheith Source: Author (2019)

3.1.4 Vernacularity in El Nabi Sheith

Walls: Walls are built out with two facing stone masonry. The walls are almost 80 cm thick. The thick walls help in preserving heat during harsh winters while keeping a pleasant cool temp in summer.

Framework: The walls are mostly made of stones, with central or peripheral posts or pillars. The floor is made with wood, supported by wooden joists and beams. And finally finished with compact mud.

Roofing: the roofing is made out of hard-packed earth. Earth layers rests on a bed of plants and a lattis of branches supported by beams and joists.

Rendering :- Interior walls are usually rendered with lime. Depending on the location and the materials available, but usually exteriors are usually bare stones covered with wash or mud rendering.

Openings and projections in the façade: facade openings are generally rectangular or symmetrical, with no bulging shapes. Lintels are made with either a juxtaposed wooden element or a made of a monolithic stone block. A basic joinery wooden framework links these openings.

Traditional systems of air-conditioning Ventilation is assured by means of openings and the construction orientation, while heating through decorated earth hearths, braziers and fireplaces, using coal. Smoke is evacuated out of the interior space through small openings, usually above the windows.

Drinking water supply systems Water comes from different resources, usually wells, but sometimes in summers when well dry out, dwellers travel a journey of 2 km up a hill and down a valley to reach “Janta”.

Waste water drainage systems In El Nabisheith there is no organized drainage system. Usually drainage is a “Joura” “Hole” dug directly outside the house.

The following information are from a study on **Nabi sheith**, a village in the Bekaa valley.

Figure 74 Image from El Nabisheith Source: Author (2018)

Geographical co-ordinates: 36º12'E ; 34º00' N

Height above sea level 1.300 m

Lithology Limestone and pudding stone

Population 33.000 inhabitants

Average annual maximum temperatures 21,9C

Average annual minimum temperatures 6,5ºC

Average of maximum temperatures during the hottest month for ten years 39ºC

Average of maximum temperatures during the coldest month for ten years 11ºC

Average rainfall N/A **Average Humidity** 54%

Average number of days of rain p/y N/A

Specific characteristics Nabi Sheith Shrine, Aba Fadel Abbas Shrine, Sayed Abbas El Moussaoui Shrine, Roman Stone Carvings (some say prehistorical) (Bollnow, 1956), Jewish and Roman graves.

Traditional economic activities Retailing trades, livestock trading, agriculture, and victuals.

New economic activities Small industries, Nabi sheith shrine tourism,

Figure 75 Traditional Vernacular architecture in El Nabisheith Source: Author (2020)

Figure 76 Exterior wall of a vernacular dwelling in El Nabisheith Source: Author (2018)

Figure 77 Exterior wall of a vernacular dwelling in Yahfoufa Source: Author (2020)

3.2.2.1 Construction

Building techniques in the region combined bearing walls and frame construction. The bearing walls are utilized for enclosing the space while holding part of the skeleton frame for the roof. The foundation (al-asas) is built over a bed rock if it was possible, or otherwise atleast a meter below the ground. The “asas” consisted of compacted mud and stones.

Wall construction in El Nabisheith had different approaches. One of the most recurring construction was by compiling stone pieces of different sizes with mud in between to fill in the gaps. Both sides of the wall whether the inner or outer part, were either left bare to its reality or rendered with mud plaster and painted by lime paint (Huwarra). This construction method was the most recurrent in the area, due to its cheap and fast method. Moreover, it doesn’t require any advanced or

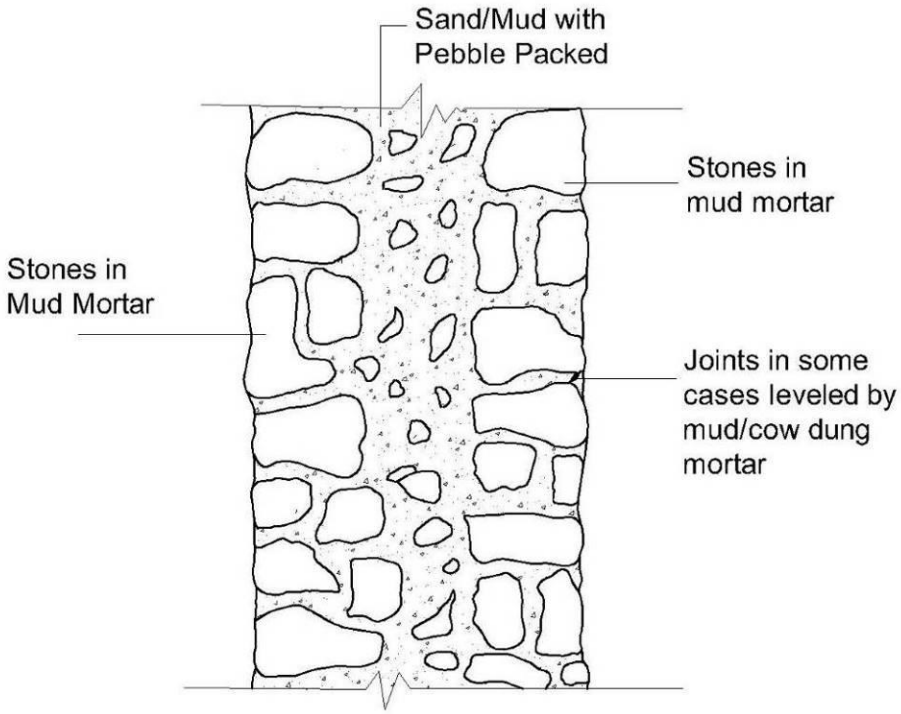


Figure 79 Wall construction – detailed section Source: Author (2019)

hard technique. However, due to weather erosion most of these houses weren't able to withstand time, and they mostly vanished.

The most familiar of the exterior bearing wall (Hayt) is made of stones collected and pilled up without mortar as dry masonry. These walls usually are around 1 meter wide and it consists of three parts; the exterior stone wall, the interior wall, and the core (Rakkeh). The difference in this type of wall is that from both sides from the exterior and the interior are made of (Madmak) - big stones. Usually the stones are roughly cut to fit together coherently on the outside, whereas on the interior it is usually built less carefully since it will be covered by lime plaster. The in-between (rakkeh) is usually made out of rubble and mud.

Figure 80 Construction detail. Source: Author (2018)

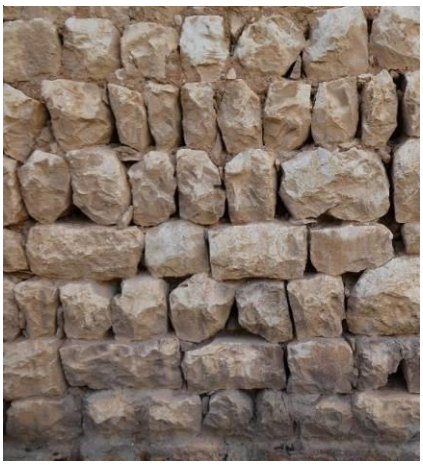


Figure 81 Exterior wall facade Source: Author (2020)

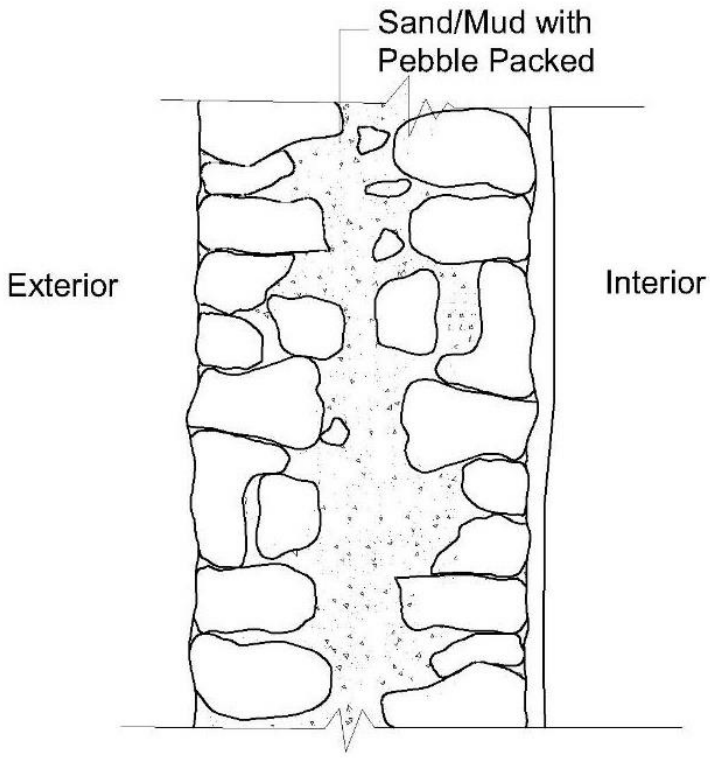


Figure 82 Detailed wall section Source: Author (2019)

Figure 83 Exterior wall Source: Author(2020)

Figure 84 Detail of a mud plaster and wall construction Source: Author (2019)

Figure 85 Door entrance of a traditional dwelling Source: Author (2018)

Another adapted wall construction method was a mixture of the first and the last part described. The exterior was made purely out of “midmaks” or big stones, while the core part is extended to also act as an interior enclosure, and finally rendered with a lime plaster.

The interior plaster consists of a layer of loamy earth (Tin) mixed with several different fibers. Finally, the plaster would be rendered with a lime plaster (Huwarra). This whole technique usually varies between 3 to 4 cms thick. On the corners the plaster is rounded and merges with the floor.

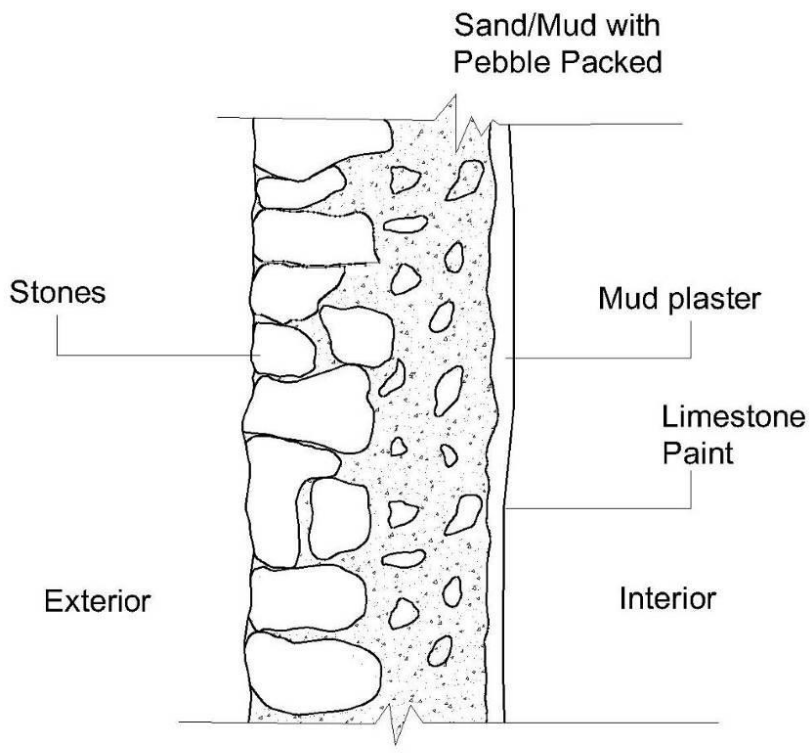


Figure 86 Detailed wall section Source: Author (2019)

3.2.2.4 Roofing

The roof (Sath), consisted of flat timber structure with earth topping. Usually its thickness varies between 30 to 50 cms. The main structural elements are layers of log/beams (wasleh). The logs settle on the load bearing walls, also on load bearing wooden columns. Melia azedarach (Zanalakht) or mulberry (tut) trees are preferred as wood source. In specific the Melia is very resistant to decay, which it was mainly grown for its leaves, as they act as an excellent fodder for cattle.

Figure 87 Image of a woman using the "Mahdale" on the ceiling by the end of summer. Source: Unknown (1950's)

On top of the logs a layer of twigs are used perpendicularly to the huge logs. The size of the twigs depends on the span between the logs. Sometimes flat wood and strips are used instead of the twigs.

Above the twig a layer of thorny bush is used (bellan), which grows massively in Lebanon, and it is pressed with moist earth (trab). The following construction method is crack-proof slab. The slab is constructed with a slight slope towards the waterspout (mezrab). This slab is usually finished by a lime fiber mixture.

Figure 88 Mahdale (2005) *Source: LTA*

As mentioned by Ragette (1974) this roof has a k-value[23] of at least 1kcal/m2hC, which is a great thermal insulation in hot summers and cold winters. However, this kind of roofing requires constant reparation to prevent water leakage, in specific, after a dry season, which resident will need to roll a mahdale (stone roller) to compact the ceiling again.

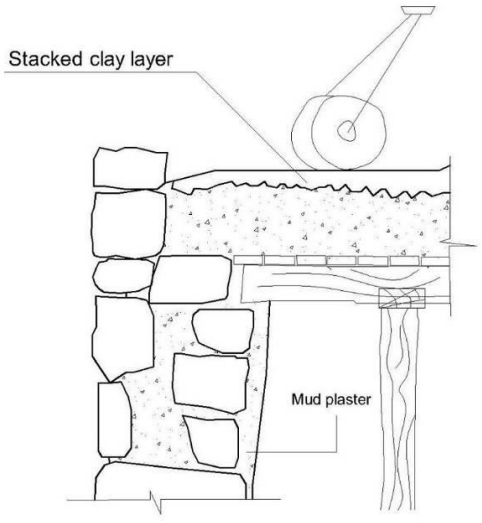


Figure 89 Detailed Ceiling section Source: Author (2019)

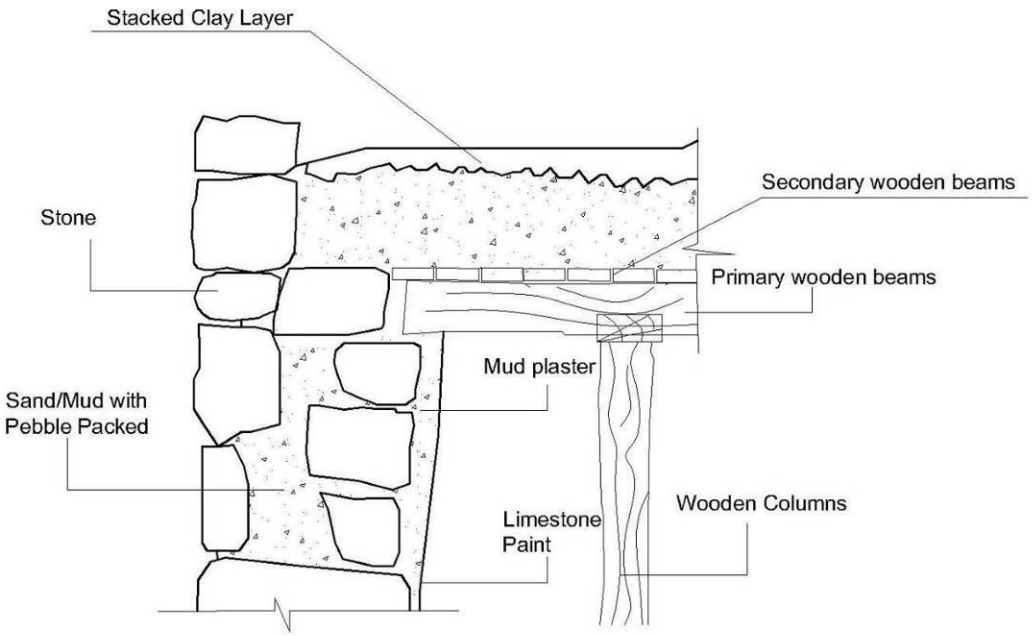
[23] K Value is a steady state of the heat flow through a unit area of a homogeneous material induced by the unit temperature gradient.

Figure 90 Detailed Ceiling section Source: Author (2019)

3.2.2.4 Beams and columns

Due to the heavy roof's weight, the span of the logs is usually limited between 2 to 4 m. The weight of the ceiling is estimate to be 500 kg/m2 (Ragette, 1974). Due to that larger spans, usually it would need another set of beams. For those long logs/beams, strong timber is used of a diameter up to 50cm. This method would create a set of primary and secondary beams, normally following a grid of 3 x 3 m. The pillars used are either of wood or stone, in el Nabisheith stone pillars are not used. These pillars rest on stone bases and have saddle pieces that run parallel to the continuous beams. (fig 91). All the following construction method is made without the aid of any ties, as the weight of the roof itself stabilizes the structure.

Figure 91 both images are construction samples of the detail above. Source: Author (2018)



3.1.5 Dimensions and scaling:

Currently, the metric system is the most used measurement system in Lebanon, and in the studied area, but this system was not introduced during the French mandate (1923) to Lebanon. This area in specific received this measuring method even later on during the French mandate. Due to the mere subjective way of living, residents never used any empirical methods. Hence, they were never in need of any specific measuring tool, as they built mostly according to what they felt is the most suitable for their accommodation. Measurement tool in the area was the human body, in its different form of scaling. Heights before the French influence were up to 2m or 2.2m of clear height. After the French mandate, the influence of the high ceiling started to sprout in the area.

Most of the dimensions converted to metric scales are given in an approximate value, as the measurements were never absolute.

A- Alwar -الوار: ˜ 125 cm

B- Al Baa -الباع: ˜ 180 cm

C- Al Ziraa - الذراع : ˜ 60 cm

D- Al Shiber -الشبر : ˜20 cm

E- Al Fiter -الفتر : ˜15 cm

F- Al Osbaa- الاصبع :˜8 cm

G- Al Enmel الانمل : ˜2.5 cr

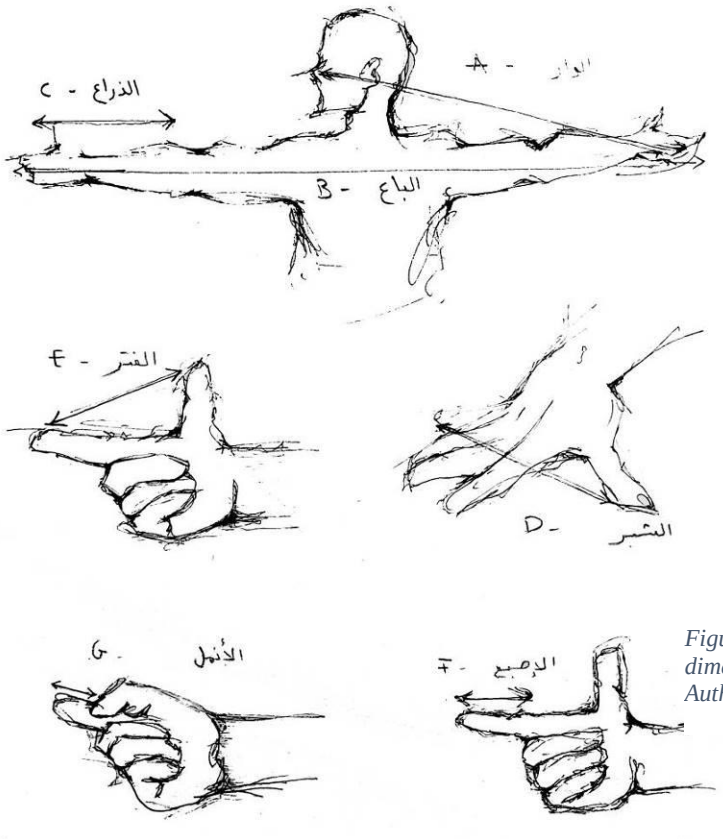


Figure 92 Sketches of human scale dimension used in the region Source: Author (2019)

3.2 El- Nabi Sheith Case:

In the previous part, we had a general look into the history of settlement, the vernacular architecture, and the measuring method, moreover, we analyzed some climatic information to better be able to understand the environment that led to those specific construction methods. In this chapter, we focus on El- Nabisheith, a village located on the eastern part of the Bekaa Valley. We select several dwellings that resemble the four construction eras in the region; pre-modernism, transitional phase, modernism, and post-political modernism. The dwellings selected in the pre-modernism era, and the transitional phase, are considered the last standing vernacular architecture in the center of the village. We divide the studied area into two zones, the agricultural zone, and the village's original square.

Figure 93 Bekaa Valley from El NabiSheith Source: Assad Mohsen (1950's)

Figure 94 Vernacular dwelling emerging from the landscape overlooking the eastern mountains Source: Author (2020)

Figure 95 Circled in red is agricultural zone, where most of the post political structures are located. Source: Author and Google maps (2019)

Nabi Sheith Case – Village square zone (zone 1):

Figure 96 Nabisheith Map
Source: Google Earth (2018)

Viewing zone 1 up-close, we differentiated some of the structures in the area to three parts; Pre-modernization, Post-political modernization, and the transitional phase. In the transition phase, we will examine two dwellings in depth, to see how residents adapted to the new materials and how it was integrated in their "Pre-Modern" dwelling spaces. Both dwellings that we will examine are partially abandoned, and their owners are deceased. Moreover, as mentioned earlier, all these pre-modern structures where build near Prophet Seth Shrine, in which the village metamorphosized around the holy site, and it started expanding from that hill.

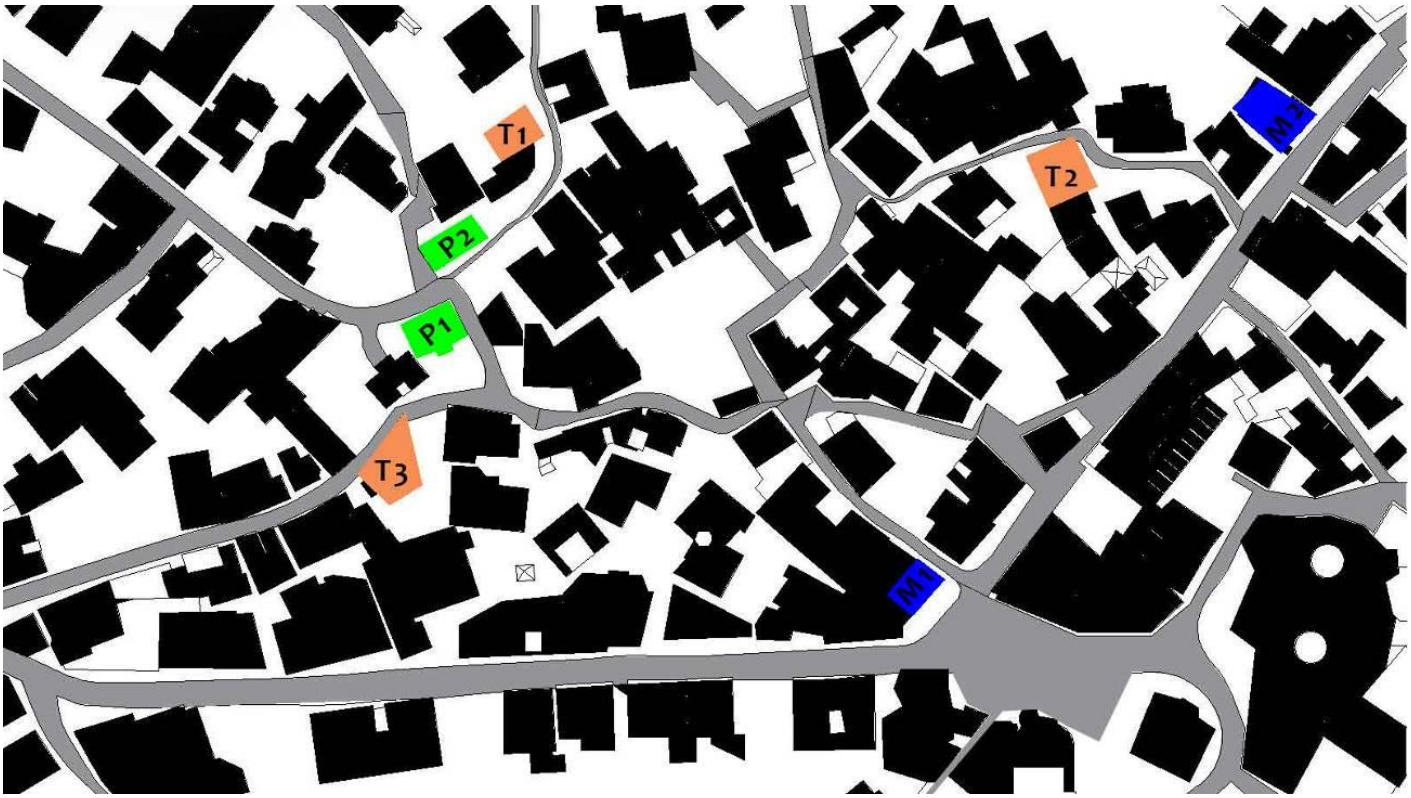


Figure 97 Nabisheith center where the village metpophosized around the grave of Seth Source: Author (2019)

Table 1 Categorizing the studied structures

Dwelling	Original Owner	Year of Construction	Modified
P-1 *(Pre-modernism)*	Ali Hussein Ali El Moussaoui	1910's	1951
P-2	Ali Mohammad Jawad Ibrahim	1940's	-
T-1 *(Transitional)*	Hassan Abbas abu Abbas	1940's	1990
T-2	Ahmad Abu Hassan	1930's	1980's and 2002

T-3	Hassan Ismael	1940's	1972
M-1 *(Modernism)*	Mohammad Mortada Abu Maher	1981-1982	-
M-2	Hashem Mohsen Abu Rida	1987 - 1990	2005
PP-1 *(Post-political)*	Ali M	2018-Present	
PP-2	Jaafar A J	2016	2019
PP-3	Ali M & Yusef M	2017	
PP-4	Hasan K	2018-Present	

Figure 98 El Nabisheith Source: Author (2018)

3.2.2.1 Dwelling P-1 Ali Hussein Ali

History & Technicality

Figure 99 Dwelling P-1 Exterior Source: Author(2018)

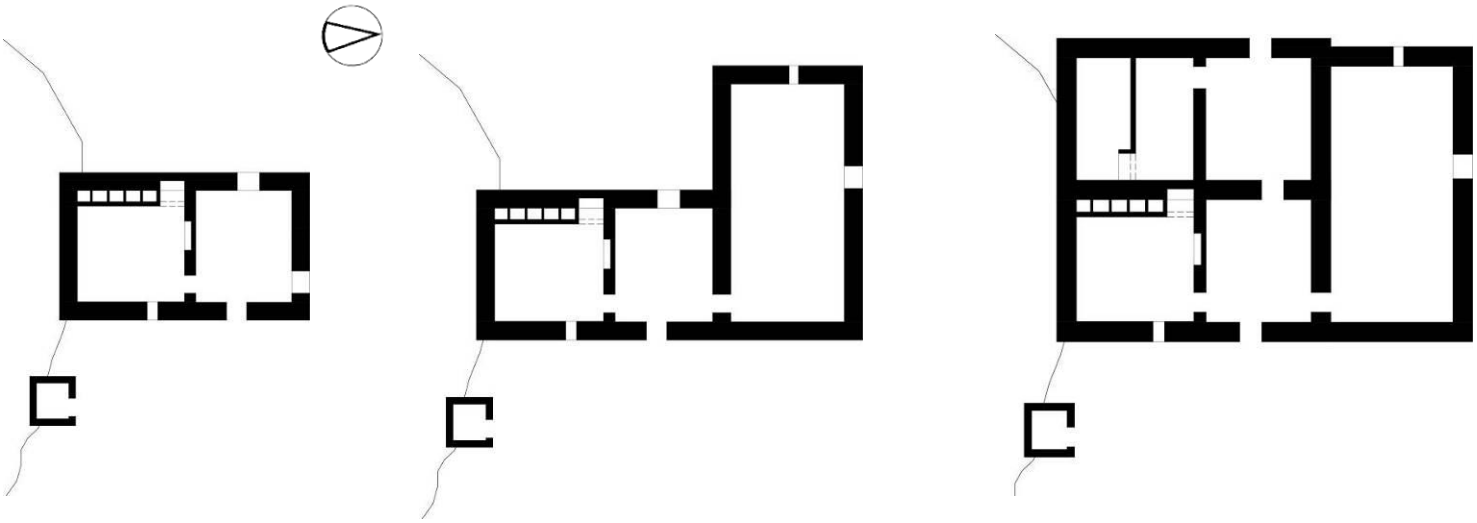
Dwelling P-1 is the last standing two-story vernacular structure in the area. The great grandfather originally built this dwelling during the late 19th century. Although the exact construction timing is unknown, this house started as one small cubicle that later evolved to encompass other altered functions. The reason why this house still stands until today, is that the granddaughter of the owner (87 years old) is still using the 1st floor of the dwelling. This house was built on two phases, as we mentioned earlier, the first during the late 19th century, while the 1st floor built in 1947. As with the rest of the dwellings built at that time, the entrance to the house is on the east while the openings overlook the Bekaa Valley to the west.

Figure 100 Dwelling P-1 Exterior Source: Author (2018)

It seems the owner didn't work as a shepherd, as no barns are built under or next to the house. The dwelling was built entirely according to their own know-how. The dweller did not construct under any formal law, or with engineering support, he built according to the local know-how material and familiarity, thus, what they learned through culturally transmitted knowledge.

The dwelling's morphological development went through different stages; the first space built as a single room. Residents started using bathrooms in the late 1940s, building a separate structure from the main space consisting of a hole in the ground, covered from the sides with stones and rubbish. Superstitions prevented residents from attaching toilets to the primary living function. Even in the coldest winter days, residents would go out in the cold to use the toilet, but bathing was in a different space. On the other hand, dwellers bath in the corridor behind the living space. The separation that creates the corridor is made of mud that is used as a closet to absorbs humidity. The bathing place is created by molded clay edges on the corner of the house, that has a hole that drains water to its exterior.

Figure 101 Typological transformation on the ground floor through the years The structure that is detached from the building is the toilet, as it was considered to be a bad omen to have the toilets part of the main space. Source: Author (2019)



This house is made mostly of limestone, found in the land itself, while stacked by mud plaster from its interior. The ceilings are made of wood structure later covered with straw and mud. Every year – starting off the autumn season - dwellers climb their roofs with a *"Mahdale"* and renew the ceiling cover of mud and straw. Old inhabitants still resonate with the smell of the ceiling's mud.

To sustain their daily lives, dwellers created their own kind of food, which later on transformed into cultural meals in the Bekaa and Lebanon. For example, throughout winter, dwellers did not have any source of meat (whether it is due weather conditions or financial means). Henceforth, residents created their own type of meat[24], milk [25], and eggplants[26]. Such food - which later developed into cultural cuisines and starters- were made to sustain their lives during winters, keeping them warms, and providing energy. The food created- or modified - needed a unique way of restoration, as there were no fridges. Therefore, specific tectonics were created in their interior spaces to create a sustainable way of keeping the food warm in winter and cool in summer.

Fig. 103. shows the interior space of the living room, which also was used as food storage. The arch on the right is an entrance to the showering corner. This spatial articulation acts like an earth closet. It is around 1 meter away from the stone wall, and from above, dwellers discharge the specified food in the designated space. An opening at the bottom of the element is used as a space discharge, usually clot with a specific piece of cloth. (Fig.104). Earth absorbs the humidity and keeps all

Figure 102 Different winter food supplies, stored in the closets. Kawarma, wheat, zaatar, Keshek, and Borgol

[24] "Kawarma" is usually made of Sheep Meat. They dry and cook the meat with fats, and they leave it in jars. Such process wouldn't let the meat to rotten for a long period. They usually start making "Kawarma" end of summers.

[25] "Keshk" made out of dried milk, usually is done on the dwellers rooftop at the end of summer.

[26] "Makdous" Made of dried eggplant, filled with nuts, fleifle, olives, and …..

Figure 103 Interior articulation function Source: Author (2018)

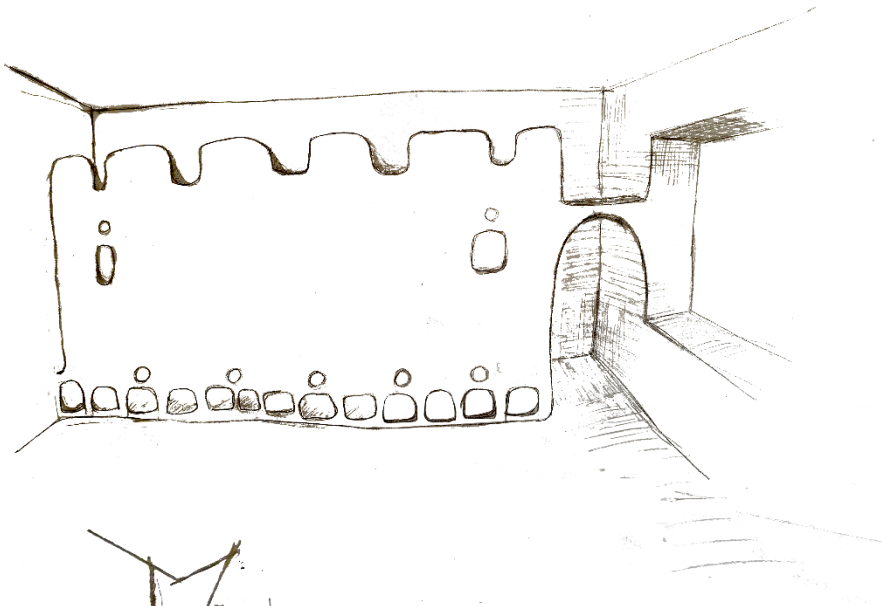
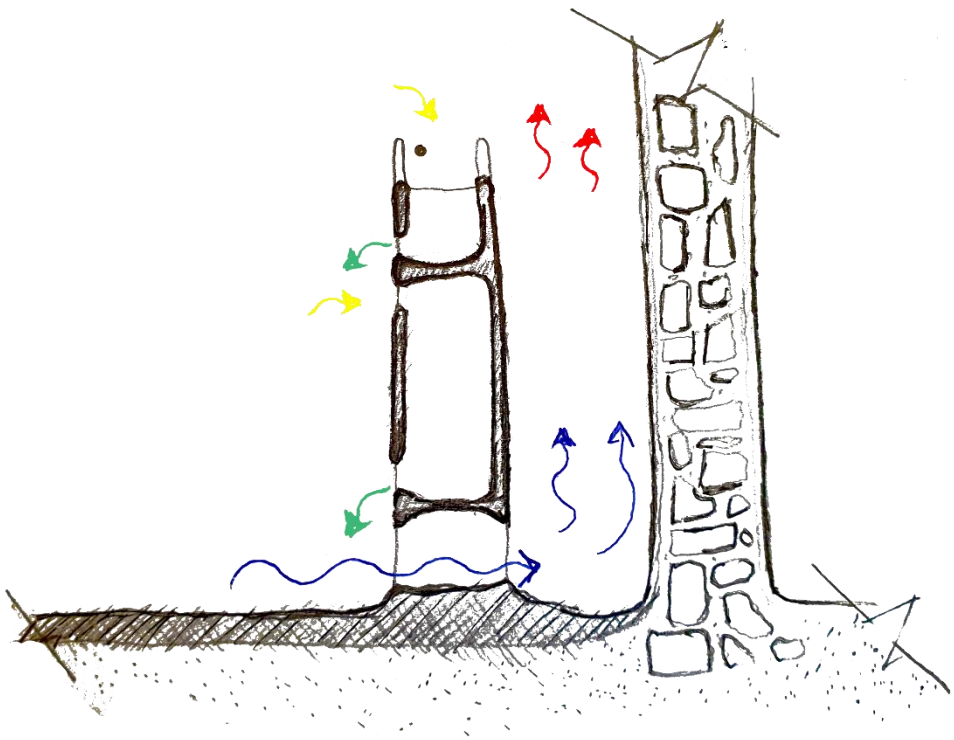


Figure 104 Interior Space Articulation Source: Author (2018)



stored food cool, while cold air drops from bottom opening and hot air circulates from above. The following structures, exempt the vernacular sustainability method created to empower the health quality of residents by crafting a modular that sustain food from humidity and other environmental factors.

Figure 107 Interior Articulation Source: Author (2018)

Figure 106 Interior articulation Source: Author (2018)

Figure 105 Exterior wall. Source: Author(2018)

Figure 108 Ground floor interior door Source: Author (2018)

Figure 109 Primary and secondary beams Source: Author (2018)

Figure 110 Regular window Source: Author (2018)

Figure 111 Ground floor interior seperation between the living space and the kitchen Source: Author (2018)

Figure 112 Light switch installation next to the wooden beam Source: Author (2018)

Figure 113 Ground floor interior door Source: Author (2018)

Figure 114 Interior Shot Source: Author (2018)

Figure 116 Entrance photo to both the ground floor (few steps under the street level) and the 1st floor. Source:Author (2018)

Figure 117 1st floor entrance Source: Author (2018)

Figure 118 Stone inscriptions saying the names of Allah, and other religious figures in Shite Islam sect, and the year of modifying the upper part inn 1947 Source: Author (2018)

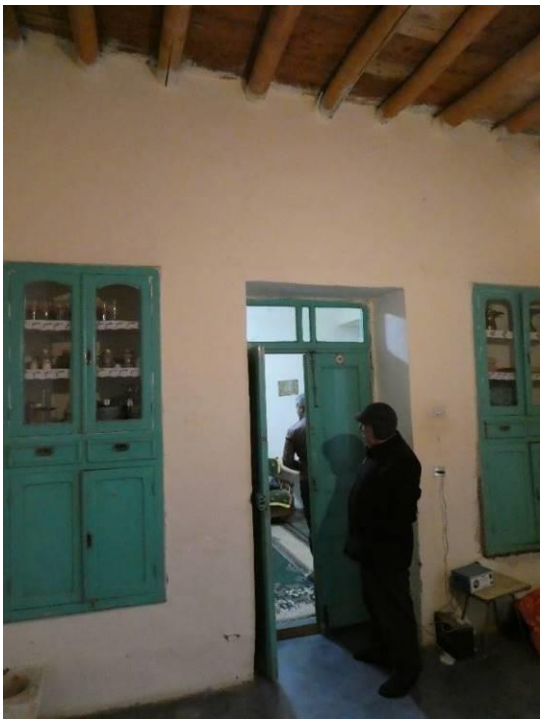


Figure 119 Interior wall plastered with a concrete base material Source: Author (2018)

Figure 120 Interior separation Source: Author (2018)

Figure 121 Grand daughter of the owner still inhabiting the 1st floor with a female servant. Source: Author (2018)

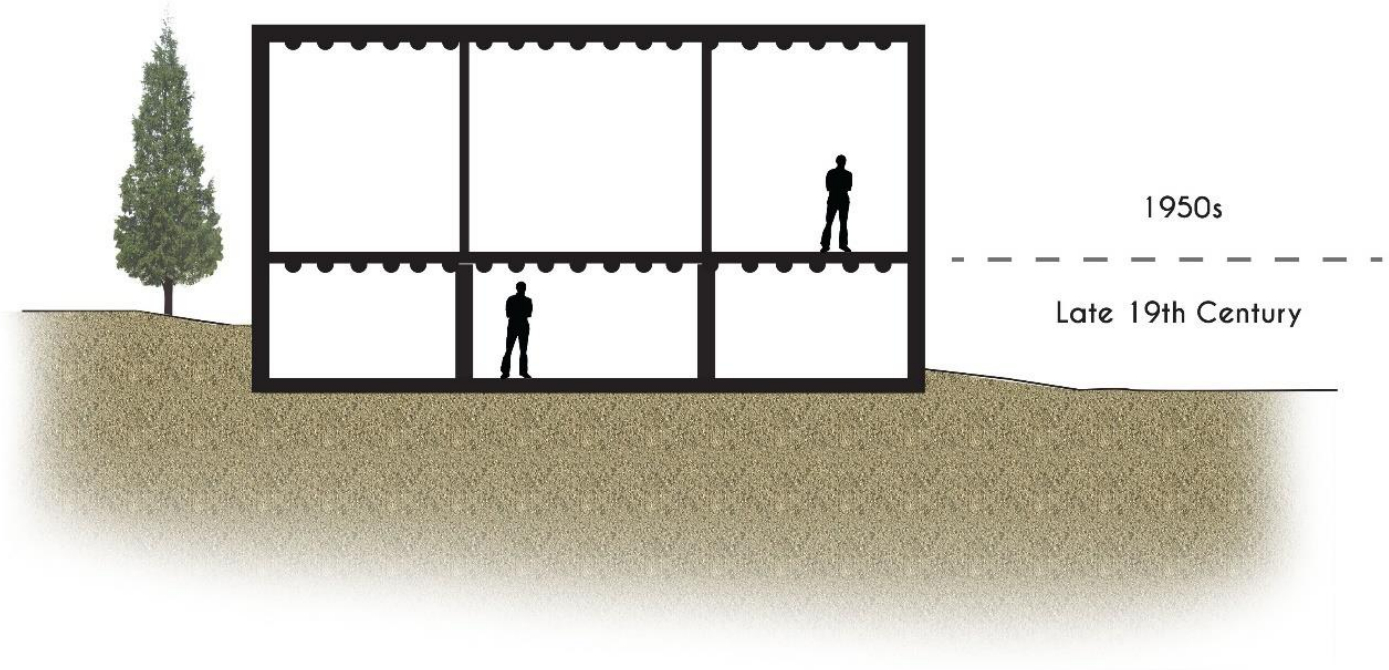


Figure 122 A curtain separation between the main space and the kitchen in the 1st floor (space is in use) Source: Author (2018)

Although the upper floor consists of traditional stone bearing walls from the exterior enclosing the space, however on its interior many of the space separation are made out of concrete masonry units (CMU) and plastered with a cement base material. Yet the spirit of the dwellers still retains its essential forms, as dwellers still perform in a space as they used to do. Main space only used for gathering and living. Living space connected to the kitchen, which is the second most used space. Besides, spaces on the left and the right of the centered living room, are used as bedrooms and storages. One of them is confined for a house servant, that serves the old lady, and cooks food for her. The other has a bed for the old lady, yet she doesn't use it anymore. As she sleeps also in the main living room.

Principles Evaluation

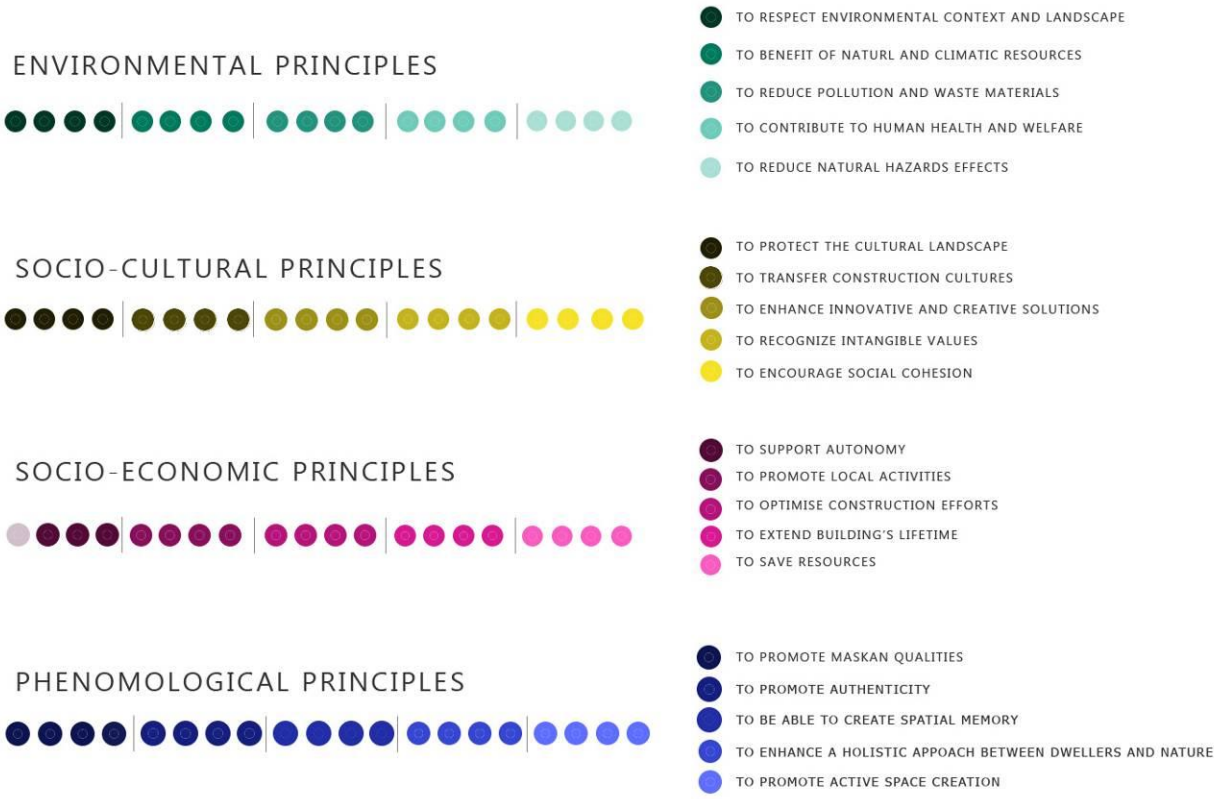


Table 2 Evaluation report according to the framework presented in the theoretical part

Evaluating this dwelling through the principles studied, we adhere to the quality such dwelling is able to promote. On a socio-cultural aspect, spaces are created to encompass the gathering quality and habits of the dwellers. However, environmental principles are considered, as the space is built and adjusted from materials found around the site, moreover, the house is built to sit perfectly, as it is situated facing the east while the backyard sits on the west. In order to stop heavy winds during winter, the northern and southern facades are mainly closed with a minor opening, taking in account the orientation, weather, and aeration. Additionally, this dwelling promotes local activities, as dwellers used to create and store their own kind of food, in the developed storage area. Moreover, the created products are used to generate income to the family.

3.2.2.2 Dwelling P-2 Ali Mohammad Jawad Ibrahim

History & Technicality

Figure 123 P-2 Dwelling exterior
Source: Author (2018)

P-2 Dwelling is one of the last remaining houses in the village. The house has been abandoned now for more than 40 years. Owners of the dwelling are long dead, although we were able to obtain some information from a long cousin related to the deceased family. This dwelling is a single rectangle space, its exterior built by local stones from the land itself – different shapes and sizes- that mount up to create the façade. The exterior walls are made of bare stones, without any rendering. To prevent heat exchange between the exterior and the interior walls are plastered with mud, pebbles, and vegetal fibers. Moreover, the interior walls are rendered with lime paint made from limestone extractions found in the land itself. Its most exciting part is its interior space. The interior space is one big

rectangular space that is separated by two mud wall partitions, hence, creating three separate spaces. The partitions themselves act as a closet for each room.

Figure 124 Entrance photo showing the concrete intervention over the wooden ceiling Source: Author (2018)

Vernacular methods are also applied to the ceiling structure and finishing. The ceiling structure consists of wooden beams raised and held by a series of wooden columns. Secondary wooden beams are on top, holding the mud ceiling. The ceilings are made of mud, pebbles, and vegetal fibers mix. This method required constant ceiling renovation, as mentioned before, by running a Mahdale to compress the mud ceiling and prevent water leakage. Later on, to avoid the collapse of the whole structure, a concrete mix is added over the mud ceiling to prevent its collapse.

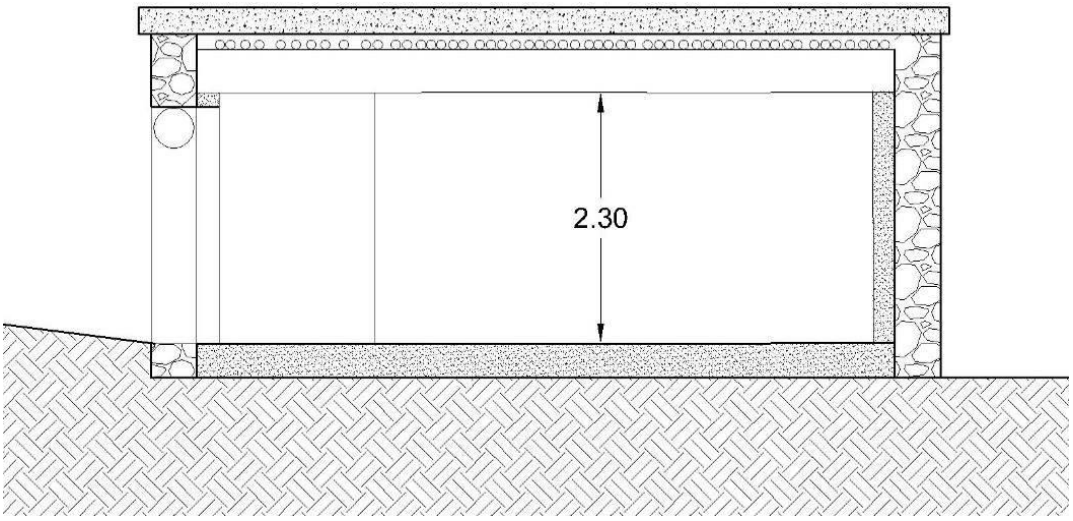


Figure 125 Section cut Source: Authour (2018)

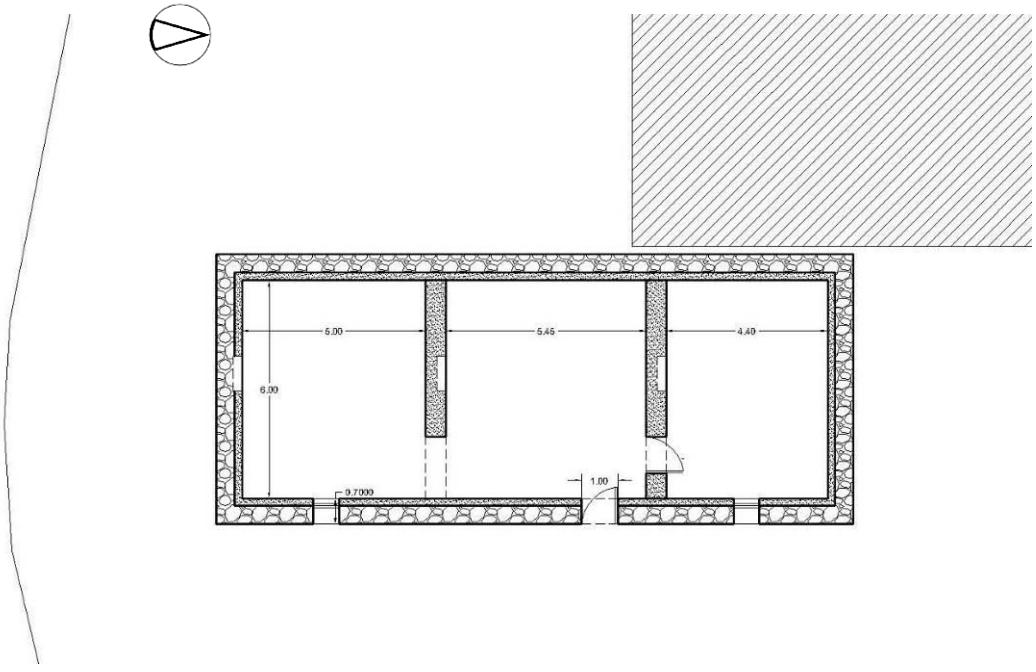


Figure 126 Plan Source: Author (2018)

In the following images we see roof (sath) construction method. The heavy roof is supported by primary and secondary beams. Primary beams reach a thickness of 35 cm while the secondary beams up to 30 cm in diameter. Above the beams (waslet). A layer of thin cut mulberry wood the hold the *Tiin* (earth) above. What is interesting in this space is that, the columns are hidden in the huge mud interior walls. This method of construction is unique to the area. In the images we see how one of the wall separations is severely damaged, more specifically, from the door entrance part. This damage can be explained due to the fact that doors lack lintels, as only a small thin wood is observed.

Although the ceiling originally was made completely out of mud, but due to the constant need for maintenance- and the fact that the actual dwellers abandoned the dwelling- made one of the relatives to use concrete and pebble mix and poured it over the ceiling in order to prevent the ceiling collapse.

Figure 128 Interior space Source:Author (2018)

Figure 127 Room on the left, with collapsed ceiling. Source: Author (2018)

Figure 129 Middle room ceiling Source:Author (2018)

Art and Expression:

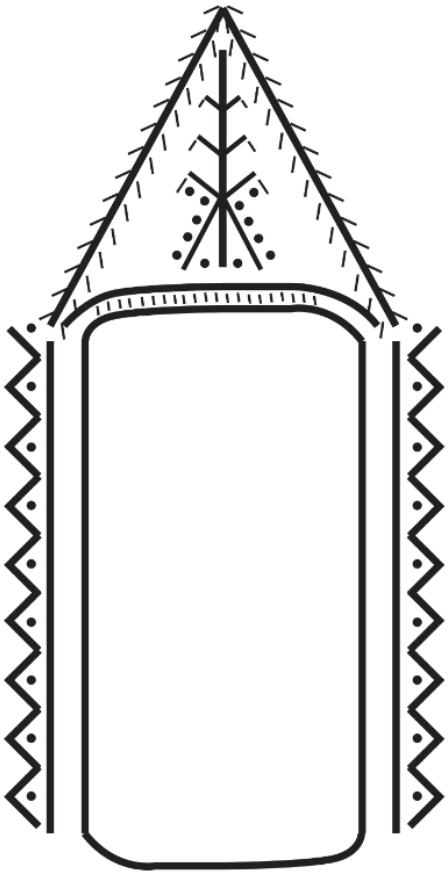
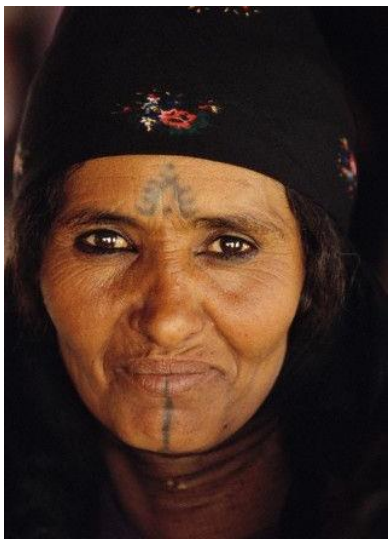


Figure 131 Artistic drawing on the wall in comparision with a bedoin tribe tattoo Source: Author & Unknown (2018)



Wall drawings and design patterns, are also found in the vernacular dwellings in this area. Most of the drawings observed had similar patterns, yet each had its own twist. Usually around openings such as windows, doors, or even as a cournish around the whole living room. To understand the originality of these dwellings' ornaments we might retain it from the Bedoin facial tattoos that is famous in the region. Tattoos with various patterns is common to find on the older generation.

In the dwelling space these patterns are drawn by a twig on the mud walls just before finalizing it with a lime paint.

Principles Evaluation

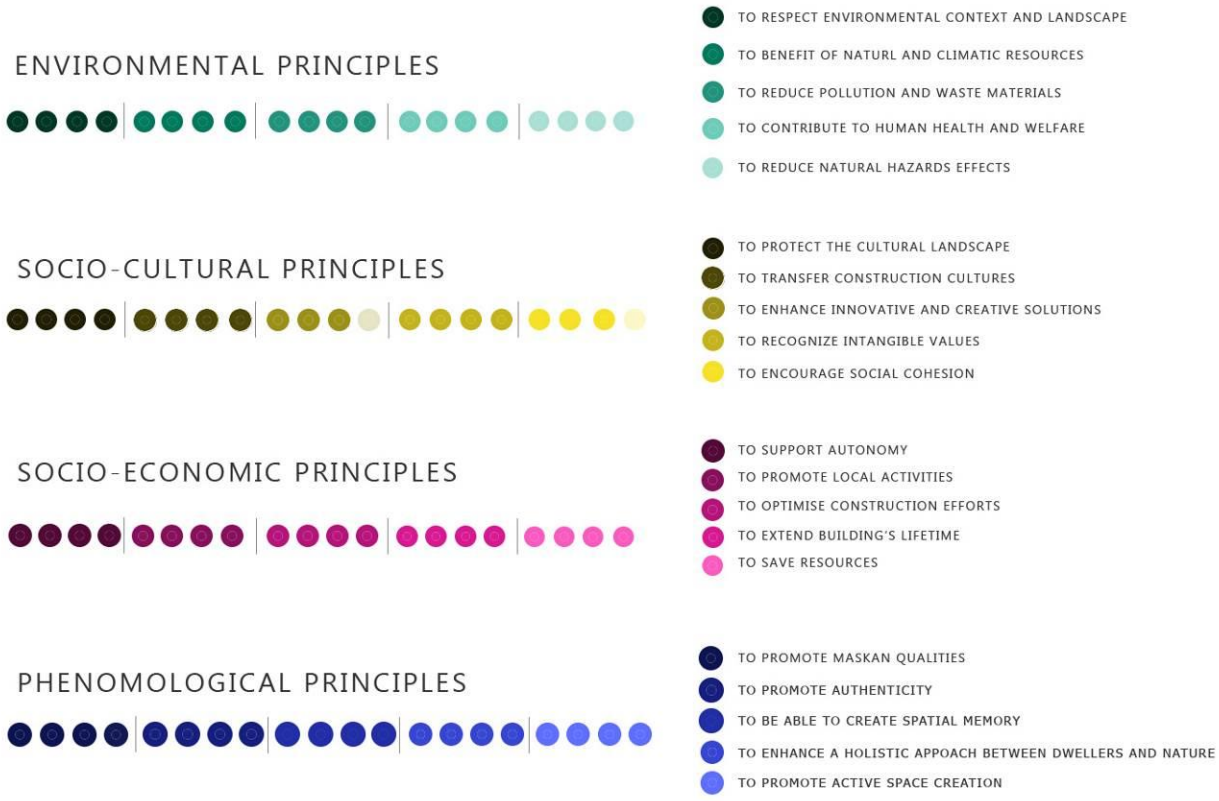


Table 3 Evaluation report according to the framework presented in the theoretical part

This 18 x 8 dwelling fulfills all the environmental principles studied, as the dwelling perfectly fits in the site, respecting all the climatic and natural conditions surrounding the dwelling. Materials used are directly from the site and they help preserving heat temp in winters, while remaining cool in summer. Moreover, storage tectonics are found, which are used to promote the local economy.

From a phenomenological perspective, this dwelling was done through progressive ideas on how to sustain their daily living habits in order to coop with their natural surroundings.

3.2.2 Transition

Figure 132 Mud roof topped with a concrete and pebble mix

With the introduction of concrete, some dwellings started to adapt to the new material. In order to prevent the hard work of continuous ceiling maintenance, dwellers started to use concrete instead of earth and vegetal fibers as their ceilings. Some dwellings did not use steel with concrete. Later on, as structure started losing their strength and risking holding the ceiling, residents started adding steal embedded in the already used stones without adding any concrete column. However, later on, concrete columns started to be used to hold the new adapted ceiling rather than the stone bearing walls. During this transitional phase, not only ceilings and roofs started adapting to the new material, but also, new spatial construction started to use concrete instead of the traditional vernacular methods.

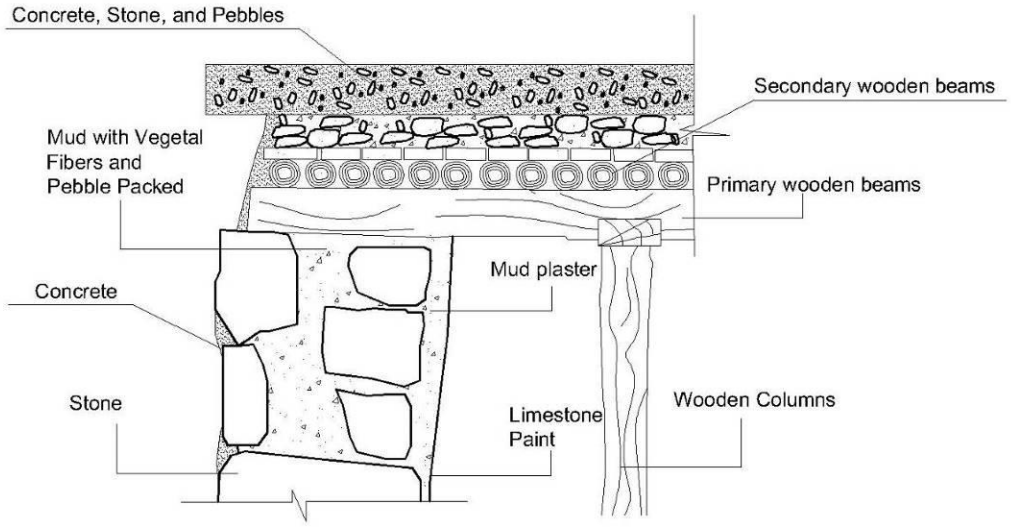


Figure 133 Section detail of the adapted ceiling

3.2.2.1 Dwelling T-1 Hassan Abbas

3.3.1.1 T1 Dwelling

Figure 134 Image from Mr Hassan Abbas (Abu Abbas) house entrance Source: Author (2018)

The T-1 dwelling is one of the houses that changed its typology with the introduction of concrete. The original structure, which is composed of stone, wood, and mud, was built mid-1940's. The primary dwelling space consisted of one big space – represented by number 1 in figure 135- used as a multifunctional area in one space. Half walls separate main interior space to its southern and western part; these separations are made of mud and functioned as a storage space that absorbs humidity (Kharazani -خرزاني). The primary space was built on a sloped ground, as the owner benefited from the sloped ground to build a stable under the main space for the cattle he owned. Later on, more spaces were added

as the family increased. The newly added space “3”, also had a multifunctional use and sometimes functioned as a guest house. Moreover, they barely used space “3” in winters, as it lacked a fireplace.

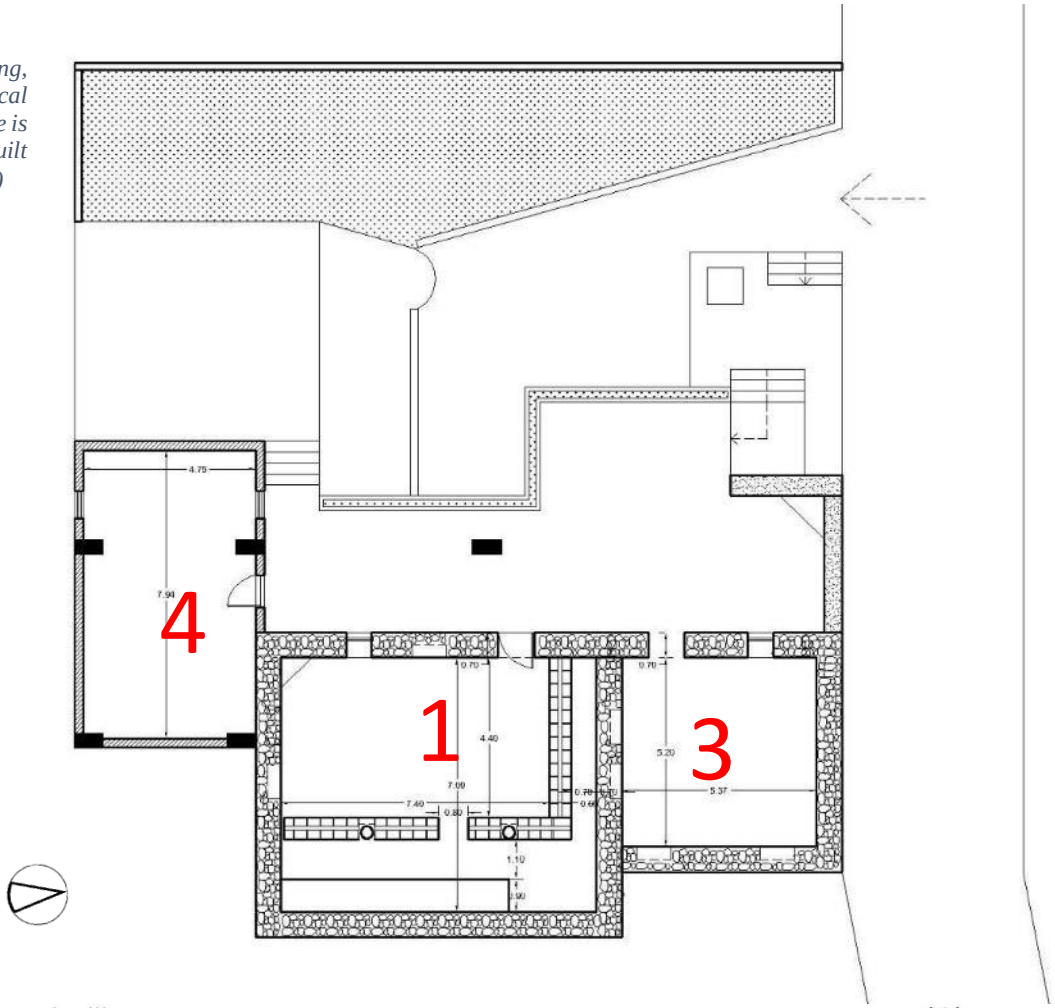


Figure 135 plan of the studied T1 Dwelling, numbered to show the chronological development of space construction. The house is constructed on a slope. The first part was built over the higher part. Source: Author (2019)

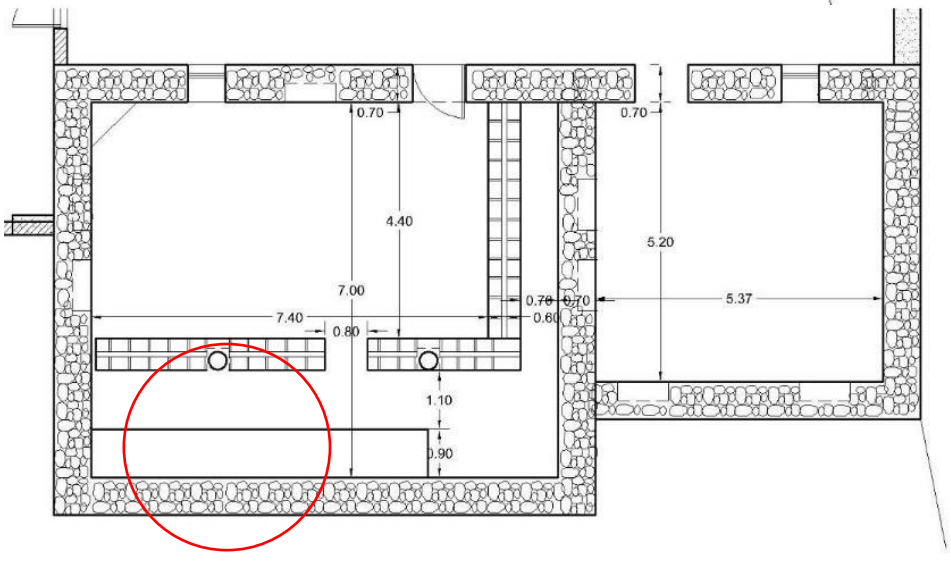


Figure 136 Zoomed in plan of the first and third part. The second constructed space was for the cattle which is shown in the section

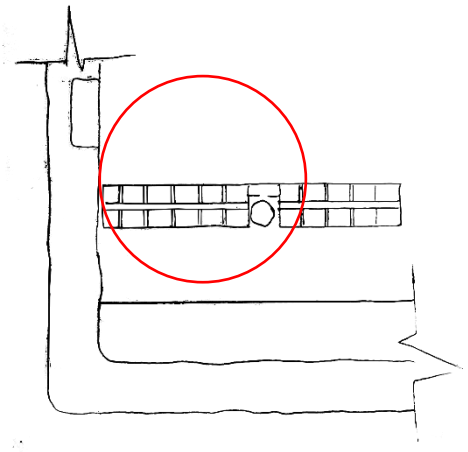


Figure 137 Plan above to show the location of the elements created by residents out of mud that performed as a storage spaces Source: Author (2018)

Figure 138This corridor behind the living space, is used as a storage and showering spot. Source: Author (2018)

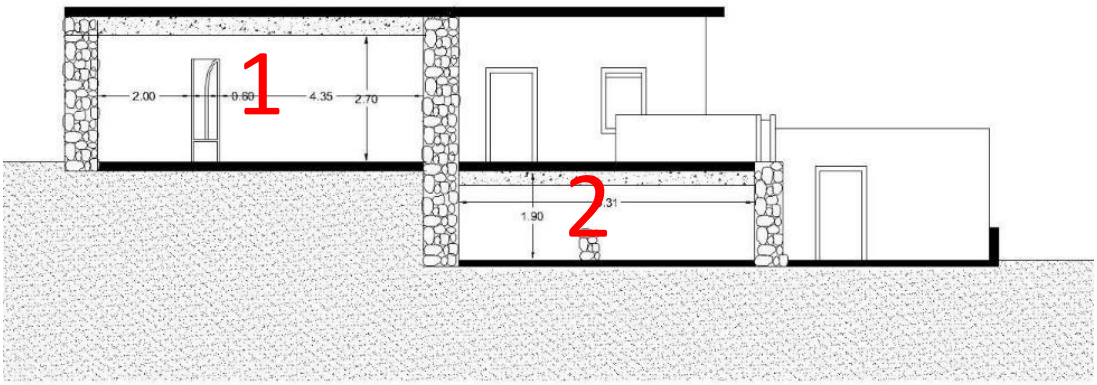


Figure 139 The above section exhibits the relation between the main dwelling space (1) and the space built for cattle (2). Both spaces where built roughly at the same time early 1950s.

The first three built spaces were made out of stone, mud, and wood, while the spaces that preceded were built by reinforced concrete. More specifically, spaces "4 & 5" were added in the early 1980s, while space "5" was modified in 2005. Currently, only space five is rented to their cousin. While the other spaces - in specific in the old structure- are used as storage spaces, as food live longer in spaces that absorb humidity. Food stored in space "1" are traditional food that are made locally, which we mentioned in P1.

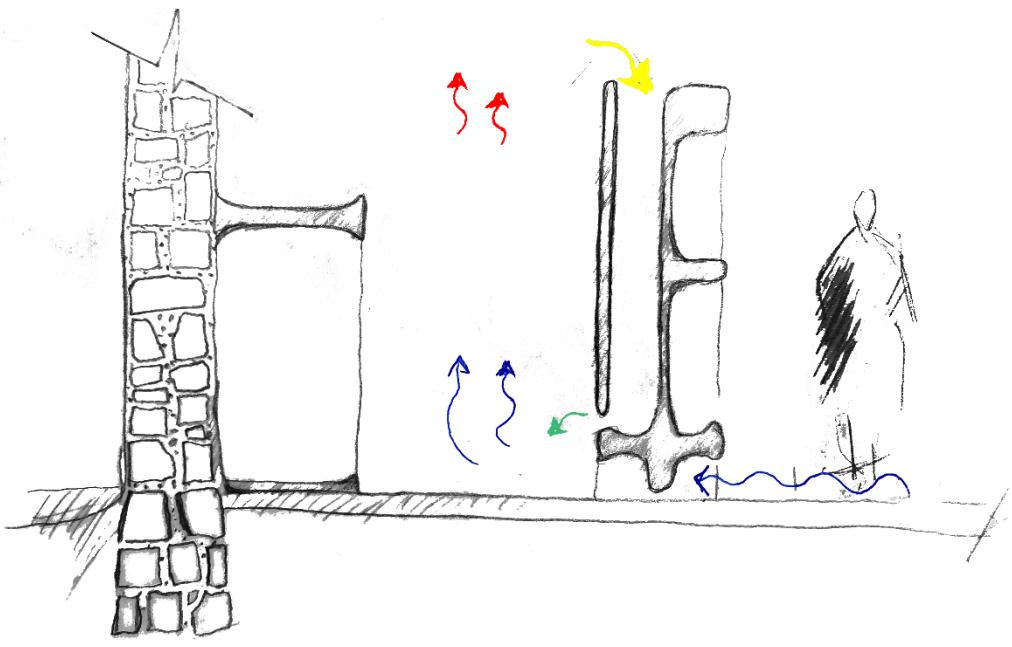


Figure 140 Detailed section of the Kharazane that separates the living space from the bathing and the storage sapce

As you might notice in the plans, there are no toilets in the old typology, as residents believed that toilets connected to the main spaces act as a bad omen to their well-being. Hence, to answer nature's call, residents used to go out in the wild, even in the coldest winters. Later on, they started building separated small structures with holes in the ground. On the other hand, they used to bath inside the house in the storage area, where they would build a raised platform, above the rest of the house, and keep a hole to the exterior. In fig. 142 we see the bathing tub, next to it a small mud chair, as it was used as a resting area, until

Figure 141 Wooden logs used as beems and columns Source: Author (2018)

Figure 142 Behind the storage spaces at the corner lays the showering spot. Source: Author (2018)

Figure 143 Door to the Stable from the courtyard Source: Author (2018)

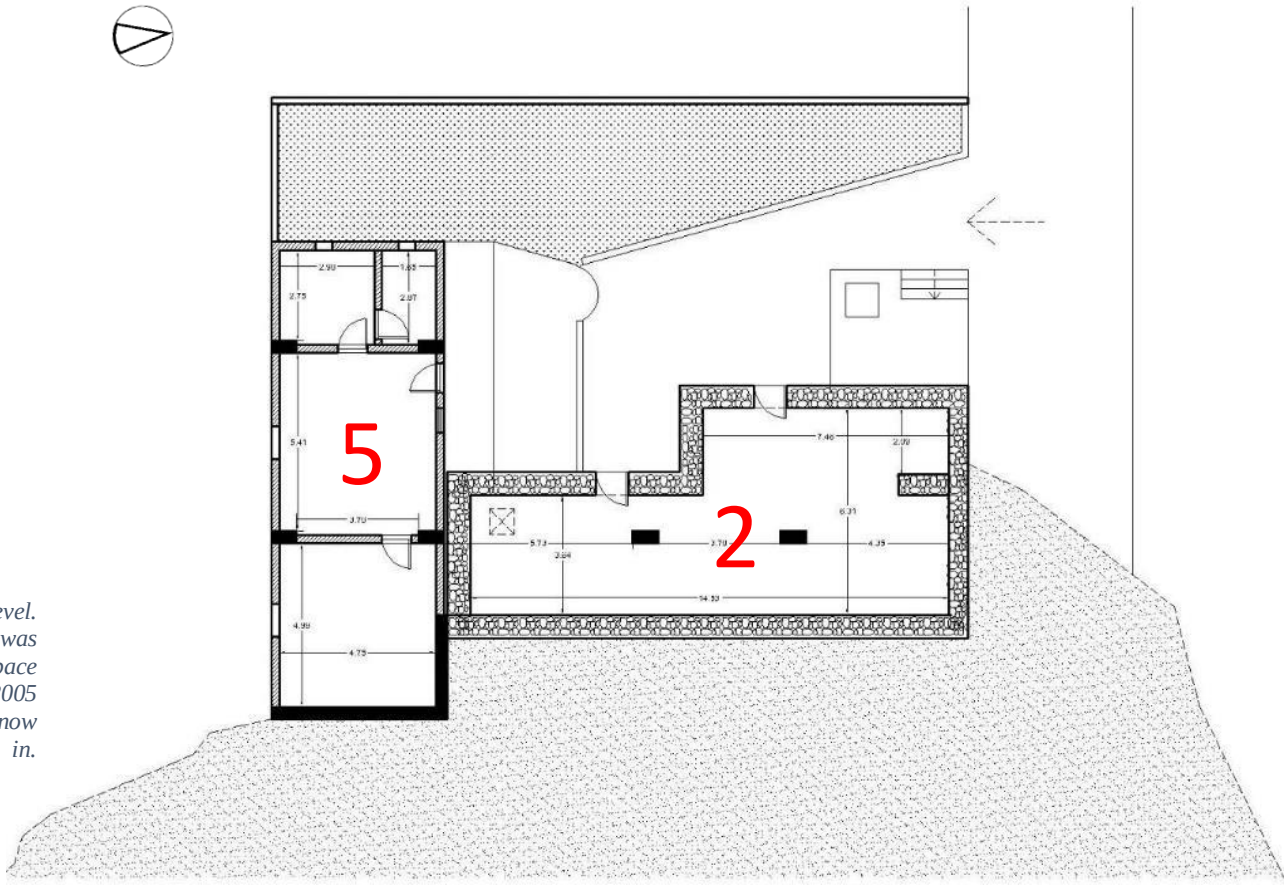


Figure 144 Basement floor level. The space labelled as number 2 was used as a stable for the cattle. Space number 5 was constructed in 2005 and is the only space still used now for one of the sisters to live in. Source: Author (2018)

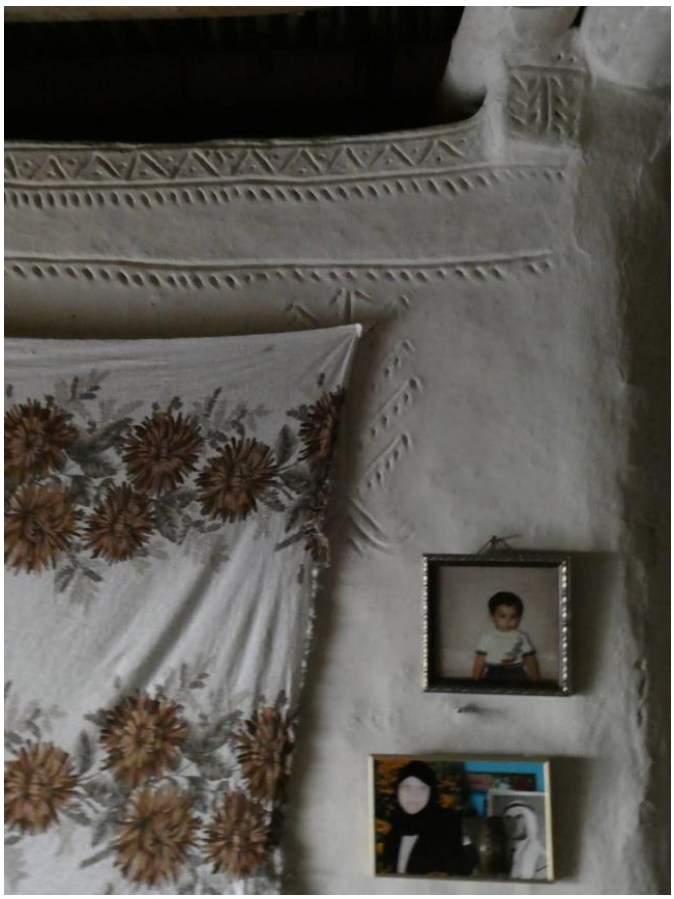
Art and Expression:

In the old habitats in the region, most residents used to draw different patterns around openings and separations. Although at that time, inhabitants barely went out of that specific region, and do not know any specific artistic expression. To denote this artistic patterns to origins, we discussed how residents might be influenced to draw these specific patterns, from the regional Bedouin facial tattoos. In P2, we saw a connection between both, but current residents have no existing idea about its origins.

Figure 145 Artistic decorations drawn by the owner, using a wooden twig around the upper part of the interior walls. Source: (Author (2018)

Figure 146 Artistic decorations drawn by the owner using a stick around the uper part of the interior walls. Source: Author (2018)

The artistic mode expressed by the residents is a representation of Heidegger's (Seinsart, Seinweise) or the different modes of being, and thereby of a qualitative dimension of being (How-being, [Wie-sein]). As it is linked to the act of presence of the "da" from the "da-sein".



The expression of how being through imaginative internal creation actualizes the "how-being" actively. Therefore, each "that-being" has a "how-being" which will actualize itself through a special mode of being that will, in turn, condition man's apprehension of the world and his life. The following establishes the ground for

fundamental distinction Between “authenticity” and “Inauthnecity” of Dasein, which we discussed in the literature review. (Heidegger, 1962)

Therefore, the patterns wedged in the dwelling space is a direct expression of the dweller’s inner existential phenomenon, as every dweller had different artistic expression yet similar lines. These artistic expressions resemble the dwelling authenticity of each individual. As this phenomenon requires the dwellers to express themselves individually, yet collectively following the cultural pattern they know.

3.3.1.3 Space Usage:

Usage	4	3	2	1	0
Color					

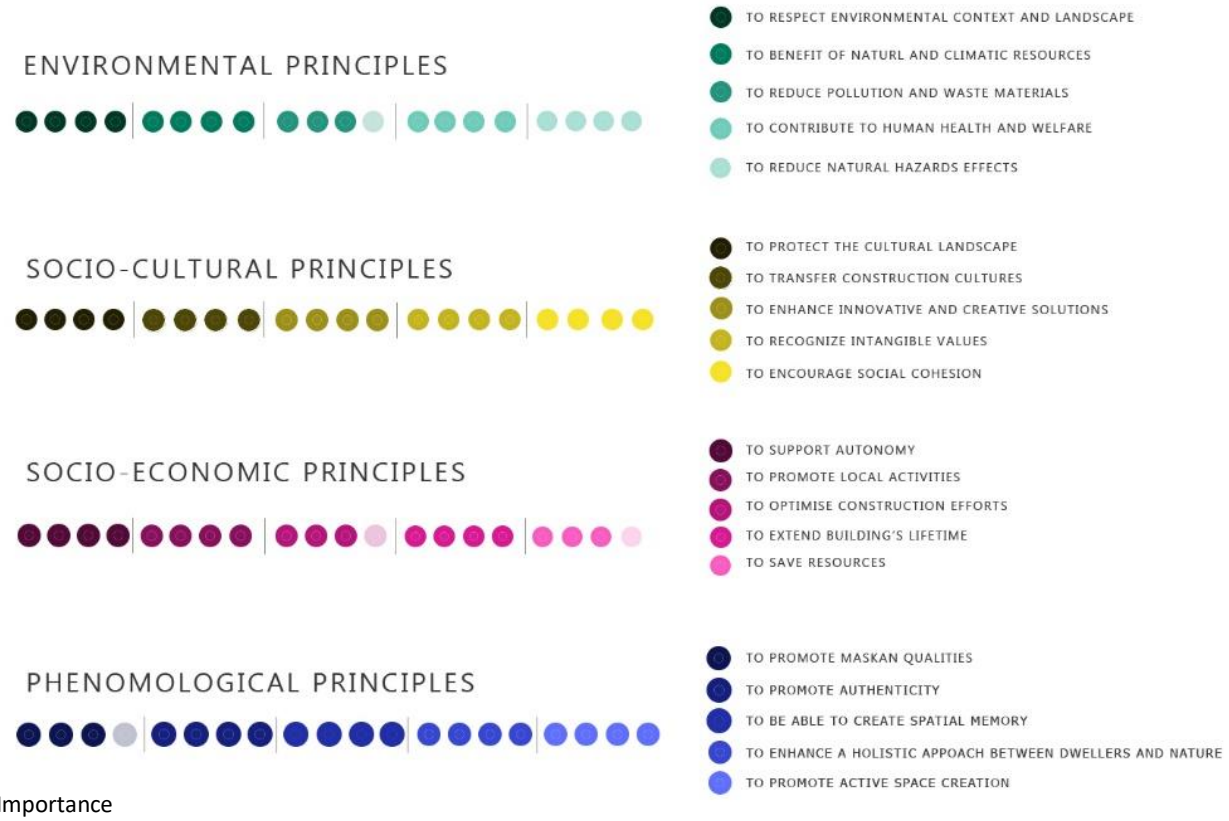
Table 4 Color legend from most used "4" to the lease used "0"

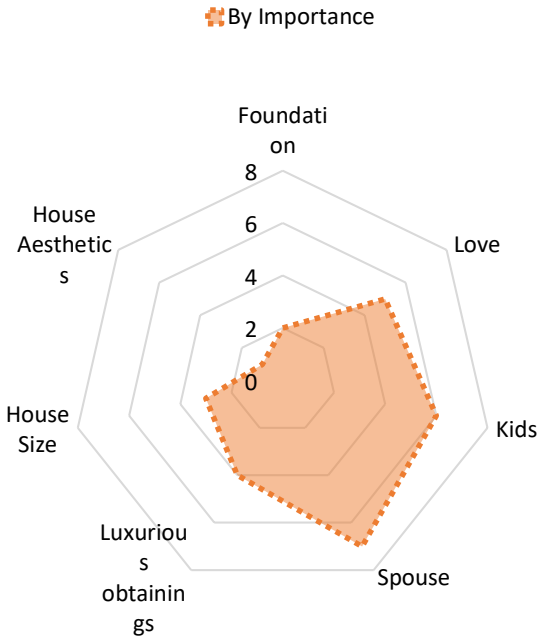
Figure 147 Space usage diagram according to the family members during their young lives Source: Author (2018)

The Questionnaire was asked among 2 of the family members. Although mostly they may have influenced each other, their answers where consistent on which space they used the most. As for them, it was the living-sleeping space, while most of their time, they spent it outside playing, on the other hand, to their mother, it would be mostly the storage space, where she was either preparing food or storing it.

Principles Evaluation:

Table 5 Evaluation report according to the framework presented in the theoretical part





Graph 1 Survey conducted on the previous dwellers of the studied space

The resident's most important element in this dwelling was the spouse, after that comes the children, love, luxurious obtaining's, foundation, house size, and finally the exterior aesthetics. Formulating the principles out of the information gathered we found out how that although the structure isn't completely vernacular, yet still the old habits still reside in the dweller's daily aspects. Hence, the socio-cultural principles of the region are still completely respected. Moreover, storage space, and animal stable are used as an economy based functions.

3.2.2.2 Dwelling T-2

Figure 148 T-2 Exterior photo Source: Author (2018)

History & Technicality

T2 Dwelling was constructed during the late 1930s by a farmer, whose wife used to make food and sell it to locals. In the photo above, there are two of the daughters who inherited the mother's job and skill of preparing and cooking local victuals. On the bottom right part of the image, we see a small window, and a door covered by a piece of textile. This space below is actually the original dwelling space constructed by the owner. The architecture is built on a sloped hill with stone, mud, and wood. Later on, with the introduction of steel and concrete, new spaces where added adjacent and above the old structures. The old dwelling spaces adapted its functions, to be used currently as a storge space for the food victuals. Although it is estimated that 40 years is the difference between the first built structure and the final one, yet the owner in both did not

Figure 150 Image of the old chimney located in space "1". Source: Author (2018)

use support of any “Mu’alem”. Instead, it was the local know-how. The specific function of the built spaces was not considered during construction or before it. Spaces were built as space itself “Space a Space”, despite its functional need. Later on, the resident adapted each space differently according to their needs.

The sisters “Fatima Ahmad” and “Aliya Ahmad” are currently considered from the last few living generations who still prepare victuals. However, their business now has developed to be more widespread, as residents living in “Beirut” benefit from their products, while waiting seasonally for their fine products.. “Keshek”, “Kwarma”, “Makdoos”, “Labne Baladeye”, and “Debes Romen” are some of the most popular products they do. Although the old living spaces are currently used as a storage place, the family still gather around the chimney and drink tea, while reminiscing on their memories. Although the ceiling is re-poured with concrete over the mud and straw, the concrete is poured over the original foundation of primary wooden columns and beams. The 10 cm poured concrete is utilized to spare them the constant renovation progress, additionally, protecting the ceiling from water leakage, and a possible collapse.

Figure 149 wall opening connecting space "1" and "2" which is the stable. Some concrete plaster patches are used over the mud and straw plaster. The door connecting both spaces is almost 90 x 165 cm source: Author (2018)

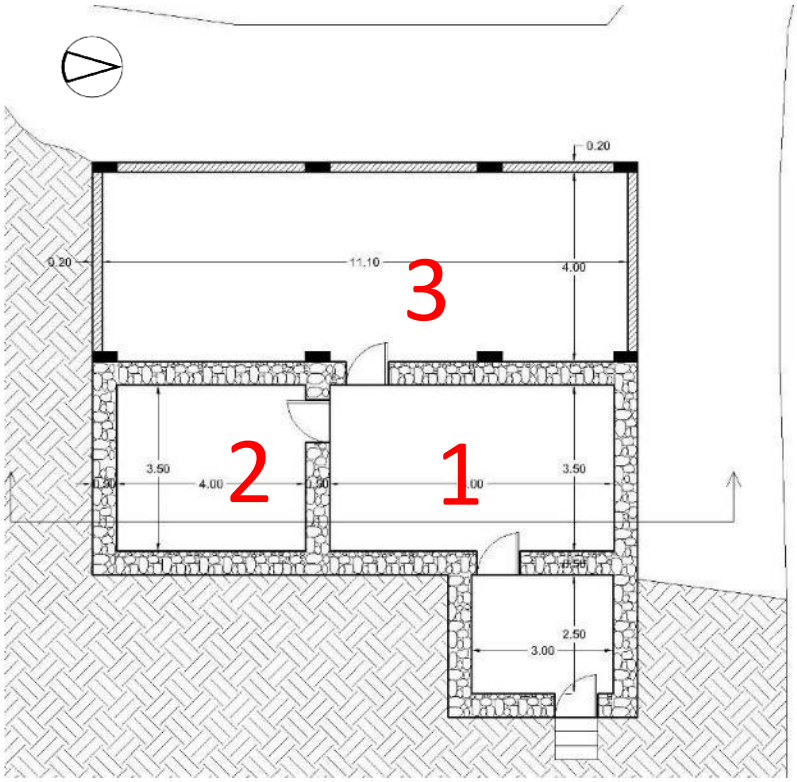


Figure 151 Plan of the first dwelling space constructed. The numbers in the photo resemble the space assemblage in a chronological form. The dwelling space isn't built underground, but it was built with the slope of the hil. Later on space 3 and 4 where added late 1990's. Source: Author (2019)

Figure 152 Plan of the first floor. This area was built in the late 1990's. Constructed above the stone and mud dwelling space. This new constructed space acted as the main living area, and the old dwelling transformed to be space for storage and cattle. Source: Author (2019)

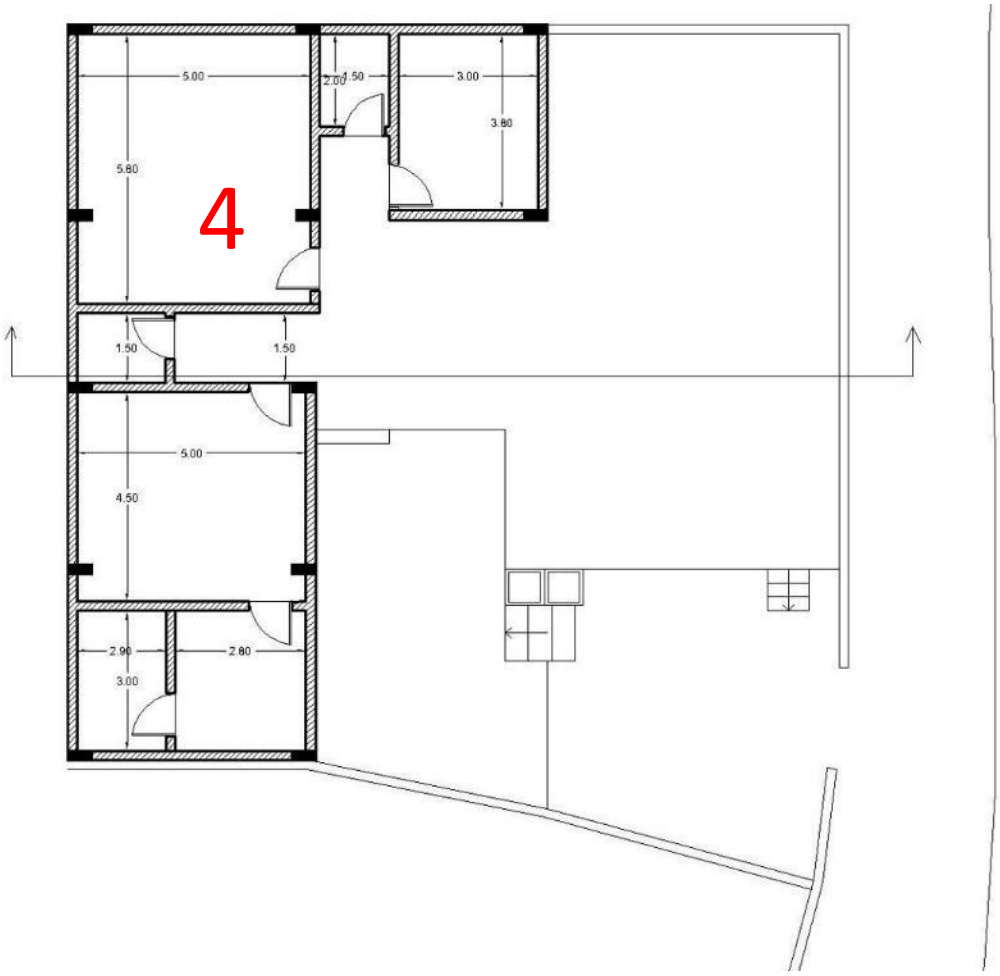


Figure 153 An image of the studied house from the street. Source: Author(2018)

Figure 155 Old roof showing how it is finalized with concrete layer. Source: Author (2018)

Figure 154 Part of the stable were now it is used as plastic basket for food and vegetables they sell. Source: Author (2018)

Figure 156 "kharazene" mud closet used to store food Source: Author (2018)

In Fig. 153, we see the new structure (Pink & White walls) built over the old stone structure. This family is relatively poor and didn't have the tools to mold a perfect house. Hence, we observe a poor stone cutting quality of the old dwelling space. Whether it is the exterior finishing or the interior space, they both lack a fine finishing quality. On the exterior side, the stones are of different sizes and shapes, stacked over each other while filling mortar in between. On the interior side, only the main living room is plastered and lime painted, the other rooms, are kept bare to straw and mud.

The newly constructed space above is built over stone bearing walls, but concrete foundation is inserted between the stones to hold up the new structure.

Figure 158 The owner holding a farming tool stored in the stable. Source: Author (2018)

Figure 159 A 150 years old copper pot that is used to make "Debbes al roman"

Figure 160 The owner holding a farming tool stored in the stable. Source: Author (2018)

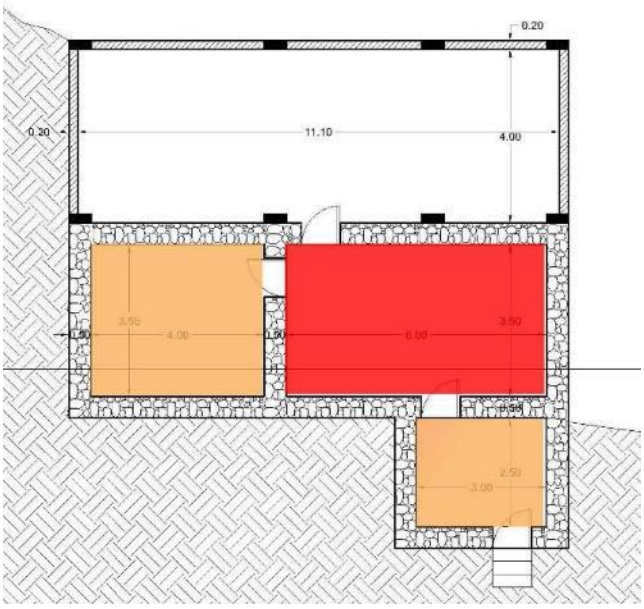
Figure 161 Storage spaces that use the same typology spread in the area, made out of mud and straw. Source: Author (2018)

Space Usage:

Before modernization:

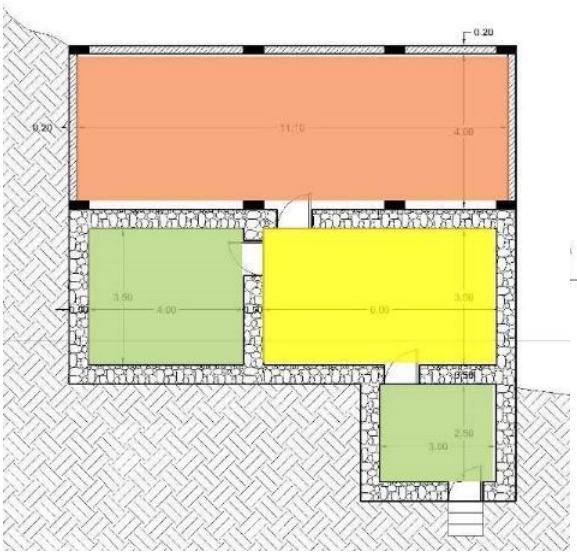
Usage	4	3	2	1	0
Color					

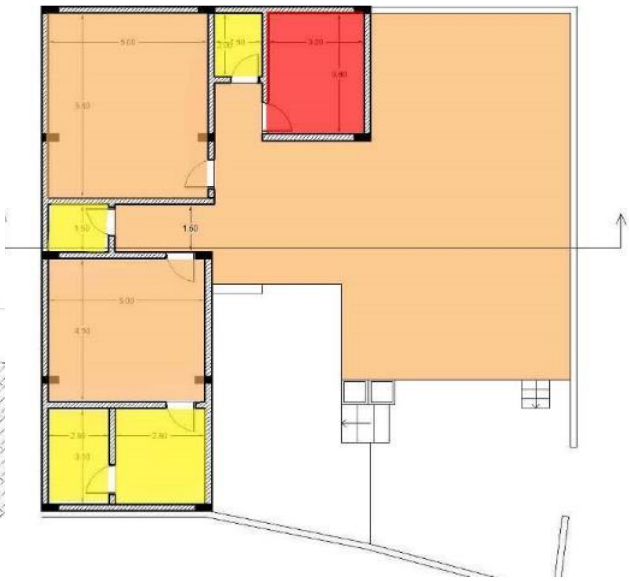
Table 6 Color legend from most used "4" to the lease used "0"



The plans demonstrate space usage before and after the new typology. As mentioned by one of the sisters, there were two kitchens on the first floor, as each unit had its kitchen and toilet. However, later on, after the death of one of the husbands, they abandoned one of the kitchens, using it as storage for their food supply business, while they both currently use one kitchen. The two sleeping units had their own private beds, later on, they changed it to have one a joined sleeping room for both, and the other is a living space. Moreover, they still claimed the kitchen as the most used space in their house.

After modernization:





Principles Evaluation

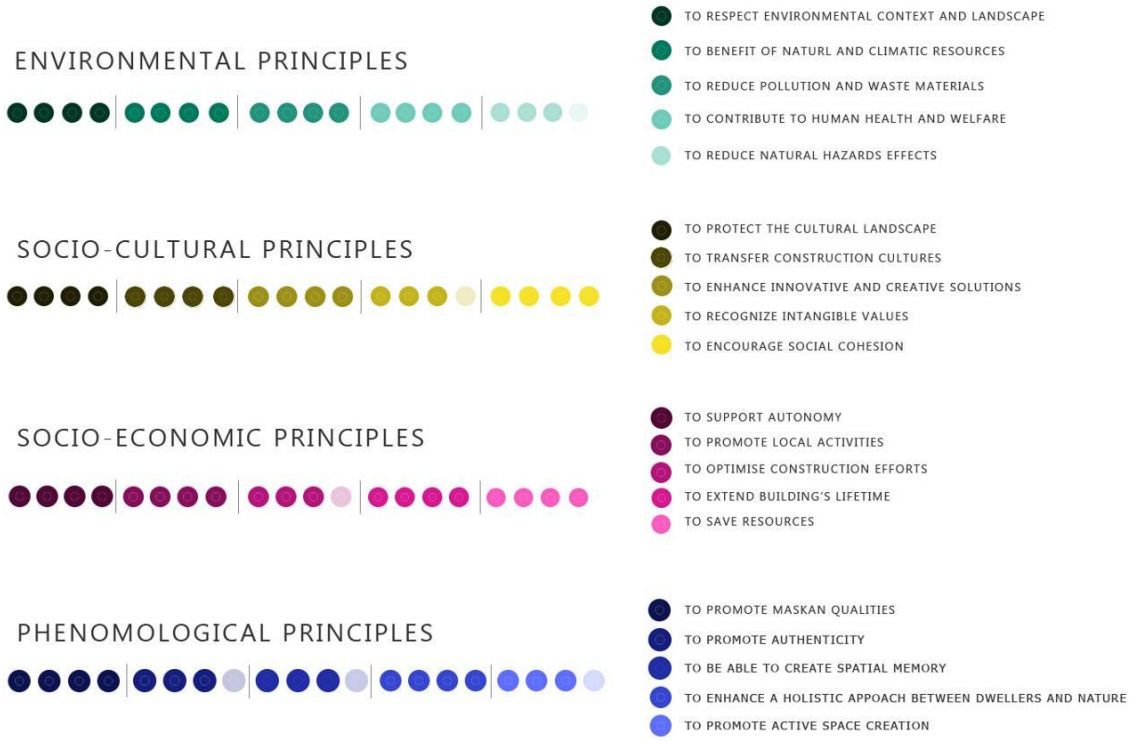
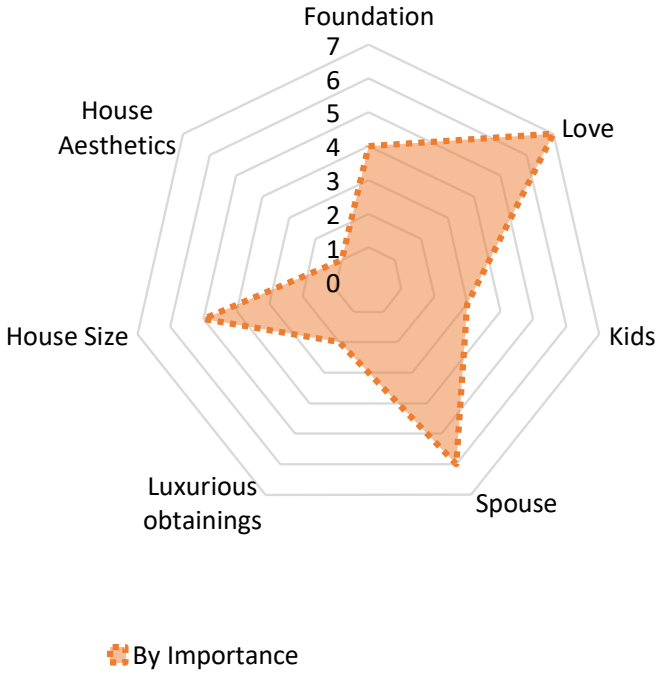


Table 7 Evaluation report according to the framework presented in the theoretical part

T-2 dwelling is another vernacular structure (Ground floor) that blended in its surrounding, respecting the landscape in which it is situated in. The structure's orientation faces the east, while both smaller facades face the north and south respectively. The original dwelling is built to accommodate the residents and their economic activity. This family are from the last families that still live out of the cultural victuals and food. Moreover, storing the food still take place in the old habitat and not the newly added structure. Furthermore, residents still resonate their family gatherings and tea ceremonies in the living room of the original dwelling.



Graph 2 Survey conducted on the previous dwellers of the studied space

3.2.2.3 Dwelling T-3

Figure 162 T3 Dwelling entrance Source: Author (2018)

History & Technicality

The T3 dwelling has been abandoned for 20 years, and it was only used these last seven years. Syrian refugees rented the house after the Syrian civil war broke out. The refugees rented the old dwelling space for an amount of 150,000 L.L or a sum of around 90 euros, only recently, they left due that the landlord sold the house for an amount of 70,000$, including the land, the "new" structure, and the stone house. This dwelling is considered to be one of the few last old dwellings that are still in good condition. The reason behind why this house hasn't been demolished yet, is due to the concrete structure constructed over the old dwelling. The original owner of the dwelling has long died since 2001, before his death he started constructing the concrete structure for two "males" of his grandchildren from his male son "Ismail." Although the owner had seven

daughters and one son, he did not bequeath any of his properties to the females. He was justifying his decision that it was only his son and his grandsons who were always next to him. In order to honor them and keep them next to him, he constructed above his dwelling a structure for them. After his death, he wrote in his will that the whole land is moved to his grandchildren from his son "Ismael" as his son "Ismael" died before his father. Just four years after his death, his grandchildren left and migrated, one to Germany and the other to Kuwait, hence, abandoning the house.

The house construction is relatively unknown exactly when it was built, but as mentioned by the neighbor, the construction started with the grand grandfather early 1940's. The dwelling consists of 3 main spaces, the entrance, which is also a living and sleeping space as it contains the chimney, the other two spaces, are used as storage. The family was not relatively poor as the other resident, so they had the accessories of having a private bedroom for the parents only (also used as storage), a storage room, and a sleeping room for the kids (also living room).

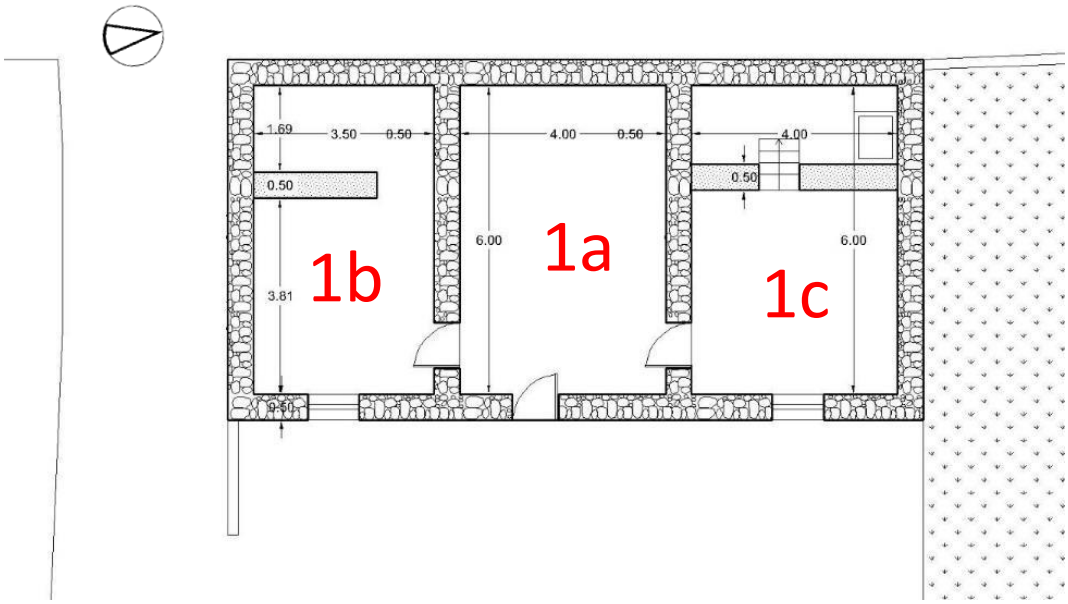
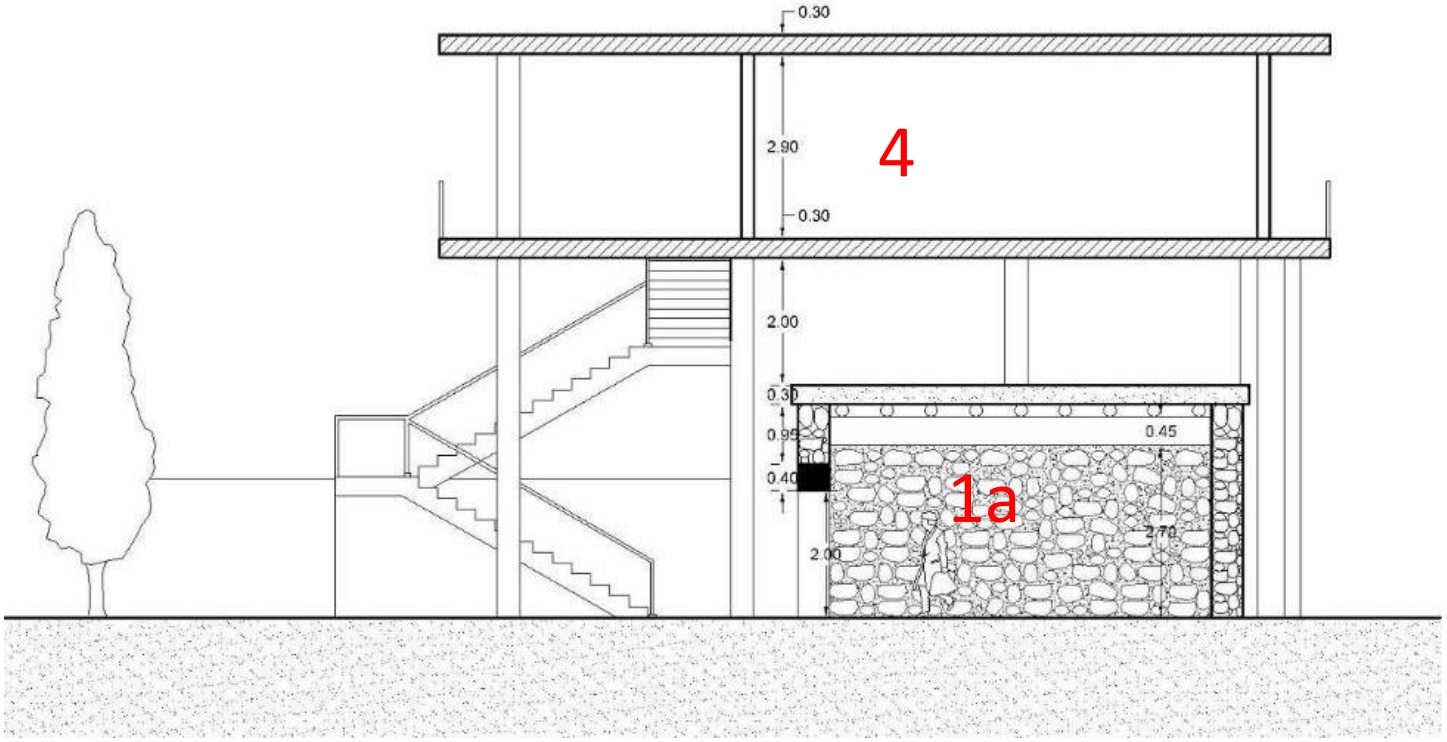


Figure 163 Plan of the stone and mud structure. All three spaces where almost built relavantly at the same time. But consequesncly it was space 1a, t 1b, then 1 c. Source: Author (2018)

Figure 165 At the side entrance from the narrow street we see the added stairs that reaches the first floor. Source: Author (2018)

Figure 164 Concrete columns piercing the mud, straw, and wood ceiling. Source: Author (2018)

With the introduction of new material, the landlord did not add spaces adjacently to his structure, as I would assume due to the lack of space in the neighborhood. Instead, the landlord chose to go over the house by introducing concrete foundations inside the house and around it. Therefore, the new concrete columns penetrated the wood and mud roof. The floor level of the new construction was raised to a 6 m height. Although at first, I thought that the owner kept this 2m gap to use it as an extra floor, but later on, I learned that it was made despite his Neighbour who built 50cm above his dwelling, so he chose to block their view by raising an extra 2 meters. Henceforth, a threshold space is kept open between the old structure and the new one.



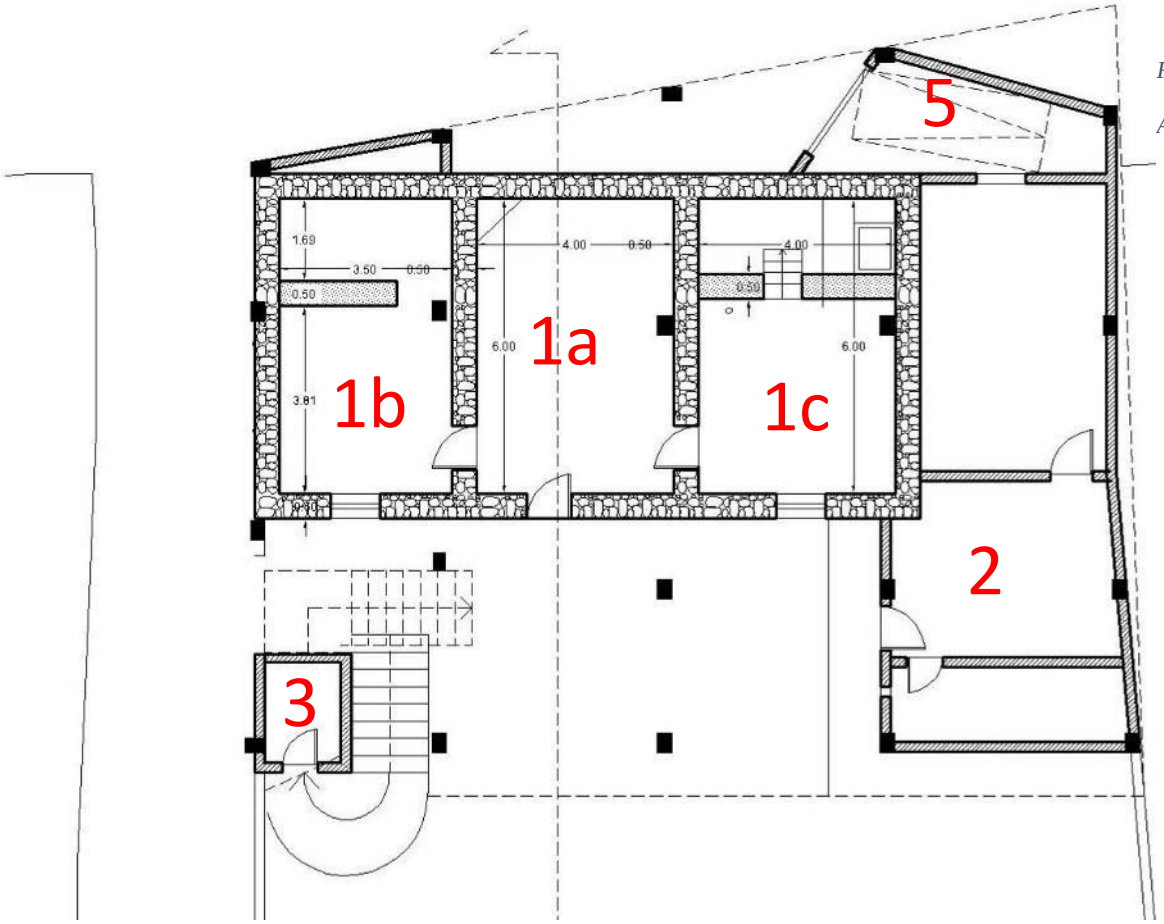


Figure 167 Section AA Source: Author (2018)

Figure 168Located in space 1b, an opening in the wall that leads to food storage space. A concrete column was later inserted in that opening to hold th concrete structure above the house. Source: Author (2018)

Figure 169 In space 1c a raised platform inside of the house which leads to the showering area, with some storage spaces. Source: Author (2018)

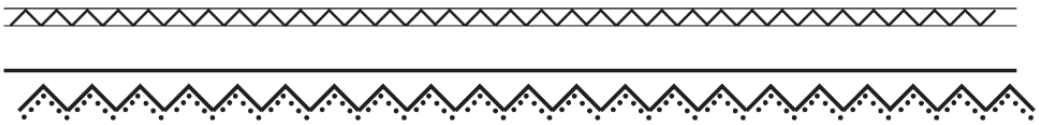
The new construction took place over the old house, hence, penetrating the mud ceiling to allow concrete columns to pass and hold the overload of the new structure. On the street side, the new structure cantilevered over the street by adding a garage.

Figure 170Image from the back of the house, which is situated on the street. In the photo we can see the mixture of concrete and stone. Source: Author (2018)

Figure 171Image from the house courtyard showing the new construction built over the stone house. The photo is distorted, as i needed to take an opposite panoramic photo to be able to capture both structure with the arches on the facade. Source: Author(2018)

Artistic Expression:

Figure 172 Chimney in the centre of the house. Source: Author (2018)



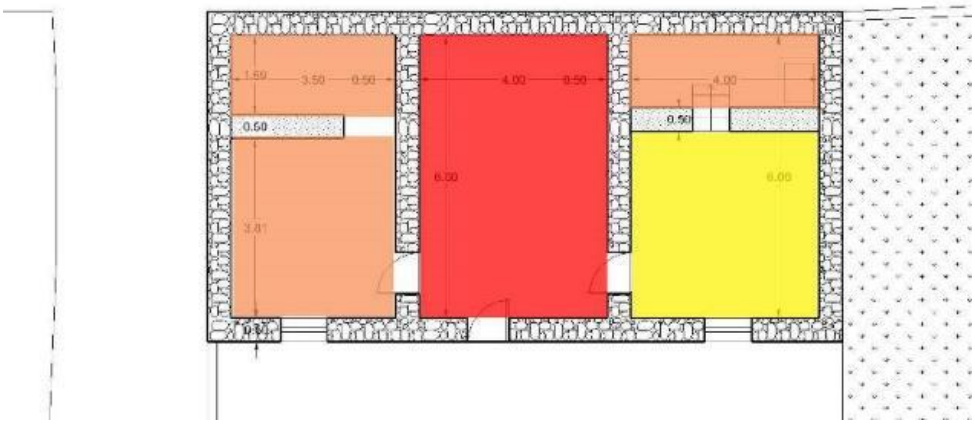
Artistic patterns drawn on the upper part of the wall seems to be almost the same in all the vernacular houses in the region. Hence, an influence must have occurred in the area. When asked, it is a Bedouin-style tattoo used on their faces at that time. Symbols and shapes with no specific meanings, but they just inherited the style. The pattern seems to be drawn around windows, and as a separation between the wooden beam ceiling and the plain walls.

Nevertheless, these artistic qualities are not only shown by the patterns they have drawn, but also the shape formation of their interior spaces (as a molding technique) has a specific touch in which the source of the shapes is unknown. Openings, enclosures, and storage spaces had some specific shapes yet each had their own interpretation of the size and different composure of the totality of space. Other than the sustainable- functional quality of these articulations, these artistic expressions always had their unique feature.

Figure 173 Chimney in the living space. Source: Author (2018)

Usage:

Before Modernization:



As we have mentioned earlier that the owners emigrated from Lebanon and never actually occupied the house. We collected residing information from the owner's cousin, neighbors, and the grandchildren from his daughter's side.

After Modernization :

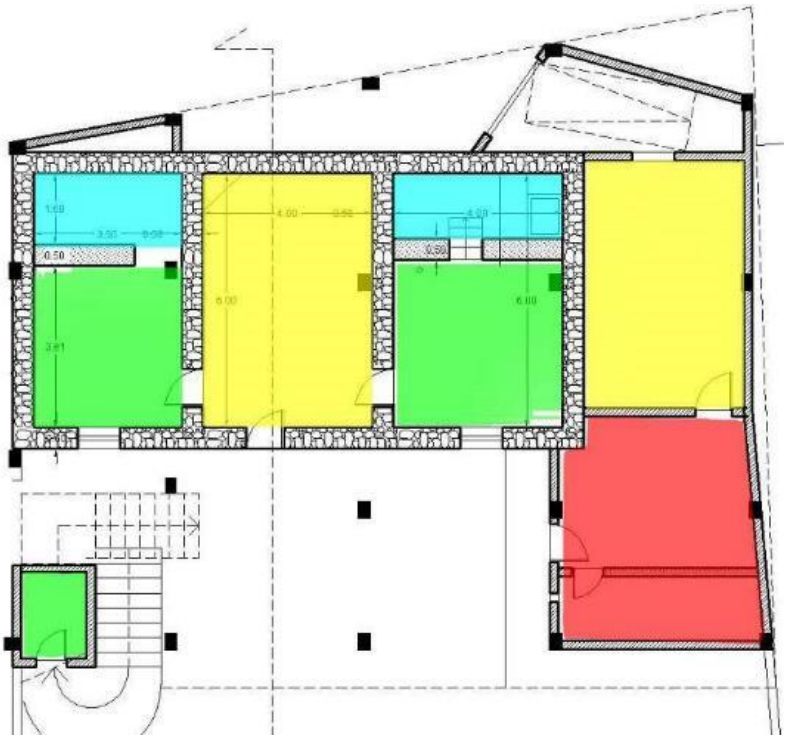


Table 8 Color legend from most used "4" to the lease used "0"

Usage	4	3	2	1	0
Color					

Principles Evaluation:

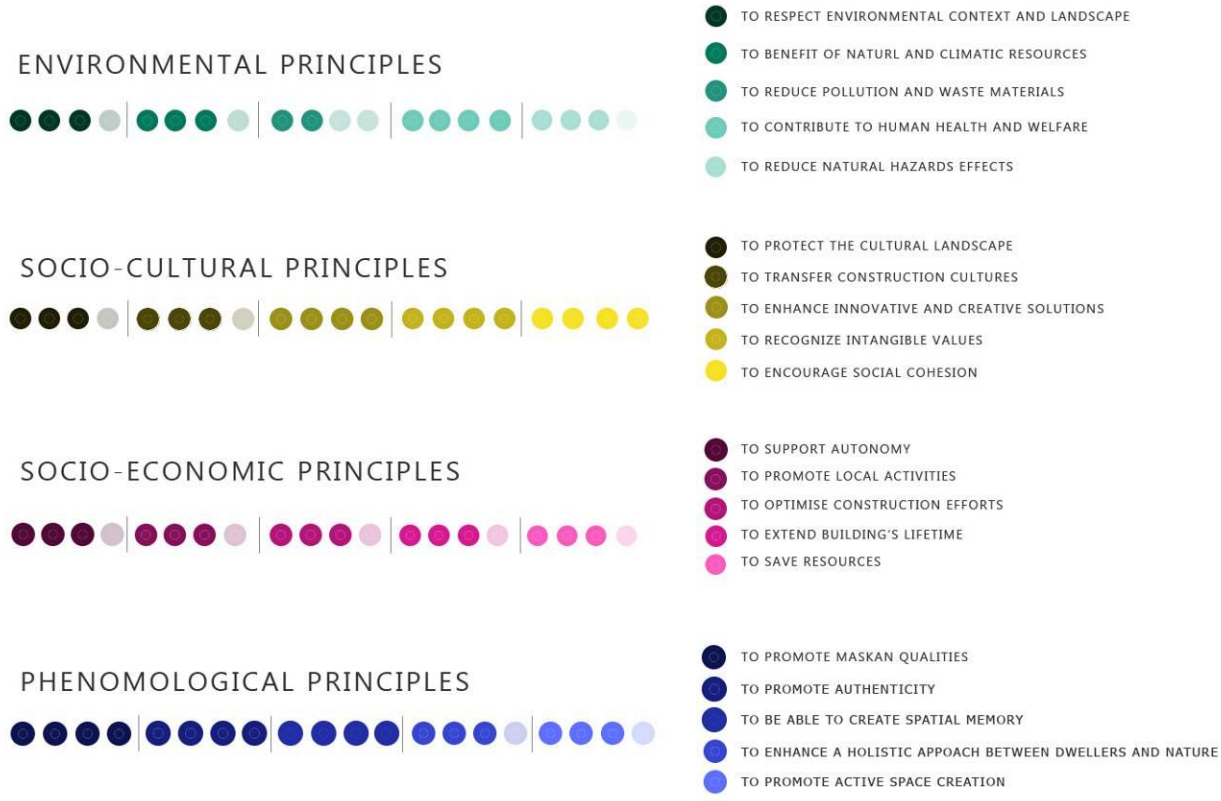


Table 9 Evaluation report according to the framework presented in the theoretical part

Mr. Hasan (the deceased owner) financial means were not based on victuals, as he was a farmer. The dwelling definitely used interior articulations to store the food they bought (or exchanged for other products). Mr. Hasan and his family lived out of farming. As a social dimension, the dwelling's main space and gatherings, as told by his neighbor and grandson, was the backyard, and the fireplace. Whereas no private rooms are available for any of the family members. A social habit that obliges all its members to sleep, dine, gather, and work together. The structure's orientation and situation is as the rest of the vernacular dwellings studied, facing the east, smaller facades on the sides to minimize climate impact.

3.2.3 Modernism in El – Nabisheith

3.2.1.1 M-1 Dwelling

Figure 174 Frontal facade of the building
Source: Rania Mohammad (2019)

History & Technicality

M-1 building construction was completed in 1982. This structure is considered to be the first two concrete floors built in the region of Nabisheith. The building is constructed directly in the old town center overlooking the graveyard of Prophet Seth, which the village literally took its name from, Nabi – Sheith or Prophet – Seth. The main village square had been an important node for the Bekaa region, as it held the oldest school in the area (destroyed in 2003 and replaced by a public

square). The exceptional subject about this building is that it was built directly to reach its current height, and it was not built in any chronological order, as the owner was one of the few rich in the village. The owners, Mr. Mohammad (2nd floor & Northern Shop) , and his brother Mr. Hosny (1st floor, & southern shop) started construction in 1981, finishing and moving in, mid-1982, during the civil war which started in 1975, during which this village in specific, found nourishment in construction, and economy. The reasons behind the village's nourishment during the civil war, are that the village rests on the Syrian borders, while during the war, illegal trading methods were going back and forth between Lebanon and Syria through these illegal borders, hence, residents took advantage of this new prospect, which led to a significant change in the village typology, as residents now have more purchasing power, hence, house construction boomed with the newly introduced material to this area. Mr. Mohammad was one of the first few who took advantage of the situation in Lebanon. Currently, the owners are old and mostly

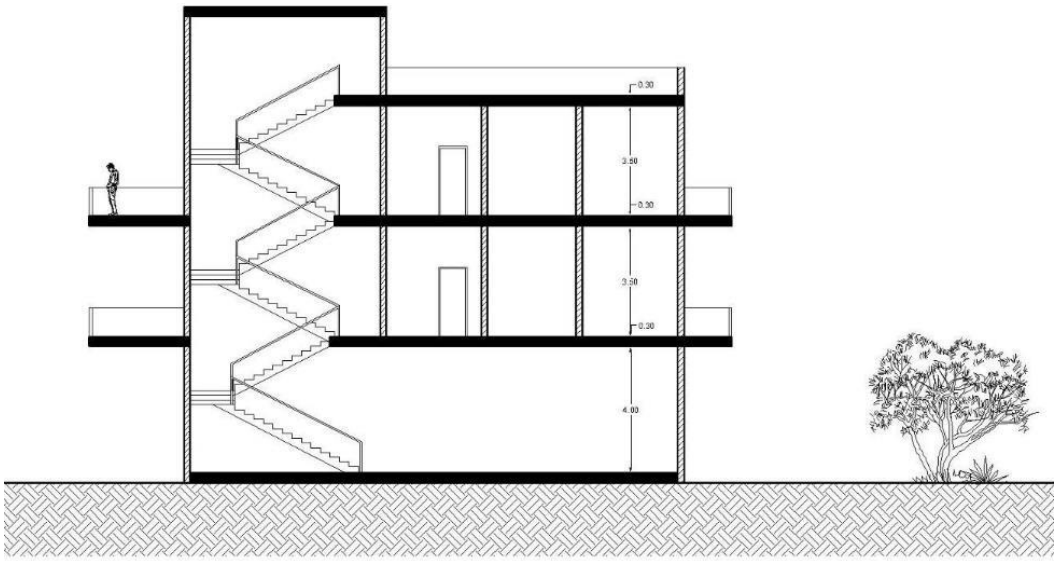


Figure 175 Section AA
Source: Author (2019)

live by themselves, as Mr. Mohammad's four children flee the country, and each is living in a different country abroad. In comparison, Mr. Hosni children are all married and live in their separate houses, in the capital or the village nearby.

Symbol	A	B	C	D	E	F	G
Space	Entrance	Corridor	Bed rooms	Terrace	Kitchen	Salon	Toilets

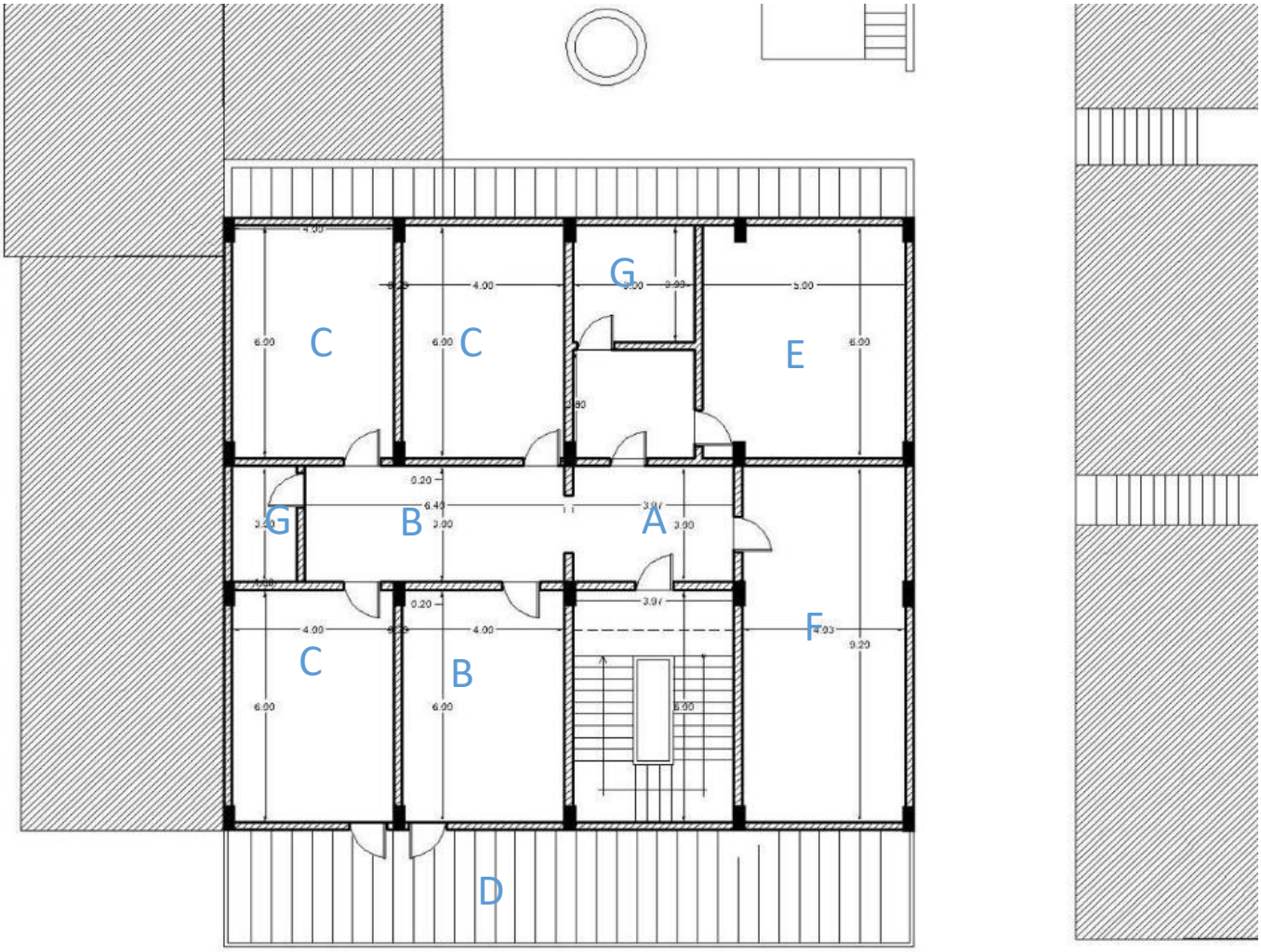


Figure 176 1st floor plan. To the eastern part is Mohammad's share, whereas to the western side, is Hosny's share of the bilding in the groud floor. (Surce: Author (2019)

The building undeniably was built without any engineer. However, Mohammad explains that during that time, technical knowledge of the new construction was minimal, so they had to go to a nearby town," Riyaq," to get a knowledgeable foreman. He adds that also due to the increased demand for construction workers, at those early stages, it was not easy to find knowledgeable construction workers or foreman.

Figure 177 Ground floor plan Source: Author (2019)

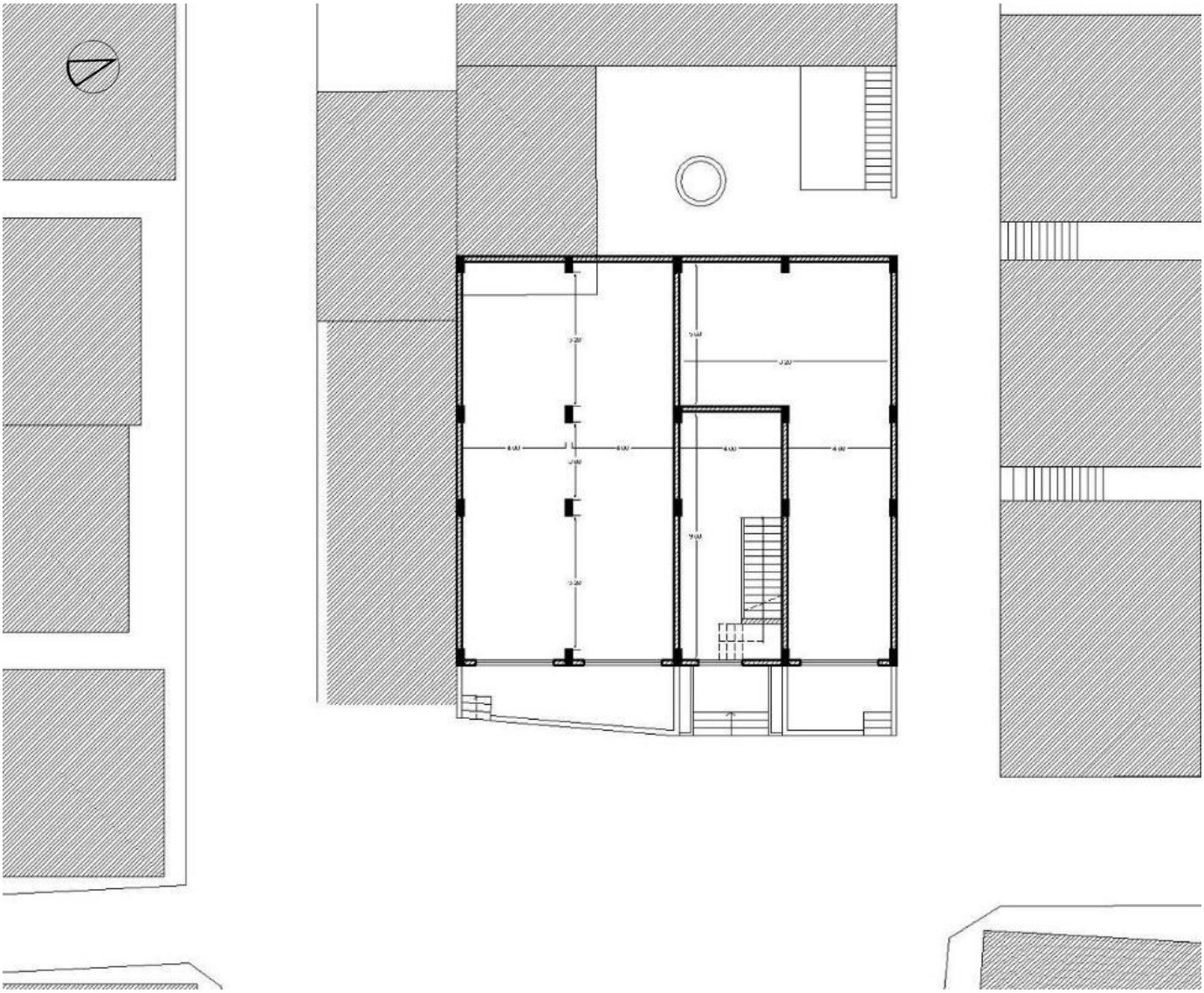


Figure 178 Building M1 overlooking the old town square. Source: Author (2019)

The old town square has acted as the nuclei for the town since its early development. The town's square location was found metamorphological around Seth's grave. Stories told that since the Ottoman Empire, it was a tradition that every Monday, merchants from around the area come by for the Monday Souk. Merchants will gather in the town's square to sell their products. Later on, with the French mandate, the French government financed few schools in the region, one of them was the old school right in the middle of the town's square. The school was constructed locally by stones, mud, and wood. In the year 2001, the municipality financed another school so it can hold more students. Thus, they abandoned the old structure. The building still acted as a symbol for the town's square until its demolition in the year 2004 by the new municipality to create a public space instead. Since the destruction of the old iconic school, the square lost its significance and lost its gathering power. Markets where spread around, and the square formally became public parking space.

Figure 179 View from the main terrace overlooking the old town square. Source: Author (2017)

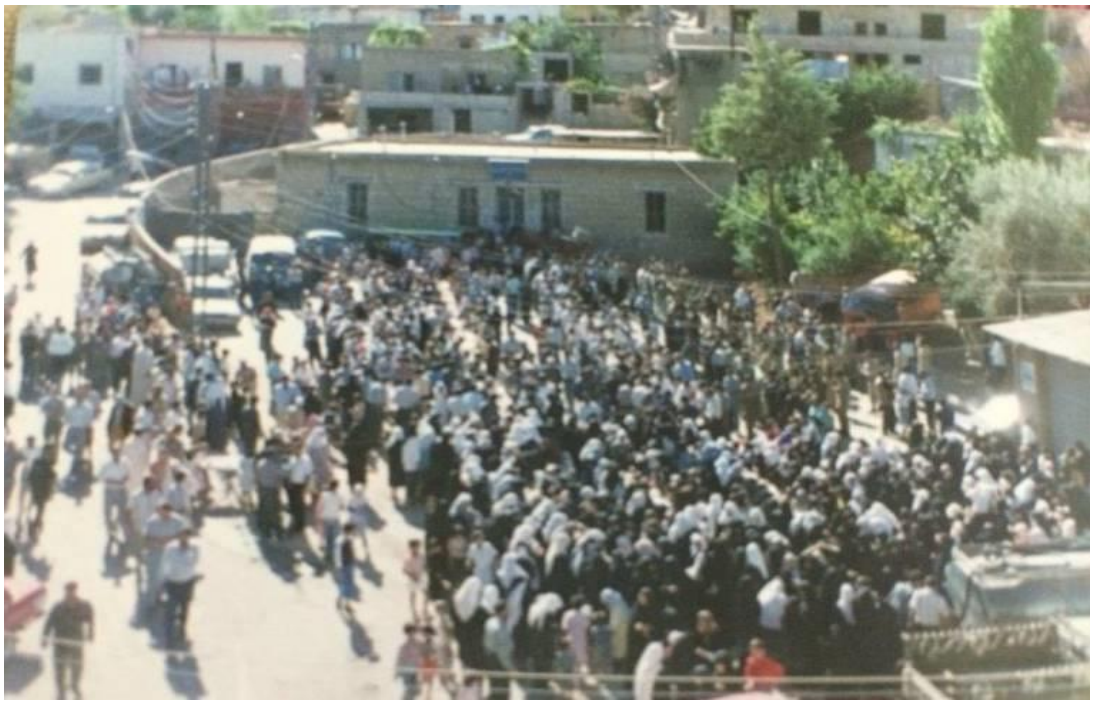


Figure 180 School students gathering in the morning Author: Nohad Ibrahim (1998)

Figure 181 Citizens in front of a stone wall. Remembering their old school days after leaving to the capital Beirut. Author: Ali el Moussaoui (1977)

Space usage

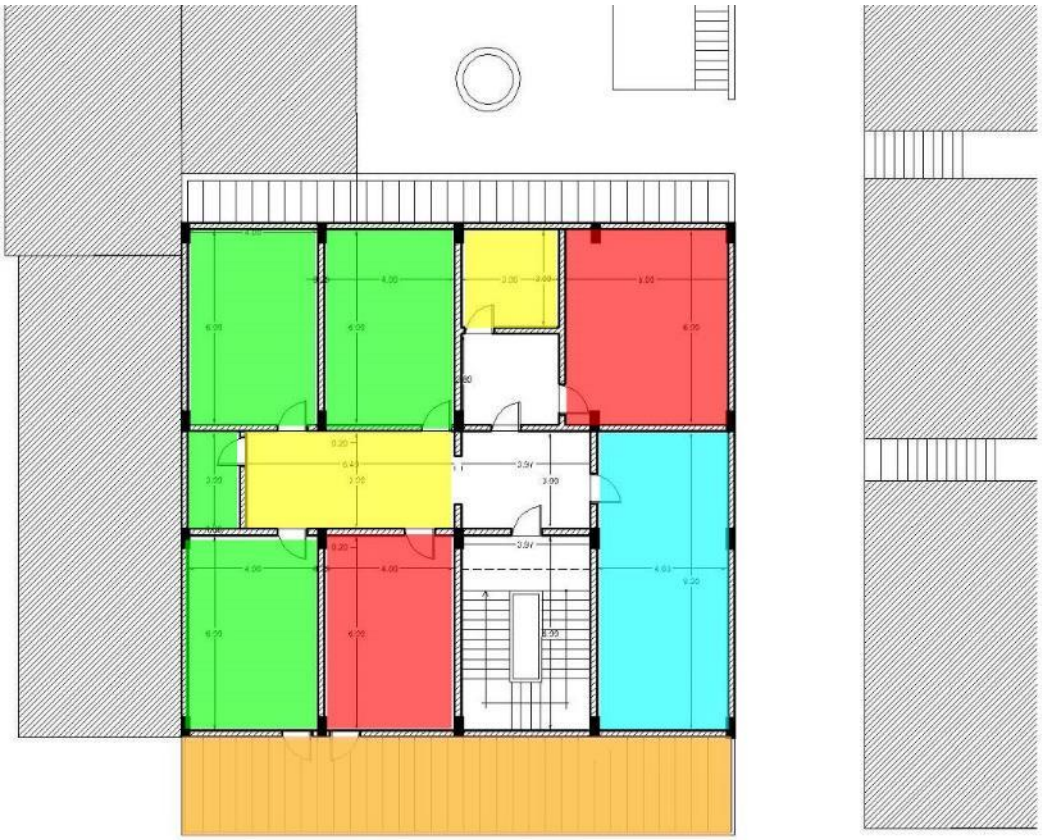
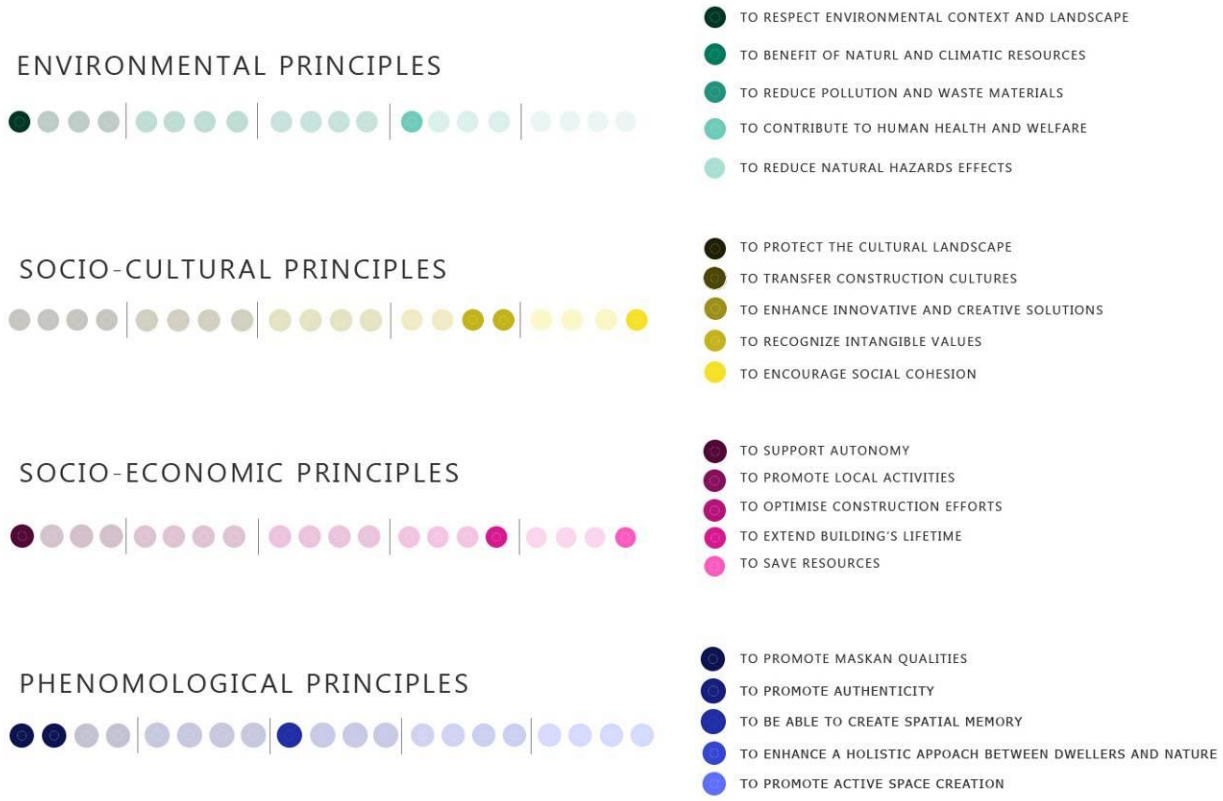


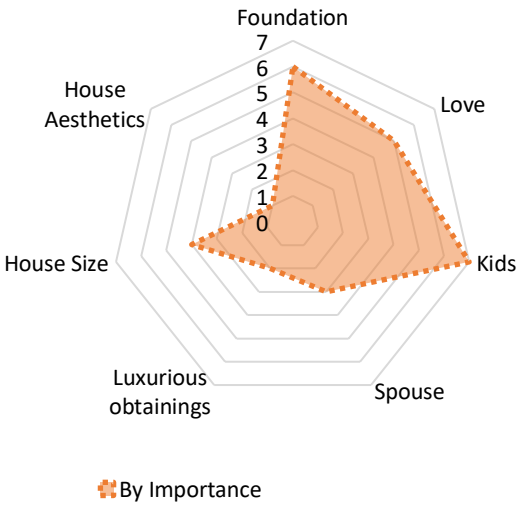
Figure 182 Colored map of the most used space in numbering order. Source: Author (2018)

Usage	4	3	2	1	0
Color					

In the following map, it shows how the most used spaces are the kitchen, living room, and main terrace, while the Salon is rarely used. The owner's wife explains that it was used twice in the past five years when they received the groom of both of their daughters. Currently, the salon is used only as a storage space for their essential furniture, and sometimes they dry out "Mlokheye" leaves inside.

Principles Evaluation





The M-1 building constructed in 1982, is considered the first high reinforced concrete in the village. The buildings orientation was towards the main square, and not towards any environmental factor. At that times, residents still held tight to traditions, and the most important space in the house is the living room, and the kitchen. Both functions resemble the intimate relation between family members and their guests. The construction since early on had shops on their ground floor, to use them as an economic support. Moreover, Mr. Mohammad's job was a trader, whereas Mr Hosny was a teacher.

3.2.3 Dwelling M-2

History & Technicality

Figure 183 To the left is the main facade and the entrance to the house. Source: Author (2018)

M2 house was built on three different phases, as the owner used to live abroad, and every while and then, he added a new space when he was financially capable. The landlord inherited the piece of land from his father and agreed with his brother-in-law to take full control and management of the construction. During the first phase in 1984, they constructed the ground floor and the basement garage. Typologically, the street had an extreme slope, which it allowed only the entrance to be on the street level. Later on, in 2005, the owner cladded the building with stone and added a pitched roof. Such a decision was not only for its aesthetic quality, as the slanted roof prevented the yearly maintenance of the waterproofing membrane. Moreover, the stone cladding prevented the main space from excessive heat exchange in both summer and winter. The stone

cladding façade acted as an additional heat barrier from the exterior. The owner's son *Reda*– Being obsessed with temperature and weather information - mentions that house interior temperature in summer kept its night's cool by 7 degrees difference since applying the cladding stone and slanted roof.

Symbol	A	B	C	D	E	F	G	I
Space	Entrance Corridor	Living Room	Salon	Kitchen	Bedroom	M.Bedroom	Bathroom	Terrace

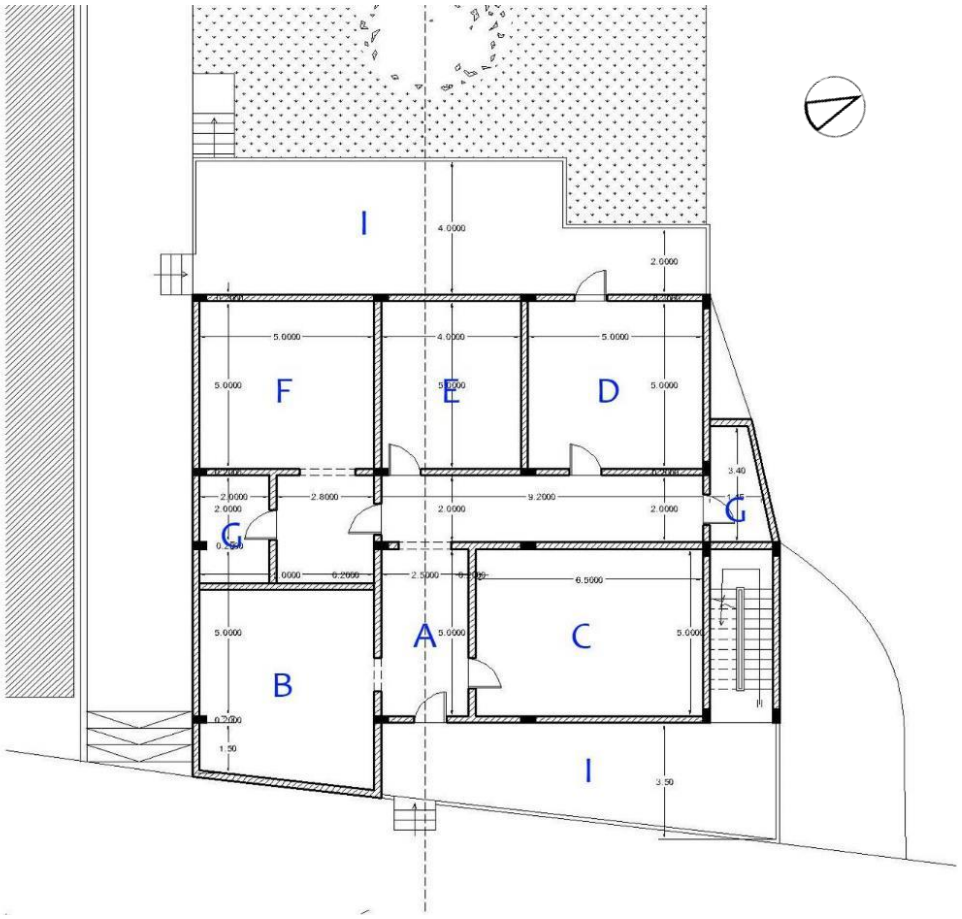


Figure 184 Ground floor level
Source: Author (2019)

The final phase was in 2007 when the owner closed part of the roof, creating a guest house, which later on transformed to be a private house for his newly married son.

Due to the excessive use of the backyard balcony, the owner's wife, Mrs. Ifticar, had the idea of extending the balcony to make it a big terrace, as expressed by the owner, that most of their daily timing is either in the kitchen or the terrace. Moreover, daily meetings and socializing with family and friends happen in the backyard. The terrace extended over the garden 3 meters, by adding a concrete column in the ground. As with new excessive use of the backyard balcony, the owner wanted more privacy from their surrounding - houses surround them from both sides, and they all overlook the sunken house- hence, the owner planted Cypresses so they would grow fast, creating a natural barrier with their neighbors.

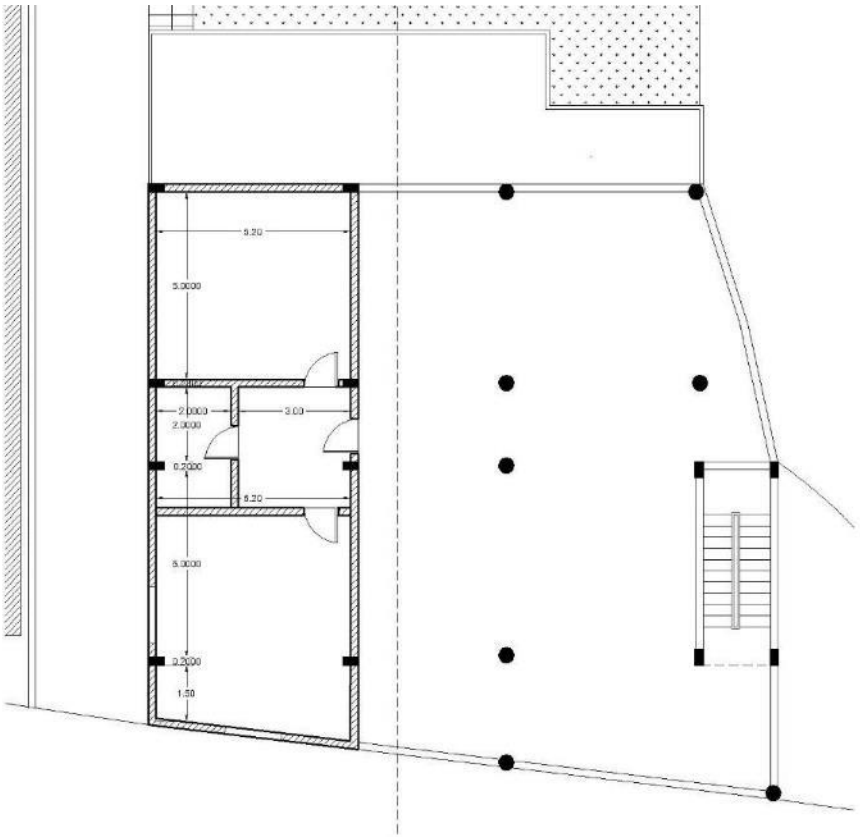


Figure 185 First floor plan Source: Author (2019)

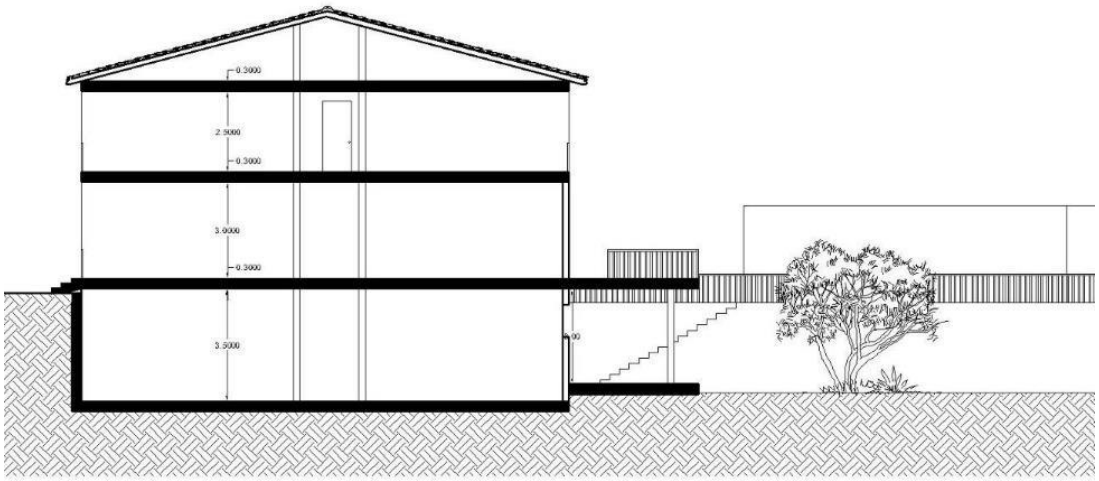


Figure 186 Section AA Source: Author (2019)

Figure 187 House M-2 during construction in 1984 Source: Hashem El Moussawi (1984)

Figure 189 1st floor terrace Source: Author (2019)

Figure 190 Underground Garage Source: Author (2019)

Figure 191 Photo of the garden 50 cms above the basement level. On the right we can see the new column added to create a backyard terrace. Source: Author (2018)

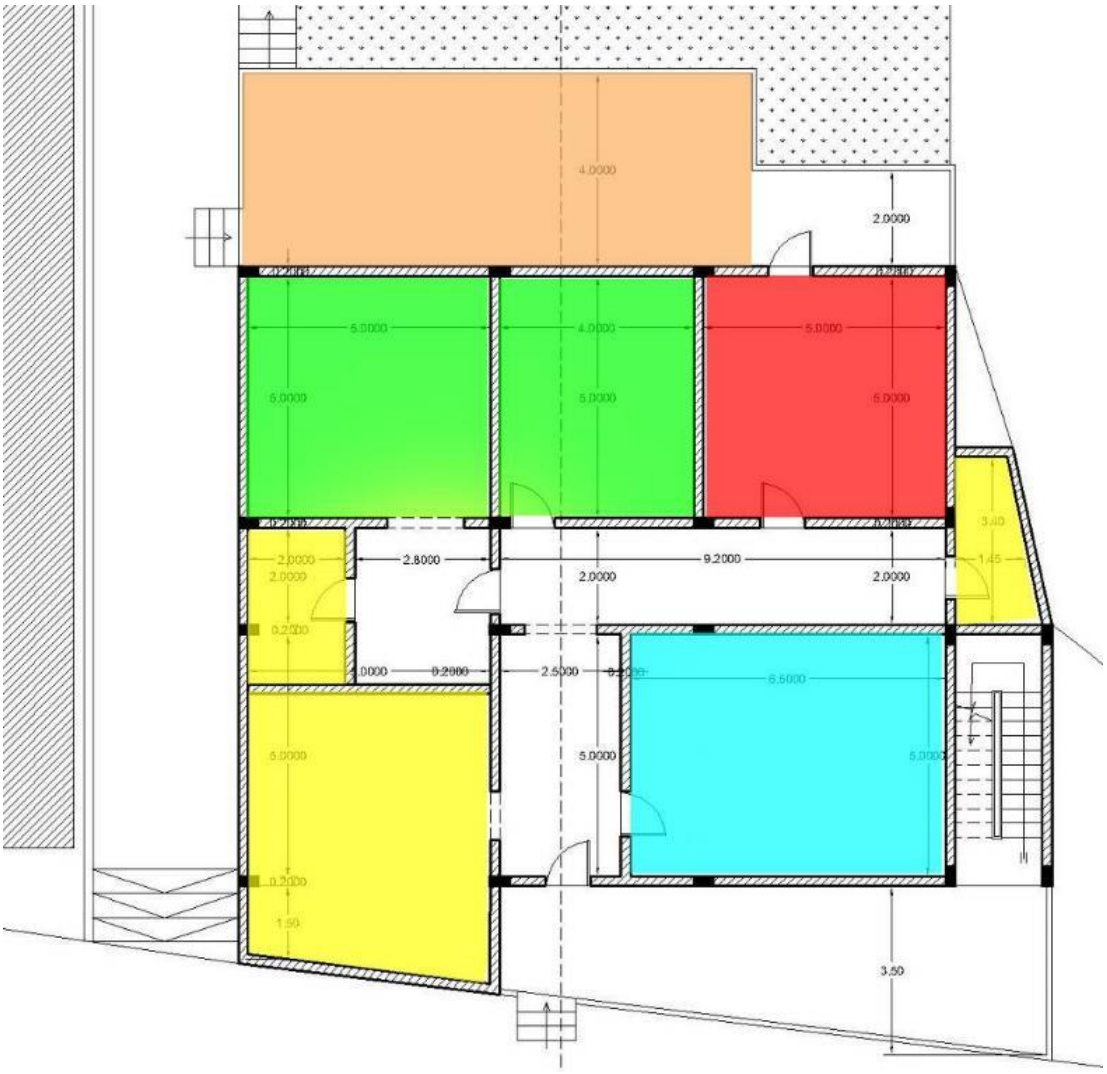
Figure 192 Workers under the recent extended terrace. In the ceiling we can see the colour difference, between the old balcony and the extended terrace, as the extended terrace is still on the plaster colour. Source: Hashem Mohsen (2012)

Figure 193 The extended terrace, overlooking the garden Source: Reda Hashem (2017)

Figure 194 Photo of the main facade during winter Source: Reda Hashem (2017)

Space Usage

Usage	4	3	2	1	0
Color					



The owner mentions that after the balcony extension, they spent most of their time on the newly built terrace. Moreover, he adds that only recently they moved to Lebanon, as they used to live in Saudi Arabia. Mr. Hashem adds that before extending the terrace, they used to meet in the frontal terrace overlooking the main street, but their gatherings were not as comfortable and intimidate.

Principles Evaluation

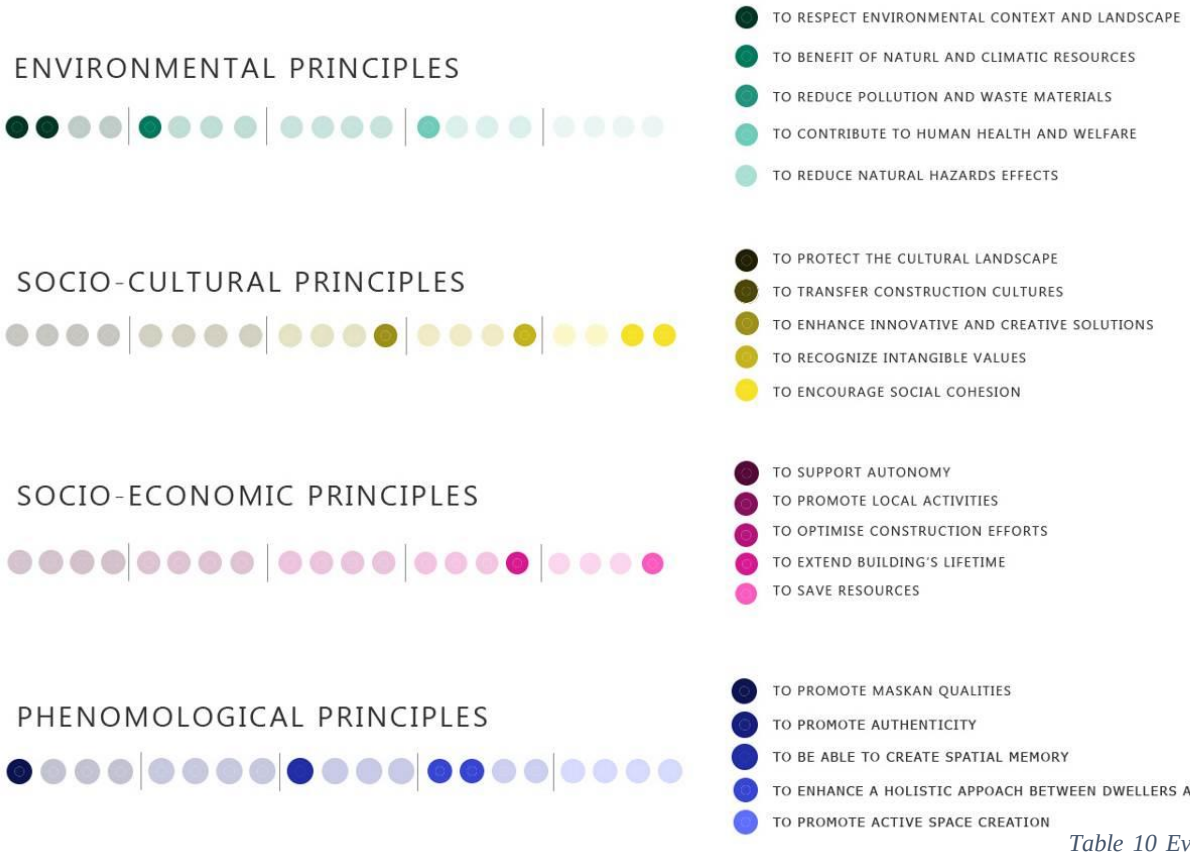
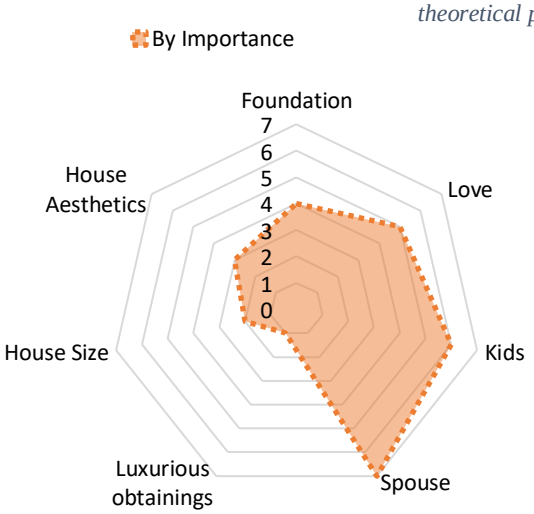


Table 10 Evaluation report according to the framework presented in the theoretical part

It is noted how structures built during the 1980's still gave an important significance for the social gathering habits. The most important, and used spaces, are both, the kitchen and the backyard. According to Mrs. Ifticar, the kitchen is the most important space, and its necessary to have it as big as possible. Most of the gatherings, tea ceremonies, and feasts, occur in that space. On an environmental level, this structure is oriented according to the main road and not in respect to natural events.



3.2.4 Politics

3.2.4.1 The Political Decision

As stated earlier, dwellers witnessed technological progressions in the second half of the 20th century. Whereas electricity reached this region after 1966, the first concrete building was built in the early 1970s, according to the local Mokhtar[27]. Besides, dwellers didn't build under any formal law, and without any engineering support. They built bestowing to the local know-how material and familiarity, hence, what they cultured from their parents, neighbors, and local masons. It wasn't until the 6th of March of 1951 the OEA (Order of Engineers and Architects) molded in Lebanon under the law 940, as previously, a group of engineers started (Lebanese Organization for Civil Engineers and Architects) in 1934 [28]. Even though it was formed in the 1950s, locals persistently built without official documents for several reasons; law wasn't imposed in the rural areas as the country only lately gained its Independence (1947), the country always had a centralized authority, as compensating its attention only to the capital and other major cities in Lebanon, 26 years after forming the OEA, the Lebanese civil war [29] began, and it persisted till 1991 with the Taif agreement[30]. Moreover, in 1982 Israeli troops invaded Lebanon reaching Beirut. The state itself was in full chaos until earning its full Independence on the 25th of May 2000. Hence, all this quartered history strapped towards a chaotic and illegal buildings erected over the century. Although the country was suffering several devastating problems, it didn't lead to the main aesthetic upheaval yet due to several other reasons;

[27] Mokhtar is the head of a village, they are usually selected by some consensual or participatory method, often involving an election.

[28] OEA, "Historical Overview", https://oea.org.lb/Arabic/Sub.aspx?pageid=70 (Accessed August 15,2019)

[29] It was a multifaceted civil war in Lebanon, lasting from 1975 to 1990 and resulting in an estimated 120,000 fatalities

[30] Taif Agreement was an agreement reached to provide "the basis for the ending of the civil war and the return to political normalcy in Lebanon". Negotiated in Ta'if, Saudi Arabia, it was designed to end the decades-long Lebanese Civil War, reassert Lebanese authority in Southern Lebanon (then occupied by Israel), though the agreement set a time frame for Syrian withdrawal and stipulated that the Syrians withdraw in two years. It was signed on 22 October 1989 and ratified by the Lebanese parliament on 5 November 1989

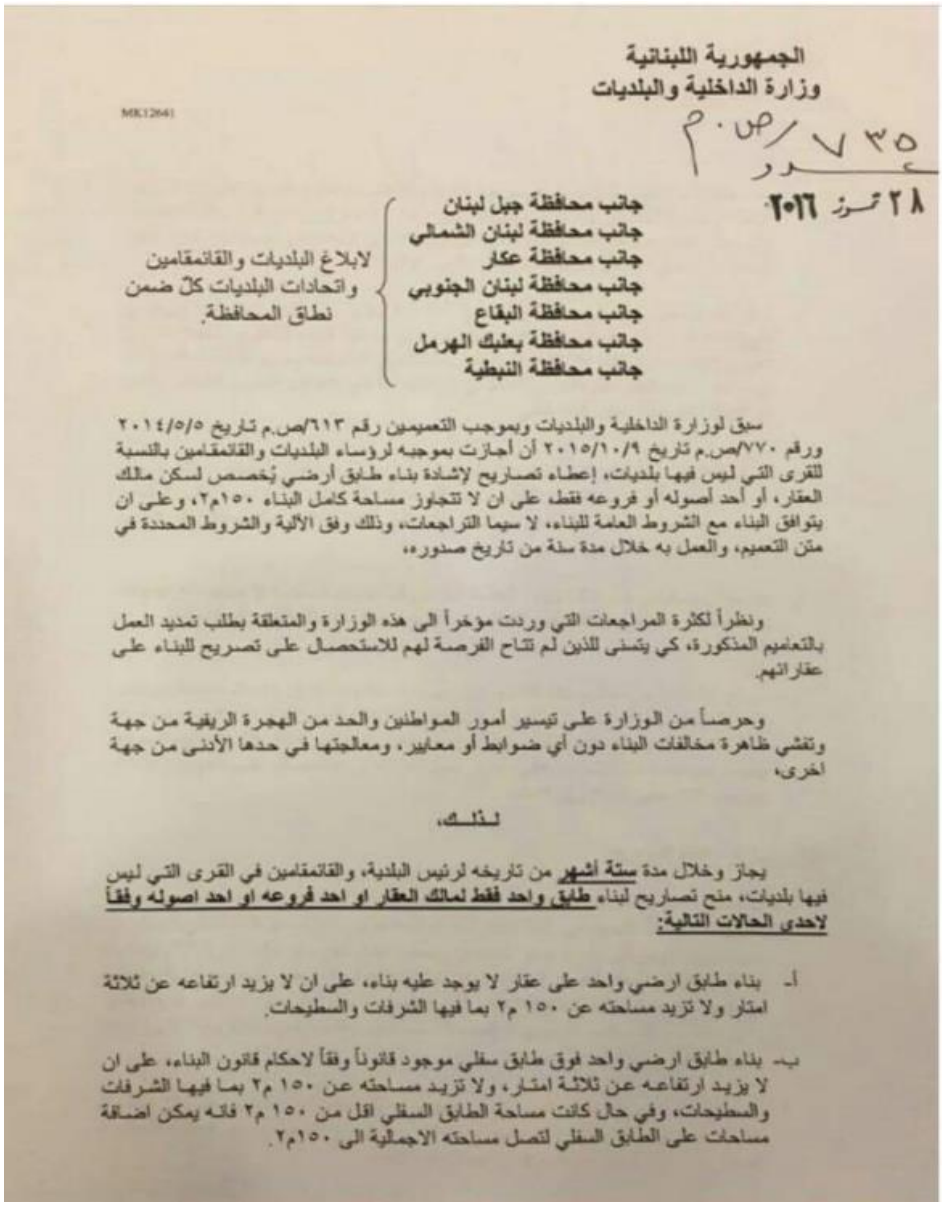
residents lived deprived lives and couldn't afford to build new houses, while citizens who immigrated during the war didn't invest back in their land (Moussaoui, 2019).

After the year 2000, giving more stable situation in Lebanon, immigrants begun investing back in their hometowns. With more control and enforced policies, citizens now are obliged to build legally, as Lebanese security forces started taking more control of such regions. Citizens, still alien to formal laws, found it hard to build legally, as local dwellers are still unfamiliar with all the legal construction procedure, and its bureaucracy. Moreover, all engineers are thought of to be similar, as they are all named "Mhandes" or literally "Engineer". Citizens until now are not familiar with the luxury of an architect. As a specific architect is named "Rasam" or literally "Painter-Sketcher."On the 15th of Feb 2014, ex-prime minister Mr. Tamam Salam appointed Mr. Nohad El- Mashnook as the new ministry of interior. Later on that same year, he approved a generalization (not an official law) for municipalities to provide legislations for landlords in rural areas to build without official legislation from "OEA and the Municipal of Public Works & Transportation", for constructions under 150m2 under the generalization No. 613 on the 2014/5/5 [31].

The verdict announced was justified in the paper following by the minister; limiting chaotic construction, avoiding urbanization, and permitting citizens living in areas without municipalities to build their dwelling spaces. The rule briefly announces that the construction must be firmly one floor no more of not more than 3 meters in height and under 150 m2 in area, including terraces and verandas. Additionally, the decision states, *". The building must comply with the construction law,*

[31] The generalization is valid for 6 month, and has been renewed for 4 times under Al Mashnook reign, in 2014 (No. 613), 2015 (No. 770), 2016 (No. 735) and 2017 (No.352).

especially the setbacks, and that according to the procedures and terms specified in the circular board.".



الجمهورية اللبنانية
وزارة الداخلية والبلديات

MK12641

ص.م/ ٧٣٥
عدد

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جانب محافظة جبل لبنان
جانب محافظة لبنان الشمالي
جانب محافظة عكار
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جانب محافظة البقاع
جانب محافظة بعلبك الهرمل
جانب محافظة النبطية

لابلاغ البلديات والقائمقامين واتحادات البلديات كلّ ضمن نطاق المحافظة.

سبق لوزارة الداخلية والبلديات وبموجب التعميمين رقم ٦١٣/ص.م تاريخ ٢٠١٤/٥/٥ ورقم ٧٧٠/ص.م تاريخ ٢٠١٥/١٠/٩ أن أجازت بموجبه لرؤساء البلديات والقائمقامين بالنسبة للقرى التي ليس فيها بلديات، إعطاء تصاريح لإشادة بناء طابق أرضي يُخصص لسكن مالك العقار، أو أحد أصوله أو فروعه فقط على ان لا تتجاوز مساحة كامل البناء ١٥٠م٢، وعلى ان يتوافق البناء مع الشروط العامة للبناء، لا سيما التراجعات، وذلك وفق الآلية والشروط المحددة في متن التعميم، والعمل به خلال مدة سنة من تاريخ صدوره.

ونظراً لكثرة المراجعات التي وردت مؤخراً الى هذه الوزارة والمتعلقة بطلب تمديد العمل بالتعاميم المذكورة، كي يتسنى للذين لم تتاح الفرصة لهم للاستحصال على تصريح للبناء على عقاراتهم.

وحرصاً من الوزارة على تيسير أمور المواطنين والحد من الهجرة الريفية من جهة وتفشي ظاهرة مخالفات البناء دون أي ضوابط أو معايير، ومعالجتها في حدها الأدنى من جهة اخرى،

لذلك،

يجاز وخلال مدة **ستة أشهر** من تاريخه لرئيس البلدية، والقائمقامين في القرى التي ليس فيها بلديات، منح تصاريح لبناء **طابق واحد فقط لمالك العقار او احد فروعه او احد اصوله وفقاً لاحدى الحالات التالية:**

أ- بناء طابق ارضي واحد على عقار لا يوجد عليه بناء، على ان لا يزيد ارتفاعه عن ثلاثة امتار ولا تزيد مساحته عن ١٥٠ م٢ بما فيها الشرفات والسطيحات.

ب- بناء طابق ارضي واحد فوق طابق سفلي موجود قانوناً وفقاً لاحكام قانون البناء، على ان لا يزيد ارتفاعه عن ثلاثة امتار، ولا تزيد مساحته عن ١٥٠ م٢ بما فيها الشرفات والسطيحات، وفي حال كانت مساحة الطابق السفلي اقل من ١٥٠ م٢ فانه يمكن اضافة مساحات على الطابق السفلي لتصل مساحته الاجمالية الى ١٥٠م٢.

Figure 195 Genrealization renewal in 2016 of the formal genralization number 613. Source: Nabisheith Municipality (2018)

Furthermore, the landlord can build two floors on land, and can add a basement if the level of the property is below the level of the road adjacent to the building facade. Those who have benefited from a similar generalization in the past can build an additional floor above their home. However, the duty of monitoring the permit application was shifted to the internal security forces.

3.2.4.2 Implication

Although in the Generalization No. 613/sa.m, states clearly that all licensed buildings must comply with the construction law, and its setbacks. The implication of the building construction under the "Municipal Licenses" has shifted otherwise.

Any landlord, presenting a 150 m2 plan – to the local municipality - signed by any sort of engineer "Mhandes" (architect, civil, electrical, mechanical, topographer.), paying a fee of 300$, will be granted a construction license. The plan presented to the municipality is usually a paper without context, exclusive of on-site fixation, sections, structural, elevations, mechanical, or electrical plans.

Figure 196 Google image showing the connection between the village on the hill and the highway connecting Beirut to Baalbak. This land is a vast open agricultural lands. Source: Google image (2018)

How things usually work in the rural area, a local foreman who has some construction familiarity, draws the floor plan, which consists of 4x4x4 m concrete span between columns (60x30cm) and 9 m depth, that will accumulate to a total of 150 square meters. Later, the landlord will find any of his relative engineers, to sign on the 2d plan for the municipal approval[32]. How citizens complied with the rule is the following; usually, most of the residents who built these kind of structures, already have their houses. However, what the license granted the landlords of the studied area are concrete structures on the main road connecting the village to the highway of (Beirut - Hermel) -a vast open space of farming lands - Structures consisting of 3 shops (4x4x4) by a depth of 8-9 m. So, they would be rented for profit, although it was evident in the generalization that all structures must be built strictly as housing reasons. The “local modular” spread like fire between citizens, causing vast chaos of the farming land picturesque landscape. Moreover, the “Local Modular” evolved, as the landlord eventually will inquire

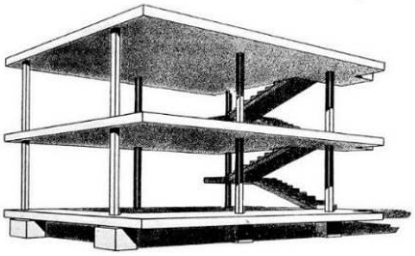


Figure 198 Le Corbusier's Do-mino House Modular

Figure 197 Zone with studied in which it most includes the modular built source: Author (2019)

[32] The engineer (Architect, civil, electrical, etc..) who signs the plan for the landlord, is not double checked by the municipality if he truly is associated with the syndicate of engineers and architects, or not. He might be not registered in any form of engineering, as the municipality doesn’t have any access to the (OEA or Municipal) files for names of registered engineers.

another license so that he would add another floor above the first license, and later on, he will add a pitched roof. The 1st floor will contain offices, and the ground floor will have local shops. A total of 450 meters squared concrete structures sprout amid farming lands.

The "Lebanese Modular" reminds us of Le Corbusier's Do-mino module created and developed in 1914. According to Le Corbusier, the do-mino prototype became suitable for mass-production housing during the post-war reconstruction. Although architects and theorists severely criticized the do-mino module, it took exactly 100 years from demanding the patent (with Emil Mörsch) in 1914 (Brooks, 1997) to its implication in its Lebanese form in the Eastern Bekaa valley, after 2014. Moreover, through all the diverse ideological forces behind the contribution to both modules - Do-mino, and the Lebanese Module- Mr. Nohad al Mashnook's decision and Le Corbusier idea, both, had an initial progressive idea for the future of a city. However, we will detain the after-math of its implication shortly.

Figure 199 2014 Google image of the farming lands. Source: Google Earth (2019)

Figure 200 2018 google image of the farming lands Source: Google Earth (2019)

Figure 201 Google image of the farming lands. The yellow dots are the new constructions in comparison between 2014, and 2018 Google image
Source: Google Earth (2019)

In Figueres 199, 200, and 201, we see a satellite image demonstrating the newly constructed buildings since 2014. The image shows the number of constructed houses from 2014-2018. Nonetheless, we cannot assume that all the constructions are of the "Lebanese Modular," as definitely there are some houses that are constructed with a legal license. The number of new houses constructed from 2014 to 2018 exceeds 85 new constructions.

Figure 202 A photo of the current farming land from Nabisheith Village Source: Author (2019)

3.2.4.3 Structure PP-1

Figure 203 Google map image of PP-1 and PP-2 Source: Google maps (2019)

The PP1 building is our first studied structure on the road connecting the village to the highway. The structure is another demonstration of the Bekaa modular that sprouted everywhere. In comparison between fig 203 (2018 google image), and fig 205 (2014 google image), we can find five new modular structures erected in 4 years on this agricultural defined land.

Due to the height difference between the land and the main road, the landlord excavated 5 m height of earth by 25m in-depth to be able to build his structure on the same level of the main road. Neglecting the natural landscape all five landlords adjacent to each other repeated the same shift, to take the greatest advantage of having a land on the main road. After the 25 m depth (from the furthest point), the owner built his retaining wall separately from the main building structure, keeping a 1 m storage space between the retaining wall and the new structure. With a 3m space kept between him and his neighbor, the owner used it as the circulation stairs to the upper floor and to the rest of the land. While from the other side, at one point, it is directly on the edge of the land,

but due to the structural rotation, it opens up to almost 1 m at the façade. This structure is still uninhabited, and its intentions is to be a commercial stores on the ground floor, and rooms for rental at the 1st floor level.

Figure 204 Image from the main road Source: Author (2018)

Figure 205 2014 Google earth photo. Source: Google earth (2019)

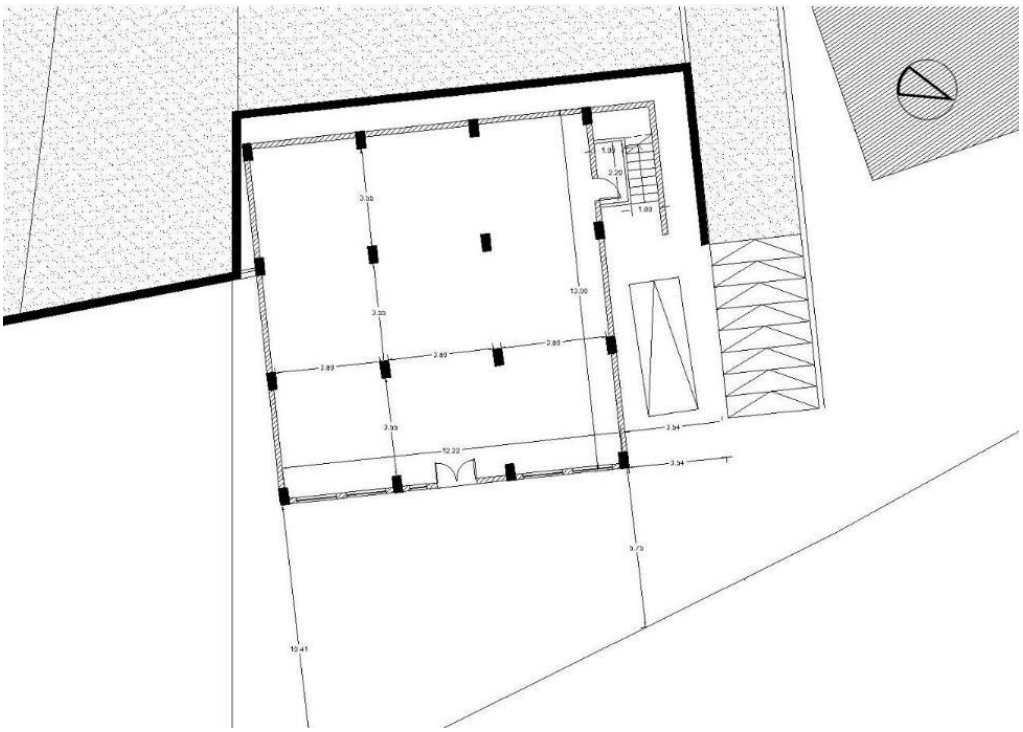


Figure 207 Ground floor level

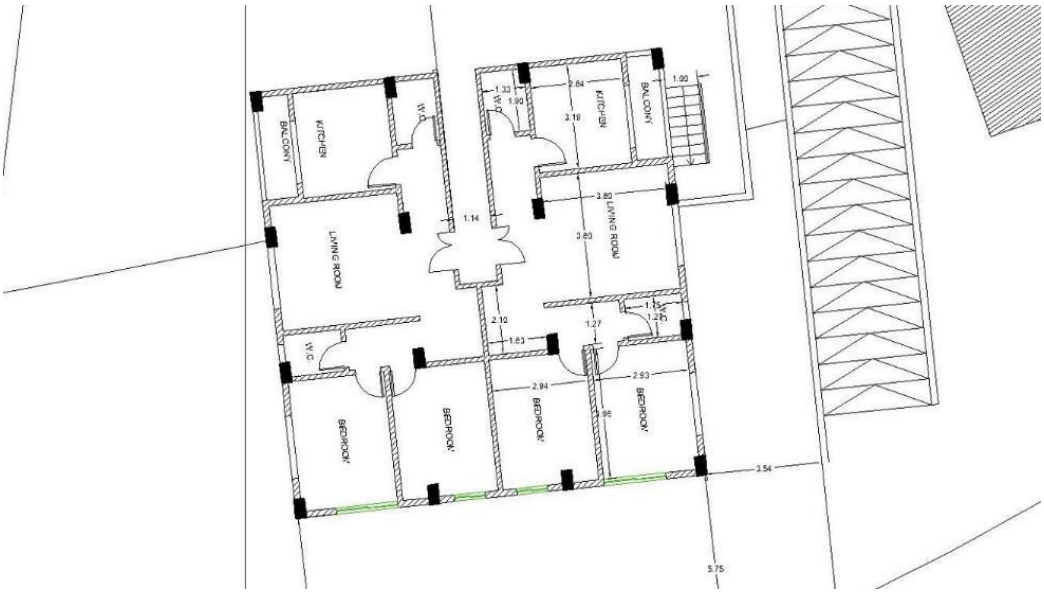


Figure 206 First Floor level

Figure 208 Preparing steal for raft foundation Source: Author (2018)

Figure 209 Preparing the steal for the first floor, while filling the gaps between beams with hollow bricks. Source: Author (2019)

Figure 211 Ground floor raft foundation just poured Source: Akram Moussawi (2019)

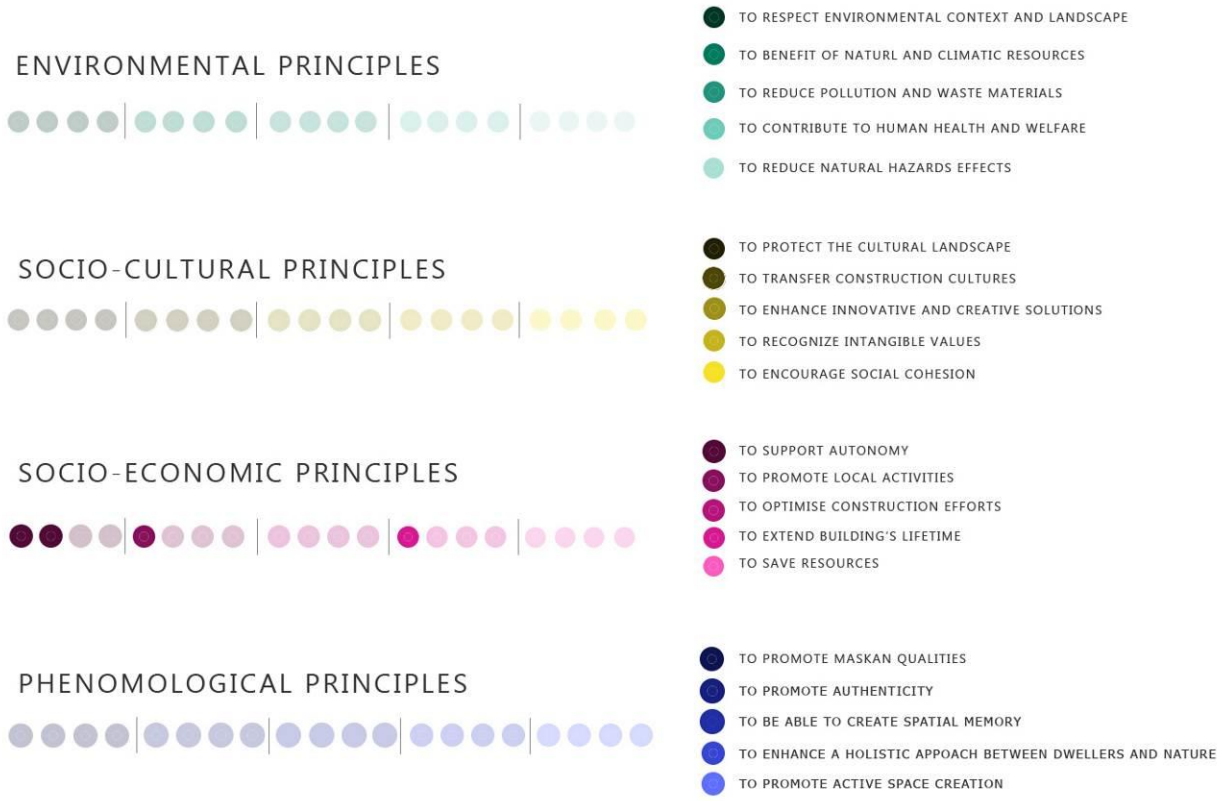


Table 11 Evaluation report according to the framework presented in the theoretical part

The pp-1 structure is still incomplete, hence, we weren't able to collect information on the social, and phenomenological aspect of the evaluation. Yet, we can understand from the owner's intentions, that these structures aren't made to live in. The current plan is to create shops on the ground floor, and rooms/offices to be rented at the top. The only reasons to build this structure is for financial means. Moreover, the structure's orientation is towards the main road to maximize the façade size, besides, passive systems are not taken to consideration.

3.2.4.3 Structure PP-2

Figure 212 Google earth image of the PP-2 location Source: Google Maps (2019)

A lot of undisputed problems are presented on this site. The Landlord, Mr. J.A.J, inherited this piece of land since a young age from his father. In 2014, since the approval of the legislations by Mr. Nohad al Mashnooq[33], the landlord applied for a license, and he got the approval. His lot size is illegal for any construction, and he can never have any sort of construction on this land officially by municipal of work and OEA laws. The land size is 35 by 7 m, in which the customary law requires more than 400m2 of land to be able to acquire a formal construction license. Moreover, on the southern borders, directly adjacent to it, is a villa with its retaining wall directly on the boarders. A minimum of 3.5 meters of set back from all surrounding lands must be respected for any structure to be applicable. While from the main road, the Lebanese laws in this area require a 4m set back. In which if we make the calculations, the landlord, needs 6 m of width deduction

[33] is a Lebanese politician who was the Lebanese Minister of Interior and Municipalities and a Member of Parliament representing Beirut's second district.

from the total 7m width he has, to legally be allowed to construct. Hence a construction can never be applied on this land under formal Lebanese law.

When he acquired the licenses, he directly started the construction, although he did not have the capital to construct more than the foundations. The owner claims that the main road took its width from his lot, and the government did not pay back for acquiring part of his land, leaving his land useless before the new legislation. Moreover, the problems continued with their neighbor, as the neighbors view to the Bekaa valley is now cut by a concrete structure, even though the villa was constructed back in 1999 by the deceased Mr. Hussein Mohammad.

Mr. J claims that he proposed to sell the land with the already poured foundation for 75,000 $, to the villa owners, but the negotiations did not go well. Mr. J asked his cousin Mr. Y M to help him construct the building as now he has four licenses for this lot (later he claimed 3 of the six shops). Early 2017, Mr. J resumed the construction to build a 2-floor structure over all his land, not leaving any public space. Moreover, although it is illegal, he connected the two structures, to make it look like a one hug 800 m2 block on a site of a 245 m2 superficial area.

Figure 213 A street view of the construction. In the image above we see the 8 garages made. Source: Author (2018)

Figure 214 Google map showing the site relation with its surroundings Source: Google maps (2018)

Fig 214 demonstrates the site relation with its surroundings. The red dotted line is the site overlooking the main road connecting the village to the highway. The owner Mr. J took advantage of building eight garages to benefits from the "busy" road. The landlord blocked the view to the Bekaa valley that we see in Fig 214. The villa owner claims the villa entrance only, after a long fight and suitcases raised to the court. Recently, the owner opened 4 of his garages as car services and washing station. Moreover, this area is under a lot of disputed due to the excessive number of archeological findings which are found in this area in specific. The area was used before by the well off from the village residents to build their quiet villas. After the generalization by Mr. Nohad (previous Minister of Interior), concrete modular spread everywhere to maximize profit.

Figure 215 Image from the first floor showing the view cut from the villa to their south. Source: Author (2019)

Figure 216 Image from the first floor, showing the view that was cut from the villa south of the new structure. Source: Author (2019)

Figure 217 Street view image of the constuction with the shops Source: Author (2020)

Principles Evaluation

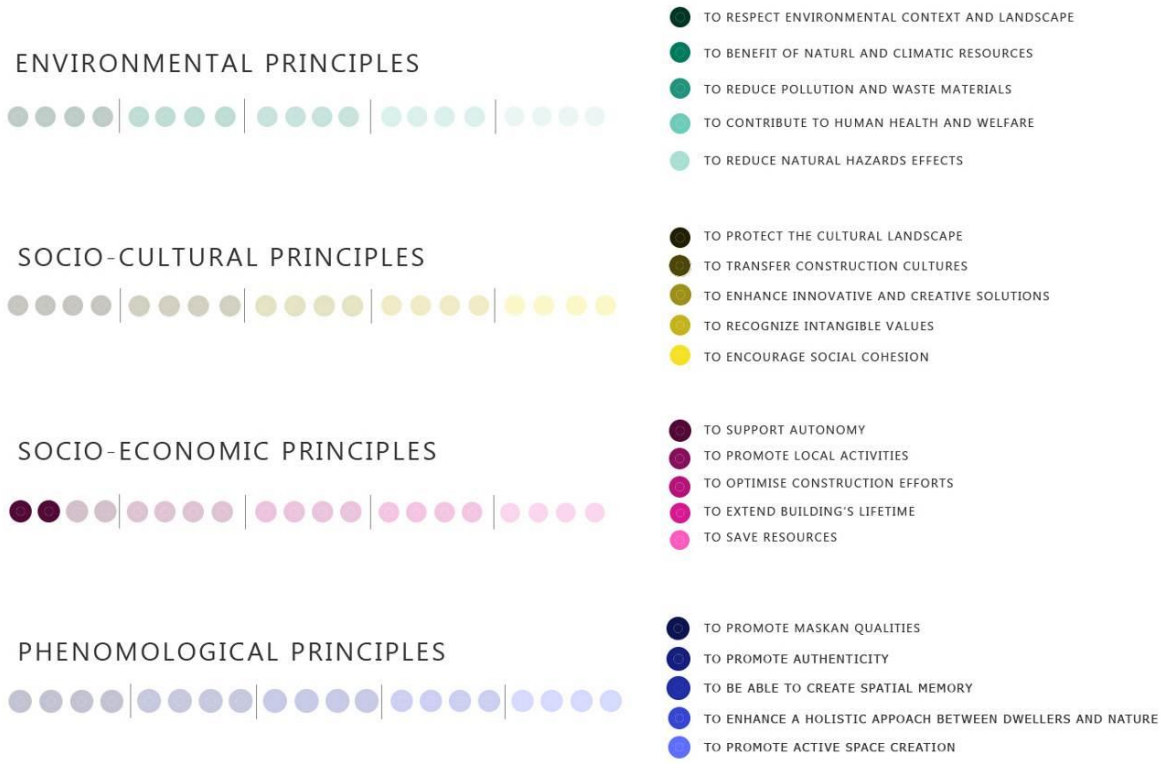
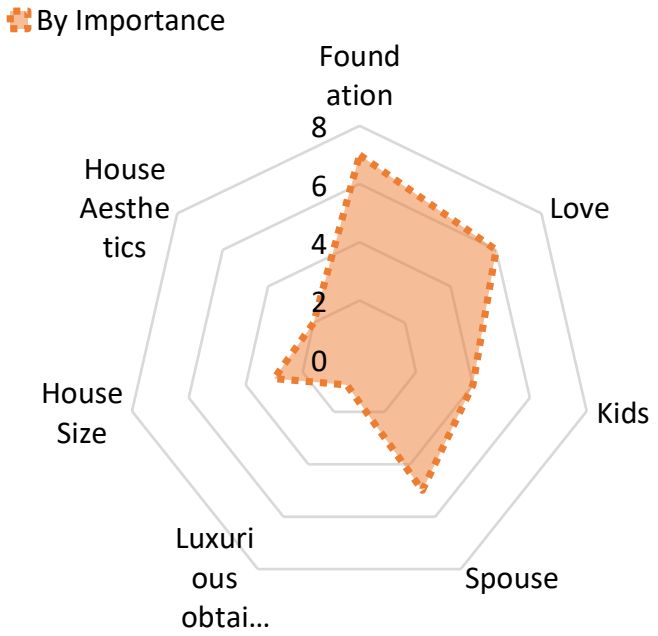


Table 12 Evaluation report according to the framework presented in the theoretical part

PP-2 structure is another building built with "municipal licensing". The structure's first floor is not complete, as the owner doesn't intend to continue further on. However, ground floors of both structures are used as shops for rent (8 shops are rented, 4 as car maintenance, and another 4 as a small market). The owner intends to have the first floor only as a sitting area. From an environmental aspect, the house doesn't respect any climatic feature, as the main reason of construction is only to make profit, and it faces the main road connecting the village to the main highway.



3.2.4.5 Structure PP-3

Figure 218 PP-3 Buildings facade facing the main road. Source: Author (2018)

PP-3 buildings consist of 4 buildings that consist of 350m2 each. The project was financed by Mr. A M and his brother Mr. Y M, as they are a businessman who live in Moscow, and they sought to build more warehouses for their business and expand their work, hence, they started the project. The land is for their uncle Mr. JM, who they agreed that both Mr. and Mr. Y, will finance the construction while Mr. JM will give them the land, after that two of the four buildings will be for Mr. JM while the others are for Mr. and Mr. Y. In the beginning, the project acquired 8 licenses to build the 4 buildings, and the owner was pushing politically to be able to acquire another 4 licenses so he can be able to build a 3 story height structure. Later on, he will add a slanted roof, which can also be used as 150 m space. Unfortunately for them, when they were trying to acquire the new licenses, the new prime minister appointed Mrs. Al Hassan as a new minister of interior, in which, she stopped all this type of license. The project by Financers had the idea of having 4 blocks accumulating of 2,800m2 project using 16 licenses

of 150 m2 that cost 300 $ each. Although each superficial floor accumulates of 175 m2 as the owners built their circulation corridors and stairs outside of the allowed 150m2, moreover, when the internal forces come to check the correct size, they do not use any specific tool, but rather by their foot. Moreover, both ways if constructions were legally 150m2 or more, bribing is always a running option.

Figure 219 A 2018 Google earth photo of the zone source: Google earth (2019)

Figure 220 a 2014 Google earth photo of the zone Source: Google Earth (2019)

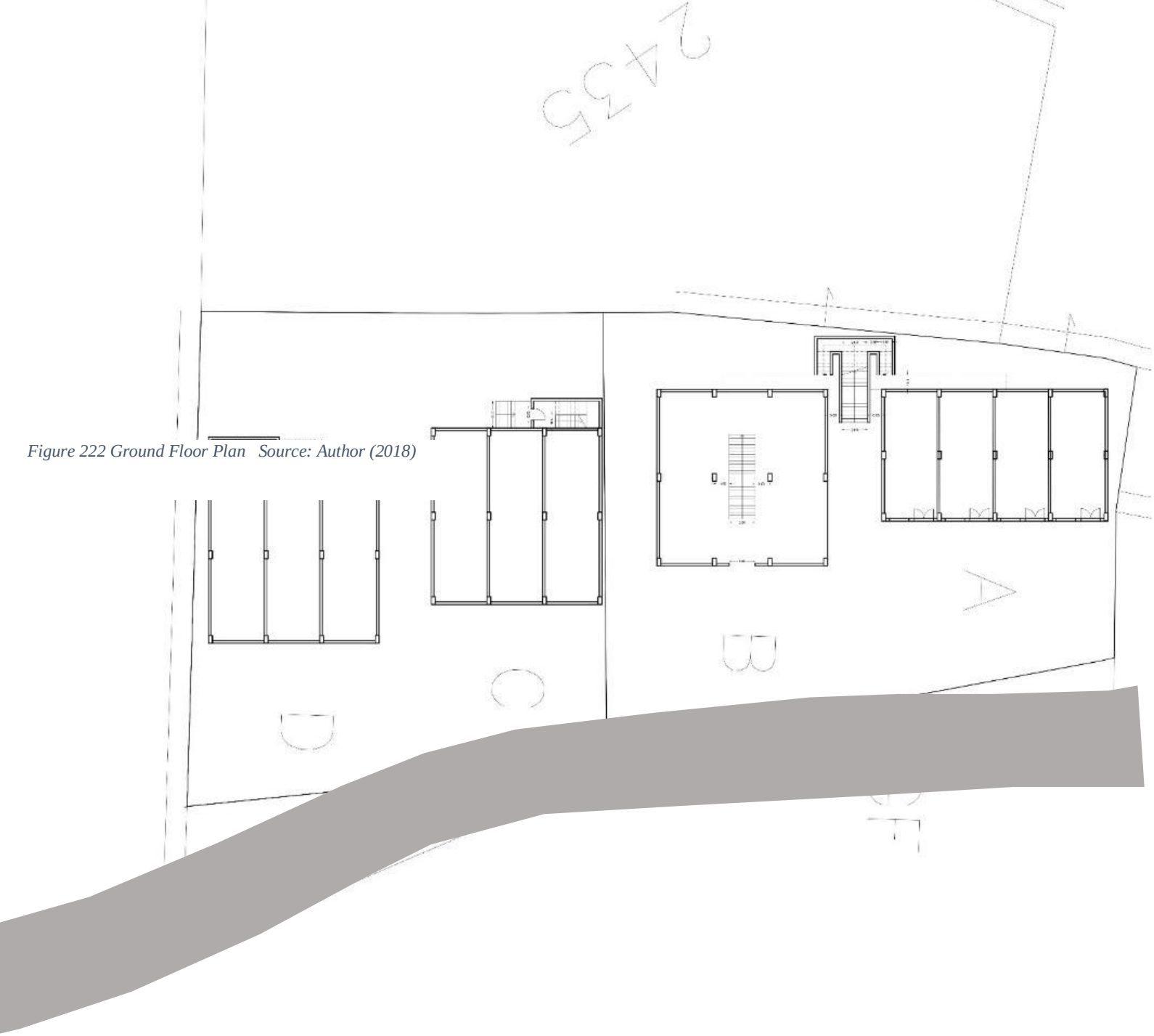


Figure 222 Ground Floor Plan Source: Author (2018)

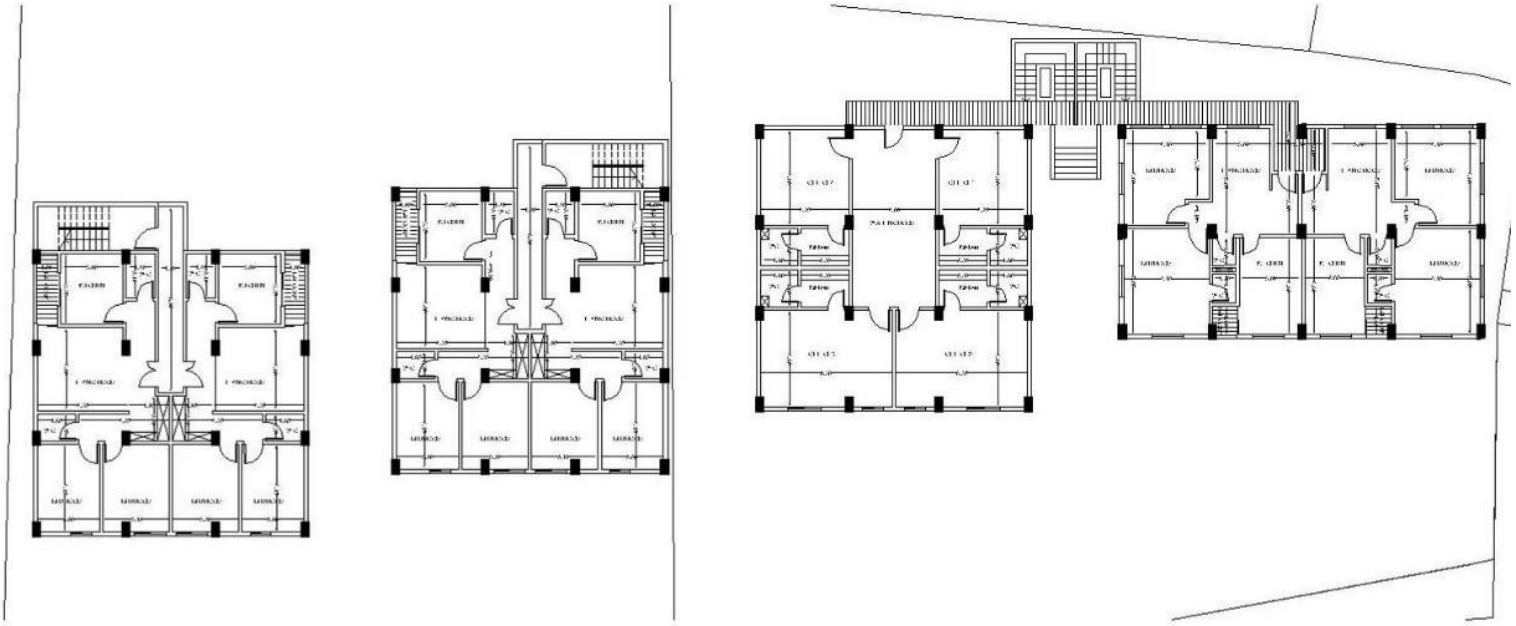
Figure 221 Ground floor *Source: Author (2018)*

Figure 223 Construction in process. Block B, C, and D source: Author (2018)

Figure 224 Construction in process. Block A source: Author (2018)

Figure 225 Drone Image Source: Ali Mohammad (2018)

Figure 226 First Floor Level Source: Author (2019)



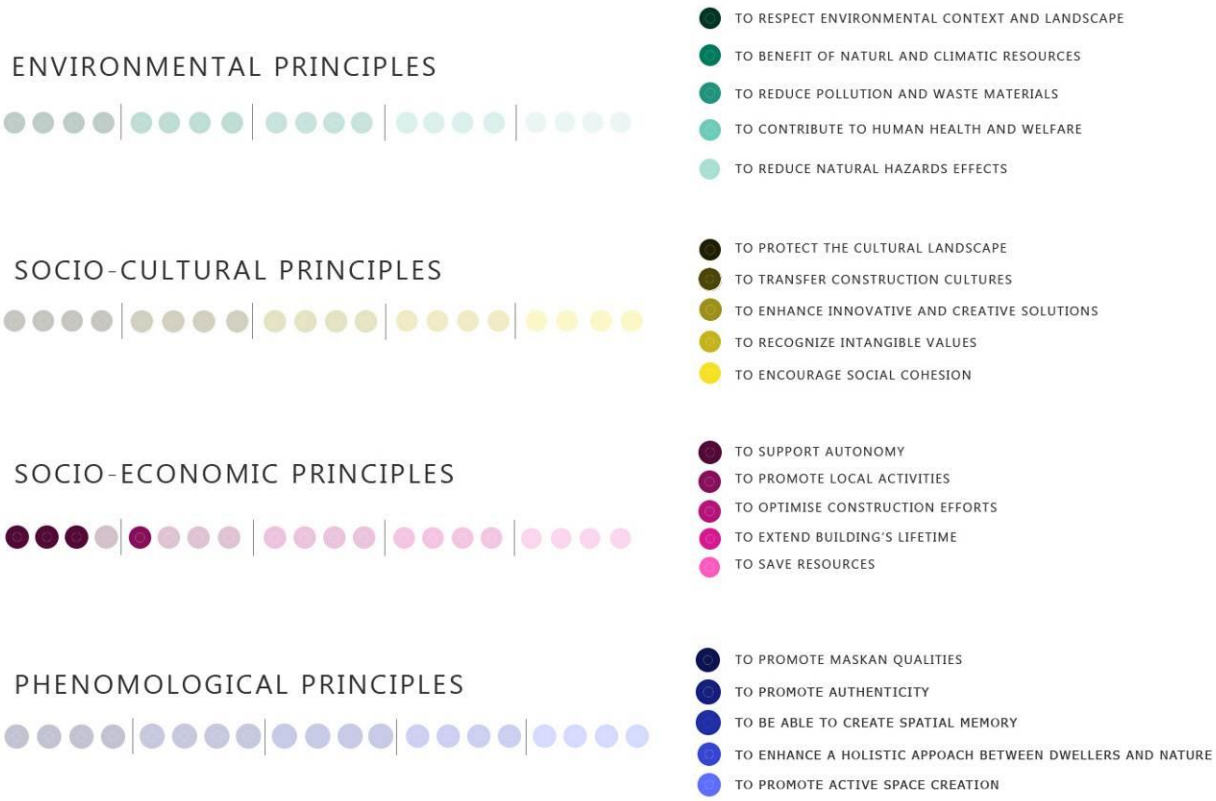
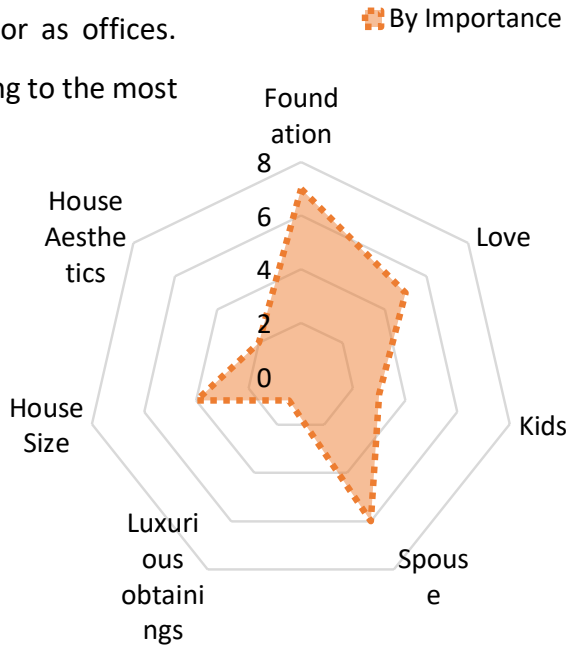


Table 13 Evaluation report according to the framework presented in the theoretical part

PP-3 structures, like the rest of the post-political, are all intended to be purely for economic reasons; Ground floor for shops, and the first floor as offices. Moreover, orientation and structural qualities are all built conferring to the most profitable facet.



3.2.4.6 Structure PP-4

Figure 227 PP-4 Dwelling facade, picture taken from the main road. Source: Author (2018)

PP4 Structure is built on lot 3519, a lot specified as farming land, and is longitudinal in shape. The size of the lot is 217m by 16m. The landlord, Mr. Hassan K, lives in Saudi Arabia. Although in the beginning, as he mentioned that he only wanted a Ground floor dwelling with its vast garden. However, later on, he was pressured by his relatives, that if you are pouring concrete, and building anyways, and it is on the most important road connecting the villages to the main road, why don't you use the ground floor for commercial use. You can have your living space above it, hence the same typology. It didn't take much to convince the landlord, as he explains that it was a convincing idea, as when he retires – Although he is in his late 30's- he would have shops and spaces to launch a small business, and in the meantime, he can make some money. The landlord has been hesitant after the construction started as he mentions that it looked more of a shop rather than a house, while he dreamt of a village house in his village. He added that for now, he is going to construct this, but later on, if the legislations were renewed, he would apply for another one to build his village house behind the main structure. Thus the building will act as a barrier from the main road. Until now, Mr. Hassan, like

the rest, has two legislations which allow him to build a ground floor of 150 m2, and add another one for the 1st floor.

Figure 229 Google map of the site highlighted in blue. Google images 2018 Source: Google Maps (2019)

Figure 228 2014 Google map image of the exact area. Source: Google maps (2019)

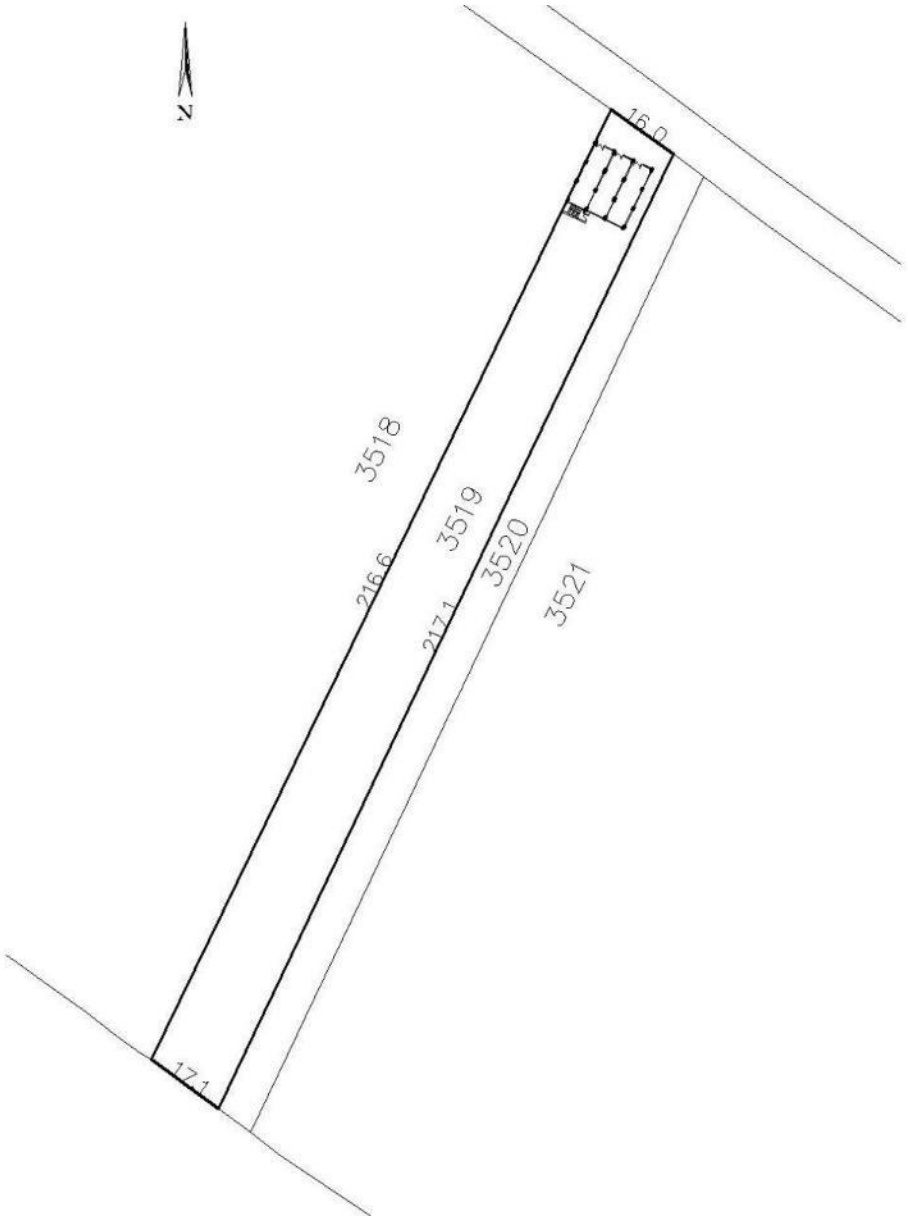


Figure 230 One of the few topographical maps we were able to get, as the owner, before constructing on the land he had to split his inheritance share with his sister. The share of her inheritance is lot number 3520 . He had to get a land surveyor to settle the land official size. The map clearly shows the size of the lot 217 by 16 m. Author: Ali Abu Ayman (2018)

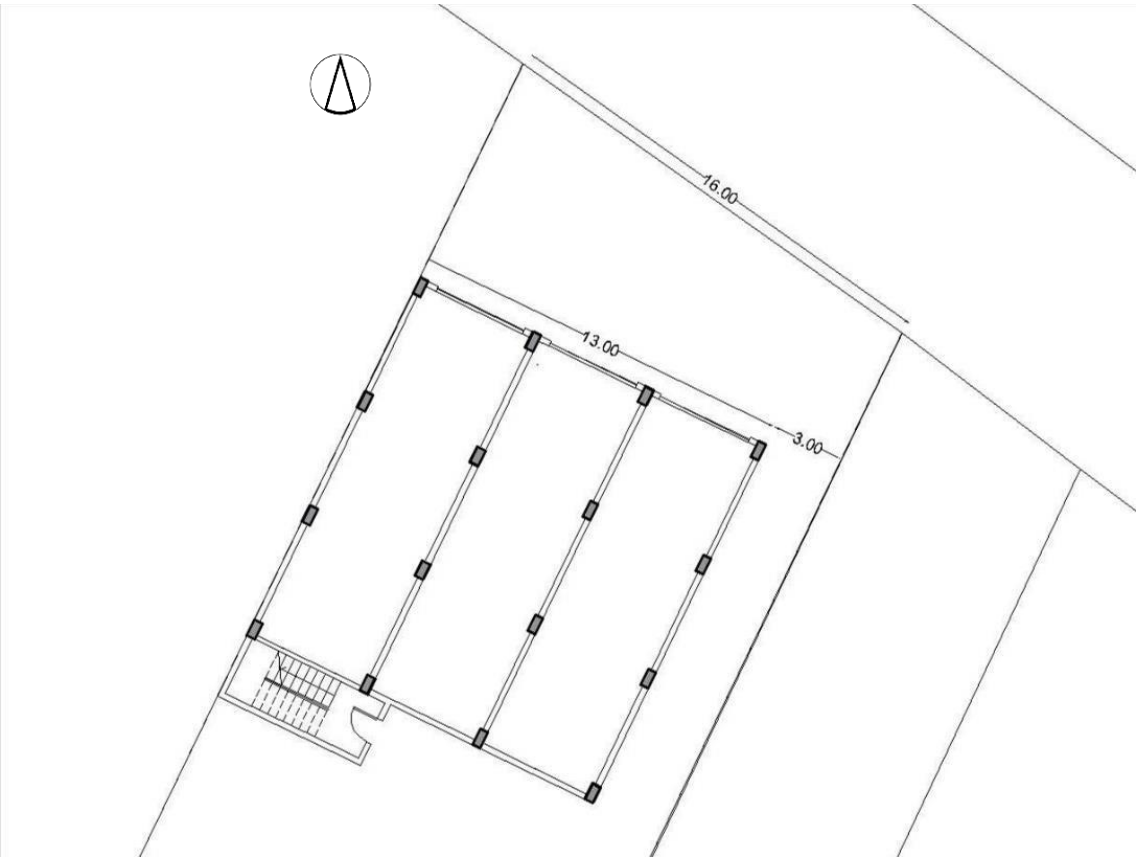


Figure 231Ground floor plan Source: Author (2019)

In Figure 231, we can see the relationship between the façade and the main road. The building is built directly to the western border of the lot with no offsets. Moreover, with the 13 m width of the structure, only 3 m is left for a car parking or a passage to the rest of the land. Until now, no borders are built between the land lots adjacent to the site. When the landlords agree to build the border wall, the 3 m space will decrease to 2.80m.

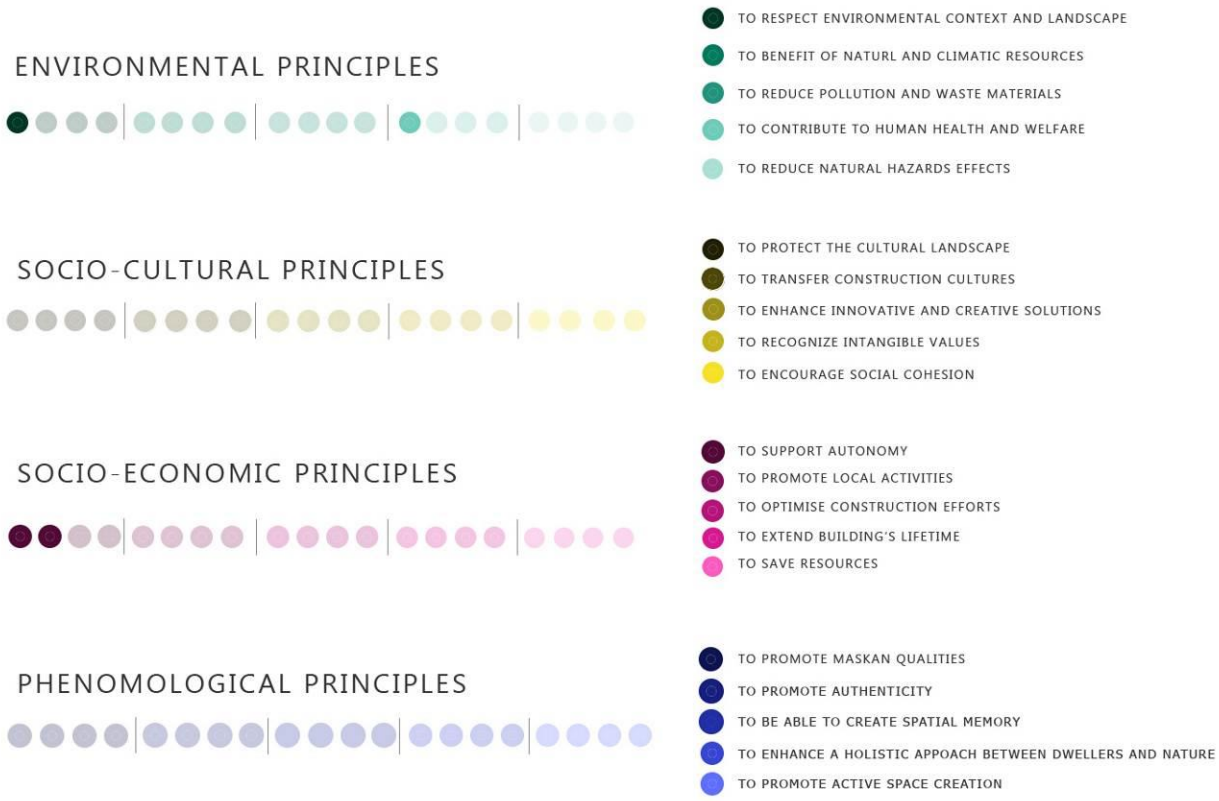
Moreover, if the owner decided to clad the building with stone (like the rest), the space will decrease to 2.75m. The small farming Tractor width is 2m. Hence, if the landlord decided to farm the rest of his 200 m, it will be harder, unless another

road opens from the backside, which until now there is only another adjacent farming land.

However, the building is recessed 9 m on the entrance, as the owners are obliged to recess, not due to any official legislation rule, but because the main road that connects the village to the highway "Tareek al Sahel - طريق السهل" is 5 m wide, and fits only 2 cars, 1 going and 1 coming back. As the road is open and straight with no speed limit, people usually speed up on this road, which obliges any landowner to recess to create parking spaces to the shops—as to them, recessing is not an obligation, as they would consider it a lost space. While they actually recessed because it is not possible to build directly on the main road.

Figure 232 Road connecting the village to the Highway Source: Author (2018)

Principles Evaluation



Although Mr. Hassan K's initial idea was to build a village dwelling on that inherited land, he was convinced by his relatives to construct a building in which he could benefit from the ground floor as shops. Moreover, Mr. Hassan intends to farm the rest of the land, hence, his structure respected a small tractor's size to enter the land from the main façade. However, his living space will be on the first floor almost facing the North. Mr. Hassan adds, that if one day he had extra financial means, he will be building a small villa at the end of the land, so he can enjoy the open field Infront of him. Hence, leaving the first structure completely as a commercial building used for rentals.

3.2.5 Post Political Decision Conclusion

The political decision in Lebanon, issued on the 5th of May 2014, by the then municipal of interior Mr. Nohad al Mashnooq created an irrevocable impairment. The damage is already done and will reside for the next 100 years at least, abolishing a picturesque landscape that has been aggregated and used as crop growing farms for more than 2000 years. The concrete modular developing in the middle of farming lands may be a disturbing indicator for a fewer farming community in the future and more of business greed structures. On the other hand, Mr. Jad Tabet – President of the OEA- attempted several times to encounter the "Generalization," but with no success.

In the near future, our children, will doom us for leaving them a legacy of concrete blocks, and less farming lands, landscapes that they will be in a devastating need to aggregate with our current world environmental alarming deforestation. The political decision did not impact only the aesthetics of a landscape and architecture, but it will also have a psychological concern.

Mr. Nohad al Mashnooq may have had an innovative idea to serve citizens of the rural areas on building their dwelling spaces and slowing urbanization. However, such a decision needed a consultation of professionals and experts in the fields of urban planning, forestation, landscaper, architects, anthropologists, etc... On the other hand, the aesthetic upheaval is not a pure responsibility of Mr. Nohad al Mashnook. Instead, it is also the responsibility of several other parties that contributed to the upheaval. Finally, the generalization - which was in continuous renewal every 6 month - approached an end with the 2018 new parliamentary election and nomination of a new *minister of interior and municipalities*, Mrs. Al Hassan.

3.2.5 General Survey

In 2018, we ran a survey in Lebanon, consisting of a total number of 250 surveyors. The survey numbers were divided the following: 150 in the studied area "Eastern Bekaa Valley" and another 100 distributed in Beirut. The survey consisted of many questions that range from subjective to objective answers. Moreover, most of the dwellings studied also answered a survey or two. Dwellings P1, P2, and T3 are not included as the owners are deceased, and no accurate answer could be retrieved from their relatives as they didn't live in the house. Furthermore, some dwellings like T1, T2, were answered by the daughters of the owner, as they lived in the house, we consider that they would already have built their spatial memory around their old dwellings. On the other hand, houses that are still under construction in the post-political phase, we were not able to retrieve data on their newly built structures, data such as most used space, and eliminated space. They mainly answered the questions on behalf of the houses they currently live in.

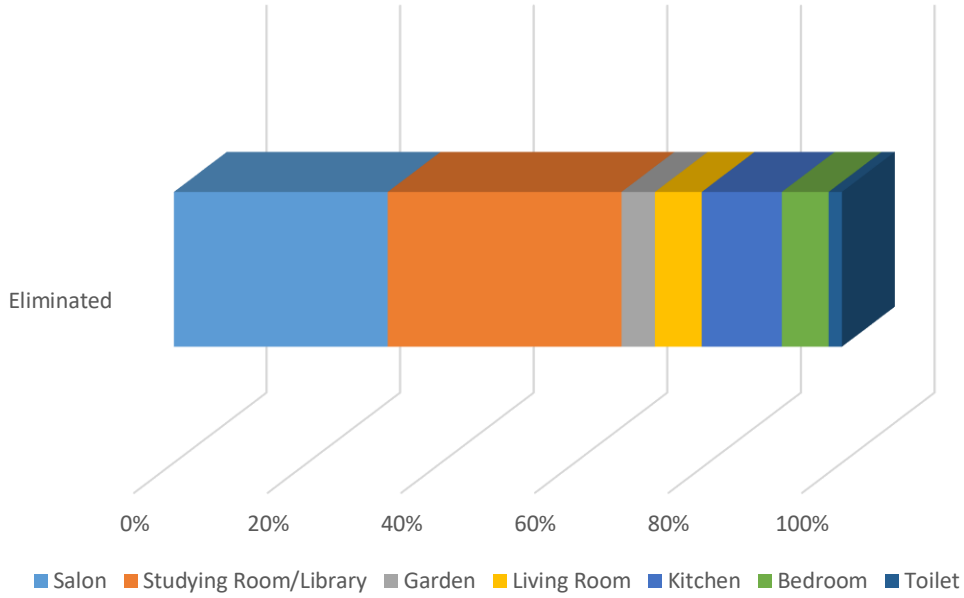


Table 14 Most eliminated space
Source: Author (2018)

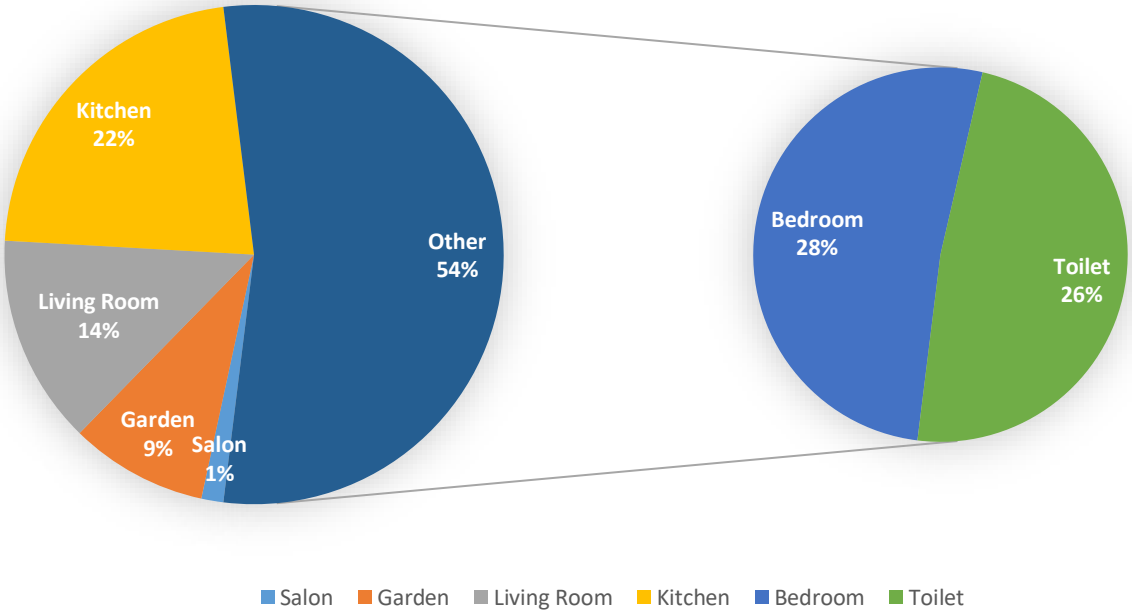


Table 15 Most used space. Source: Author (2018)

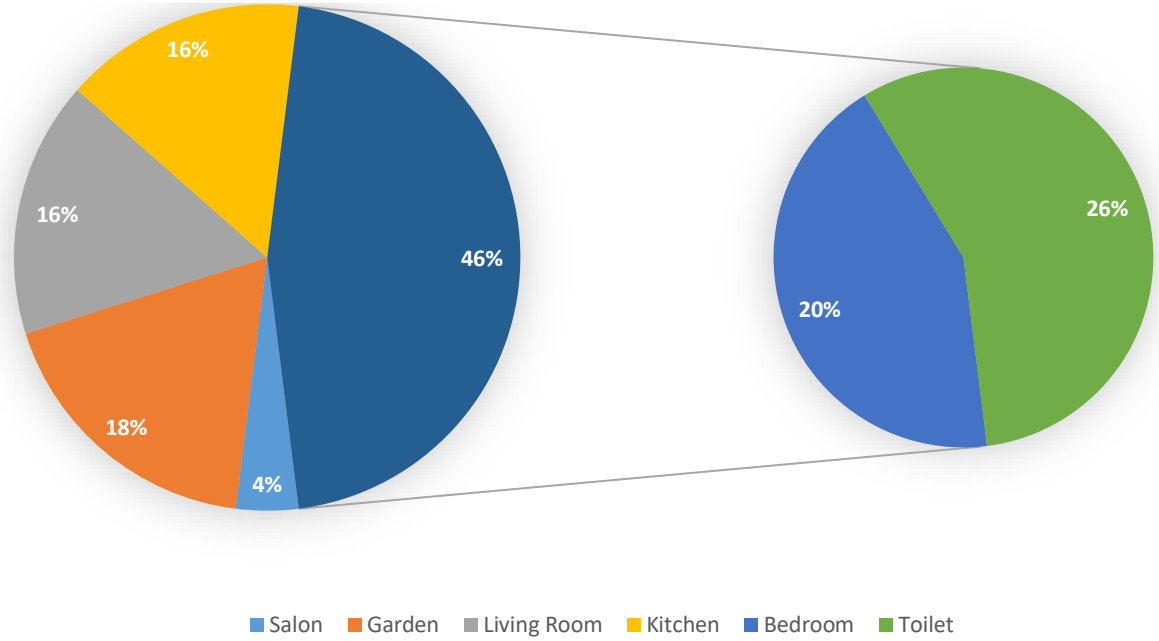


Table 16 Most Important Function according to residents Source: Author (2018)

The Data represented in this chapter are the general data from the surveys. However, particular answers on each specific dwelling are to be found at the end of each dwelling part.

Answers were drastically changing, specifically when answered by younger generation. More often, changes are seen by the type of typology of the architecture. Younger generations endorsed private personal spaces more than other functions, while older generations' answers varied between the kitchen, living space, and a garden (if found).

One of the significant differences is clear when asked about the most crucial element of the dwelling. The surveyors were asked to number by importance from the most to the least with limited given answers. The answers consisted of subjective and objective elements. The answers received reflect the personal house situation of every dwelling. The answers we provided are the following: Foundations (structure), Spouse, Kids, Love, House size, House aesthetics, and Luxurious obtaining. The answers came shockingly reflecting the emotional state

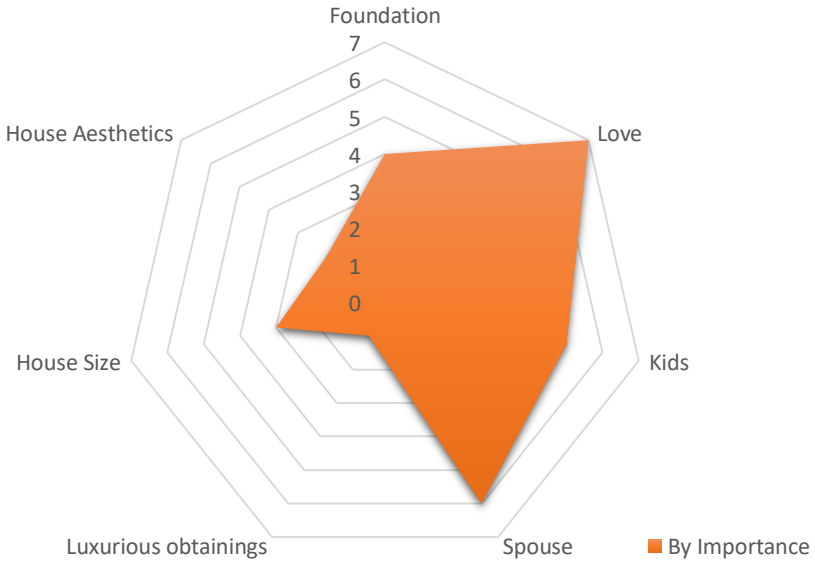


Table 17 Most important element in a dwelling Source: Author (2018)

of dwellers, as 38% of the answers plotted love as the most crucial element, then 29% for the spouse, 19% children, and 14% for structure. Hence, we understand that although structurally speaking, the most important element for a house is its structure, or else no house will stand. However, residents' answers came generally different. On the other hand, the answers reflected the social structure between the family members. Moreover, it reflected if the person perceives the world more rationally, or if the person is more materialistic than others.

CHAPTER 4 – CONCLUSION

"The difficulty that had to be overcome […] was to avoid all geometrical evidence. In other words, I had to start with a sort of intimacy of roundness" *Gaston Bachelard*

4.1 Conclusion

In the modern world, humans are incapable of dwelling (Heidegger, 1971), due to the prioritization of a fast-paced developed world. Coping with the fast-paced world, became more important than the interconnectedness with the surrounding environment. It was only recently, with the trending of sustainability, that we started thinking of ways to take care of our environment. Recently, professionals started looking at case studies from the past in order to counterbalance the active technological method of sustainability with ancient passive construction methods, hence, looking in-depth into our vernacular architectural heritage (Said, Hisham & Berger, L. 2014) .

Moreover, due contemporary habits citizens did not only exploit their environment, but also, they lost the connection to their inner beings in favor of subjoining the fast-paced technological world. Hence, widening the gap between the natural environment and the built environment.

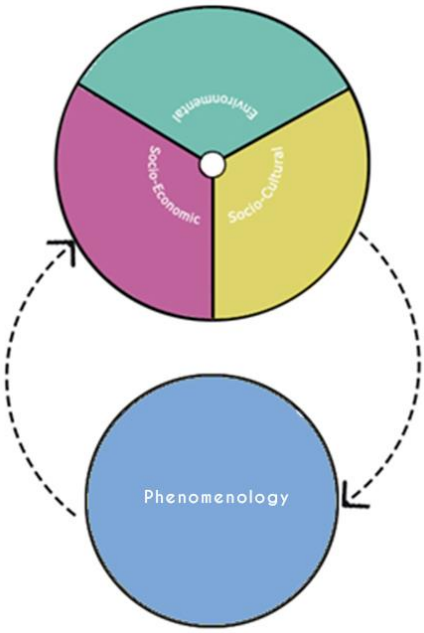


Figure 233 Diagram of the relation between the operative approach and phenomenology

In this research, we studied architecture through its phenomenological significance as a dwelling attitude to its inhabitants. Moreover, to have a holistic approach, we merged the phenomenological approach with the Versus Project methodology. The Versus project is a study based on three key principles regarding vernacular knowledge and its contribution for sustainable development, the environmental principle, the socio-cultural, and the socio-economic. Both methods- the phenomenological approach and the operative approach - complement each other.

Our region of observation, El Nabisheith – Lebanon, is a region similar to other Lebanese territories, one can notice how it has lost its particular identity to a great extent. This case does

not only represent the case of El Nabisheith, but also, of several diverse regions. Moreover, the analysis shows the alteration process from a micro to a macro level. The changes occurring in El Nabisheith affected a variable of scales, from the region's architectural typology and interior articulation up to the cultural landscape. The special vernacular architecture and identity of the area are barely still present due to their demolishment and cultural evolvement. In our study, fragments of those memorial dwellings are still present. The remaining structures subcategorize into two typologies; the originally unaltered (very minimum), and the adapted structures, in which residents used modern construction tools to keep them from falling. Dwellers who adapted new materials into their vernacular structure was not due to the appreciation of their vernacular heritage, rather mostly, due to the inability to finance completely new structure. To better understand this blend, and keep those neglected construction methods, in this research, we tried to archive through detailed interior drawings of the vernacular space articulation and its functional uses. This study could always be refined and extended, and those possible errors experienced while developing the thesis could be corrected, but the general results and identity imprint obtained would hardly vary. The results have already shed light on the issues raised -whether philosophically, architecturally, or politically -confirming what would only be limited to intuitions, and providing also interesting unexpected data, both empirical and phenomenological, which allowed us to reveal and archive a hidden vernacular gems in the Bekaa valley.

Firstly, to be able to understand the dwelling phenomenon we had to run a hermeneutical investigation on the word dwelling in its general understanding and then in its cultural context. The phenomenon of inhabiting a space is a primary need for human beings. The action of inhabiting a space has been stated in different terms through cultures. Terms of linguistics evolved into words due to the need to call the specific action/emotion. Hence, abstracting "the action" created linguistic words that define it with immense emotions. The purest forms of distribution have been made to call this action. Hence, Heidegger studied the etymology of words in order to pursue its purest form of meaning, the foundation of its essence, the emotional necessity to the word and whether it is a verb or a noun. Heidegger studied the words; 'bauen' in order to understand the root significance of building and 'Wohnen' as an

action of cultivating the land. In the research, the word dwelling is studied in the Arabic parables in an exploration duty to find its essence in its cultural context. According to Heidegger, the words 'Wohnen', and 'Bauen' expressed the acts of building and cultivating in the same sense.

Furthermore, he adds 'ich bin', 'du bist' or 'I am', 'you are', 'I dwell', 'you dwell'. Hence, existing and dwelling both imply the same thing in Old German. Every culture has its linguistic preferences, and such linguistics, express certain emotional intensity describing a specific work. To be able to understand the phenomenon of dwelling we ran a survey in Lebanon on 250 surveyors to understand the word that it represents in its cultural context. "Māskan" or dwelling in Arabic has been rooted back to its essential meaning. Hence the word etymologically means to be in peace, to remain silent, to be at ease from pain. The word describes an intense, relaxed emotional state, whereas in the Quran, the word dwelling is related to an emotional state between happy couples. In a survey done in Lebanon, the word dwelling, 'Maskan', mostly referred to security and comfort. Most answers related the word of "Maskan" with "security," "comfort," and "stability." Moreover, Heidegger, in another book he published, "Being and Time", mentions the philosophical terminology "Geowordenheit" or "throwness." The term means being thrown into existence with all its present form of suffering, frustrations, and sorrows. In Arabic linguistics, the word "Māskan" expresses the three German words introduced by Heidegger; "Geowordenheit", "Bauen" and "Wohnen". The words mined by Heidegger are expressed in "Maskan" through, Inhabiting a space with its original form of

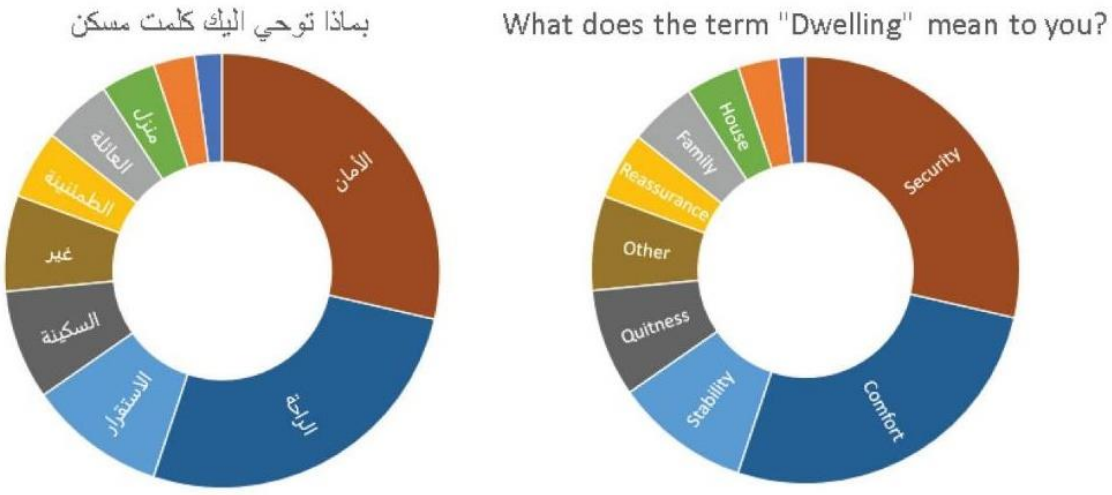


Figure 234 Survey on the meaning of dwelling Source: Author (2018)

emotional state - far away from the contemporary use of “building”- Being in peace, and the ease of pain from the external world suffering or “Geowordenheit”.

After unveiling the dwelling significance in its cultural context, we advanced to study the built environment in Bekaa in general, and “El Nabisheith” in specific. Dwellings in “El Nabi Sheith” were built between two significant eras; an era that built sustainable dwellings through vernacular knowledge, and another that built to catch up with the modernized world. The studied time frame shows the essential difference between the two construction methods and attitude. Showcasing, the different typologies that generated in the same area in a small time-frame due to numerous reasons.

The evolution of the building typology in this area showcases the different situations that led to the phenomenon. Early on, buildings were built with no architects nor engineers; they were built according to the local understanding of basic shelter, function, and need. The shelters were built sustainably to adapt to different environmental factors such as climate, food supply, and surrounding environmental challenges. Furthermore, ornamented arts and design elements, are found as simple decorative touch for their dwellings, expressing their minor artistic qualities. On the other hand, later-on, this traditional construction and phenomenon transformed with the introduction of new construction technologies. Abrupt use of new materials and technologies not only changed the architectural typologies, but it also altered their existential attitude and how they reacted to their built environment. Moreover, the sprawl of the new construction modular – due to the political decision in the 21st century – had many repercussions on both; environmental, and the socio-cultural dynamics.

In the past, dwellers adapted to their environmental implications by creating architectural solutions for the situation. These solutions are not only applied on the architectural level, but it is also part of their socio-cultural and socio- economic habits. Architecture, economy, and culture is part of their daily routine. One of the observations archived is their cultural gastronomy. As for them, to be able to store food during winter, and preserve them from rotting, residents created specific type of food, and a specific way to store them. Food created such as; Kawarma, Keshk, and Makdous, currently are considered part of

the cultural heritage, of this particular region. Storing the food was not an easy task, as it required a creative conscious to create new architectonics for their daily use. Dwellers had to develop interior space tectonics, with specific natural material to preserve and store the food during their harsh winters and dry summers (Fig. 235). Although currently, residents started to abandon and demolish these structures, they still consider these articulations of immense storage importance, as some resident, till now use these vernacular dwellings as food storage, due to their ability of preserving food. The 1-meter thick earth partitions (articulations), absorb humidity and keep the food cool. Moreover, their positioning between hallways allows air to flow in the spaces. Moreover, these vernacular dwellings respected all the natural factors, such as the location, orientation, climate, and aeration. The process of construction considered every environmental factor to minimize the external natures effect on the dwelling, by passive means. All habitats used to face the east, while their back yards faced the west. The shorter side of the building faced the north and south, to prevent harsh northern winds in winter, and hot southern dry air in summer.

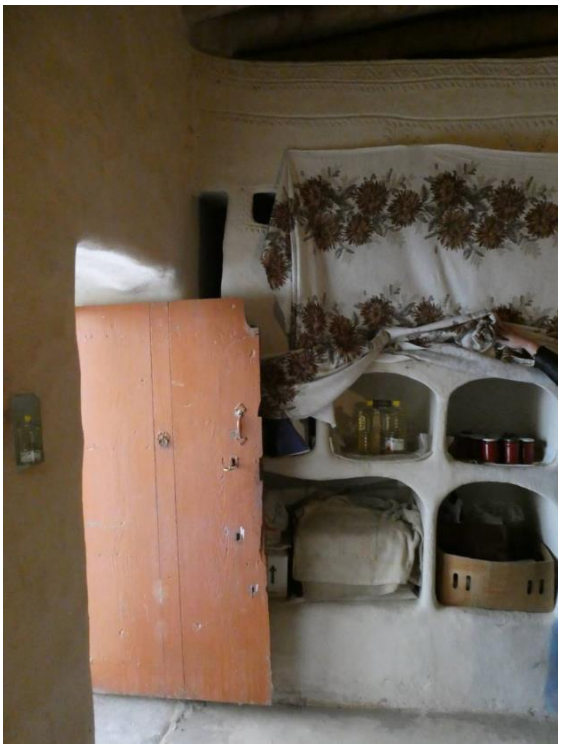


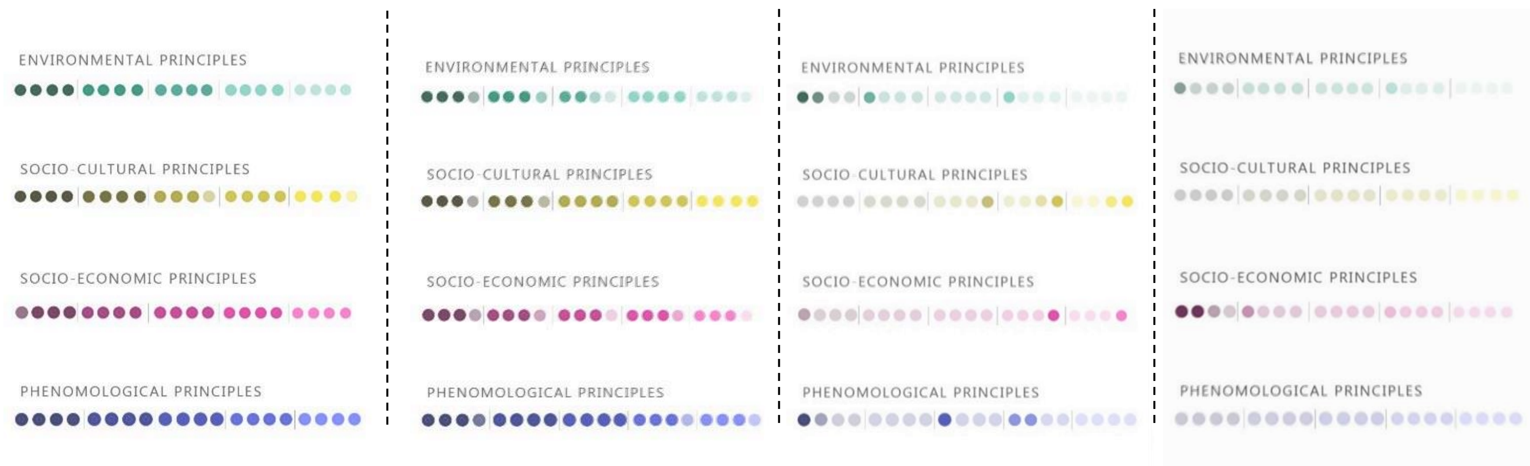
Figure 235 Interior Articulation with food stored inside. Source: Author (2018)

Later, with the introduction of concrete, these qualities were quickly lost due to the facilitated use of the newly introduced materials (concrete & steal). The inconsiderate attitude towards preserving the vernacular architecture, led to the loss of cultural identity in a process of being globalized. Moreover, a political decision took forth in 2014 led to the rapid change of the cultural landscape of the Bekaa Valley. Such loss is accounted not only to the landscape picturesque scenery but also to the dwelling attitude and the cultural identity of the area. These kinds of structures did not adhere to any environmental factors, they were built purely as an abstract structure with no reference to their surroundings. Structures orientation became

factored by the main road, where they use the maximum façade width to create as much shops as possible. Architecture in the region transformed from an existential need to an economical satisfactory process.

To be able to compare each studied dwelling, we applied the four evaluation principles; The phenomenological principles, the environmental principle, the socio-cultural principle, and the socio-economic principle.

Pre-Modernism Transitional Phase Modernism Post-P M



The evaluation graphs show the effect of architectural typology change on several implication principle. The change in the built environment affected a wide range of events in the region, it altered the socio-cultural and socio-economical dynamics.

These changes aren't purely caused by the changes in the built environment, as many factors play a crucial role in the change of the cultural habits and dynamics in a society, as definitely the village will need to adapt to new materials, technologies, and general zeitgeist. Yet, it is important to understand and preserve the cultural quality that it respected the natural surroundings. These kinds of cultural heritage aren't only of direct benefit to the built environment – reducing the carbon footprint- but it also advocates cultural tourism, whether it is the cultural food, or the remaining vernacular architecture evidence. Moreover, we can also learn important lessons from their architectural tectonics and adaptive methods.

Furthermore, the evaluation principles reveal a new link not addressed before, the link between existentialism, and sustainability. It was revealed how *Being-towards-death* is essentially related to living sustainably. The more dwellers care about the environment and built sustainable habitats, the more human beings are able to dwell in a space, hence, being revealing the potentiality of a designated spot to be called a real authentic *"place".*

The active process of living in a space and caring for the environment requires dwellers to make the best out of their geographic location, hence, the more man understands the site the more man is able to coop with his existential "thrownness". Thus, sustainable habitats is in a direct relation with easing the pain and anxiety of existence, creating a meaningful presence. Moreover, the concept of a being which able to understand the concept of death in a culture, allows man to live authentically on his way towards death "being-towards-death". Besides, the engagement process of a dweller with their surrounding environment gives a place its character (Ingold, 2000). As according to Heidegger, a place's character is only created when we experience the potentiality of its geographic location (Malpas, 2006). As mentioned by Seamon (2014) *"A central ontological assumption in phenomenology is that people and their worlds are integrally intertwined" (p. 11).* As phenomenology assist us in seeing the reality on our interconnectedness, moreover, it is not only that we are interconnected, but that the places we inhabit severely shape our essence.

In our story, we examine the dialectical speech over the last century between inhabitants and the environment – dialogues of history, settlements, politics, economy, and war – that shaped the society and the architecture of Eastern Bekaa Valley. Holland & O'Neill (2003) examine similar stories, stories that expose the intimate relation of our lived experience and the land. They tell us about places where communities faced decisions to manage land with complex history. Phenomenology stresses the "place's" role in forming our sense of home, belonging, memories, and identity. We don't dwell 'in' places, like we live physically 'in' a house. We dwell through places. Our daily spatial experiences in a certain space, and the stories we tell about them are crucial in shaping who we are (Casey, 1993; Malpas, 1999; Perkins and Thorns, 2012). The relation between human cultures and their designated environment have long been

expressed through stories and mythologies, narratives serve to construct shared ideologies, build individuals, and enhance the cultural identity. Hence, stories build a bridge across space and time that expresses the cultural heritage, therefore, anchoring the identity of a community.

4.3 Research Limitations & Critique

Every research must have gaps, critiques, and limitations. In our research, despite the critiques on the phenomenological approach, another limitation is explicit. More advanced approached are now available from to technological development, such as a post-phenomenological method that requires an advanced technological tool that aid in mapping the studied phenomenon. For example, a tracking tool can be added to the early generation residence in El Nabisheith, while another added to the old generation, hence mapping their understanding and usage of space functions.

The most critiques received on the phenomenological approach came indirectly from Massimo Cacciari, who criticized the shallow interpretation to Heidegger's notion of dwelling. In opposition to Norberg-Schulz, Cacciari interpreted Heidegger's dwelling concept as "impossibility to dwell" while in Norberg-Schulz's was for a nostalgic return to pre-modern conditions of dwelling. Other critics such as Hilde Heynen, saw the differences in interpreting heidegger's later writings. For instance Hilde expressed the two opposed ideological positions between an utopian nostalgia (Norberg-Schulz) and Critical-radical (Cacciari). Besides, Heynen recognized lacks in both positions, the first (Utopian – Nostalgic) for its simplistic reduction of the question to architectural style, and the later (Critical-radical) for its integration of the condition of anxiety as a generative principle. It is precisely this characteristic that establishes Norberg-Schulz's weakest point in his theoretical proposition: the ambition to explain the phenomenological discourse as a instrument to generates architectural forms to reconstruct a semblance of significant environments.

However, regardless of the phenomenological interpretation, new methods are applied in receiving more accurate data, such as the post-phenomenological method. Such method requires advanced technological tools to help you map the living habits of the dwellers.

Applying a post-phenomenological interpretation to a studied area might give us more accurate results with exact data, irrespective, to any of a “nostalgic” return to “authentic dwelling”.

One major limitation found is the lack of data on the area. The region suffers from deprivation for a long time, while the inhabitants mostly are not interested in any data archiving, many difficulties are found while obtaining precise objective information. On the other hand, due to security reasons, a lot of places are inaccessible, and taking photos is prohibited due to political reasons.

4.4 Usefulness of Research & Future Researchers

The project's useful outcome is divided into two sectors; promotion of the local identity of architecture and dwelling, and a critique on the contemporary approach to architecture. Both points represent a significant advance in the discipline in architecture theory as the project will awaken the lost sense of identity in the local architecture, who are currently mimicking international standards that do not fit to the community of the Bekaa region. On the other hand, the studied area is of significant neglect and has absolute minimal work contributed to the area, although it is rich in history. Moreover, this neglect led to the loss of the cultural identity and landscape.

These studied dwelling spaces can be used as an archive for the future researchers who want to build upon the research to contribute even deeper to this specific culture. The philosophical question of dwelling has never been acquainted on the national level, and such a question plays a significant role in forming the identity of the area.

On the theoretical level, in this thesis, we tried to connect the authentic existential question of being-in-the-world to the sustainable methods of architecture. This connection determines that the more we think sustainably about our habitats and architecture, the more we are our lives will be filled with meaning.

Future researchers need to indulge themselves in this topic, as such topic still has a lot to give to the scientific community. Moreover, not only the scientific community is the sole

beneficial, but more importantly, the living human is the one most benefiting. This topic merges the objective/subjective split, creating a common ground for both empirical and rational methods to collaborate on a platform that would benefit the human. Additionally, it is not only us that will benefit, as this research puts us on the ground to understand that the more we care about our sustainable environment, the more we can ease the pain of existence by actively living in a dwelling.

“The House, therefore, remains the central place of human existence, the place where the child learns to understand his being in the world, and the place from which man departs and to which he returns”

Christian Norberg-Schulz

4.5 Photo Archives

The area studied lacks organized photographic archives, in order to get in hand some photos to compile this document, we went through hard times asking locals for their personal photographic archives in the area. Not all photos received where used in this document; henceforth, I put all the photos received in hand in this document, with the information available for future researchers to benefit from the collected data. Many thanks to all the contributors to the photo archives:

Figure 236 Family photo *Source: Ali Ibrahim (1974)*

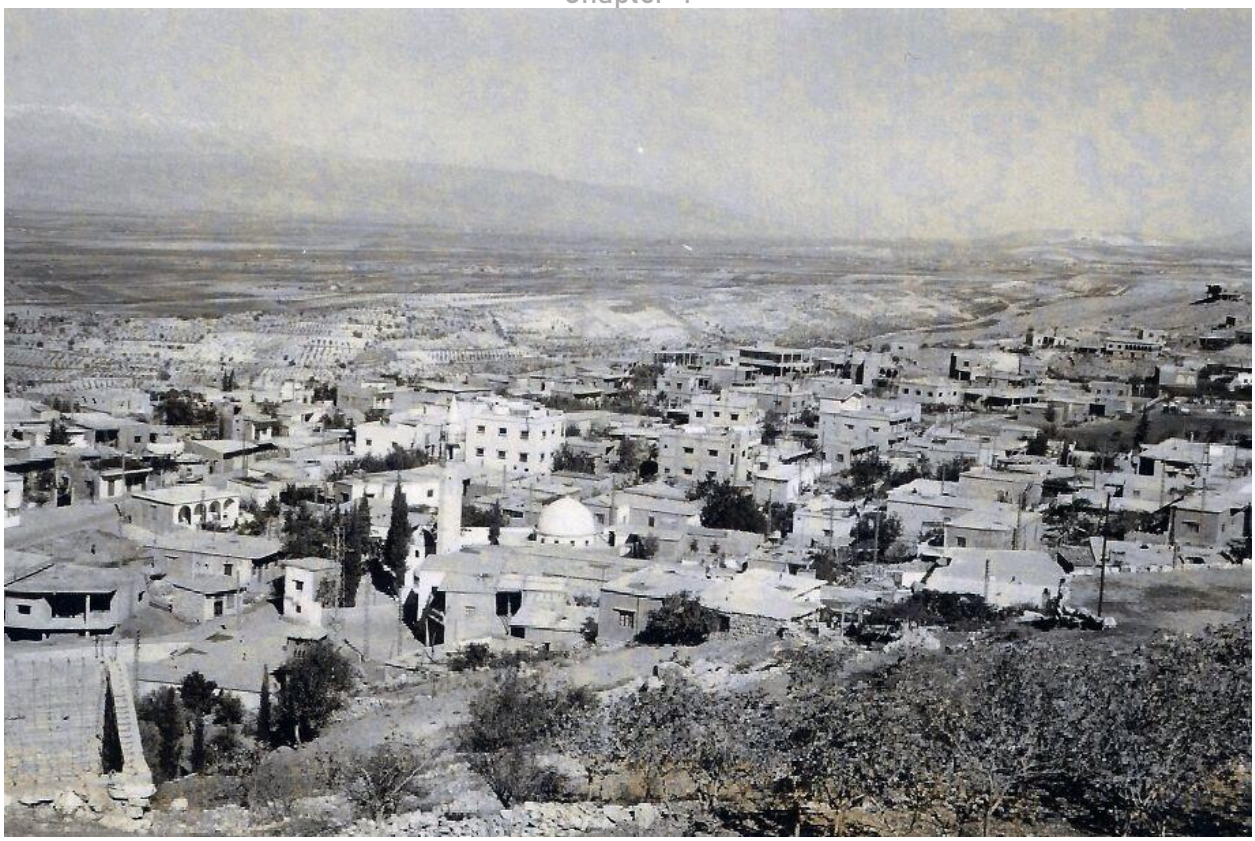


Figure 237 Nabisheith Town Square Source: Assad Moussawi (1966)

Figure 238 Nabisheith grave and Mosque before renovation Source: Assad Moussawi (1966)

Figure 239 Nabisheith Town Source: Assad Moussawi (1966)

Figure 240 Nabisheith Bekaa road Source: Ali Ibrahim (1970)

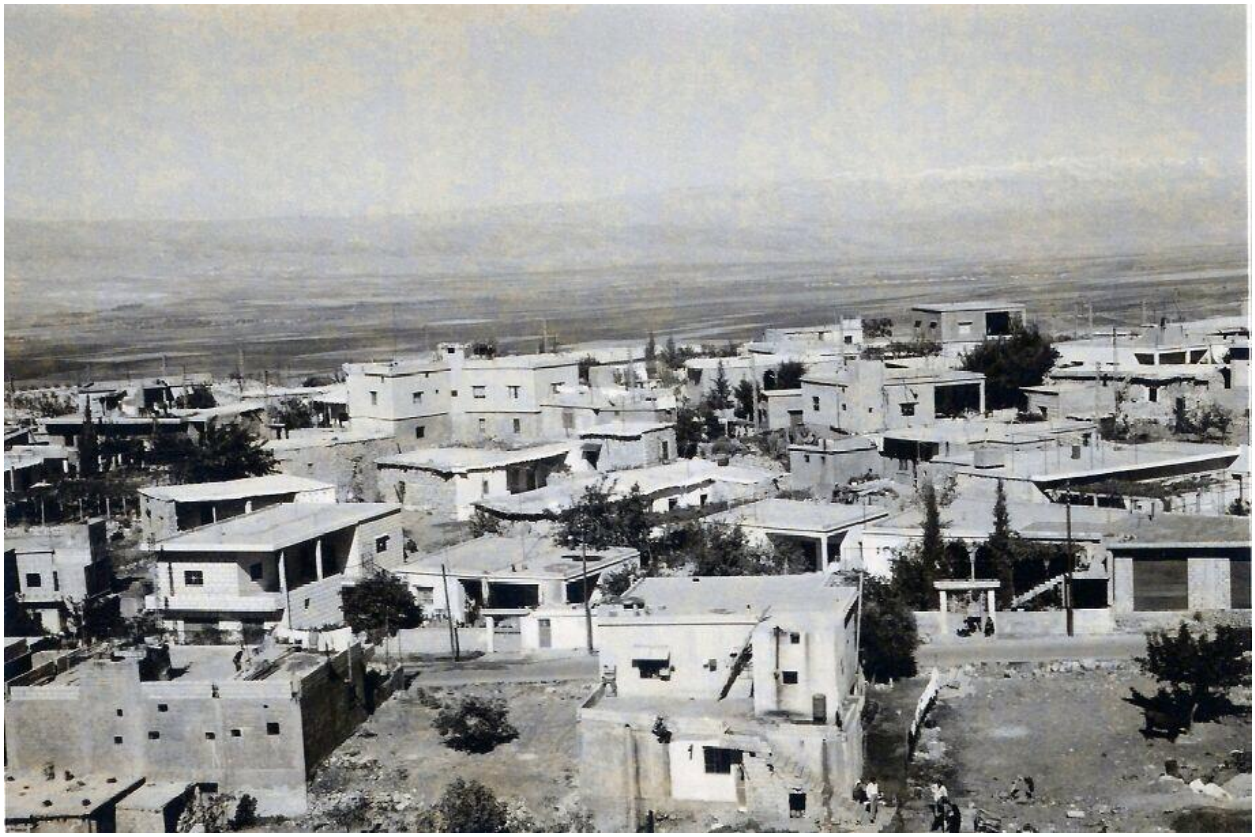


Figure 241 Nabisheith Town Source: Assad Moussawi (1966)

Figure 242 Nabisheith mountains in the range Source: Ali Ibrahim (1970)

Figure 243 Abu Hussain Ali Hamoody coming back from the field, with a "Simd" on his shoulder Source: Ali Ibrahim (1975)

Figure 245 Ali Ibrahim in front of an old stone fence Source: Ibrahim Moussawi (1973)

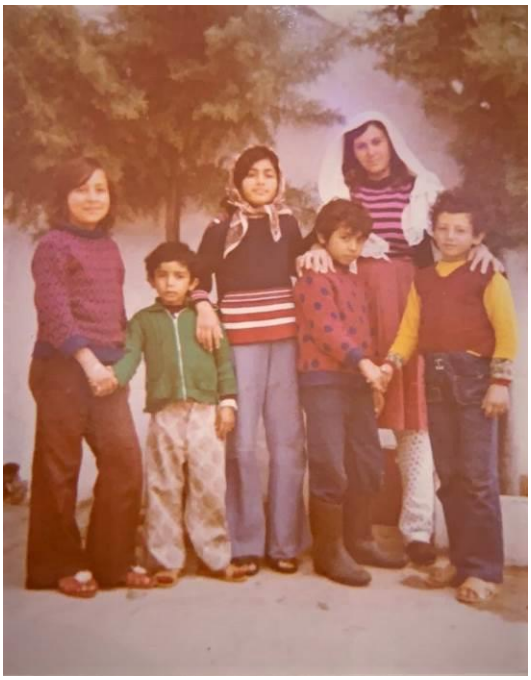


Figure 244 Family Photo Source: Ali Ibrahim (1975)

Figure 246 Nabisheith Bekaa Road Source: Ali Ibrahim (1970)

Figure 248 Nabisheith Bekaa Road (1970's) *Source: Unknown*

Figure 247 Nabisheith Old School (1970's) *Source:Unknown*

Figure 250 Woman running a mahdale after snowing, in the Bekaa Valley Source: Unknown

Figure 249 Both Minerats of the Nabisheith, the old stone minerat, and the new concrete minerate built in 1997 Source: Ali Shokkor (2017)

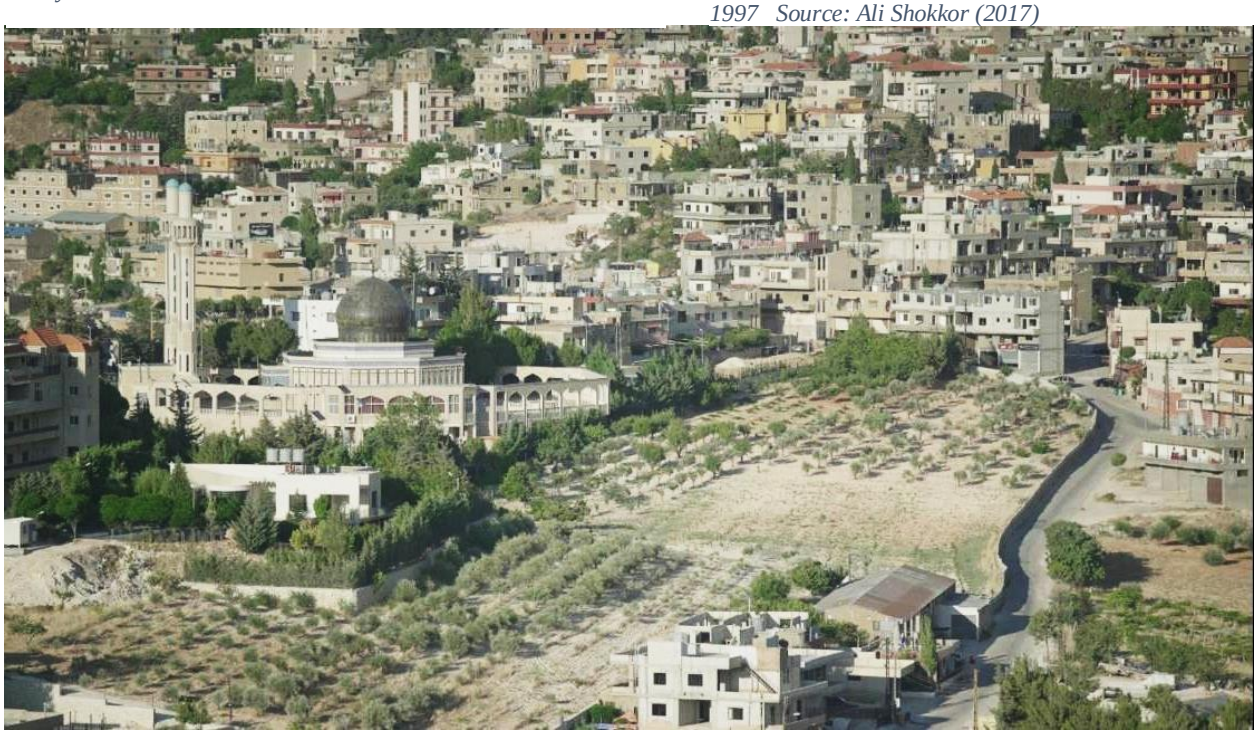


Figure 251 Sayed Abbas Moussawi Shrine Source:Ali Hadi Moussawi (2017)

Figure 252 Nabisheith townscape Source:Ali Hadi Moussawi (2017)

Figure 253 Mountainous landscape Source: Author (2018)

Figure 254 Ali Ibrahim with his deceased grandmother Infront of her dwelling space.. Source: Ibrahim Moussawi(1975)

Figure 255 teachers sitting Infront of Nabisheith official school Source: Unknown (1970's)

Figure 256 A 1911 photo showing Baalbek with the snowy Sanine mountains in the background Source: Baalbek Archives (2019)

Figure 257 Somewhere in the Bekaa Valley 1950s Source: Baalbek Archives (2019)

Figure 259 Townsquare of El Nabisheith Source: Mohammad Mortoda (1960's)

Figure 258 Townsquare of El Nabisheith Source: Mohammad Mortoda (1960)

Figure 260 El Nabisheith road to Bekaa Valley Source: Ali Ibrahim Moussawi (1972)

Figure 261 Owners of the T3 dwelling Source: Ali Ibrahim Moussawi (1977)

Figure 262 Bekaa Valley Source: Baalbek Photo Archives

Figure 263 Siblings playing with the snow in El- Nabisheith with newly constructed concrete houses in the background Source: Ifticar Moussawi (1985)

Figure 264 Somewhere in the Bekaa Valley Source: Baalbak Photo Archives (1911)

Figure 266 Bekaa valley from El Nabisheith Source: Ali Hadi Moussawi(2018)

Figure 265 Bekaa Valley from El Nabisheith Source: Ali Hadi Moussawi (2018)

Figure 268 Bekaa Valley Source: Ali Hadi Moussawi (2018)

Figure 267 Bekaa Valley Source: Ali Hadi Moussawi (2018)

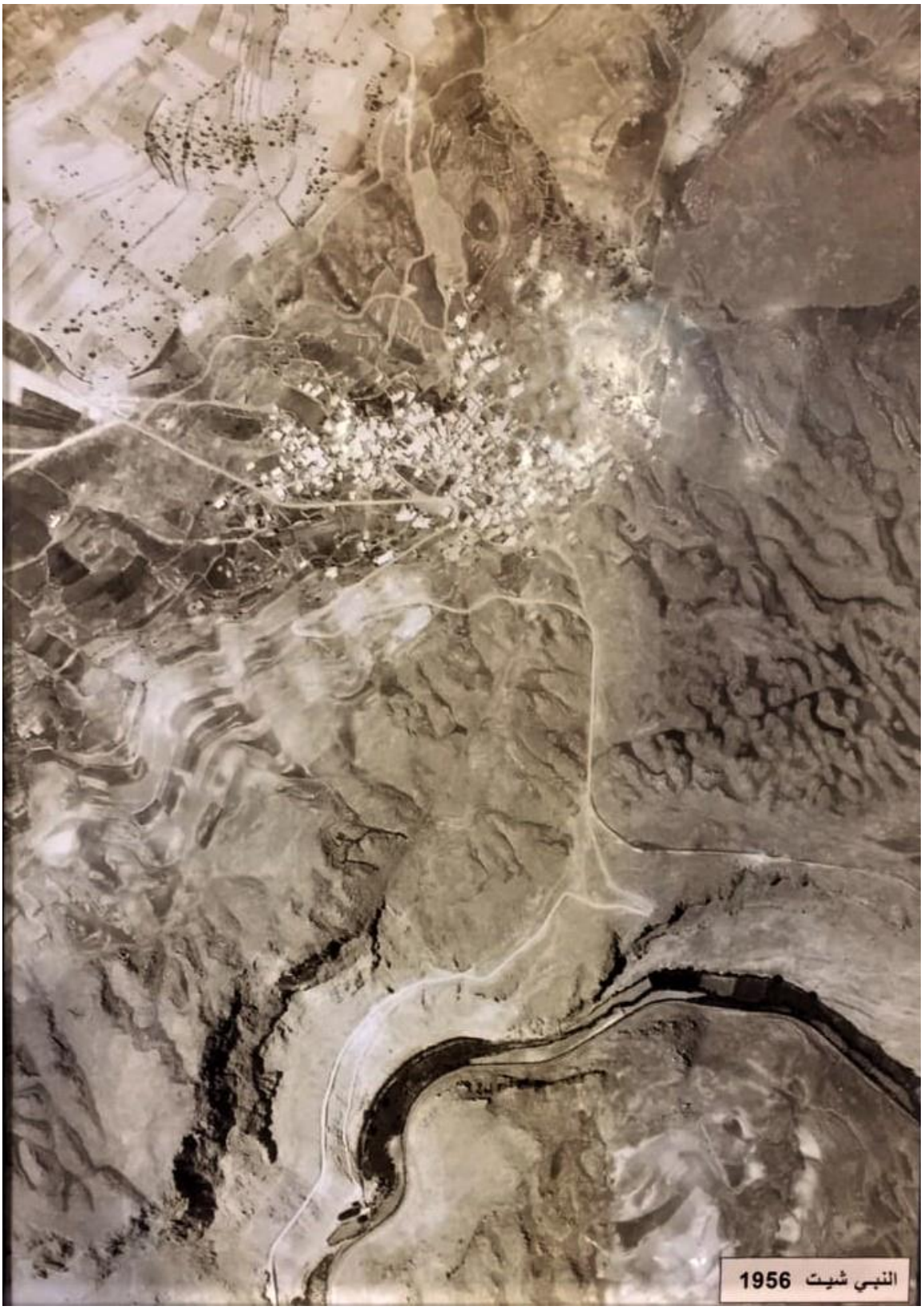


Figure 269 El Nabisheith arial view 1956 Source: Jihane El Moussaoui (2020)

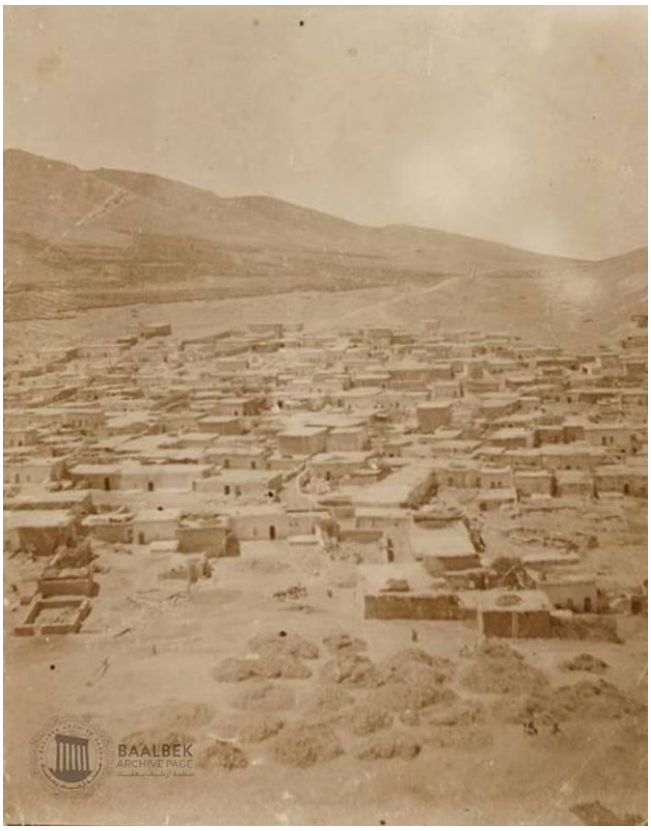


Figure 271 Somewhere in the Bekaa Valley late 19th century Source: Baalbek Archives (2019)

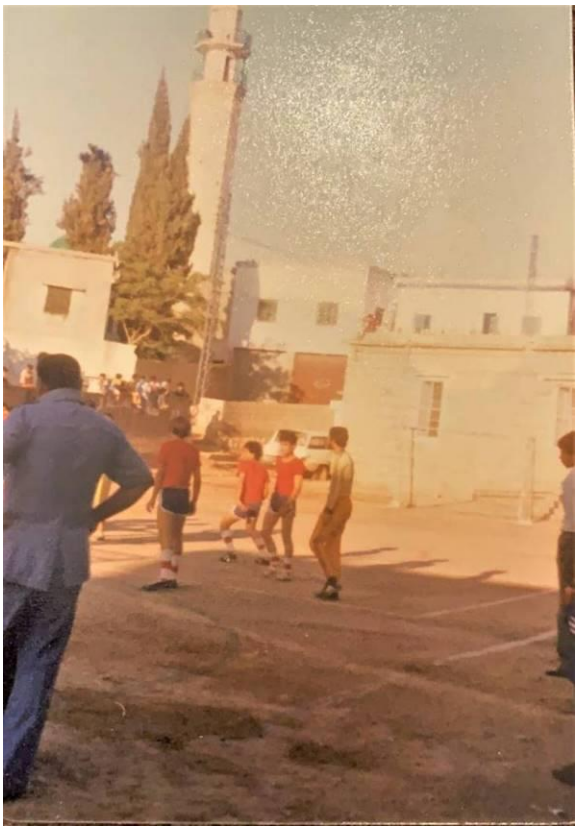


Figure 270 A football tournament in the town's square of El Nabisheith Source: Mohammad Mohsen (1970's)

Figure 272 A traditional family from El Nabi Sheith Source: Mohammad Mohsen (1950's)

Figure 273 Abandoned trainstation - Riyaq - Bekaa Valley Source: Author (2017)

Figure 274 Fallen ceiling Yahfoofi - Bekaa Valley Source: Author (2020)

Figure 275 Interior of a destroyed house in Yahfoofa Source: Author (2020)

Figure 277Wall construction detail Source: Author (2020)

Figure 276 Wooden door lintel + wall detail Source: Author(2020)

Figure 278 Interior of an old dwelling built against the natural stone of the mountain. Source: Author (2020)

Figure 279 Vernacular architecture of the Bekaa Valley Source: Author (2020)

Figure 280 Interior of an old dwelling source: Author (2020)

Figure 281 A remaining wall still standing between nature Source: Author (2020)

Figure 282 Interior ceiling of a vernacular dwelling Source: Author(2020)

Figure 283 A modified vernacular house, where we can see how concrete arches are added against an old stone and mud house Source: Author (2020)

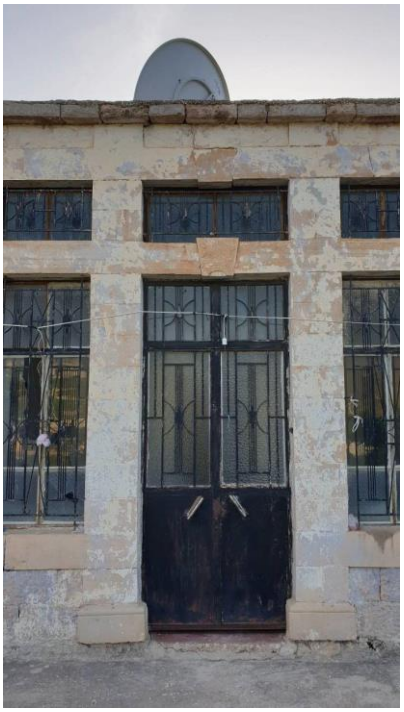


Figure 285 A vernacular dwelling with a key stone on its lintel that says built in 1947. This dwelling is the only house with ornamented façade and clearly cut stones found. Source: Author (2020)

Figure 284 A ladder used to climb the ceiling of a vernacular house Source: Author (2020)

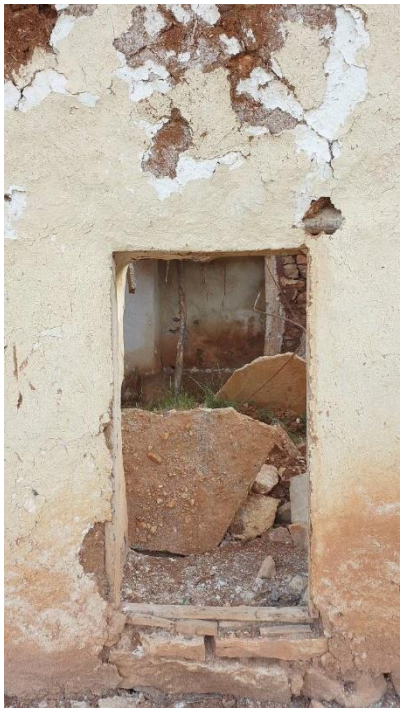


Figure 286 Interior wall separation with a window that looks from room to room Source: Author (2020)

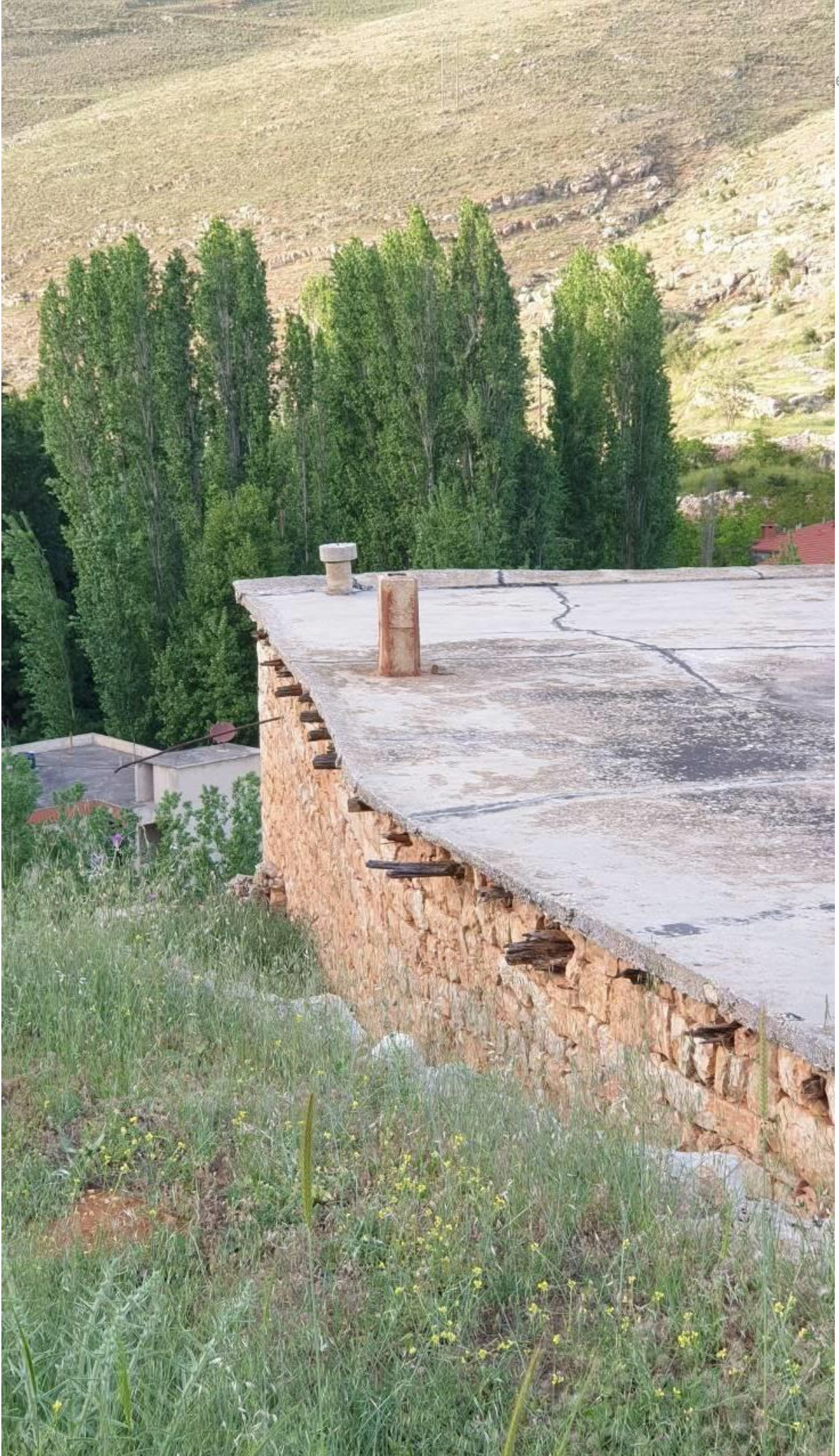


Figure 288 Vernacular architecture of the Bekaa valley with a modified concrete ceiling to prevent erosion Source: Author (2020)

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Figueres

Tables

Survey Questionnaire

رقم الاستمارة..... / المحافظة ...../ القضاء.....

انَ هذا الاستبيان يخدم دراسة بحثيّة علميّة بحتة وانَ المعلومات الواردة فيه تبقى في اطار الخصوصية المطلقة ..... شاكرين تعاونكم معنا

1- الجنس: ذكر ☐ انثى ☐

2- العمر : 18-25 ☐ 25-35 ☐ 35 - 45 ☐

45- 55 ☐ 55- 65 ☐ فوق ال 65 ☐

3- الكفاءة العلمية : قراءة وكتبة ☐ ثانوي ☐ جامعي ☐ دراسات عليا ودكتوره ☐

4- مكان السكن: .....

5- عدد افراد الاسرة: .....

6- المهنة: .....

7- الى أي مدى تشعر(ين) بالراحة بمكان سكنك؟

كثيرا ☐ وسط ☐ قليل ☐ ابدا ☐

8- ما الأسباب الحائلة بين الرضى التام عن المسكن (ان وجد):

مادي ☐ اجتماعي ☐ نفسي ☐ عدد الافراد ☐ الشريك ☐ مكان الوجود ☐ المساحة ☐ الجيرة ☐ جمالي ☐

سبب اخر.....

9- هل تفضل(ين) المنزل: التقليدي ☐ المودرن ☐(modern) خيار اخر.....

10- هل تفضل(ين) : الخطوط المستقيمة ☐ الخطوط الانسيابية ☐

11- ما هي مساحة مكان سكنك؟

اقل من 50 م ²☐ بين ال 50 و 100 م² ☐ بين ال 100 و 150 م² ☐

بين ال 150 و 200 م² ☐ بين ال 200 و 250 م² ☐ ما فوق 250 م² ☐

12- ما هي المساحة المثالية بالنسبة اليك:

اقل من 50 م² ☐ بين ال 50 و 100 م² ☐ بين ال 100 و 150 م² ☐

بين ال 150 و 200 م² ☐ بين ال 200 و 250 م² ☐ ما فوق 250 م² ☐

13- ما هو اثمن شيء تملكه (ان كان معنوي او مادي) ولماذا ؟ :

.....

14- بماذا توحي اليك كلمة مسكن؟

.....

15- أكثر منزل مريح بالنسبة اليك (الأقارب، الأصدقاء، الخ..) ولماذا؟

.....

16- المكان الأكثر أهمية في المنزل

المكان	الأكثر اهمية
المطبخ	
غرفة النوم	
الصالون	
غرفة الجلوس	
الحديقة	
الحمام	

17- المكان الأكثر راحة في المنزل:

المكان	الأكثر راحة
المطبخ	
غرفة النوم	
الصالون	

غرفة الجلوس

الحديقة

الحمام

18- المكان الأكثر استخداما في المنزل

المكان	الأكثر استخداما
المطبخ	
غرفة النوم	
الصالون	
غرفة الجلوس	
الحديقة	
الحمام	

19- اين تتمنى العيش؟ ولماذا(اختياري)؟ المدينة ☐ القرية ☐

.....

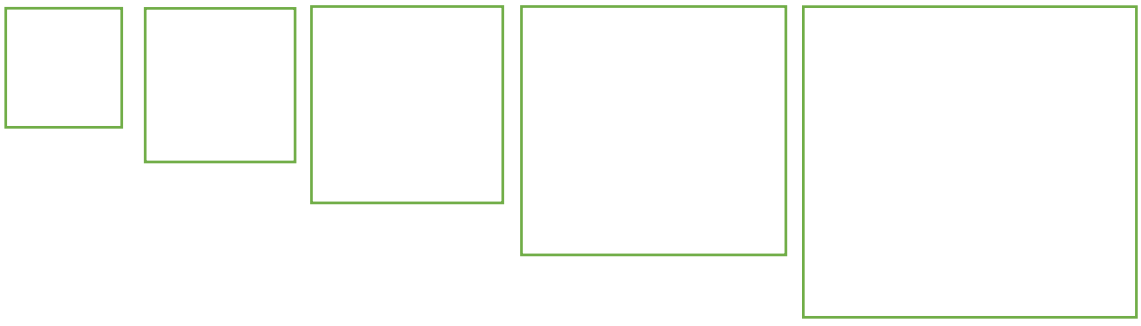
20- في أي مكان تفضل ان يكون منزلك: البحر☐ الجبل☐ النهر☐ الغابة☐

الصحراء☐ وسط المدينة☐ ضواحي المدينة ☐ مكان اخر.....

21- املئ المساحات الفارغة بالأماكن التي تناسب المساحة:

- المطبخ -الصالون -غرفة الجلوس -الحمام -الحديقة

-غرفة النوم - مكتبة/ غرفة دراسة



22- اختر أحد الخيارات المتاحة:

كوخ مع سعادة ☐ قصر مع تعاسة ☐ ما بين ذاك وذاك ☐

23- ما هي اهم ركائز المنزل (اختر بالترتيب):

الاساسات ☐ الزوج/الزوجة ☐ الأولاد ☐ جمالية المنزل ☐

المحبة ☐ حجم المنزل ☐ المقتنيات الثمينة ☐

24- أن توفر الأمان في المنزل, ما هو الشيء الذي تسعى لامتلاكه في المنزل

25- ارسم او صف منزل احلامك.....

26- ارسم او صف منزل من ذاكرة الطفولة, يكمن اليك بمعن خاص. وحدد السبب.....

الاستدامة البيئية

- ☐ -1احترام السياق البيئي والمناظر الطبيعية
- ☐ -افتراض الاختيار المناسب للموقع
- ☐ -التقليل من تأثير التدخلات
- ☐ -ضمان شروط تجديد الموقع
- ☐ -التكامل مع مورفولوجيا البيئة
- -التعرف على خاصية الموقع

- ☐ -2الاستفادة من الموارد الطبيعية والمناخية
- ☐ -اختيار اتجاه البناء المناسب
- ☐ -دراسة هيدروغرافيا المكان وإدارة المياه
- ☐ -مواقع المباني للاستفادة من التضاريس الطبيعية
- ☐ -دمج الطاقة الشمسية في التصميم العام
- ☐ -الاستفادة من الحرارة الحرارية للتربة

- ☐ -3الحد من التلوث والنفايات
- ☐ -استهلاك المواد المتوفرة محلياً
- ☐ -استخدام مواد قابلة لإعادة التدوير وإعادة التدوير
- ☐ -تقليل فقد الحرارة
- ☐ -استخدام مصادر الطاقة المتاحة
- ☐ -تخطيط أعمال الصيانة وإطالة عمر الأبنية

- ☐ -4المساهمة في جودة صحة الإنسان
- ☐ -تحسين درجة الحرارة في الأماكن المغلقة ومستويات الرطوبة
- ☐ -ضمان التهوية الطبيعية الكافية
- ☐ -ضمان الإضاءة الطبيعية الكافية
- ☐ -تحسين التدفئة الطبيعية والسلبية
- ☐ -تجنب المواد السامة

- ☐ -5لتقليل آثار المخاطر الطبيعية
- ☐ تطوير نظام بناء قوي ومرن
- ☐ -مراعاة الخصائص المحددة للمخاطر المحلية
- ☐ -تكامل الإجراءات الفنية والسلوكية للحد من الضعف
- ☐ -دمج استراتيجيات التعافي بعد الكوارث
- ☐

الاستدامة الاجتماعية والثقافية

-1حماية المشهد الثقافي
-فهم المكان وديناميكاته
-تعزيز تقنيات استخدام الأراضي التي تعزز التنوع البيولوجي
-توضيح التنظيم المكاني بالاحتياجات الإنتاجية
-تحسين خصائص التربة والمناخات الدقيقة من خلال استخدام الأراضي.
-تنظيم الأنشطة الإنتاجية حسب الخصائص البيئية.

-2نقل ثقافة البناء
-السماح بالخبرات العملية البناءة لتسهيل الدراية التجريبية
-إدراك قيمة الإتقان والذاكرة البناءة
-إشراك الأجيال الشابة في العمليات البناءة
-الاعتراف بقيمة الأدوار في الأنشطة التقليدية
-تسهيل مشاركة المجتمعات المحلية في صنع القرار

-3تعزيز الحلول المبتكرة والإبداعية
-تنمية الذكاء الجماعي
-تشجيع حلول أنظمة البناء المتنوعة
-دمج التأثيرات من ثقافات البناء الأخرى
-تطوير تقنيات البناء من التجربة

-4التعرف على القيم غير الملموسة
-نقل القيم الثقافية والتاريخ
-ادخال الطقوس الاجتماعية
-بناء شخصية المجتمع والشعور بالمكان
-التعرف على التعبيرات الرمزية المحلية
-تعزيز عملية البناء والإنتاج كقيم ثقافية.

-5تشجيع التماسك الاجتماعي
-تعزيز العلاقات بين الأجيال
-إضفاء قيمة على تنمية الرفاه الجماعي
-تعزيز المشاركة المجتمعية
-اماكن تشجيعية للاجتماعات المجتمعية
-بناء البنى التحتية والأسواق المشتركة

الاستدامة الاجتماعية والاقتصادية

الاستدامة الاجتماعية والاقتصادية

1- لدعم الحكم الذاتي
- تقاسم الموارد
- استخدام مواد محلية يسهل الوصول إليها
- تعزيز صنعة السكان الأصليين
- تشجيع الإنتاجية المحلية
- تعزيز التمكين المجتمعي

2- تعزيز الأنشطة المحلية
- تعزيز الإنتاج الغذائي المحلي
- تعزيز الدوائر القصيرة والحرف المحلية
- تشجيع الاستخدام الجماعي للمساحات
- متضمنة مساحات للأنشطة الإنتاجية
- تطوير المنتجات الحرفية المصنوعة من مواد محلية

3- تعظيم جهود البناء
- الاستخدام الأمثل للمواد
- التأكد من الحجم المناسب للمبنى
- تعزيز البساطة الفنية في عمليات البناء
- تقليص جهود النقل
- التشجيع على استخدام المواد منخفضة التحولات

4- إطالة عمر المباني
- توقع الإحلال المنتظم لمكونات المبنى
- منع تآكل عناصر البناء
- التخطيط لصيانة المبنى
- تصميم المباني المرنة للتغييرات والتوسعات الممكنة
- بناء هياكل قوية ودائمة

5- لحفظ الموارد
- استخدام مواد قابلة لإعادة التدوير
- تعزيز تكثيف المباني وضغطها
- تطوير أنظمة البناء الملائمة للظروف المحلية
- تعزيز نظام التهوية والتدفئة والإضاءة الطبيعية

Glossary of Arabic Terms:

Word Use	Arabic	English	Spanish
‘amud	عمود	Pillar	Pilar
‘ard	ارض	Earth	Tierra
‘atabeh	عتبة	Lintel/Stop	Dintel / Parada
Asas	اساس	Foundation	Fundación
‘ain	عين	Water well	Pozo
Bab	باب	Door	puerta
Bayt	بيت	House	Casa
Bir	بير	Water Reservoir	Reserva de agua
Blat ‘armid	بلاط قرميد	Red tiling	Mosaico rojo
Dabbeh	دبة	Compacted earth	Tierra compactada
Dabesh	دبش	Rubble	Escombros
Dahliz	دهليز	Corridor	Corredor
Dar	دار	Central hall	Sala central
Daraj	درج	Stairway	Escalera
Darfeh	درفة	Wood shutter	Persiana de madera
Diwan	ديوان	settee placed against wall	sofá colocado contra la pared

Ghalaq	غلق	Keystone	Piedra clave
Hara	حارة	Neighborhood	Barrio
Hosh	حوش	Courtyard	Patio
Hayt	حيط	Wall	pared
Istabel	اسطبل	Stable	Estable
Libn	لبن	Mud Brick	Ladrillo de barro
Madrasa	مدرسة	School	Colegio
Mahdale	محدلة	Stone Roller	Rodillo de piedra
Maa’laf	معلف	Manger	Pesebre
Maskan	مسكن	Dwelling	Vivienda
Matbikh	مطبخ	Kitchen	Cocina
Mastabeh	مصطبة	Platform	Plataforma
Matban	متبن	Food Storage	Almacenamiento de alimentos
Mawkad	موقد	Fireplace	Hogar
Mezrab	مزراب	Waterspout	Tromba marina
Midwak	مدواك	Horizontal raw of stones	Crudo horizontal de piedras
Msharbeyet	مشربية	Wooden screens	Pantallas de madera
Mu’alem	معلم	Master Mason	Maestro masón

Nabe’a	نبع	Well	Pozo
Naht	نحت	Sculpting	Esculpir
Sath	سطح	Roof	Techo
Sham’aa	شمعة	Column	Columna
Shubak	شباك	Window	Ventana
Taj	تاج	Capital	Capital
Taqa	طاقة	Small Window	Ventana pequeña
Tanur	تنور	Earth oven for baking bread	Horno de tierra para hornear pan
Tin	طين	Mortar	Mortero
Trab	تراب	Earth	Tierra
Wasleh	وصلة	Log/Beam	Haz
Yuk	يوك	Large wall Niche	Nicho de pared grande
Zifr	ظفر	A kind of popular corbel	Una especie de ménsula popular