



**NEAR EAST UNIVERSITY
INSTITUTE OF GRADUATE STUDIES
DEPARTMENT OF ARCHITECTURE**

**FACTORS INFLUENCING THE ARCHITECTURAL IDENTITY OF
HOUSES: DUHOK CITY / IRAQ AS A CASE STUDY,
BETWEEN 1992-2022**

M.Sc. THESIS

Sevan Sabah Mustafa MALA

Nicosia

January, 2023

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Approval

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Declaration

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

Sevan Mala

08/01/ 2023

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Sevan Sabah Mustafa MALA

Abstract

Factors influencing the architectural Identity of Houses:

Duhok City / Iraq as a case study, between 1992-2022

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Identity is not a new idea, it is a sense that is felt and understood by all human beings, it creates with the god's creation of beings, and everything in this world has its identity even architecture. The concept of Identity is formed through time and includes the most valuable features of any area, explicit interest in issues of identity is not new progress, Identity is relevant to all fields of creation, and the significance of this concept is demonstrated by the fact that it may appear anywhere, which leads to the identification and distinction of any place. Consequently, it became the motivation for this study's investigation into the elements and factors that influence Duhok city's architectural identity. The goal is to understand the architectural identity of the city to understand the influence of the identity in the forms of houses. The problem with the architectural identity of Duhok city is that it is in a chaotic situation and there is not a clear path to reach a unique identity. As a result, a theoretical framework is discovered by discussing architectural identity, thus, 21 houses were analysed from 1992 until 2022, according to the elements that shape architectural identity. as a conclusion it appeared that there are three factors (economic, political, social-cultural) that affecting identity in Duhok city, also, four main elements of architectural identity which shaping Duhok city identity.

Keywords: architectural identity, factors affecting identity, elements of architectural identity, Duhok houses.

Özet

Kimlik, tüm insanlar tarafından hissedilen ve anlaşılan bir duygudur, yeni bir fikir değildir, tanrının varlıkları yaratmasıyla oluşur ve bu dünyadaki her şeyin, mimarının bile bir kimliği vardır. Kimlik kavramı zaman içinde oluşur ve herhangi bir alanın en değerli özelliklerini içerir, kimlik konularına yönelik belirgin ilgi yeni bir gelişme değildir, kimlik kavramının öneminin herhangi bir yerde ortaya çıkmasıyla ortaya çıktığı tüm yaratım alanları için geçerlidir, o yerin tanımlanmasına ve ayırt edilmesine yol açmıştır, dolayısıyla Duhok şehrinde mimari kimliği etkileyen unsurların ve faktörlerin neler olduğunu araştırmak bu araştırmanın motivasyonu olmuştur. Amaç, Duhok kentinin mimari kimliğini anlamak, kimliğin etkisini konut biçimlerinde kurmaktır. Kentin mimari kimliğiyle ilgili sorun, kaotik bir durumda olması ve özgün bir kimliğe ulaşmanın net bir yolunun olmamasıdır. Sonuç olarak, mimari kimlik tartışılarak teorik bir çerçeve keşfedilmiş, böylece 1992'den 2022'ye kadar 21 konut, mimari kimliği şekillendiren unsurlara göre analiz edilmiştir. Sonuç olarak, Duhok kentinde kimliği etkileyen üç unsurun (ekonomik, siyasi, sosyo-kültürel) olduğu ve Duhok kentinin kimliğini şekillendiren mimari kimliğin dört ana unsurunun olduğu ortaya çıkmıştır.

Anahtar Kelimeler: mimari kimlik, kimliği etkileyen unsurlar, mimari kimliği oluşturan unsurlar, Duhok evleri.

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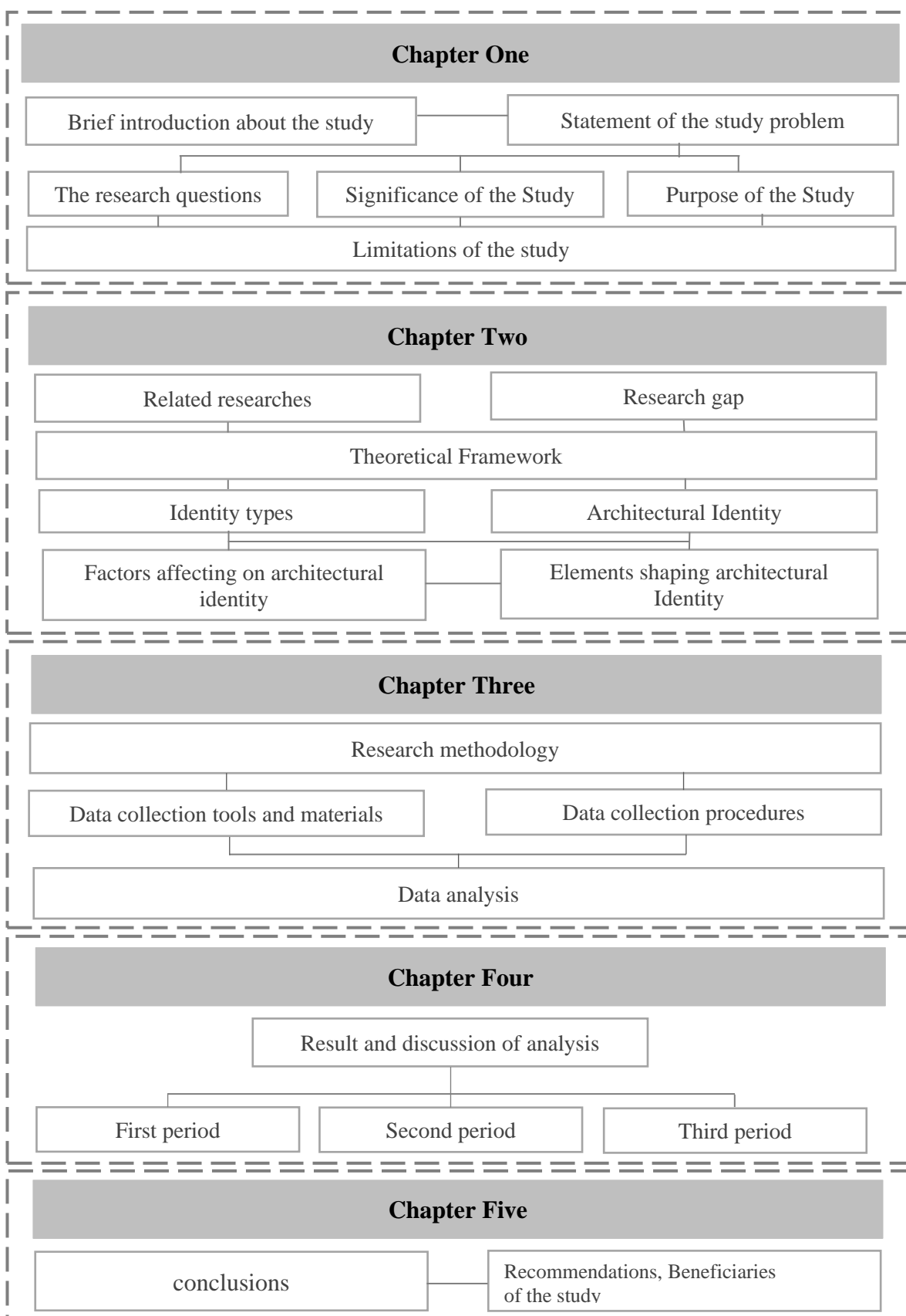
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Factors influencing the architectural Identity of Houses: Duhok City / Iraq as a case study, between 1992-2022



CHAPTER I

Introduction

One of the most contentious issues in the architecture field is the concept of identity, which had an impact on architectural philosophy. Identity is considered a concept that is formed through time and includes valuable characteristics of a city, which are natural, physical, social, and historical. Therefore, identity is assessed as an important issue to appreciate and understand in any area. Identity terms become a field for many studies that have been conducted, especially in societies with a rich cultural heritage.

People simply had an identity, as existential possession, an inheritance, of continuity with the past. Identity, like language, is a form of the collective treasure of communities. However, it was discovered that it was fragile and needed to be protected and preserved (Jensen & McKenzie, 2011).

In recent years the issue of architectural identity has affected architectural thinking and occupied the mind of scholars and experts. This issue has motivated experts and critics in this field to develop and create an identity-based architecture. As identity is one of the most important goals for the future. People should feel that they belong to the place that they live in, collectively and individually, they must preserve it and care about it (Adam, 2012).

Architectural scholars clarify that architecture all over the world is affected by two different directions which are conflicted, the first one moving it into new areas based on new technologies, while the second one trying to preserve the principles through stabilizing the local traditions. Consequently, to the huge changes that brought unusual developments to architecture, identity became a key concept to preserving the local architecture in any society and area (Todd, 2005). Our new world in all respects is characterized by international styles and westernization, which is under constant tension with the issue of identity and in continual conflict with traditional and local identity (Vale, 2014).

In the case of Duhok city in this study, Duhok has developed and passed through a rapid transformation after 1992. Economic, political, and social-cultural issues are the reasons that led to this development. These issues have an impact on the visual appearance of the city in general and especially the residential buildings such

as houses. Because of these rapid developments many architectural forms appeared, which in many cases are strange forms that do not belong to the local architecture before. In other words, the loss of the traditional scheme shows the importance of identity and requires a need to understand the city identity and defined it.

Statement of the Problem

There is a significant orientation toward identity issues in architecture, especially after the realization of the developments, the appearance of new styles, westernization and globalization around the world. In Duhok city the rapid development of housing projects encouraged poor quality of existing shapes and structures, most of these developments translated into new global concepts and neglected the fundamental aspects of identity.

The influence of changing identity on architecture and the absence of an obvious professional discourse about the directions and conflicts of this issue and the lack of knowledge in this field are the main reason behind conducting this study. The Problem statement here is the lack of familiarity regarding the impact of the development on architecture and thus its impact on architectural identity, which is the transformation of identity. The problem with the architectural identity of the city is that it is in a chaotic situation and there is not a clear path to reach a unique identity. The point here, the problem with the architectural identity of the city is that it is in a chaotic situation and there is not a clear path to reach a unique identity.

Purpose of the Study

The main aim of this study is to clarify the significance of architectural identity and understand the architectural identity of Dohuk city, in addition, to provide a theoretical framework for identifying the main elements and factors which shaping this city's identity.

There are several objectives that must be reached in order to achieve the main aim of this study, which are as follows:

- Explore a framework for the conceptual dimensions of identity within its types, principles, and terminology in order to understand its characteristics

and get advantages from them in discovering the relationship between architecture and identity.

- Investigating the concept of identity in architecture "Architectural identity" and the main influencing elements to evaluate it in Dohuk's houses forms.
- Observing the main impacting factors that appeared after 1992 on architecture in Dohuk in general and especially in housing.
- Study and analysis of houses in terms of design, forming, and the extent to which architectural identity is considered in the forming of the house.
- Determining the impact of the development and use of new technologies and the extent of their impact on the formation of Dohuk's architectural identity.

Research Questions

The main question of this study is what are the main elements that shaping architectural identity in Duhok city?

This study discusses the following questions:

- What are the reasons behind changing and the transformations in architectural identity of Duhok city?
- What are the main factors for analysing architectural identity?
- Do the architectural features of houses forms evolve over time?
- What is the influence of the developments and the architectural new styles on the architectural identity?

The study is researching the concept of architectural identity and the significance of its formation in the city of Dohuk in general, especially for Duhok city houses. The main hypothesis of the study is the lack of awareness of the significance of architectural identity by architects and society in general, which led to the chaos and crises of architectural identity. Through secondary hypotheses, the main hypothesis can be elaborate:

- The emergence and use of new and different styles in architecture.
- The demographic change in the city.
- There is rapid development with the city expansion.
- The influences of the building process without an architect.

Significance of the Study

This study aims to highlight the issue of identity in architecture, which is considered as one of the most significant issues in this era.

This study is researching architectural identity in Duhok, specifically in the residential zone (houses). The study evaluates the architectural designs of the houses and how they are developed and transferred along with the architectural identity. The significance of this study lies on three levels:

- Academic, the importance of this study lies in creating and understanding a strategy for understanding the architectural identity of Duhok, which can help the academic side to find an architectural style or pattern dedicated to Duhok city that takes into account the architectural identity of the city.
- Practical, this study also helps with its results and findings, the practical side of architecture to suggest design strategies and architectural patterns that express Duhok identity for the houses in this city that take into account the architectural identity.
- Administrative, the city of Dohuk is growing rapidly now and the construction continues, this process is carried out without any building controls in order to preserve its identity, so the results of the study can create some strategies and rules which can be taken into count while construction

Limitations

- Objective determinants: The study will explain the concept of architectural identity, and the effects of the developments on the architectural identity, studies will be on the forming of the houses and their designs.
- Spatial determinants: The analyses of this study will cover the residential zones of Duhok city, thus the independent single houses from two different types of Duhok districts have been chosen as a case study, which includes old developed areas by the government and newly developed areas.
- Time limiters: A specific period of time will be chosen, from 1992 until 2022.

A specific period of time is chosen, which is from 1992 until 2022. The reason is in 1992 life in Duhok changed, in many ways:

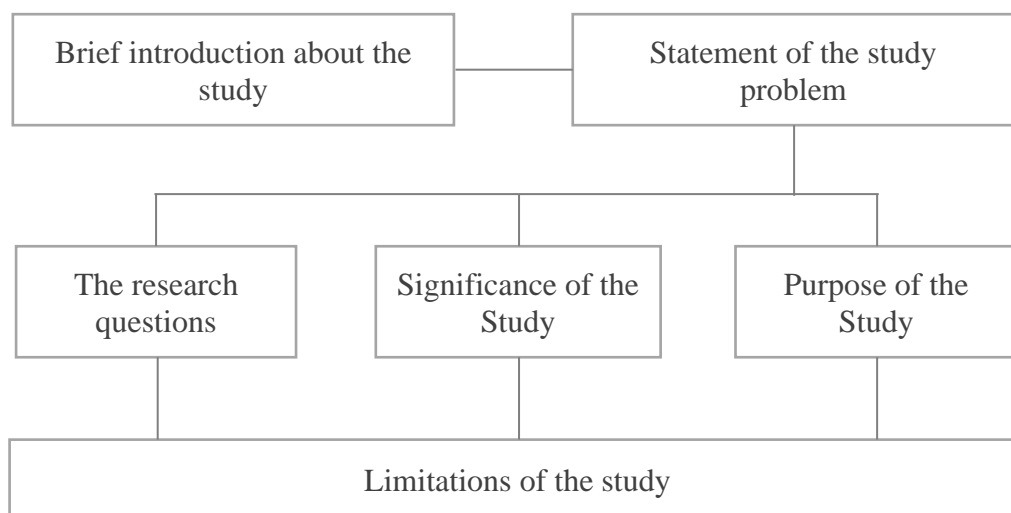
Economic issues, there has been an economic recovery this year, the change began in terms of construction and architecture. People start to change the level of their life and try to open new projects and provide new opportunities for workers to improve their lives.

Political issues, change of the system of government in the country. In 1992 Kurdistan of Iraq became an independent region, after the migration of more than one million people 1991, after their return to the country in 1992, peace prevailed, and this situation improved people's lives in different ways.

Social issues, migration from the other cities in Iraq to the region is one of the reasons, many people migrate to this region because of the availability of work opportunities. And others were residents of this region, but for political reasons, they were deported to other regions. After the political situation of the country stabilized, they returned to their regions.

Figure 1.

The Sequence of Chapter One Study (Author)



CHAPTER II

Literature Review

Related Research

Many similar studies have illustrated, explained, and summarized their methodologies and approaches in order to recognize the distinctive attitudes toward the concept of identity and its role in architecture in general and specifically in Duhok city. These previous studies will clarify and identify the issue of identity in this section.

1- Study of "Identity: Youth and Crisis" by Erik H. Erikson (1968)

This study searches for the culture in the essence of the person and society and its changes and the extent to which the person is affected by the surrounding environment in order to form his own identity that distinguishes him from others. The researcher focused on the issue of identity and its formation as causes and results, in addition to the most important problems that the individual and young society face in the issue of identity and its relation to the surrounding environment, education, and experiences. Among these issues are identity disorder, identity loss, and identity resistance, all of which stem from a lack of confidence in one or society. A healthy personality has confidence, independence, initiative, production, and the creation of a unique identity, and therefore merges with the environment, rather than dissolving and becoming lost in it, as it recognizes itself and the environment. The research focused on the social and psychological aspects of society in the formation of identity or the appearance of issues related to this area and did not address the architectural aspect. However, these issues and their main cause, in general, are identified and connected their formation to the instability and weakness of these communities. In short, the study concentrated on the issue of identity and how it develops as causes and results, in addition to the problems that the person and young society deal with when it comes to the topic of identity and how it relates to the environment, education, and experiences. as a result, the lack of confidence in oneself or society is the root cause of a number of problems, including identity disorder, identity loss, and identity resistance.

2- Study of "Quest of Identity" by Charles Correa (1983)

Correa introduced in this study his concept of identity, considering it a process that can be traced through civilization through History, which is that identity, is not a subjective thing that can be chosen or synthesized. Instead, identity can develop by processing what we perceive as real problems.

Correa discussed some aspects that he considered as sources of the emergence of identity, such as climate, which he thought was an important determinant. For identity operations, it assists in defining the shape on two levels; the first is immediate, as a response to the climate such as yard treatments and methods. Ventilation, and the second more profound, is a determinant of the patterns of culture, living, and rituals, and thus it determines the form of construction. Correa is between the identity of a region and its civilization. That affects the concept of identity in the regional architecture, as well as the effect of popular construction and religious principles on the emergence of a specific concept of identity.

Correa discussed some of the factors that could contribute to the development of identity; Such as the patterns of life in a society and requirements as well as the environmental factor, he considered Correa, our understanding of ourselves and our environment makes us able to find our identity. Adopting the principles of architecture to the customs, traditions, climate, and materials of the concerned country is the way to develop its identity, and also did not neglect Correa on the role of urbanization and the flow of migrants from the countryside to the city, and the role of the designer in influencing and changing the concept of identity This is a different process from the implicit coding stemming from the civilizational identity. As a result, identity is a cumulative process formed over time through civilization and History, which is that identity is not a subjective topic that can be chosen or synthesized. some aspects that are considered to be sources of identity emergence, such as climate, the effect of popular construction, and religious principles affect the emergence of a concept of identity.

3- Study of "Identity, Tradition and Architecture" by El-Wakil (1992)

In this study, the researcher sought to highlight the importance of the embodiment of identity in societies throughout history, and the relevance of this identity with civilization on the one hand and the natural environment, on the other hand, focusing his studies on Islamic societies, recalling that what distinguishes any

Traditional Islamic city, regardless of its natural environment, is its Islamic identity dependent on the unity of civilization based primarily on Celestial religion. As for the environment or climate, it has a special specific effect on the architecture of each region, stressing that preserving the identity requires a totally spatially civilized context in order not to remain isolated. Thus, the researcher has introduced the concept of controlling changes by tradition, without this discipline, change does not become part of a circular progression, and it is changing no more than a necessary movement. To preserve the vitality from which diversification and creativity emerge.

The study emphasized that the embodiment of the identity is by adherence to with tradition, and what is required is a new sense of commitment and belonging to our traditional architecture, explaining that the design within the framework of traditions, is not a repetition of the past and is not a mere simulation of it, but rather a particularly complex process of representation and adaptation. Through a perpetual movement of incubation and development.

4- Study of “Social transformation, collective categories and identity change” by Todd, Jennifer (2005)

This study explains the changes in collective categories of identity are at the root of social transformation; yet, institutional change and change in forms of practice are difficult. The worth of the study is shown through an evaluation of forms of identity transformation in society through a fundamental transformation. Three variables influence identity change: power relations, prevailing identity structures, and the source.

It describes the six different paths of identity change: adaptation, assimilation, conversion, reaffirmation, privatization, and appropriation for ceremonial purposes. The study provides an analytical framework that identifies the six identity categories, their internal complexity, their influence in framing relationships, and the ability of both slow and rapid transformations.

The study defined the changes in collective categories of identity, and it has shown through an evaluation of forms of identity transformation in society through a fundamental transformation. as a result, it presents an analytical framework that identifies the six identity categories, their influence in framing relationships, and the ability of rapid transformations.

- 5- Study of “Factors affecting the continuity of architectural identity” by Salahaddin Baper and Ahmad Hassan (2012)

The researchers explain in this study that architectural literatures offer several factors in determining architectural identity continuation. In terms of visual appearance, these factors are divided into five categories: mass and articulation, openings, architectural detail, materials, and facade layout principles. The purpose of this study is to investigate the relevant relationship between factor affecting the continuation of architectural identity in Erbil City. As a result, a suitable questionnaire has been developed to be applied as a measuring scale. The Pearson product-moment coefficient correlation results show that, with the exception of (principles of facade arrangements), all criteria are positively connected with architectural identity continuity. As a result, this study indicates a favourable relationship between house facade factors and architectural identity continuity. The findings indisputably demonstrate that (mass and articulation, apertures, architectural detail, materials) factors have a significant impact on architectural identity continuity.

- 6- Study of “Impact of Westernization on Architectural Type, Analytical Study of Transformations of Architecture in Kurdistan Region-Iraq (1917-2017)” by Cebair Jamel Sadiq, Abdullah Yousif Taiyb, Ihsan Abdul Wahab Fethi, Kadhim Fathel Khalil (2020)

The study's researcher emphasized that there have been few if any, scholarly attempts to investigate such significant and fundamental shifts and alterations in the fields of urbanization and architecture in particular. The aim of this study is investigated and evaluate these structural alterations, as well as identify how they affected architectural types in the region throughout the time range provided. The conceptual underpinning of the idea of Westernization and its influence on architectural type transformation allows the procedural definition to be formulated as follows: Gradual or severe changes in architectural type structure are generally induced by Western cultural impact, resulting in a western-type architecture that is essentially foreign to the location. This study explains westernization as well as evaluates and investigates the structural alterations, and identifies how they affected architectural types in the region throughout the time range provided. as a result,

Western cultural influence generally causes changes in architectural type structure, leading to a western style architecture that is basically strange to the region.

7- Study of “The impact of democratic transformation on the achievement of the architectural identity, Iraq - Kurdistan Region as a Case Study” by Rana Fathi Al-Oomary (2020)

The researcher describes the concept of democracy and the democratic system in this study by defining the nature of the idea, its history, types, and the most significant principles on which it is founded, as well as the basic principles and patterns of democratic transformation and its other stages and impacts on all fields, including architecture and its identity, as well as the examination of identity, its structure, and types in the light of diverse spatial. This allows for the determination of the link between the democratic system and its influence on architecture to be democratic, as well as what its impact is in attaining architectural identity and under certain unique conditions. Exploration of aspects through which architecture and architectural identity can be studied was necessary for the explanation. In doing so, an important vocabulary and concepts were discovered, which led to the construction of a unique democratic architecture for each community.

This study's general concept was that democracy as an ideology influenced architecture in general and architectural identity in particular. This effect and its character are connected to the maturity of the democratic experiment and the stage it is experiencing in the stages of democratic transformation on the one hand, and the nature of society and its knowledge and absorption of democratic ideology on the other.

According to the above, previous related studies about the concept of identity in architecture are presented and discussed. These studies confirmed that identity is one of the most important issues in the architectural field. In Kurdistan-Iraq especially in Duhok, some studies have addressed the concept of identity implicitly in an attempt to evaluate other impacts on architectural identity without considering it as an independent approach. Previous studies were deficient in providing a theoretical framework to measure the impact of different factors on the identity of the product in general and houses in particular and consider the indicators that shape the architectural identity. Based on the above, these reasons highly confirm the importance of this study and determine the knowledge gap. As shown in (Figure 2).

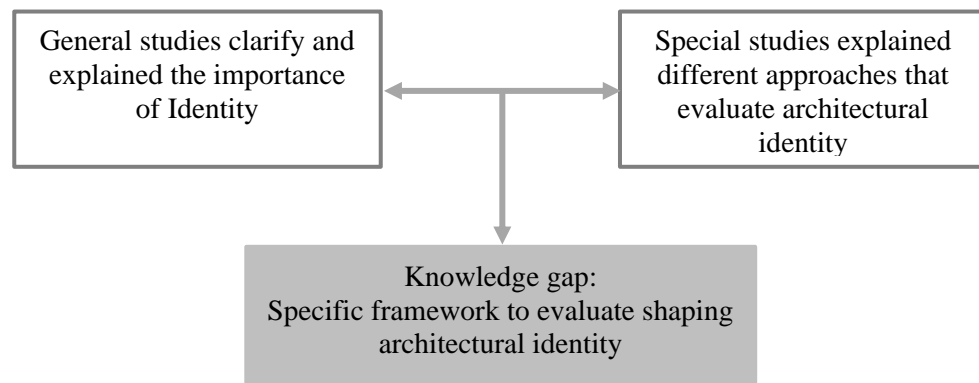
Table 1.

Summary of Related Studies (Author)

Study name	General concept of the study
1- Identity: Youth and Crisis, by Erik H. Erikson	The issue of identity and how it develops as causes and results, in addition to the problems that the person and young society deal with when it comes to the topic of identity and how it relates to the environment, education, and experiences.
2- Quest of Identity, by Charles Correa	Identity is a cumulative process formed over time through civilization and History, some aspects that are considered to be sources of identity emergence, such as climate, the effect of popular construction, and religious principles affect the emergence of a concept of identity.
3- Identity, Tradition and Architecture, by El-Wakil	The embodiment of the identity is by adherence to tradition, and what is required is a new sense of commitment and belonging to our traditional architecture, designing within the framework of traditions is not a repetition of the past and is not a mere simulation of it, but rather a particularly complex process of representation and adaptation.
4- Social transformation, collective categories and identity change, by Todd, Jennifer	The study presents an analytical framework that identifies the six identity categories, their influence in framing relationships, and the ability of rapid transformations. It defined the changes in collective categories of identity, and it has been shown through an evaluation of forms of identity transformation in society.
5- Factors affecting the continuity of architectural identity, by Salahaddin Baper and Ahmad Hassan	This study indicates a favorable relationship between house facade factors and architectural identity continuity. The findings indisputably demonstrate that some specific factors have a significant impact on architectural identity continuity.
6- Impact of Westernization on Architectural Type, Analytical Study of Transformations of Architecture in Kurdistan Region-Iraq (1917-2017)" by Cebar Yousif Taiyb, Ihsan Fethi, Kadhim Khalil	This study investigated how westernization affects architecture in the region throughout the time period given, as well as how it analyses, evaluates, and assesses the structural changes. As a result, Western cultural influence usually results in modifications to the type of building, creating western style architecture that is essentially foreign to the region.
7- The impact of democratic transformation on the achievement of the architectural identity, Iraq - Kurdistan Region as a Case Study" by Rana Fathi Al-Oomary	Architecture in general and architectural identity in particular were affected by democracy as a philosophy. The maturity of the democratic experiment and the stage it is experiencing in the stages of democratic transformation on the one hand, and the nature of society and its familiarity with and absorption of democratic ideology on the other, are related to this effect and its type.

Table 1. (Continued)

Figure 2.

Identifying and Recognizing Knowledge Gap (Author)**Theoretical Framework**

Based on works of literature, identity is formed in a cumulative process. it refers to a way of life or values that connect the past to the present. In other words, identity is a primary network that clarifies human cultures, societies, and the systems of organizing human lives. This chapter by defining the concept of identity and its elements, in addition to the factors that affect identity, will try to stabilize a theoretical framework to explore the identity of architecture, in order to create a framework to classify and consider the indicators of shaping the identity of architecture.

Concept of Identity

Identity considers a distinctive personality or character of a person. It is an idea of who the person is and what someone stands for in this world. It connects one personal meaning to themselves and one's personal meaning to all others, it provides a combination of what a person thinks to be significant to themselves and how significant those around regard one in a person's life. (Brewer & Gardner, 1996). In this sense, identity is the way people and communities distinguish themselves in their social relationships with each other. The complex system of identity includes many factors that influence the political and social structure. A complicated adaptive

system, it is a type of changeable system that expands till it either breaks or keeps adapting.

It is a basic network that explores and illuminates the variety of human cultures, society, and the connected systems that manage people's lives (Mann, 2012).

Identity term has been categorized into (private and public), so it's important to distinguish between both of them. Private identity is a way of enhancing an individual's sense of self, the identities of those in one's personal family, and those who can succeed in their wisdom and insight. Public identity is the symbols that a means represents that must be clear and recognizable. Public identity serves as a reference point for a society's collective memory in this regard.

Types of Identity

The term identity may mean something different from an ontological perspective. It might be used to define a characteristic in a person, a group, a country, or even a work of art. Inside this line, a study on identity types identified four major groups which is individual, social, cultural, and national (Rapoport, 1990), the meanings of which are briefly discussed in this study.

Individual Identity. Individual identity describes a person's personality by concentrating on the fact that every person has different experiences depending on the environment in which they were raised because of the distinctive personality of their identity. The reality that each person's identity is unique depending on their unique environment is demonstrated by this (Wendt, 1994).

Social Identity. A person's sense of self is dependent on their participation in social groups, or social identity. In this context, social identification refers to a person's awareness of the social class they belong to. The members of a social group are a diverse set of people who have a common social identity and a similar level of responsibility in relation to the other group members (Ellemers, N. Spears, R. & Doosje, 1997). The main emphasis is on the competition between groups for a status of prestige as well as the role of identity improvement through social and pleasant interaction.

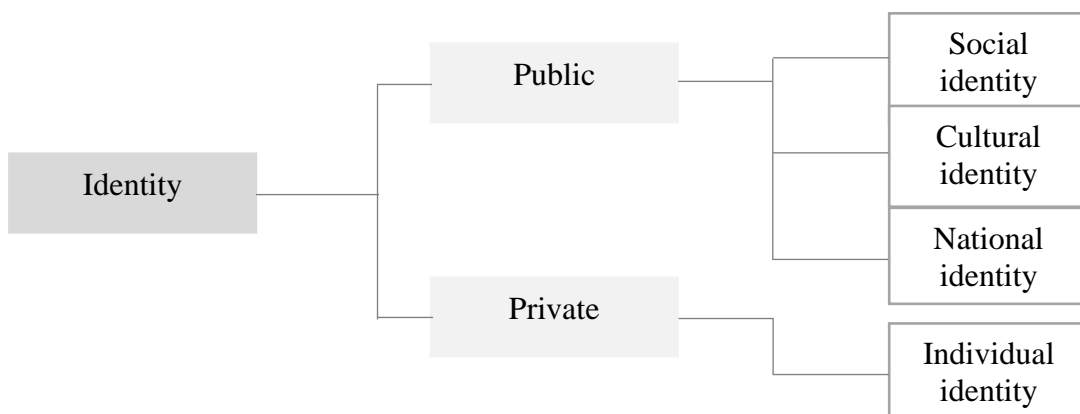
Cultural Identity. A sense of belonging to a group is cultural identity. It is a component of one's personality and is connected to one's nationality, religion, generation, ethnicity, locale, social class, or any other type of social group with a unique culture. The interaction and interpretation of human behaviour with one another are considered to be two aspects of cultural identity. Because anthropological works must search for a specific method by which all elements of a given cultural group connect, integrate, and conflict with one another, they become difficult to complete (McFadden, 1999). The ability of humans to retain and preserve culture across time has been demonstrated, and as a result, people continue to protect their cultural identities. Consciously being aware of one's own group is another way to see cultural identity.

National Identity. The term "national identity" describes a group of people who identify with and reflect the symbol of their country. Legends, environments, enduring tales, heroic events described in stories, and certain eras all have a significant role in shaping and forming national identities. This type of identity is typically developed through time and reflects the socioeconomic, technological, and economic development of the country (Vale, 2014).

According to what was mentioned, the classification of identity types with the two different approaches of identity forms as shown in (Figure 3).

Figure 3.

Classification of Identity Types (Farahbod, 2018)



Elements of Architectural Identity

Architectural design is uncomplicated yet challenging. Although it seems simple, creating space is actually quite deep and difficult. It is undeniably true that the environment has an impact on humans. Humans create and manage artificial environments so they may live there instead of leaving it to nature. In order to create different architectural settings, several types of human intervention in nature have been used throughout history (Herrle & Wegerhoff, 2008). Identity comprises both stable and dynamic components across time. Architecture would have a constant development throughout time if identity had simply a fixed status (Torabi & Brahman, 2013). Architectural identity has, nevertheless, possessed both static and dynamic elements throughout history, much like human identity. In every era, there have been changes.

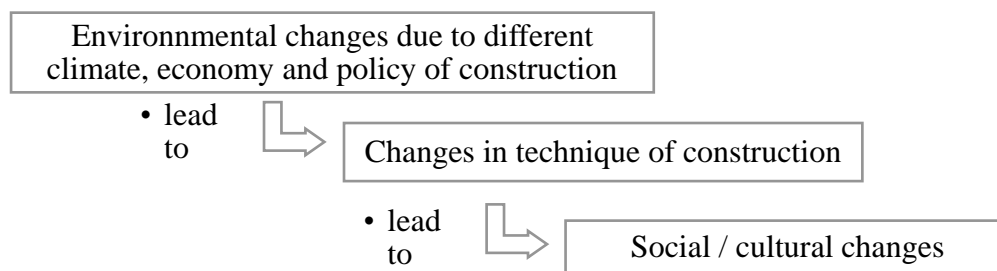
Based on their own internal motives and by altering environmental functions or the physical surroundings, humans attempt to make meaning of their architecture. The first acts and occurrences that individuals notice is those that the physical environment's shape and pattern presents. Then, features of shape, levels, and forms grab attention and become apparent. Identity's static and dynamic components are referred to as its constant and variable components. There is a potential of defining the elements that shaping the architectural identity into seven major types, as will be explained in the following paragraphs:

Time Organization. Time perception and its concept change within multiple cultures. People exist in both space and time. As a result, the environment also includes a time component. The passing of time is connected with change. Under the influence of climate, nature and the natural environment that surrounds humans change continuously over time. Each and every element of architecture that creates a sense of identity preserves the physical, cultural, and social identity of the architecture of the time. The natural environment has also changed continuously as a result of both natural and man-made climate change influences. Additionally, construction techniques change over time, which in certain cases also affects social and environmental developments. As shown in (Figure 4). Therefore, the degree of change that takes place at a certain moment should be such that it does not compromise the location's architectural identity (Grütter, 2020). The social and

cultural environment often undergoes significant changes as a result of environmental physical change. Social and cultural changes should be taken into account together with physical changes to avoid losing architectural identity. To avoid this issue in the building changes at different times, specific principles and characteristics must be followed.

Figure 4.

Temporal Changes and the Process of Changing Identity of Environment (Farahbod, 2018)



Spatial Organization. We must first understand the idea of space in order to comprehend the spatial organization. Space is likened to a container by Aristotle. He views it as an empty container that needs to be confined in order to exist, hence there are always limits to space. Geographical space, living space, and architectural space are the three categories into which Jorg Kurt Grutter divides the idea of space in his book *Aesthetics in Architecture*. The first is subjective space, which is difficult to properly comprehend from the perspective of perception. Life space is semi-subjective, and while many of its characteristics can only be known through knowledge, others of them may be grasped directly. The third space may be sensed immediately, objectively experienced, and identified by its distinguishing elements. space is a group of objects linked together by relationships that characterize a system distinguishable by its fundamental elements. Space is amorphous by nature, yet its form elements define it. The character of space, which is a result of the relationships between these elements, actually arises when the space starts to be bounded and structured by the elements (Hillier & Hanson, 1989). A design system and spatial organization in architecture with identity may convey the semantic linkages of places in various applications.

In order to achieve a certain purpose that affects the frequency and kind of connection between parts, spatial organization comprises design and layout of spaces. The positioning, sequencing, and arrangement of spaces are decided by this structure. Different organizational structures result in different semantic links between places. Various cultures and applications have different semantic relationships and spatial organization. The key to creating an identity-oriented building may be found in using spatial notions from each culture's architecture, such as passage, vacuum, and other concepts.

Semantic Organization. All society has its own culture that reflects its unique goals, ideals, and ideologies. Historical battles, victories, and other events have given the community's residents a sense of belonging. Various symbols have different meanings for people in various cultures. Each architectural space reflects the distinctive concepts of the community, provides them a suitable aesthetic, and serves as a symbol for that group (Tuan, 1977). Aside from its use and purpose, every building transmits a semantic load that should be clear to users. Both an apparent and a semantic dimension exist in every architecture. In architecture, apparent dimension is demonstrated by landmarks, color, shape, scale, and other physical characteristics.

Many construction materials can represent certain semantic properties according to unique characteristics. For instance, gold and marble are real and stand for wealth, toughness, and polish. Wood is a warm, natural material that offers values completely inconsistent with those of marble and gold (Grütter, 2020). Users have different expectations of mosques and churches than they have of homes, hospitals, or even schools. Architecture with identity must have a sense and idea that accurately reflect the built environment and are compatible with societal culture and ideologies. To achieve this, it requires knowledge of and appropriate use of form, color, materials, and other elements. Symbols that may have developed as a result of history and culture may also be used to express the concept in building. This indicates that the semantic identity of an architectural work may change over time. One of the main points of this thesis is how architectural symbols have changed over time.

General Design Principles. The concepts and ideas that make up architectural design and provide the design process coherence are considered general design principles. Architecture is thought before it is a building. An architect's curious mind analyses the world through using five senses and transforms creative ideas and theories into design applying the proper tools. The imagination of an architect is also able to extract and analysing old concepts and buildings (Farahbod, 2018). A tool for solving architectural issues is an idea. Lacking in ideas, an architectural result has no cultural value.

A creative idea that is appropriate to the culture of the time is necessary for architecture to have identity and originality. Different design strategies, such as concept-oriented or form-oriented architectural design, have been created in the past in response to the requirement for architecture with identity, some of which have succeeded and others of which have failed. However, employing unique ideas that are appropriate for the building's requirements in order to create an architecture with identity is a crucial aspect of architectural design. Construction design concepts often follow the rules established by the context. Using general design principles Concept-oriented design refers to how the architect organized the building's general shape and form.

Shape and Form of Building. Every creative architecture product finds expression in a form. Without mentioning form, no architectural imagination can be fulfilled. The constructed or objective environment is immediately perceived based on its outward appearance, which is both the most significant and instant impression. A correct form has harmony, size or scale, and proportions. The shape is an idea in the mind. It requires certain components, including lines that can form regular or irregular forms, in order to be identified (Falamaki, 2006).

It's crucial to select a form that integrates in with the culture. The existence of an acceptable formal language is also necessary for the development and maintenance of culture. A collection of notions known as formal language derives from visual symptoms that are exclusive to one culture. Poor culture results from rapid changes in form language. Each community's architectural style is a representation of its cultural ideals. The introduction of foreign features results in a product that lacks identity if cultural adaptation is

refused, and the architect is prevented from developing the building form and connecting with the audience logically. In general, the structures that are entwined with one another and define the overall form of the buildings determine the identity and cultural notions of a community.

Building Materials. The construction materials of key space elements represent one of the most important factors of understanding space. Many characteristics of an object, like hardness, softness, flexibility, etc., may be understood by touching and seeing the materials. Every material has distinctive properties. The building materials employed during various historical eras reflect the religion, culture, and way of life of those times. In general, the use of materials like brick and wood in structures demonstrates the community's belief in universal mortality. The King's Palace was constructed using high quality materials like stone as a representation of the kings' strength and stability. Materials are therefore employed to convey ideas through symbolic values and meanings as well as for decoration (Mishra, 2014).

There are many different materials used in architectural spaces. Materials used to make a structure may be modern or traditional. If the goal of the design was to depict a traditional aspect of a culture in a structure, traditional materials may be used to do so, or vice versa. Vernacular materials also serve to express the unique identity of a particular work of art or building. Overall, it can be said that the vernacular materials that are available, their variations in different geographical settings, and their construction techniques (which may differ depending on their knowledge of construction, culture, religion, and the materials that are available) will shape the identity of architecture.

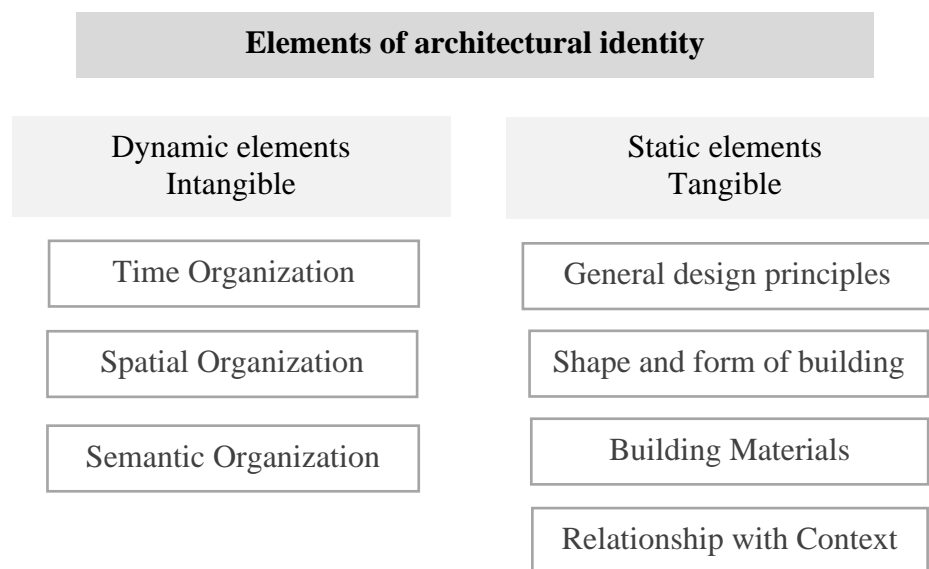
Relationship with Context. Between the environment and the built environment, there is a subtle connection. A strong understanding of the environment is provided by the existence of this connection. All element's surroundings give it meaning. Acropolis, for instance, makes sense in its surrounding environment, but if it is moved to another place, like Rome, it totally loses its meaning and becomes out of context. Consequently, while designing a structure, architects should consider the environment in which it will be placed. Due to this, the structure may blend in naturally with its surroundings. When the architectural space is constructed, there are only little

changes made to the environment, and those changes are made in such a way as to not significantly affect the power of the environment (Grütter, 2020).

Other elements that should be taken into account in contextual design include climate, geography, and local materials. Emphasis on solidarity and visual cohesion between the building and environment can play a significant role in developing an architectural identity. Contextual design refers to the sustainable relationship between the elements of the built environment that lends a sense of harmony and accords a specific identity to the context. Generally, the elements that forms the architectural identity consist of two types which dynamic and static, as defines below in (Figure 5).

Figure 5.

Main elements of Architectural Identity (Farahbod, 2018)



Architectural Identity Elements

In this section, two groups of the elements of architectural identity will be defined.

Dynamic Elements

The ability of an identity to change through time is referred to as its dynamic aspect. Meaning that the term identity may change throughout time owing to social,

political, and economic context-related factors. In keeping with the same idea, the semantic relationship of identity is reliant on the concept of time. Indicating that the aesthetic concept of identity may change throughout time. The way in which space is organized is another factor that affects how identity is shaped in architecture. It relates to the organization of a place based on preferences and needs of people, which might also change over time.

Factors affecting architectural identity:

The factors influencing the identity of architecture relate to those that have a direct impact on the context, changing how architecture is seen. This study has shown that external factors, particularly those derived from Western civilizations, make up the majority of the elements that make up the architecture. This highlights how the effects of temporal changes may cause culture to be dynamic. In terms of social, political, and economic factors, the culture was profoundly impacted by the governments' collaboration with Western world, and as a result, its identity was affected by Western culture. This study has found certain external factors that led to the dominant impact of western culture on architectural identity. They are as follows:

- Economical factor
- Social factor
- Political factor

Static Elements

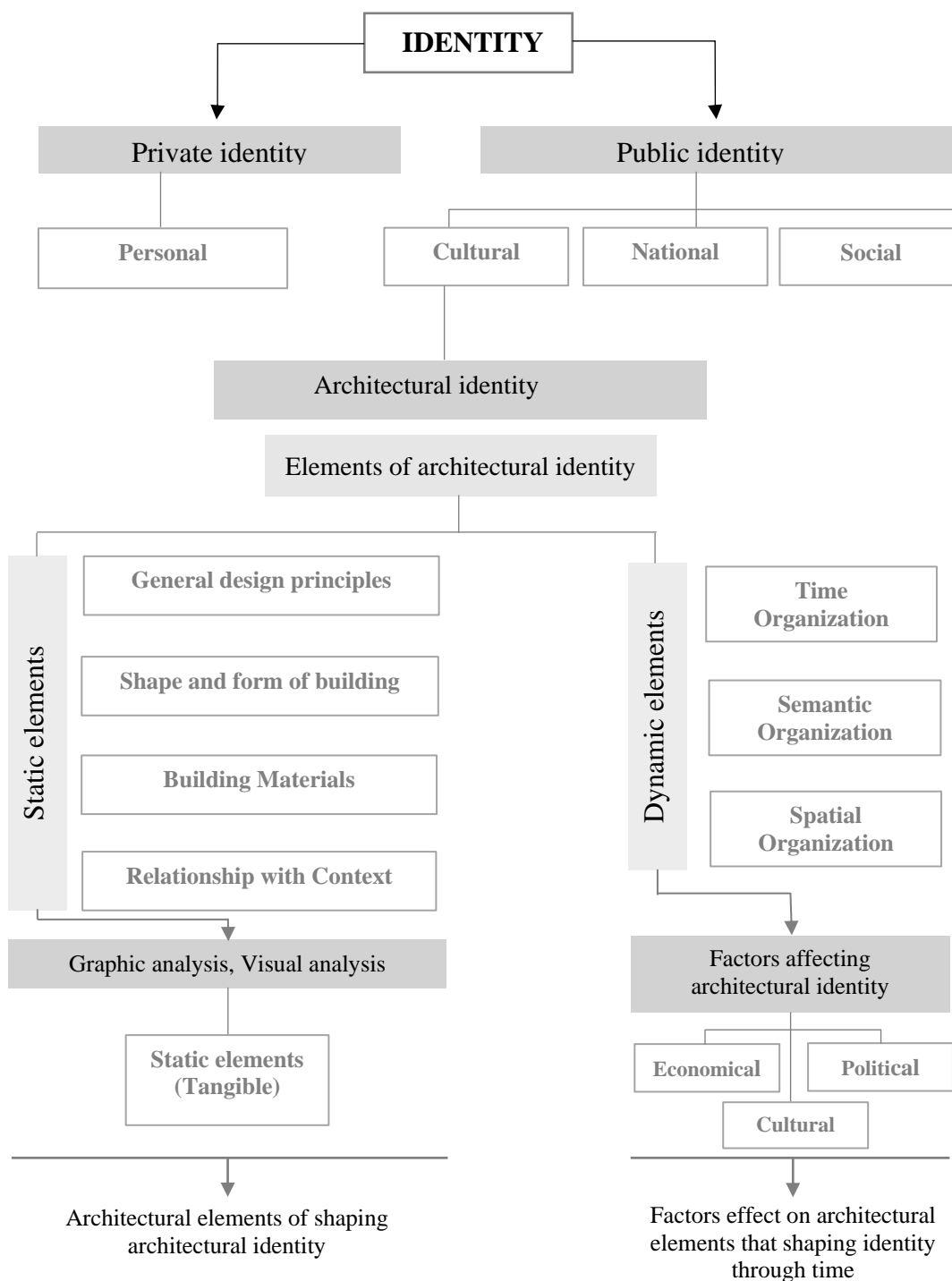
The term "static elements" refers to factors that may have been designed in such a way as to not have any effect on how architecture is generally understood as time passes on. It follows that a static concept of architecture primarily refers to its tangible elements and how they are arranged spatially. The four most important topics that the research identified as static elements in shaping the identity of architecture are the general design principles, the general form and shape of a building, the relationship of a building to the context, and its building material.

According to Farahbod study, from the static elements which are the tangibles that are described in the theoretical framework for this study that relates to

the method of shaping the architectural identity. a process of analysis can be established and it is necessary to depend on geometric methods, including the graphic analysis in addition to the visual analysis in order to examine the physical and visual aspects of the architectural form.

Figure 6.

A framework for analysing the architectural identity of Duhok city houses, from (Farahbod, 2018) expansion by Author



CHAPTER III

Methodology

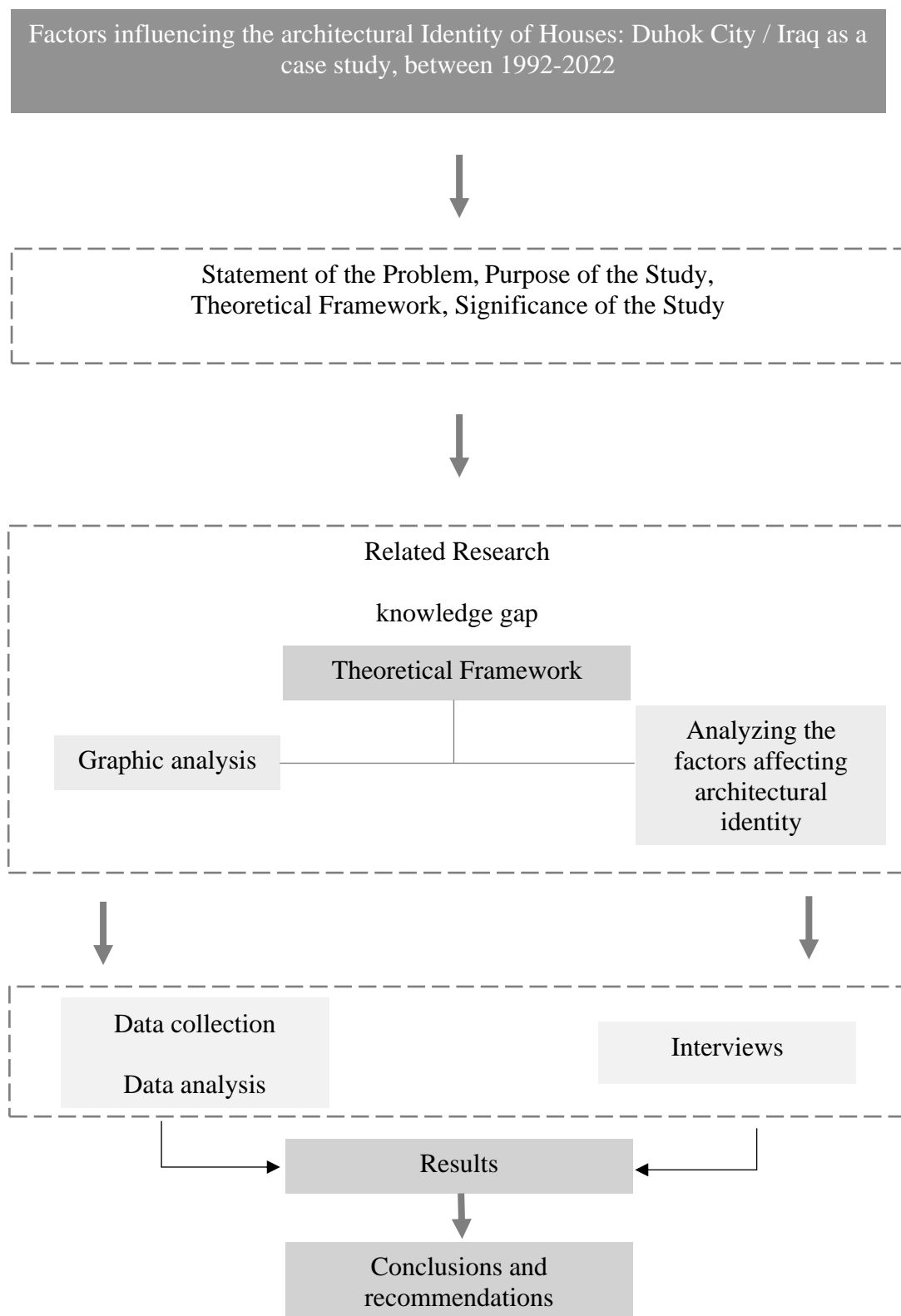
Research Design

A qualitative research method was used to answer the research questions and achieve the research goals. Qualitative method is approached by the researcher to find out the elements that shaping the architectural identity and the factor that lead to shaping it. Therefore, due to the theoretical framework the analysis has formed out. Accordingly, the study proposes framework to assess the elements that shape the architectural identity and the affecting factors. In order to apply the approach for Duhok city houses, detailed studies have been done to the houses since it became a province.

A specific period of time has been chosen according to specific factors that affect the city in general and specially the architectural side. In this regard, the comparative assessments of Duhok houses from various time periods and analysis of the chosen case studies have been taken into consideration as the methods of data analysis in this thesis. Also, interviews have been done with the owners to considering the economic, social, political factors that effect on the architectural identity, then analysed. In doing so, the developed model during the content analysis will be implemented to assess the identity shaping in Duhok city houses.

Figure 7.

General Study Methodology (Author)



Study Area

Duhok is one of Kurdistan region-Iraq cities. The term Duhok means two mountains because the city is located between two mountains, and is placed in a valley. The size of the valley is quite narrow, making Duhok more like a rectangle, and the city grows horizontally so it became a linear city as clear in (Figure 8). In Iraq's northern Kurdistan region, this city functions as both a commercial center and one of the country's strategic cities. Compared to many other Iraqi cities, particularly those in Kurdistan, it has a unique geography, temperature, topography, and spiritual sense of place. It is located in a very distinctive geographic and geological location with generally favourable weather conditions. If used properly and with consideration for the architectural design, this environment has the ability to build unique architecture and continue to shape the distinct identities of the city and the surrounding urban area.

In 1969 Duhok became a province, after 53 years the form of urban housing in Duhok city which is the residential areas are different in type. the residential areas make up the majority of the city, and independent houses are prevalent in these areas. In this study the houses are divided into three stages first from 1992-2003, second from 2004-2014, and third from 2015-2022, in order to recognize the developments and changes in architecture. The architectural identity will be evaluated in three periods, the transformations and the changes will be defined, then a comparative analyse will be done for the three periods. This chapter will explain the important of these three periods in Duhok with recognizing the factors.

Figure 8.

Duhok City Satellite Image (Presidency of the municipality of Duhok)



Architectural Identity of Duhok City

The northern region of Iraq, known as the Kurdistan Region, was formerly a part of the Ottoman Empire and joined the rest of modern Iraq in 1921. There are now three Provinces in it (The capital Erbil City, Sulaymaniyah, and Duhok).

Historical research demonstrates that the Kurdistan Region of Iraq's architecture and monuments generally incorporated Islamic architectural styles and elements (Sadiq, Taiyb, Fethi & Khalil, 2020).

In Duhok city the most ancient house is Kambalan house-1920, it is one of the archaeological sites in the city, according to this the house can be taken as an example to define the feature of the old city of Duhok and clarify the identity of the old houses in the city, as clear in (Figure 9). To understand the architectural features and the building elements at that time.

Figure 9.





Kambalan House-1920 (Author)



Table 2 show analysis of the house through understanding the building elements that form the house. This analysis clarifies the characteristics and features of the houses which form Duhok city's identity in this period.

Table 2.

Analyzing Building Elements of Kambalan House-1920 (Author)

Building elements (house)		
Building form		Geometric shapes and regular forms
Facade		Geometric lines (straight), the horizontal directional surfaces of the facade, and the verticality of the architectural details on the facade.
Openings (Windows/ Doors)		Narrow/small and few doors and windows, these are the features of the openings in Duhok ancient houses due to the privacy and climate condition.
Materials		Local stone and mortar are used for the construction and finishing of ancient houses. For the doors iron or timber are used. For the windows iron and glass, or timber and glass are used.

According to this example, it clarifies that the building identity elements at that period were shown in the form of building which was usually regular forms with using of small windows and depending on the human scale of doors and building mass in general. For facades, local materials and natural materials with a light color

are most used. Almost that houses are designed with straight lines, for details of the facade arches are used.

The economic and social-cultural factors highly affected the house's design and features in this period, the differences can be recognized through the building elements and the general form of the house. Some of them are constructed with new and modern techniques of building using reinforced concrete, as clear in (Figure 10). The characteristic features of the houses can be defined as solidity and low transparency due to privacy issues. The economic situation of the owner affects the use of materials and the construction process.

Figure 10.

An Ancient House in Christian Neighborhood- Duhok (Author)



Some of the old houses which are built traditionally still can be seen in the traditional district of the city, they were built with traditional architecture built of mud walls and roofing using short-span timber and mud as clear in (Figure 11). As mentioned before the use of materials and construction processes are affected by economic and social-cultural factors. Most houses consisted of one floor and all of them were built with human scale without using any element with huge scales.

These houses consider examples that identify the local architecture of Duhok city and it shaped the local identity.

Figure 11.

An Ancient House in Christian Neighborhood- Duhok (Author)



In 1958, Iraq witnessed political reform processes that substantially changed the country's approach to fostering modernism in its architecture. Since the Kurdistan region was administratively a part of central Iraq during this time, Iraqi policy proposed an architectural strategy for the area that was radically archetypal to the rest of Iraqi provenance in an attempt to preserve a sense of continuity with Iraq and avoid the socio-cultural characteristics of the Kurdish region, which were completely different in all respects (Othman, 2018).

The central government's decision to reform and develop local architecture by adopting international architecture was one of its most notable works since the 1930s. However, the developed designs and architectural solutions neglected several crucial issues, such as the fact that Iraq is made up of several ethnicities, each with its unique architectural traditions and local requirements. On the other hand, throughout the last century, many of the remnants that were thought to be historical sites of Iraqi Kurdistan were damaged. A Kurdish architect would have limited chance to perform an indirect interaction with the architectural design of a Kurdish

community during this time since Kurds mostly resided in restricted urban or suburban areas.

Duhok, Erbil, and Sulaymaniyah's urban areas saw the development of neighbourhoods based on Iraqi principles, regional identity, and nationality. The grouping of residential sections and the compact topography with limited access from the outside were these neighbourhoods' most notable features. As mentioned before Duhok city was a part of this period of change, the transformations can be recognized through the form of the houses and the architectural elements that are forming the facade of the houses, as clear in (Figure12).

Figure 12.

House in Gre Base Neighborhood- Duhok (Author)



The International Style's influences started to affect designs, as evidenced by a notable change in architectural type as a result of the transformation of its formal elements, principles, and rules to varied degrees. By utilizing Western structural techniques and imported building materials, the number of floors of the house, transformation in scale for instance they were parts of the transformation. Similarly, by rejecting the idea of an internal courtyard, architectural designs and mass forms started to be directed outwards rather than inward, resulting in facades that depend largely on exterior windows and openings for natural lighting and ventilation (Sadiq,

Taiyb, Fethi & Khalil, 2020). The attempts to recreate historical models from the past as architectural inspiration for contemporary developments, however, typically concentrated more on facades than on more basic components. As clear in (Figure 13).

Figure 13.

House in Gre Base Neighborhood- Duhok (Author)



Up until 1991, Southern Kurdistan's built environment was primarily characterized by the architecture which was a complete reflection of the complex social and political context created by the Iraqi political framework that was established following the First World War and the discontinuity of Kurdish identity and value. Political significance has long been a factor in the built environment equation, and it continues to be so in the present for architects and politicians all over the world. on the other hand, economic and social-cultural factor affecting as a result of this situation on the architectural identity.

After 1991 the period of transformation starts and the life in the Kurdistan region that include Duhok city is changed in different aspects, the period of transformation and changing on architectural identity in Duhok city could be classified into three basic periods:

- First period (1992-2003)

officially voted to the government in 1992 after a brief period of semi-autonomy was granted to the Kurdish region following the 1991 Kurdish exodus in Northern Iraq, which was an uprising against the regime. The parliament, council of ministers, and other institutions of Kurdistan were established by a partially independent government. Kurdish architectural identity was not considered a crucial part of the growth and expansion of Kurdish culture at the beginnings of the Kurdish rebuilding. Although the new political climate served as a significant spur to hasten the development of the Kurdish architectural identity, this period seems to have undergone an unspecified shift in terms of formalizing the new distinctive form of the built environment of Kurdistan.

Regional leaders keep adhering to the outdated system of urban government, utilizing the same restrictions on architectural style and design. Collective identity in the context of Iraqi Kurdistan during this time referred to political parties rather than a unified area. Duhok city was part of this crisis, the economic crisis and the poor economic climate simultaneously presented new challenges for reshaping the Kurdish national identity.

Additionally, first post-suppression architects graduating from the Kurdish School of Architecture and Urban Planning in 2001, which was a focal point when it initially opened its doors in 1996. The local architecture saw new changes as a result of the lack of knowledge about Kurdish culture as a foundation for new design ideas to represent the new stages the region through.

- Second period (2004-2014)

After the liberation of Iraq and the creation of an independent Kurdistan, the Kurdistan region was able to begin its restoration and development projects far earlier than other areas because to the shared oil earnings. That was the outcome of the tranquil environment, economic expansion, and regional and worldwide developments. There is no denying that many sections of the region have experienced sustained, fast growth throughout this time as the built environment has been rebuilt in Kurdistan. It's noteworthy to note that a significant portion of Kurdistan's building is being carried out by non-

Kurdish architects utilizing outdated ideas. Many nations have no licensing requirements at all and the professionalism itself acts as a license, as same in Kurdistan region and Iraq.

For the majority of strategic projects in the Kurdistan region, such as large-scale governmental buildings, gates, symbols, office buildings, the restoration of historical sites, hotels, and so forth, the regional government relies on architectural firms from neighbouring countries. This problem persists for the smaller scales as well; as a result, ready-made plans were primarily used for the houses in Duhok City.

- Third period (2015-2022)

Until 2014 the general situation in the region was stable, but it did not continue and new political events appeared, which was the emergence of ISIS. the bad security situation in the rest of Iraq and neighbouring countries led people to leave. displaced and immigrants got help from the Kurdistan region. automatically this situation affects the economic side, for example finding a job become more difficult because of abundant cheap labour in addition to other issues of pensions and salaries that are related to political factors. All these factors affected the economy, leading to a stagnation in architectural development. Duhok city is located on the borders, and for this reason, this city has seen even more displaced and immigrants. due to the economic issues and unsafe situation the building of houses decreased, also appearing of classes in society.

The overall security situation in the region was calm during the last five years, some classes of society started to build with new styles and imported materials without taking into account the local architecture even by the architect or the owner. If this strategy continues it will effective in occupying the region architecturally, and it will increase the probability that the region will become more isolated and actually dependent on international styles.

Data Collection Tools/Materials

The study focuses on a qualitative analysis of evaluating house form, facade, and exterior shape to identify and understand the elements and the factors that shape the architectural identity. Based on categories of city development in Duhok, the city districts that are officially developed by the government are chosen, after interviewing many official authorities (Presidency of the municipality of Duhok, Directorate of urban planning in Duhok governorate, Directorate of real estate registration in Duhok), the residential areas that were developed by the government were determined to take into account the economic and social-cultural factors that have an impact on the results of the study. Gri Basse district, Al-Askari district, and Al-Shurta district are from the old developed areas, and from the newly developed areas the KRO district and Masiki district, these districts were selected to represent the city (Figure 14). As mentioned before the study explained three different periods of time in Duhok city which classified into three phases, from these three periods the examples (houses) are selected. The following information is used to choose which examples to use in each category:

- The date of construction, the process of construction, information about the house plan and area, and photographic documentation have been documented through interviews with house owners to get the required approvals.
- The elevations and plans were drawn for each example.
- use of the master plan of the city to ensure that the selected houses are related to the specified districts.
- For choosing the examples, considered both social and economic factors to ensure similarities in the example's quality.

The limitation criteria are mentioned in (chapter one), according to the area of Duhok city and the limitations of the city for each period 7 cases (houses) are selected.

Figure 14.

Classifying Two Different in Duhok City (Author)



A total of 21 research cases were selected from the study area that selected from Duhok city, which are houses. Each of the seven samples belongs to a specific period (A, B, C), as shown in (Figure 15).

Figure 15.

The Period 1992-2003, Period A (Author)

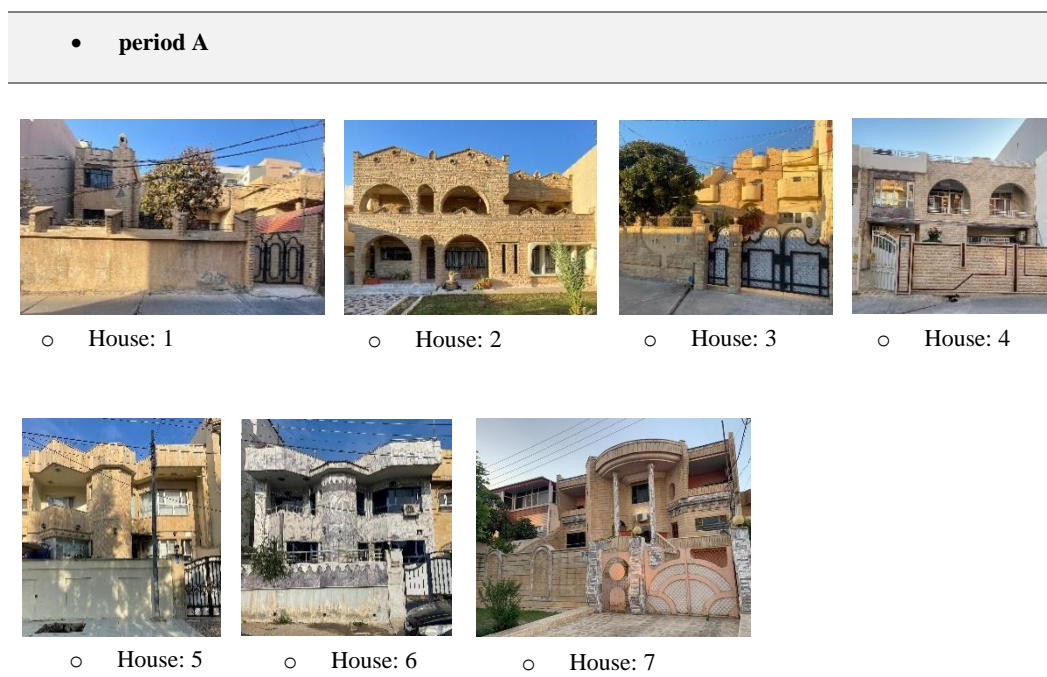


Figure 16.

The Period 2004-2014, Period B (Author)

• **Period B**



○ House: 1



○ House: 2



○ House: 3



○ House: 4



○ House: 5



○ House: 6



○ House: 7

Figure 17.

The Period 2015-2022, Period C (Author)

• **Period C**



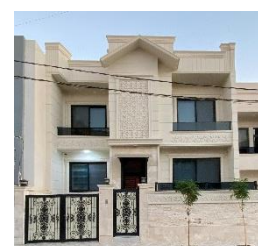
○ House: 1



○ House: 2



○ House: 3



○ House: 4



○ House: 5



○ House: 6



○ House: 7

Interviews

The interviews were conducted and the questions have been prepared to acquire the necessary information from 21 selected house owners. The interviews have been conducted face-to-face while visiting the houses and documenting the photographic data. Because of the interview's increased opportunities to collect the owner's opinions than the questionnaire's limited number of questions, it has been chosen to replace it. As a result, during the interview's question and answer time, there may be more discussion on the subject. In this case, it will be more understandable and clearer.

The most effective factors in shaping the architectural identity have been defined are (economic, political, and social-cultural), as mentioned in (chapter two). Hence, questions regarding the effect of these factors on the elements that shape architectural identity have been asked to the interviewee, as follows:

1. Relative to the first element:

What were the reasons and motives for choosing this design for the house?

Are the architect's designs relied upon?

2. Relative to the second element:

What was the owner's opinion of the building's mass and components? Did it depend on the architect's idea and concept?

3. Relative to the third element:

What were the reasons for choosing these materials for this house?

4. Relative to the fourth element:

What are the reasons behind choosing new styles for the house design? Or, what are the reasons behind choosing local references for the house design?

Data Collection Procedures

The study evaluates and analyses the static elements that shape architectural identity as mentioned in (chapter two), in order to examine the physical and visual aspects of the architectural form, it is necessary to rely on geometric methods which the graphic analysis in addition with visual analysis, that outlined in the theoretical framework for this study that relates to the method of shaping the architectural

identity. The methodology of the analysis of architectural identity is based on the analysis of the elements that shaping the architectural identity, as follows:

- Determine the most important measurable quantitative variables of the elements.
- Determine the measurement possible values for the variables.

The possible values of measurement required for the variables were extracted, the application of analysing the static elements that shaping architectural identity is as follows:

General design principles

Analysis of the most important design principles which are measurable and shape the architectural identity, including:

- Analyse the form in terms of repetition and rhythm, whether it is a fixed or varied repetition.
- Analyse the shape in terms of scale, whether human or non-human.
- Analyse the shape in terms of symmetry.
- Analyse the shape in terms of balance, whether it is formal balance or non-formal balance.

Shape and form of building

Analysis of the shape and form of the building include the building mass and the building openings, including:

- Analysis of the shape and form of the building mass:
 - Analysing the geometry of mass of the building shape in terms of being regular or being irregular.
 - Analyse the lines of the building shape by being straight horizontal, vertical, inclined, or being curved.
 - Analyse the building mass location within the plot of land, whether it is fitting with land boundaries, with setback from sides or free standing on land.
 - Analysing the texture of the building shape in terms of roughness (rough or smooth), and in terms of transparency (transparent or solid).

- Analyse the colours of the building shape in terms of color type (primary or non-primary), in terms of light value (light or dark), and in terms of color degree (bright or not).
- Analysis of the shape and form of the building components:
 - Analysis of the shape and form of the building openings (doors):
 - Analyse the door location within the building, whether it is at the center, at the sides, or it is designed with other options.
 - Analysing the accessibility for the main entrance and the building entrance, whether it is direct or indirect.
 - Analyse the door in terms of scale, whether human or non-human.
 - Analysis of the shape and form of the building openings (windows):
 - Analysing the size of the window, whether it is small, medium or large.
 - Analysing the shape of the window, whether it is rectangular, square, circular or it is designed with other options.
 - Analysis of the shape and form of the building balcony:
 - Analysing the size of the balcony, whether it is small, medium or large.
 - Analysing the shape of the balcony, whether it is rectangular, square, circular or it is designed with other options.
 - Analysis of the shape and form of the building fence:
 - Analysing the height of the fence, whether it is small, medium or large.
 - Analysing the outside designing of the fence if it is designed or not.

Building Materials

Analysis of the building material include the structure, roofing, and building openings, including:

- Analyse the building structure materials, whether it is reinforced concrete, brick and concrete, stone and mortar.
- Analyse the roofing materials, whether is reinforced concrete slab or timber structure covered with clay.

- Analyse the building openings materials, whether is timber, iron, aluminium, plastic.
- Analyse the building facade materials, whether natural stone, artificial stone, plaster, or artificial decorative siding which is familiar in the region and is called cork.

Relationship with Context

Analysis of the relationship between the building and its surrounding, including:

- Analyse the historical architectural references, whether is a correlation or no correlation.
- Analyse type of the material, whether is a correlation or no correlation.

Data Analysis

For this study two tables for each case were developed to analyse the selected houses according to the elements that shaping architectural identity based on literature review (chapter tow).

In the first table, the demographic data was provided of the cases includes the date of construction, the process of construction, the house area, number of floors, and whether the house is designed and built by an architect or without architect in addition to the required photos to perceive the house exterior form.

Furthermore, the second table consists of four main elements, and twelve of variables of a main elements, and each variable has its own values, in addition to three main factors that affecting on these elements. While the selected houses according to this analysis find the answer of (What is the framework to evaluate the architectural identity, as well as how these elements are shaping the architectural identity of Duhok city under the affecting factors).

Table 3.

Case Study Data – House A1 (Author)


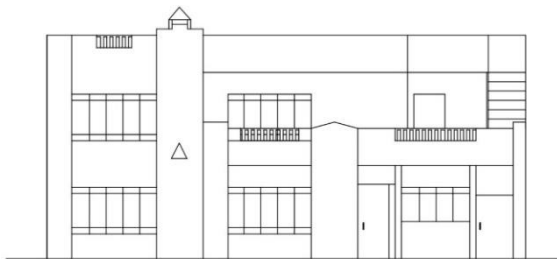
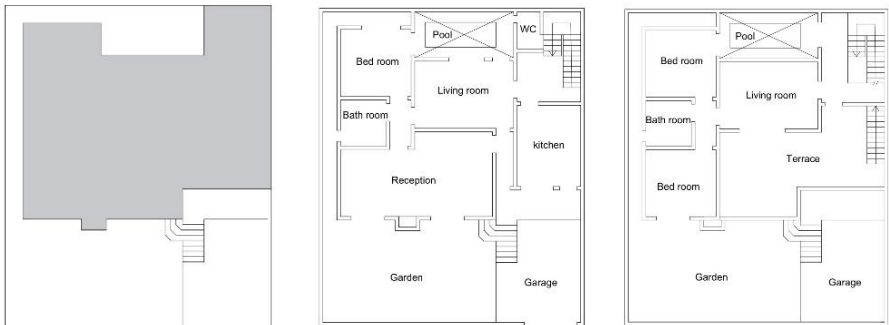
House code: A1		Construction period, year: 1993	Area: 300 m²
		Construction process: By architect	No. Floors: 2
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	Simplicity is apparent in this house, use of design principles through the repetition of openings.	Building Materials	Natural stone and mortar are used for facade, with using of iron for doors and windows. Timber door is used for the entrance.
Shape and form of building	The shape of the house is regular. the building mass has a setback from the street side and rises over the land. Light color is used for this house. The openings contain rectangular windows and human scale used for doors with direct accessibility.	Relationship with Context	Historical and local architectural elements were not used in this house, but using of the local natural stone attached it to the context.

Table 4.

Analysis of Case Study – House A1 (Author)



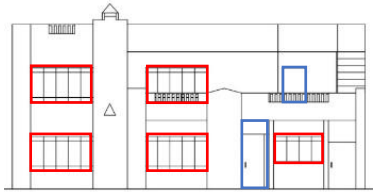





House code: A1							
Static elements of architectural identity		Variables		Values			
General design principles	Repetition and rhythm	Fixed					
		Varied repetition					
	Scale	Human					
		Non-human					
	Symmetry						
	Balance	Formal					
		Non-formal					
Shape and form of building	Building mass	Geometry of mass	Regular				
			Irregular				
		Mass relation with the ground	With the ground line				
			Excavated with the ground				
			Rising over the ground line				
		Location	Fitting with land boundaries				
			Setback from sides				
			Free standing on land				
		Lines	Horizontal				
			Vertical				
			Inclined				
			Curved				
		Texture	Rough				
			Smooth				
			Transparent				
			Solid				
		Color	Primary				
			Non-primary				
			Light				
			Dark				
			Bright				
			Not bright				
	Building components	Opening	Doors (Entrance)	Location	Center		
					One side		
					Other		
				Accessibility	Direct		
					Indirect		
Scale				Human			
			Non-human				
							

Table 4. (Continued).

	Windows	Size	Small	<input type="radio"/>	
			Medium	<input checked="" type="radio"/>	
			Large	<input type="radio"/>	
		Shape	Rectangular	<input checked="" type="radio"/>	
			Square	<input type="radio"/>	
			Circular	<input type="radio"/>	
			Others	<input type="radio"/>	
	Balcony	Size	Small		Not available
			Medium		
			Large		
		Shape	Rectangular		
			Square		
			Others		
	Fence	Hight	Small	<input type="radio"/>	
			Medium	<input checked="" type="radio"/>	
			Large	<input type="radio"/>	
		Designing	Designed	<input checked="" type="radio"/>	
			Not designed	<input type="radio"/>	
Building materials	Structural system	R.C.C Frame structures		<input type="radio"/>	  
		Bearing-wall		<input checked="" type="radio"/>	
	Roofing materials	Reinforced concrete slab		<input checked="" type="radio"/>	
		Traditional roofing (Timber and clay)		<input type="radio"/>	
	Openings materials	Timber		<input checked="" type="radio"/>	
		Iron		<input checked="" type="radio"/>	
		Aluminium		<input type="radio"/>	
		Plastic		<input type="radio"/>	
	Facade materials	Natural stone		<input checked="" type="radio"/>	
		Artificial stone		<input type="radio"/>	
Relationship with Context	Historical architectural references	Correlation		<input type="radio"/>	
		No correlation		<input checked="" type="radio"/>	
	Materials type	Correlation		<input checked="" type="radio"/>	
		No correlation		<input type="radio"/>	

Factors affecting architectural elements (A1):

- General design principles
 - Economic:
Not affected
 - Political:
Westernization affected house design by using new styles because of the political situation that led people to build their houses inspired by other countries.
 - Social –Cultural:
Simple and new designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to build the house rising over the ground line, using this scale of mass and designing the house components.
 - Political:
The height of the fence is related to safety issues because of the instability of the political situation.
 - Social –Cultural:
Rising over the ground, the house setback from the street side and the height of the fence are designed in this way to have more privacy, the house design is affected by cultural factor.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this type of material.
 - Political:
Using of iron doors and iron protection for windows for safety because of the security issues and the political situation.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
The use of local natural stone reflects the owner's interest in the facade and is related to the owner's economic situation.
 - Political:
The effect of political factor appears in the use of local materials, which were the only available materials.
 - Social –Cultural:
The social factor is the reason of designing houses without any local architectural element and building simple and functional houses.

Table 5.

Case Study Data – House A2 (Author)

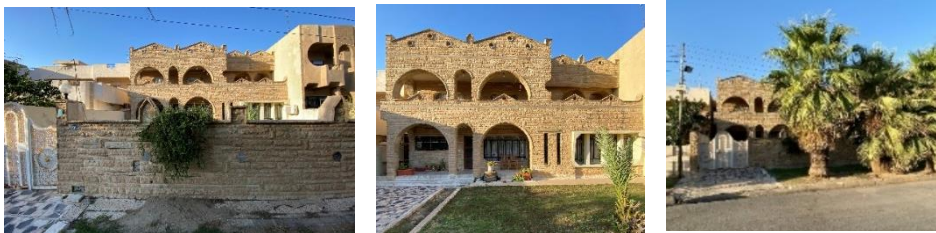
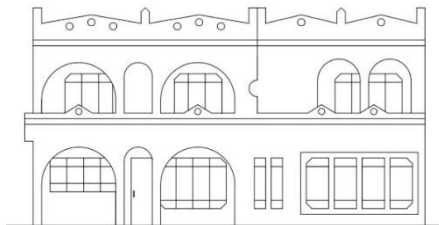
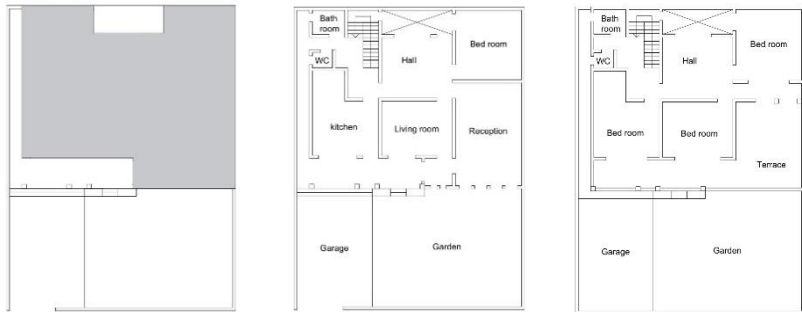
House code: A2		Construction period, year: 1997	Area: 300 m ²
		Construction process: By architect	No. Floors: 2
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	This house is designed with some local architectural elements which are arches, use of design principles through the repetition of these arches appears in the facade.	Building Materials	Natural stone is used for facade, with using of iron for doors and windows. Also, timber door is used for the entrance.
Shape and form of building	The building mass has a setback from the street side and built with the ground line. Light color is used for this house. The openings contain rectangular and other shapes of windows and human scale used for doors.	Relationship with Context	Historical and local architectural elements were used in this house in addition to the use of local natural stone, thus the house is more correlated with the context.

Table 6.

Analysis of Case Study – House A2 (Author)

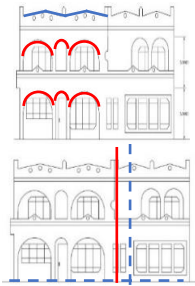






House code: A2								
Static elements of architectural identity		Variables		Values				
General design principles	Repetition and rhythm	Fixed						
		Varied repetition						
	Scale	Human						
		Non-human						
	Symmetry							
	Balance	Formal						
		Non-formal						
Shape and form of building	Building mass	Geometry of mass	Regular					
			Irregular					
		Mass relation with the ground	With the ground line					
			Excavated with the ground					
			Rising over the ground line					
		location	Fitting with land boundaries					
			Setback from sides					
			Free standing on land					
		Lines	Horizontal					
			Vertical					
			Inclined					
			Curved					
		Texture	Rough					
			Smooth					
			Transparent					
			Solid					
		Color	Primary					
			Non-primary					
			Light					
			Dark					
			Bright					
		Not bright						
	Building components	Opening	Doors (Entrance)	location	Center			
					One side			
					Other			
				accessibility	Direct			
					Indirect			
				Scale	Human			
					Non-human			
								

Table 6. (Continued).

		Windows	Size	Small	●		
				Medium	●		
				Large	○		
			Shape	Rectangular	●		
				Square	○		
				Circular	○		
				Others	●		
		Balcony	Size	Small			Not available
				Medium			
				Large			
	Shape		Rectangular				
			Square				
			Others				
	Fence	Hight	Small		○		
			Medium		○		
			Large		●		
		Designing	Designed		●		
			Not designed		○		

Building Materials	Structural system	R.C.C Frame structures			○	  
		Bearing-wall			●	
	Roofing materials	Reinforced concrete slab			●	
		Traditional roofing (Timber and clay)			○	
	Openings materials	Timber			●	
		Iron			●	
		Aluminium			○	
		Plastic			○	
	Facade materials	Natural stone			●	
		Artificial stone			○	
		plaster			○	
		Artificial decorative siding			○	

Relations hip with Context	Historical architectural references	Correlation			●	
		No correlation			○	
	Materials type	Correlation			●	
		No correlation			○	

Factors affecting architectural elements (A2):

- General design principles
 - Economic:
Due to the economic situation of the owner which was good, a detailed and designed facade can be seen in this house.
 - Political:
Not affected.
 - Social –Cultural:
Local architectural elements are used in this house because of the choices of the owner and the design of the architect.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to build the house with many details for all of the building.
 - Political:
The height of the fence is related to safety issues because of the instability of the political situation.
 - Social –Cultural:
The house setback from the street side and the height of the fence are designed in this way to have more privacy.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this type of material, which is the local natural stone for whole the building facade.
 - Political:
Using of iron doors and iron protection for windows for safety because of the security issues and the political situation in this period.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
local natural stone used for all the facades reflects the owner's interest in the facade and is also related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of local materials, which were the only available materials.
 - Social –Cultural:
The social factor is the reason for designing houses with local architectural elements and it reflects the society's culture.

Table 7.

Case Study Data – House A3 (Author)


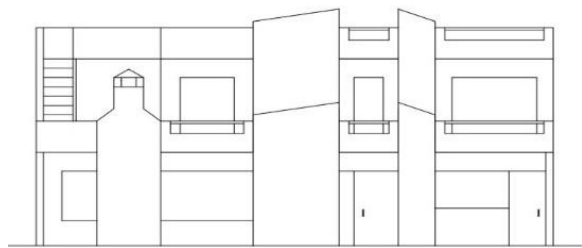
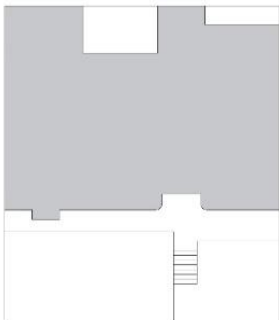
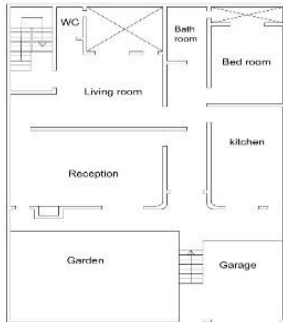
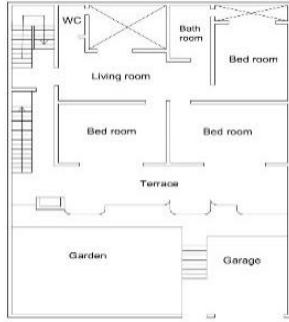
House code: A3		Construction period, year: 1997	Area: 250 m ²
		Construction process: Without an architect	No. Floors: 2
photographs			
Elevations			
Plans	  		
Static elements of architectural identity			
General design principles	The design of this house appears the lack design principles that are used throughout the process of building this house.	Building Materials	Natural stone and mortar are used for the house facade, with using of iron for doors and windows.
Shape and form of building	The shape of the house is regular and it has a setback from the street side and rises over the land, also light colors are used. Due to the openings, it contains rectangular windows and human scale used for doors.	Relationship with Context	local natural stones correlate the house to the context, on the other hand, historical and local architectural elements were not used in this house.

Table 8.

Analysis of Case Study – House A3 (Author)

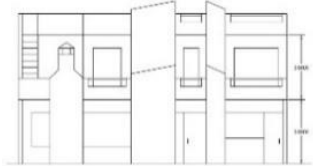
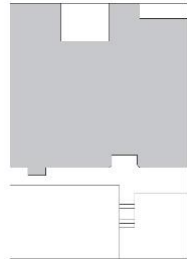
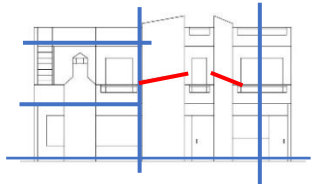





House code: A3										
Static elements of architectural identity		Variables		Values						
General design principles	Repetition and rhythm	Fixed				<input type="radio"/>				
		Varied repetition				<input type="radio"/>				
	Scale	Human				<input checked="" type="radio"/>				
		Non-human				<input type="radio"/>				
	Symmetry					<input type="radio"/>				
	Balance	Formal				<input type="radio"/>				
		Non-formal				<input checked="" type="radio"/>				
Shape and form of building	Building mass	Geometry of mass	Regular				<input checked="" type="radio"/>			
			Irregular				<input type="radio"/>			
		Mass relation with the ground	With the ground line				<input type="radio"/>			
			Excavated with the ground				<input type="radio"/>			
			Rising over the ground line				<input checked="" type="radio"/>			
		location	Fitting with land boundaries				<input type="radio"/>			
			Setback from sides				<input checked="" type="radio"/>			
			Free standing on land				<input type="radio"/>			
		Lines	Horizontal				<input checked="" type="radio"/>			
			Vertical				<input checked="" type="radio"/>			
			Inclined				<input checked="" type="radio"/>			
			Curved				<input type="radio"/>			
		Texture	Rough				<input checked="" type="radio"/>			
			Smooth				<input type="radio"/>			
			Transparent				<input type="radio"/>			
			Solid				<input checked="" type="radio"/>			
		Color	Primary				<input type="radio"/>			
			Non-primary				<input checked="" type="radio"/>			
			Light				<input checked="" type="radio"/>			
			Dark				<input type="radio"/>			
			Bright				<input type="radio"/>			
			Not bright				<input checked="" type="radio"/>			
	Building components	Opening	Doors (Entrance)	location	Center				<input checked="" type="radio"/>	
					One side				<input checked="" type="radio"/>	
					Other				<input type="radio"/>	
				accessibility	Direct				<input checked="" type="radio"/>	
					Indirect				<input type="radio"/>	
				Scale	Human				<input checked="" type="radio"/>	
			Non-human				<input type="radio"/>			

Table 8. (Continued).

		Windows	Size	Small	<input type="radio"/>		
				Medium	<input checked="" type="radio"/>		
				Large	<input type="radio"/>		
			Shape	Rectangular	<input checked="" type="radio"/>		
				Square	<input type="radio"/>		
				Circular	<input type="radio"/>		
				Others	<input type="radio"/>		
		Balcony	Size	Small			Not available
				Medium			
				Large			
	Shape		Rectangular				
			Square				
			Others				
	Fence	Hight	Small		<input type="radio"/>		
			Medium		<input type="radio"/>		
			Large		<input checked="" type="radio"/>		
		Designing	Designed		<input checked="" type="radio"/>		
			Not designed		<input type="radio"/>		
Building Materials	Structural system	R.C.C Frame structures			<input type="radio"/>		
		Bearing-wall			<input checked="" type="radio"/>		
	Roofing materials	Reinforced concrete slab			<input checked="" type="radio"/>		
		Traditional roofing (Timber and clay)			<input type="radio"/>		
	Openings materials	Timber			<input type="radio"/>		
		Iron			<input checked="" type="radio"/>		
		Aluminium			<input type="radio"/>		
		Plastic			<input type="radio"/>		
	Facade materials	Natural stone			<input checked="" type="radio"/>		
		Artificial stone			<input type="radio"/>		
		plaster			<input checked="" type="radio"/>		
		Artificial decorative siding			<input type="radio"/>		
Relations hip with Context	Historical architectural references	Correlation			<input checked="" type="radio"/>		
		No correlation			<input type="radio"/>		
	Materials type	Correlation			<input checked="" type="radio"/>		
		No correlation			<input type="radio"/>		

Factors affecting architectural elements (A3):

- General design principles
 - Economic:
The economic situation in this period led to building houses without an architect and without a designing process.
 - Political:
The political situation that led people to build their houses was simple and affected by the new styles.
 - Social –Cultural:
Simple and new designs are used in this house because of the owner's opinion.
- Shape and form of building
 - Economic:
The economic situation of the owner in this section provided the opportunity to build the house rising over the ground line.
 - Political:
The height of the fence is related to safety issues because of the instability of the political situation.
 - Social –Cultural:
Rising over the ground, the house setback from the street side and the height of the fence are designed in this way to have more privacy.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use natural stone only for some parts of the house.
 - Political:
Using of iron doors and iron protection for windows for safety because of the security issues and the political situation.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
The use of local natural stone reflects the owner's interest and opinions.
 - Political:
The effect of political factor appears in the use of local materials, which were the only available materials.
 - Social –Cultural:
The social factor is the reason of designing houses without any local architectural element.

Table 9.
Case Study Data – House A4 (Author)



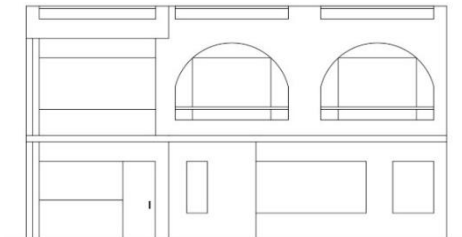
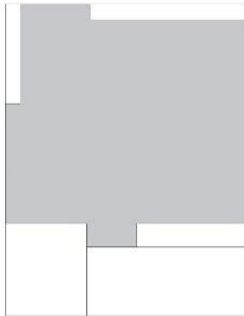
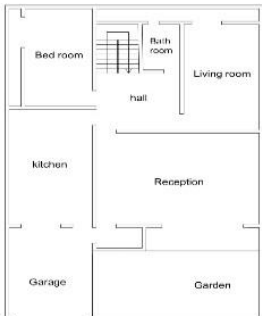
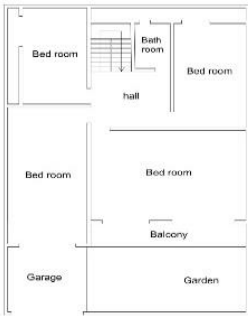
House code: A4		Construction period, year: 1998	Area: 250 m ²
		Construction process: Without an architect	No. Floors: 2
photographs	<div></div> <div></div>		
Elevations			
Plans	<div></div> <div></div> <div></div>		
Static elements of architectural identity			
General design principles	The lack of design principles that are used throughout the process of building this house are clear in this house design.	Building Materials	Natural stones are used for the facade, with using of iron and timber for doors and aluminum for windows.
Shape and form of building	The shape of the house is regular. the building mass has a setback from the street side and rises over the land. The openings contain rectangular windows.	Relationship with Context	Historical and local architectural elements were not used in this house, but using of the local natural stone provide the relationship with the context.

Table 10.

Analysis of Case Study – House A4 (Author)

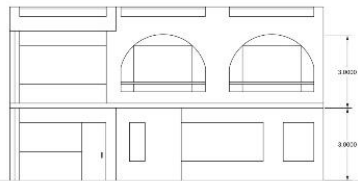




House code: A4						
Static elements of architectural identity		Variables		Values		
General design principles	Repetition and rhythm	Fixed				
		Varied repetition				
	Scale	Human				
		Non-human				
	Symmetry					
	Balance	Formal				
		Non-formal				
	Shape and form of building	Building mass	Geometr y of mass	Regular		
Irregular						
Mass relation with the ground			With the ground line			
			Excavated with the ground			
			Rising over the ground line			
location			Fitting with land boundaries			
			Setback from sides			
			Free standing on land			
Lines			Horizontal			
			Vertical			
			Inclined			
			Curved			
Texture			Rough			
			Smooth			
			Transparent			
			Solid			
Color			Primary			
			Non-primary			
			Light			
			Dark			
			Bright			
			Not bright			
Building components		Opening	Doors (Entrance)	location	Center	
					One side	
					Other	
				accessibility	Direct	
					Indirect	
				Scale	Human	
			Non-human			

Table 10. (Continued).

		Windows	Size	Small	●			
				Medium	●			
				Large	○			
			Shape	Rectangular	●			
				Square	○			
				Circular	○			
				Others	○			
			Balcony	Size	Small		○	
					Medium		●	
		Large			○			
		Shape		Rectangular			●	
				Square			○	
				Others			○	
		Fence	Hight	Small			○	
				Medium			○	
				Large			●	
			Designing	Designed			●	
				Not designed			○	
Building Materials	Structural system	R.C.C Frame structures			○	 		
		Bearing-wall			●			
	Roofing materials	Reinforced concrete slab			●			
		Traditional roofing (Timber and clay)			○			
	Openings materials	Timber			●			
		İron			●			
		Aluminium			●			
		Plastic			○			
	Facade materials	Natural stone			●			
		Artificial stone			○			
		plaster			○			
		Artificial decorative siding			○			
	Relations hip with Context	Historical architectural references	Correlation				●	
			No correlation				○	
		Materials type	Correlation				●	
			No correlation				○	

Factors affecting architectural elements (A4):

- General design principles
 - Economic:
Not affected
 - Political:
The political situation that led people to build their houses was simple and affected by the new styles.
 - Social –Cultural:
Simple and new designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity of using this scale of mass and design the house components in this period.
 - Political:
The height of the fence is related to safety issues because of the instability of the political situation in this period.
 - Social –Cultural:
The height of the fence is designed in this way to have more privacy, the house design is affected by cultural factor.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this type of materials for the house facade.
 - Political:
Using of iron doors is related to the safety because of the security issues and the political situation.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
The use of local natural stone related to the owner's economic situation.
 - Political:
The effect of political factor appears in the use of local materials, which were the only available materials in this period.
 - Social –Cultural:
The social factor is the reason for designing houses with local architectural elements and it reflects the society's culture.

Table 11.

Case Study Data – House A5 (Author)



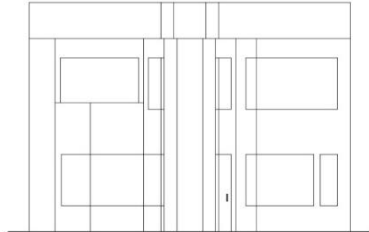
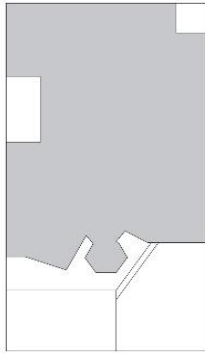
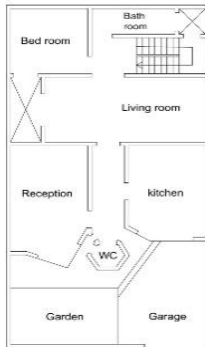
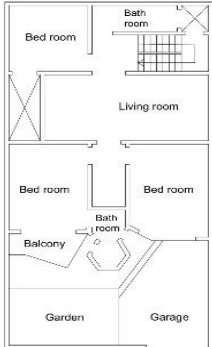
House code: A5		Construction period, year: 1999	Area: 200 m ²
		Construction process: By architect	No. Floors: 2
photographs	<div></div> <div></div>		
Elevations			
Plans	<div></div> <div></div> <div></div>		
Static elements of architectural identity			
General design principles	The design of this house appears the use of design principles through the non-formal balance in the facade form.	Building Materials	Natural stone and mortar are used for the facade of this house, with using of iron for doors and aluminum for windows.
Shape and form of building	The building mass is built with the ground line and light color is used for this house. The openings contain rectangular windows and human scale is used for doors.	Relations hip with Context	Historical and local architectural elements were not used in this house, but using of the local natural stone it clear in the facade.

Table 12.

Analysis of Case Study – House A5 (Author)

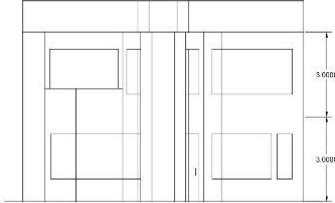
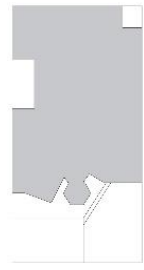
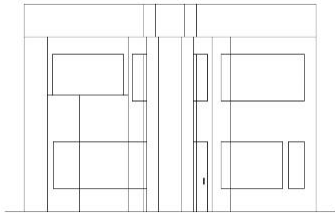






ouse code: A5							
Static elements of architectural identity	Variables		Values				
General design principles	Repetition and rhythm	Fixed		○			
		Varied repetition		○			
	Scale	Human		●			
		Non-human		○			
	Symmetry			○			
	Balance	Formal		○			
		Non-formal		●			
Shape and form of building	Building mass	Geometr y of mass	Regular		○		
			Irregular		●		
		Mass relation with the ground	With the ground line		●		
			Excavated with the ground		○		
			Rising over the ground line		○		
		location	Fitting with land boundaries		○		
			Setback from sides		●		
			Free standing on land		○		
		Lines	Horizontal		●		
			Vertical		●		
			Inclined		●		
			Curved		○		
		Texture	Rough		●		
			Smooth		○		
			Transparent		○		
			Solid		●		
		Color	Primary		○		
			Non-primary		●		
			Light		●		
			Dark		○		
			Bright		○		
		Not bright			●		
	Building components	Opening	Doors (Entrance)	location	Center	○	
					One side	●	
					Other	●	
				accessibility	Direct	●	
					Indirect	○	
			Scale	Human	●		
				Non-human	○		

Table 12. (Continued).

		Windows	Size	Small	●		
				Medium	●		
				Large	○		
			Shape	Rectangular	●		
				Square	○		
				Circular	○		
				Others	○		
			Balcony	Size	Small		○
					Medium		●
		Large			○		
		Shape		Rectangular	○		
				Square	○		
				Others	●		
		Fence	Hight	Small	○		
				Medium	○		
				Large	●		
			Designing	Designed	●		
				Not designed	○		

Building Materials	Structural system	R.C.C Frame structures	○	 
		Bearing-wall	●	
	Roofing materials	Reinforced concrete slab	●	
		Traditional roofing (Timber and clay)	○	
	Openings materials	Timber	○	
		Iron	●	
		Aluminium	●	
		Plastic	○	
	Facade materials	Natural stone	●	
		Artificial stone	○	
		plaster	●	
		Artificial decorative siding	○	

Relations hip with Context	Historical architectural references	Correlation	○	
		No correlation	●	
	Materials type	Correlation	●	
		No correlation	○	

Factors affecting architectural elements (A5):

- General design principles
 - Economic:
Due to the economic situation of the owner which was good, a detailed and designed facade can be seen in this house.
 - Political:
New architectural styles affected house design, because of the political situation that led people to build their houses inspired by other countries.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner and the architect's opinions.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to design the house components with more detail.
 - Political:
The height of the fence is related to safety issues because of the instability of the political situation.
 - Social –Cultural:
This house design and the height of the fence are designed in this way to have more privacy.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this natural stone for the facade.
 - Political:
Using of iron doors for safety because of the security issues.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
local natural stone reflects the owner's interest in designing the house.
 - Political:
The effect of political factor appears in the use of local materials, which were the only available materials.
 - Social –Cultural:
The social factor is the reason of designing houses without any local architectural element and building simple and functional houses.

Table 13.

Case Study Data - House A6 (Author)


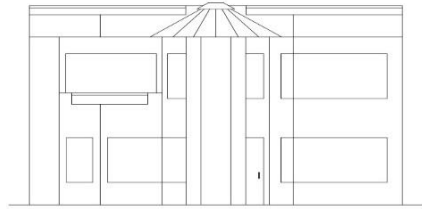
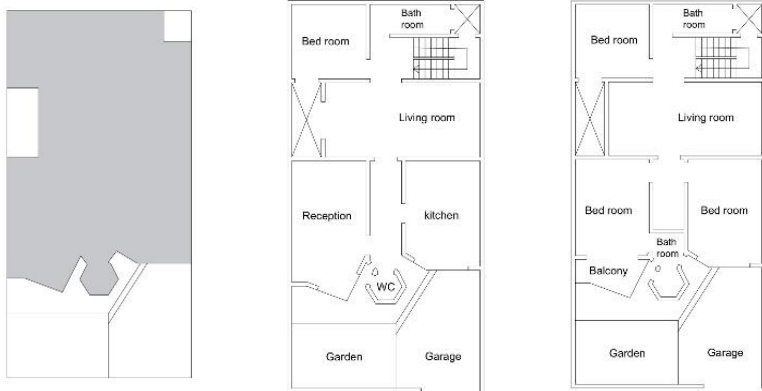
House code: A6		Construction period, year: 2000	Area: 200 m ²
		Construction process: By architect	No. Floors: 2
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	The design of this house appears the use of design principles through the non-formal balance in the facade form.	Building Materials	Natural stone is used for the facade of this house, with using of iron for doors and aluminum for windows.
Shape and form of building	The building mass is built with the ground line. The openings contain rectangular windows and human scale is used for doors.	Relationship with Context	Historical and local architectural elements were not used in this house.

Table 14.

Analysis of Case Study – House A6 (Author)

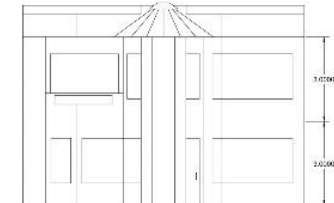
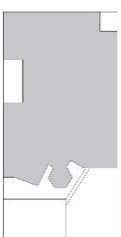
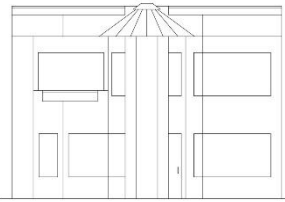





House code: A6								
Static elements of architectural identity		Variables		Values				
General design principles	Repetition and rhythm	Fixed				●		
		Varied repetition				○		
	Scale	Human				●		
		Non-human				○		
	Symmetry					○		
	Balance	Formal				○		
		Non-formal				●		
								
Shape and form of building	Building mass	Geometry of mass	Regular				○	
			Irregular				●	
		Mass relation with the ground	With the ground line				●	
			Excavated with the ground				○	
			Rising over the ground line				○	
		location	Fitting with land boundaries				○	
			Setback from sides				●	
			Free standing on land				○	
		Lines	Horizontal				●	
			Vertical				●	
			Inclined				●	
			Curved				○	
		Texture	Rough				○	
			Smooth				●	
			Transparent				○	
			Solid				●	
		Color	Primary				○	
			Non-primary				●	
			Light				●	
			Dark				○	
			Bright				○	
			Not bright				●	
	Building components	Opening	Doors (Entrance)	location	Center			○
					One side			●
					Other			○
				accessibility	Direct			●
					Indirect			○
				Scale	Human			●
						   		

Table 14. (Continued).

		Windows		Non-human	○		
			Size	Small	●		
				Medium	●		
				Large	○		
				Shape	Rectangular		●
			Square		○		
			Circular		○		
			Others		○		
		Balcony	Size	Small		○	
				Medium		○	
				Large		●	
			Shape	Rectangular		○	
				Square		○	
	Others			●			
	Fence	Hight	Small		○		
			Medium		●		
			Large		○		
		Designing	Designed		●		
			Not designed		○		

Building Materials	Structural system	R.C.C Frame structures			○	
		Bearing-wall			●	
	Roofing materials	Reinforced concrete slab			●	
		Traditional roofing (Timber and clay)			○	
	Openings materials	Timber			○	
		Iron			●	
		Aluminium			●	
		Plastic			○	
	Facade materials	Natural stone			●	
		Artificial stone			○	
		plaster			●	
		Artificial decorative siding			○	

Relationship with Context	Historical architectural references	Correlation			○	
		No correlation			●	
	Materials type	Correlation			○	
		No correlation			●	

Factors affecting architectural elements (A6):

- General design principles
 - Economic:
Due to the economic situation of the owner which was good, a detailed and designed facade can be seen in this house.
 - Political:
New architectural styles affected house design, because of the political situation that led people to build their houses inspired by other countries.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner and the architect's opinions.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to design the house components with more detail.
 - Political:
The height of the fence is related to safety issues because of the instability of the political situation.
 - Social –Cultural:
This house design and the height of the fence are designed in this way to have more privacy.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this natural stone for the facade.
 - Political:
Using of iron doors for safety because of the security issues.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
The use of the natural stone reflects the owner's interest in designing the house.
 - Political:
Not affected.
 - Social –Cultural:
The social factor is the reason of designing houses without any local architectural element and building simple and functional houses.

Table 15.

Case Study Data - House A7 (Author)



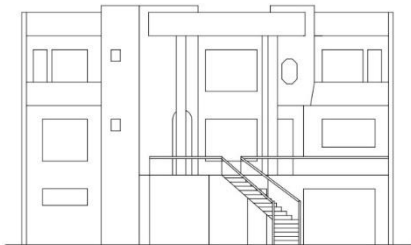
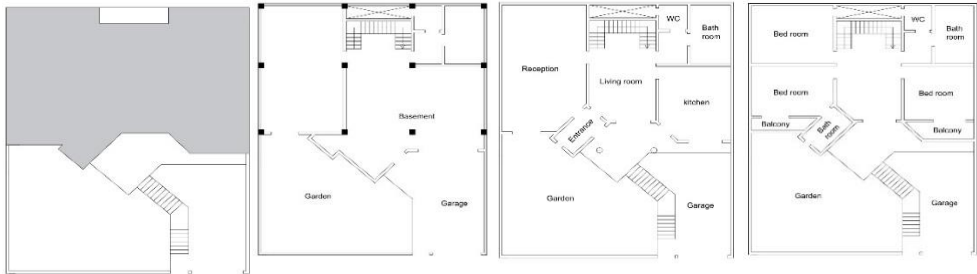
House code: A7		Construction period, year: 2001	Area: 350 m ²
		Construction process: By architect	No. Floors: 3
photographs	<div></div> <div></div>		
Elevations			
Plans			
Static elements of architectural identity			
General design principles	Detailed design for the form apparent in this house and the use of design principles.	Building Materials	Natural stones are used for facade, with using of iron for doors, in addition to timber door which used for the entrance.
Shape and form of building	The building mass has a setback from the street side and rises over the land. Light color is used for this house. The openings contain rectangular and square windows and human scale used for doors with direct accessibility.	Relationship with Context	Historical and local architectural elements were not used in this house. The using of the local natural stone attached the house to the context.

Table 16.

Analysis of Case Study – House A7 (Author)

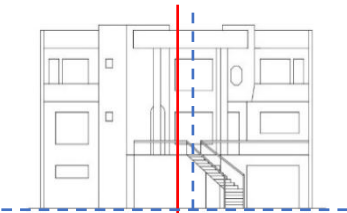
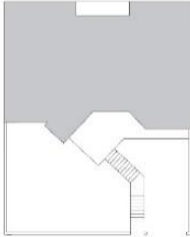
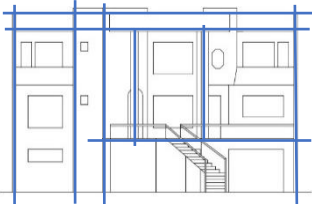







House code: A7									
Static elements of architectural identity		Variables		Values					
General design principles	Repetition and rhythm	Fixed				●			
		Varied repetition				○			
	Scale	Human				●			
		Non-human				●			
	Symmetry				○				
	Balance	Formal				○			
		Non-formal				●			
									
Shape and form of building	Building mass	Geometry of mass	Regular				○		
			Irregular				●		
		Mass relation with the ground	With the ground line				○		
			Excavated with the ground				○		
			Rising over the ground line				●		
		location	Fitting with land boundaries				○		
			Setback from sides				●		
			Free standing on land				○		
		Lines	Horizontal				●		
			Vertical				●		
			Inclined				●		
			Curved				●		
		Texture	Rough				●		
			Smooth				●		
			Transparent				○		
			Solid				●		
		Color	Primary				○		
			Non-primary				●		
			Light				●		
			Dark				○		
			Bright				○		
			Not bright				●		
	Building components	Opening	Doors (Entrance)	location	Center				○
					One side				●
					Other				●
				accessibility	Direct				●
					Indirect				○
				Scale	Human				●
			Non-human				○		
						   			

Table 16. (Continued).

		Windows	Size	Small	●			
				Medium	●			
				Large	○			
			Shape	Rectangular	●			
				Square	●			
				Circular	○			
				Others	○			
			Balcony	Size	Small		○	
		Medium			●			
		Large			●			
		Shape		Rectangular			●	
				Square			○	
	Others			●				
	Fence	Hight	Small		○			
			Medium		○			
			Large		●			
		Designing	Designed		●			
			Not designed		○			

Building Materials	Structural system	R.C.C Frame structures			●	
		Bearing-wall			●	
	Roofing materials	Reinforced concrete slab			●	
		Traditional roofing (Timber and clay)			○	
	Openings materials	Timber			●	
		Iron			●	
		Aluminium			○	
		Plastic			○	
	Facade materials	Natural stone			●	
		Artificial stone			○	
		plaster			●	
		Artificial decorative siding			○	

Relationship with Context	Historical architectural references	Correlation			○	
		No correlation			○	
	Materials type	Correlation			●	
		No correlation			○	

Factors affecting architectural elements (A7):

- General design principles
 - Economic:
Due to the economic situation of the owner, a detailed and designed facade can be seen in this house.
 - Political:
New styles affected house design by using new designs because of the political situation that led people to build their houses inspired by other areas.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner and the architect.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to build the house rising over the ground line, using this scale of mass and designing the house components.
 - Political:
The height of the fence is related to safety issues.
 - Social –Cultural:
Rising over the ground, the house setback from the street side and the height of the fence are designed in this way to have more privacy.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this types of materials.
 - Political:
Using of iron doors for safety because of the security issues and the political situation.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
The use of local natural stone reflects the owner's interest in the facade and is related to the owner's economic situation.
 - Political:
Not affected.
 - Social –Cultural:
The social factor is the reason of designing houses without any local architectural element.

Table 17.

Case Study Data- House B1 (Author)


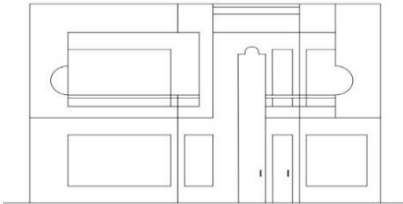
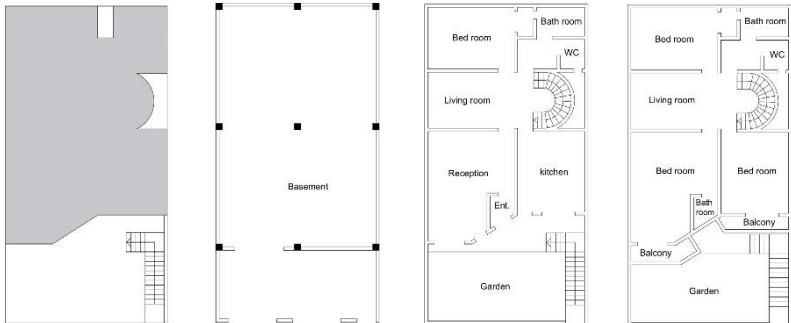
House code: B1		Construction period, year: 2004	Area: 200 m ²
		Construction process: Without an architect	No. Floors: 3
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	In this house, a non-human scale is apparent at the entrance of the house.	Building Materials	Natural stone which is marble is used for the facade, with using of iron for doors and plastic for windows.
Shape and form of building	The form of the house is designed with horizontal, vertical, and curved lines. Also, the house is built to rise over the ground line. The openings contain rectangular windows.	Relationship with Context	Historical and local architectural elements were not used in this house, also without using any local materials.

Table 18.

Analysis of Case Study – House B1 (Author)

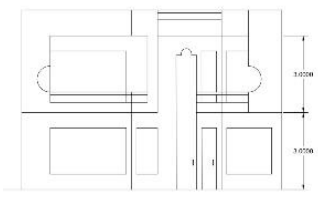
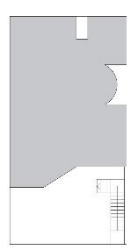
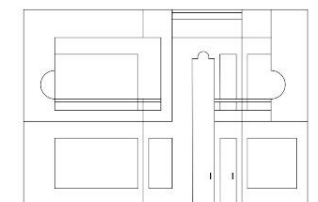



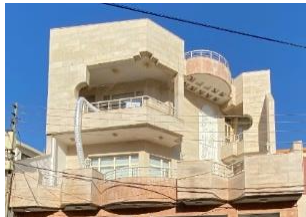
House code: B1							
Static elements of architectural identity	Variables		Values				
General design principles	Repetition and rhythm	Fixed		○			
		Varied repetition		○			
	Scale	Human		●			
		Non-human		○			
	Symmetry			○			
	Balance	Formal		○			
		Non-formal		○			
Shape and form of building	Building mass	Geometr y of mass	Regular		○	  	
			Irregular		●		
		Mass relation with the ground	With the ground line		○		
			Excavated with the ground		○		
			Rising over the ground line		●		
		location	Fitting with land boundaries		○		
			Setback from sides		●		
			Free standing on land		○		
		Lines	Horizontal		●		
			Vertical		●		
			Inclined		●		
			Curved		●		
		Texture	Rough		○		
			Smooth		●		
			Transparent		○		
			Solid		●		
		Color	Primary		○		
			Non-primary		●		
			Light		●		
			Dark		○		
			Bright		○		
			Not bright		●		
	Building components	Opening	Doors (Entrance)	location	Center	○	
					One side	●	
					Other	●	
			accessibility	Direct	●		
				Indirect	○		
			Scale	Human	●		
				Non-human	●		

Table 18. (Continued).

			Windows	Size	Small	●			
					Medium	●			
					Large	○			
				Shape	Rectangular	●			
					Square	○			
					Circular	○			
					Others	○			
					Balcony	Size		Small	○
								Medium	●
		Large	●						
		Shape	Rectangular	○					
			Square	○					
			Others	●					
		Fence	Hight	Small	●				
				Medium	○				
				Large	○				
			Designing	Designed	●				
				Not designed	○				
Building Materials	Structural system			R.C.C Frame structures			●		
		Bearing-wall			●				
	Roofing materials	Reinforced concrete slab			●				
		Traditional roofing (Timber and clay)			○				
	Openings materials	Timber			○				
		Iron			●				
		Aluminium			○				
		Plastic			●				
	Facade materials	Natural stone			●				
		Artificial stone			○				
		plaster			○				
		Artificial decorative siding			○				
	Relationship with Context	Historical architectural references	Correlation			○			
			No correlation			●			
		Materials type	Correlation			○			
			No correlation			●			

Factors affecting architectural elements (B1):

- General design principles
 - Economic:
Not affected
 - Political:
New forms and new designs appeared which affected house design by using new styles.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to build the house rising over the ground line, using this scale of mass and designing the house components.
 - Political:
The height of the fence and the size of the windows are related to the safety situation of the region in this period.
 - Social –Cultural:
Building the house rising over the ground line, the house setback from the street side, and the height of the fence are designed in this way according to the owner's opinion.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this type of material.
 - Political:
Using of imported material from abroad like marble is related to the stability of the political situation.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
Using of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 19.

Case Study Data – House B2 (Author)




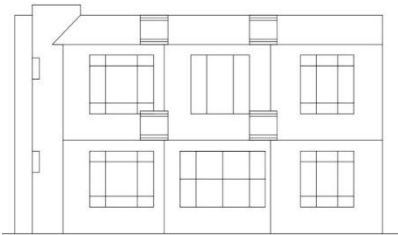

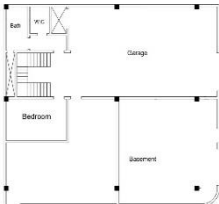
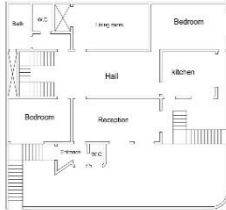

House code: B2		Construction period, year: 2006	Area: 350 m ²
		Construction process: By architect	No. Floors: 3
photographs	<div></div> <div></div>		
Elevations	<div></div> <div></div>		
Plans	<div></div> <div></div> <div></div> <div></div>		
Static elements of architectural identity			
General design principles	The use of design principles through the repetition and balance, also in this house, a non-human scale is apparent.	Building Materials	Natural stone and mortar are used for facade, with using of iron for doors and plastic for windows.
Shape and form of building	The building mass has a setback from the street side and rises over the land. Light color is used for this house.	Relationship with Context	Historical and local architectural elements were not used in this house, but using of the local natural stone attached it to the context.

Table 20.

Analysis of Case Study – House B2 (Author)

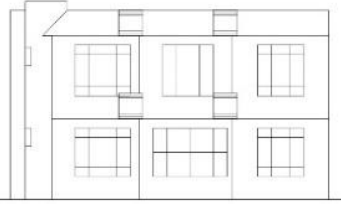
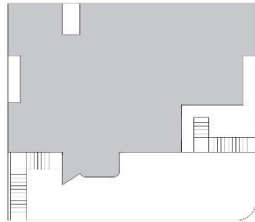



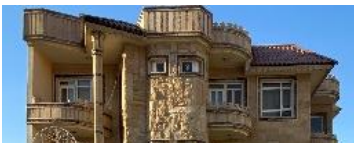





House code: B2							
Static elements of architectural identity	Variables	Values					
General design principles	Repetition and rhythm	Fixed		●			
		Varied repetition		○			
	Scale	Human		●			
		Non-human		●			
	Symmetry			○			
	Balance	Formal		○			
		Non-formal		●			
Shape and form of building	Building mass	Geometr y of mass	Regular		○	  	
			Irregular		●		
		Mass relation with the ground	With the ground line		○		
			Excavated with the ground		○		
			Rising over the ground line		●		
		location	Fitting with land boundaries		○		
			Setback from sides		●		
			Free standing on land		○		
		Lines	Horizontal		●		
			Vertical		●		
			Inclined		●		
			Curved		●		
		Texture	Rough		●		
			Smooth		●		
			Transparent		○		
			Solid		●		
		Color	Primary		○		
			Non-primary		●		
			Light		●		
			Dark		○		
			Bright		○		
		Not bright		●			
	Building components	Opening	Doors (Entrance)	location	Center	○	
					One side	●	
					Other	○	
			accessibility	Direct	●		
				Indirect	○		
			Scale	Human	●		
				Non-human	●		

Table 20. (Continued).

		Windows	Size	Small	●				
				Medium	●				
				Large	○				
			Shape	Rectangular	●				
				Square	●				
				Circular	○				
				Others	○				
				Balcony	Size		Small	●	
							Medium	○	
		Large	○						
		Shape	Rectangular		○				
			Square		○				
			Others		●				
		Fence	Hight	Small	●				
				Medium	○				
				Large	○				
			Designing	Designed	○				
				Not designed	●				

Building Materials	Structural system	R.C.C Frame structures			●	
		Bearing-wall			●	
	Roofing materials	Reinforced concrete slab			●	
		Traditional roofing (Timber and clay)			○	
	Openings materials	Timber			○	
		Iron			●	
		Aluminium			○	
		Plastic			●	
	Facade materials	Natural stone			●	
		Artificial stone			○	
		plaster			●	
		Artificial decorative siding			○	

Relations hip with Context	Historical architectural references	Correlation			○	
		No correlation			●	
	Materials type	Correlation			●	
		No correlation			○	

Factors affecting architectural elements (B2):

- General design principles
 - Economic:
Not affected
 - Political:
New forms and new designs appeared which affected house design by using new styles.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner and the architect.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to build the house rising over the ground line, using this scale of mass and designing the house components.
 - Political:
The height of the fence and the size of the windows are related to the safety situation which is considered stable.
 - Social –Cultural:
Building the house rising over the ground line, the house setback from the street side, and the height of the fence are designed in this way according to the owner and the architect's choices.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use natural stone for the facade.
 - Political:
Not affected.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
The use of local natural stone reflects the owner's interest in the facade and is related to the owner's economic situation.
 - Political:
Not affected
 - Social –Cultural:
The social factor is the reason of designing houses without any local architectural element and building simple and functional houses.

Table 21.

Case Study Data – House B3 (Author)


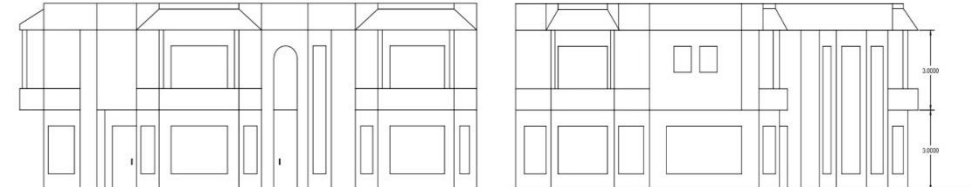
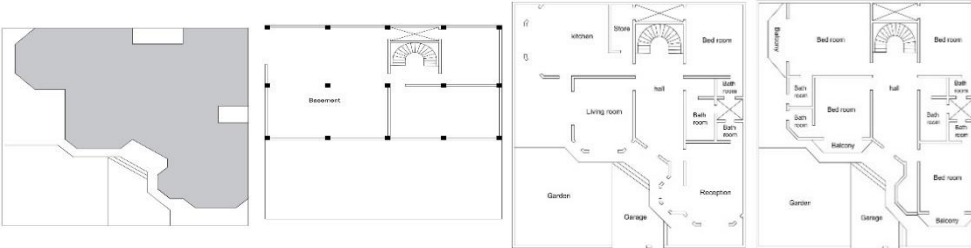





House code: B3		Construction period, year: 2010	Area: 380 m ²
		Construction process: By architect	No. Floors: 3
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	In this house, a non-human scale is apparent at some parts of the building.	Building Materials	Natural stone which is marble and plaster are used for facade, with using of iron for doors and plastic for windows.
Shape and form of building	The form of the house is designed many types of lines. The openings contain rectangular windows, light and dark colors are used for this house.	Relationship with Context	Historical and local architectural elements were not used in this house.

Table 22. (Continued).

		Windows	Size	Small	●				
				Medium	●				
				Large	●				
			Shape	Rectangular	●				
				Square	○				
				Circular	○				
				Others	○				
				Balcony	Size		Small		○
							Medium		○
		Large					●		
		Shape	Rectangular		○				
			Square		○				
			Others		●				
		Fence	Hight	Small			●		
				Medium			○		
				Large			○		
			Designing	Designed			●		
				Not designed			○		
									

Building Materials	Structural system	R.C.C Frame structures			●	  
		Bearing-wall			●	
	Roofing materials	Reinforced concrete slab			●	
		Traditional roofing (Timber and clay)			○	
	Openings materials	Timber			○	
		Iron			●	
		Aluminium			○	
		Plastic			●	
	Facade materials	Natural stone			●	
		Artificial stone			●	
		plaster			●	
		Artificial decorative siding			○	

Relations hip with Context	Historical architectural references	Correlation			○	
		No correlation			●	
	Materials type	Correlation			○	
		No correlation			●	

Factors affecting architectural elements (B3):

- General design principles
 - Economic:
Due to the economic situation of the owner, a detailed and designed facade can be seen in this house.
 - Political:
New forms and new designs appeared which affected house design by using new styles.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to build the house with using this scale of mass and designing the house components.
 - Political:
The height of the fence and the size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
Building the house with a setback from the street side, and the height of the fence are designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this types of materials.
 - Political:
Using of imported material from abroad like marble is related to the stability of the political situation.
 - Social –Cultural:
The artificial stone which is considered a new material is used according to the owner and architect's opinions.
- Relationship with Context
 - Economic:
Useing of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 23.

Case Study Data – House B4 (Author)



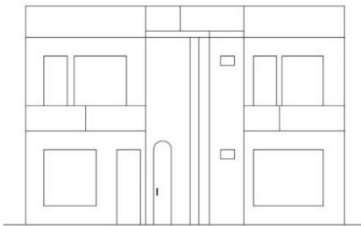
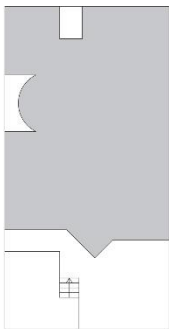
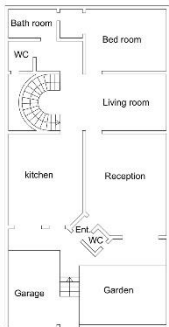
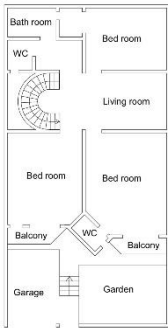
House code: B4		Construction period, year: 2011	Area: 200 m ²
		Construction process: By architect	No. Floors: 2
photographs	<div></div> <div></div>		
Elevations			
Plans	<div></div> <div></div> <div></div>		
Static elements of architectural identity			
General design principles	Non-human scale is apparent at the entrance of the house.	Building Materials	Natural stone is used for facade, with using of iron for doors and plastic for windows.
Shape and form of building	The form of the house is designed with horizontal and vertical. Also, the house is built to rise over the ground line. The openings contain rectangular windows. Light color is used for this house.	Relationship with Context	Historical and local architectural elements were not used in this house, but using of the local natural stone attached it to the context.

Table 24.

Analysis of Case Study – House B4 (Author)

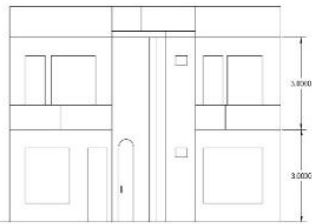

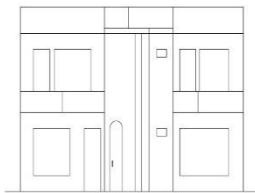






House code: B4							
Static elements of architectural identity		Variables		Values			
General design principles	Repetition and rhythm	Fixed				<input type="radio"/>	
		Varied repetition				<input type="radio"/>	
	Scale	Human				<input checked="" type="radio"/>	
		Non-human				<input checked="" type="radio"/>	
	Symmetry					<input type="radio"/>	
	Balance	Formal				<input type="radio"/>	
		Non-formal				<input checked="" type="radio"/>	
							
Shape and form of building	Building mass	Geometry of mass	Regular				<input type="radio"/>
			Irregular				<input checked="" type="radio"/>
		Mass relation with the ground	With the ground line				<input type="radio"/>
			Excavated with the ground				<input type="radio"/>
			Rising over the ground line				<input checked="" type="radio"/>
		location	Fitting with land boundaries				<input type="radio"/>
			Setback from sides				<input checked="" type="radio"/>
			Free standing on land				<input type="radio"/>
		Lines	Horizontal				<input checked="" type="radio"/>
			Vertical				<input checked="" type="radio"/>
			Inclined				<input checked="" type="radio"/>
			Curved				<input type="radio"/>
		Texture	Rough				<input checked="" type="radio"/>
			Smooth				<input type="radio"/>
			Transparent				<input type="radio"/>
			Solid				<input checked="" type="radio"/>
		Color	Primary				<input type="radio"/>
			Non-primary				<input checked="" type="radio"/>
			Light				<input checked="" type="radio"/>
			Dark				<input type="radio"/>
	Bright				<input type="radio"/>		
	Not bright				<input checked="" type="radio"/>		
	Building components	Opening	Doors (Entrance)	location	Center		
One side							<input checked="" type="radio"/>
Other							<input checked="" type="radio"/>
accessibility				Direct			<input checked="" type="radio"/>
				Indirect			<input type="radio"/>
Scale				Human			<input checked="" type="radio"/>
			Non-human			<input type="radio"/>	
							
							
							
							

Table 24. (Continued).

		Windows	Size	Small	●		
				Medium	●		
				Large	○		
			Shape	Rectangular	●		
				Square	○		
				Circular	○		
				Others	○		
		Balcony	Size	Small		○	
				Medium		●	
				Large		○	
	Shape		Rectangular		○		
			Square		○		
			Others		●		
	Fence	Hight	Small		○		
			Medium		●		
			Large		○		
		Designing	Designed		●		
			Not designed		○		
Building Materials	Structural system	R.C.C Frame structures			○		
		Bearing-wall			●		
	Roofing materials	Reinforced concrete slab			●		
		Traditional roofing (Timber and clay)			○		
	Openings materials	Timber			○		
		Iron			●		
		Aluminium			○		
		Plastic			●		
	Facade materials	Natural stone			●		
		Artificial stone			○		
		plaster			○		
		Artificial decorative siding			○		
	Relationship with Context	Historical architectural references	Correlation			○	
			No correlation			●	
		Materials type	Correlation			●	
			No correlation			○	

Factors affecting architectural elements (B4):

- General design principles
 - Economic:
Not affected
 - Political:
New forms and new designs appeared which affected house design by using new styles.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
Not affected.
 - Political:
The height of the fence and the size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
The house setback from the street side, and the height of the fence are designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this type of material.
 - Political:
Not affected.
 - Social –Cultural:
Use of this type of materials related to the owner and architect choices.
- Relationship with Context
 - Economic:
The use of local natural stone reflects the owner's interest in the facade and is related to the owner's economic situation.
 - Political:
Not affected.
 - Social –Cultural:
The social factor is the reason of designing houses without any local architectural element and building simple and functional houses.

Table 25.

Case Study Data – House B5 (Author)


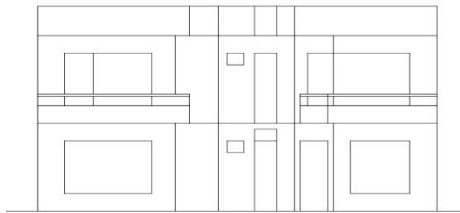

House code: B5		Construction period, year: 2012	Area: 200 m ²
		Construction process: By architect	No. Floors: 2
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	In this house non-human scale is apparent at the entrance of the house.	Building Materials	Natural stone which is marble is used for the facade, with using of iron for doors and plastic for windows.
Shape and form of building	The form of the house is designed with horizontal and vertical. Also, the house is built to rise over the ground line. The openings contain rectangular windows.	Relationship with Context	Historical and local architectural elements were not used in this house.

Table 26.

Analysis of case study – House B5 (Author)

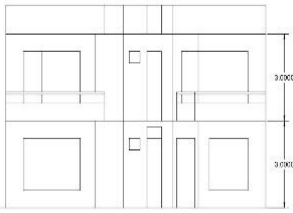
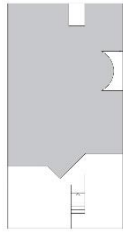
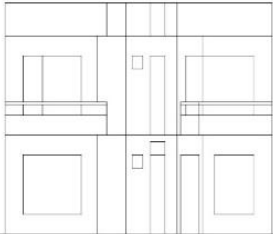



House code: B5								
Static elements of architectural identity		Variables		Values				
General design principles	Repetition and rhythm	Fixed						
		Varied repetition						
	Scale	Human						
		Non-human						
	Symmetry							
	Balance	Formal						
		Non-formal						
Shape and form of building	Building mass	Geometry of mass	Regular					
			Irregular					
		Mass relation with the ground	With the ground line					
			Excavated with the ground					
			Rising over the ground line					
		location	Fitting with land boundaries					
			Setback from sides					
			Free standing on land					
		Lines	Horizontal					
			Vertical					
			Inclined					
			Curved					
		Texture	Rough					
			Smooth					
			Transparent					
			Solid					
		Color	Primary					
			Non-primary					
			Light					
			Dark					
			Bright					
		Not bright						
	Building components	Opening	Doors (Entrance)	location	Center			
					One side			
					Other			
				accessibility	Direct			
					Indirect			
				Scale	Human			
			Non-human					
								

Table 26. (Continued).

			Windows	Size	Small	●			
					Medium	●			
					Large	○			
				Shape	Rectangular	●			
					Square	○			
					Circular	○			
					Others	●			
				Balcony	Size	Small		○	
						Medium		●	
						Large		○	
	Shape	Rectangular			○				
		Square			○				
		Others			●				
	Fence	Hight	Small		○				
			Medium		●				
Large			○						
Designing		Designed		●					
		Not designed		○					

Building Materials	Structural system	R.C.C Frame structures		○	
		Bearing-wall		●	
	Roofing materials	Reinforced concrete slab		●	
		Traditional roofing (Timber and clay)		○	
	Openings materials	Timber		○	
		Iron		●	
		Aluminium		○	
		Plastic		●	
	Facade materials	Natural stone		●	
		Artificial stone		○	
		plaster		○	
		Artificial decorative siding		○	

Relationship with Context	Historical architectural references	Correlation		○	
		No correlation		●	
	Materials type	Correlation		○	
		No correlation		●	

Factors affecting architectural elements (B5):

- General design principles
 - Economic:
Not affected
 - Political:
New forms and new designs appeared which affected house design by using new styles.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
Not affected.
 - Political:
The height of the fence and the size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
The house setback from the street side, and the height of the fence are designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this type of material.
 - Political:
Not affected.
 - Social –Cultural:
Use of this type of materials related to the owner and architect choices.
- Relationship with Context
 - Economic:
Useing of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 27.

Case Study Data – House B6 (Author)


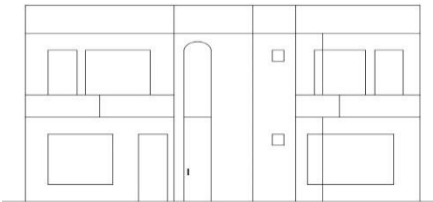
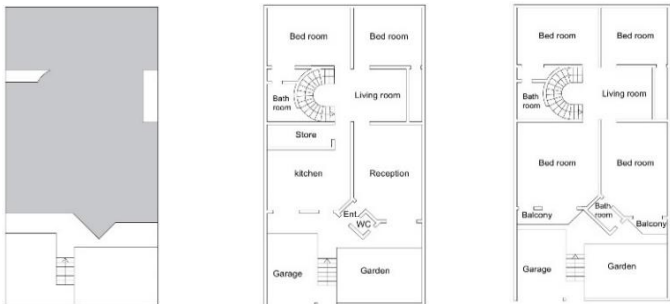
House code: B6		Construction period, year: 2013	Area: 200 m ²
		Construction process: Without an architect	No. Floors: 2
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	In this house, a non-human scale is apparent at the entrance of the house.	Building Materials	Natural stone and mortar are used for facade, with using of iron for doors and plastic for windows.
Shape and form of building	The building mass has a setback from the street side and rises over the land. Light color is used for this house. The openings contain rectangular windows and non-human scale used for doors.	Relationship with Context	Historical and local architectural elements were not used in this house.

Table 28.

Analysis of case study - House B6 (Author)

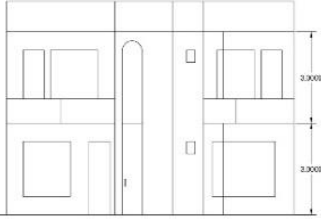

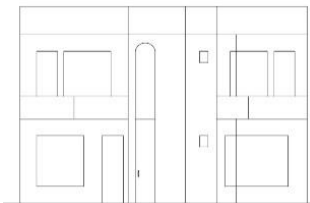



House code: B6									
Static elements of architectural identity		Variables		Values					
Genral design principles	Repetition and rhythm	Fixed				○			
		Varied repetition				○			
	Scale	Human				●			
		Non-human				○			
	Symmetry					○			
	Balance	Formal				○			
		Non-formal				●			
									
Shape and form of building	Building mass	Geometry of mass	Regular				○		
			Irregular				●		
		Mass relation with the ground	With the ground line				○		
			Excavated with the ground				○		
			Rising over the ground line				●		
		location	Fitting with land boundaries				○		
			Setback from sides				●		
			Free standing on land				○		
		Lines	Horizontal				●		
			Vertical				●		
			Inclined				●		
			Curved				○		
		Texture	Rough				○		
			Smooth				●		
			Transparent				○		
			Solid				●		
		Color	Primary				○		
			Non-primary				●		
			Light				●		
			Dark				●		
			Bright				○		
			Not bright				●		
	Building components	Opening	Doors (Entrance)	location	Center				○
					One side				●
					Other				●
				accessibility	Direct				●
					Indirect				○
				Scale	Human				●
			Non-human				●		
									
									
									

Table 28. (Continued).

			Windows	Size	Small	●			
					Medium	●			
					Large	○			
				Shape	Rectangular	●			
					Square	○			
					Circular	○			
					Others	○			
						Balcony		Size	Small
		Medium		●					
		Large		○					
		Shape	Rectangular					○	
			Square					○	
	Others		●						
		Fence	Hight	Small		○			
				Medium		●			
				Large		○			
			Designing	Designed		○			
				Not designed		●			
Building Materials	Structural system	R.C.C Frame structures				○			
		Bearing-wall				●			
	Roofing materials	Reinforced concrete slab				●			
		Traditional roofing (Timber and clay)				○			
	Openings materials	Timber				○			
		Iron				●			
		Aluminium				○			
		Plastic				●			
	Facade materials	Natural stone				●			
		Artificial stone				○			
		plaster				●			
		Artificial decorative siding				●			
Relations hip with Context	Historical architectural references	Correlation				○			
		No correlation				●			
	Materials type	Correlation				○			
		No correlation				●			

Factors affecting architectural elements (B6):

- General design principles
 - Economic:
Not affected
 - Political:
New forms and new designs appeared which affected house design by using new styles.
 - Social –Cultural:
Simple and new designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
Not affected.
 - Political:
The size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
Building the house rising over the ground line, the house setback from the street side, and the height of the fence are designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
Not affected.
 - Political:
Using of imported material from abroad like marble is related to the stability of the political situation.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
Useing of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 29.

Case Study Data – House B7 (Author)



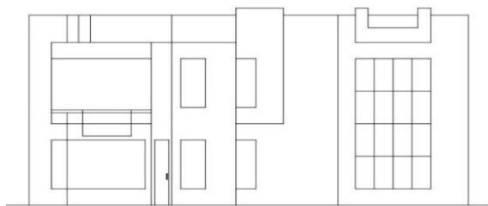
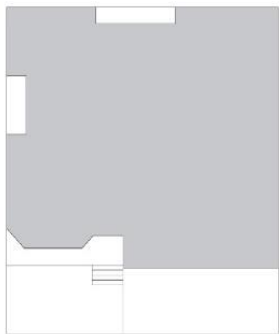
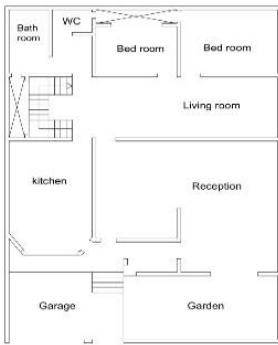
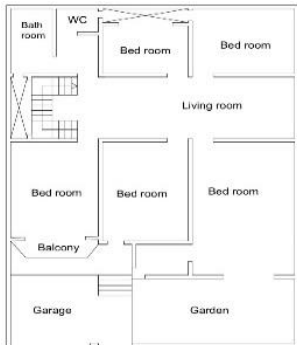
House code: B7		Construction period, year: 2014	Area: 280 m ²
		Construction process: By architect	No. Floors: 2
photographs	<div></div> <div></div>		
Elevations			
Plans	<div></div> <div></div> <div></div>		
Static elements of architectural identity			
General design principles	In this house, a non-human scale is apparent, also non-formal balance.	Building Materials	Natural stone and mortar are used for the facade, with using of iron for doors and plastic for windows.
Shape and form of building	The form of the house is designed with horizontal and vertical. Also, the openings contain rectangular windows.	Relationship with Context	Historical and local architectural elements were not used in this house, but using of the local natural stone attached it to the context.

Table 30.

Case study data – House B7 (Author)

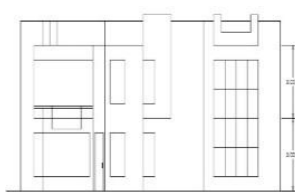
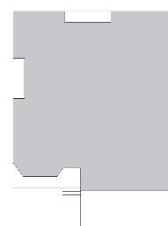
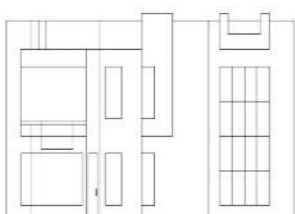




House code: B7						
Static elements of architectural identity	Variables	Values				
General design principles	Repetition and rhythm	Fixed		○		
		Varied repetition		○		
	Scale	Human		●		
		Non-human		○		
	Symmetry			○		
	Balance	Formal		○		
		Non-formal		●		
Shape and form of building	Building mass	Geometry of mass	Regular		●	  
			Irregular		○	
		Mass relation with the ground	With the ground line		●	
			Excavated with the ground		○	
			Rising over the ground line		○	
		location	Fitting with land boundaries		○	
			Setback from sides		●	
			Free standing on land		○	
		Lines	Horizontal		●	
			Vertical		●	
			Inclined		●	
			Curved		○	
		Texture	Rough		●	
			Smooth		●	
			Transparent		○	
			Solid		●	
		Color	Primary		○	
			Non-primary		●	
			Light		●	
			Dark		○	
			Bright		○	
			Not bright		●	
	Building components	Opening	Doors (Entrance)	location	Center	○
					One side	●
					Other	○
				accessibility	Direct	●
					Indirect	○
				Scale	Human	●
			Non-human		○	

Table 30. (Continued).

		Windows	Size	Small	○		
				Medium	●		
				Large	○		
			Shape	Rectangular	●		
				Square	○		
				Circular	○		
				Others	○		
				Balcony	Size		Small
		Medium				●	
		Large				○	
	Shape	Rectangular			○		
		Square			○		
		Others			●		
	Fence	Hight	Small		○		
			Medium		●		
			Large		○		
		Designing	Designed		○		
			Not designed		●		
Building Materials	Structural system	R.C.C Frame structures			○		
		Bearing-wall			●		
	Roofing materials	Reinforced concrete slab			●		
		Traditional roofing (Timber and clay)			○		
	Openings materials	Timber			○		
		Iron			●		
		Aluminium			○		
		Plastic			●		
	Facade materials	Natural stone			●		
		Artificial stone			○		
		plaster			●		
		Artificial decorative siding			○		
Relations hip with Context	Historical architectural references	Correlation			○		
		No correlation			●		
	Materials type	Correlation			○		
		No correlation			●		

Factors affecting architectural elements (B7):

- General design principles
 - Economic:
In this house due to the economic situation of the owner, a detailed and designed facade can be seen in this house.
 - Political:
New forms and new designs appeared which affected house design by using new styles.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to build the house with using this scale of mass and designing the house components.
 - Political:
The size of the windows is related to the safety situation which concederd staible.
 - Social –Cultural:
The house setback from the street side, and the building components are designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
Not affected.
 - Political:
Using of imported material from abroad like marble is related to the stability of the political situation.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
The use of local natural stone and the details in the facade reflects the owner and the architect's interest in the facade.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason of designing houses without any local architectural element and building simple and functional houses.

Table 31.

Case study data – House C1 (Author)

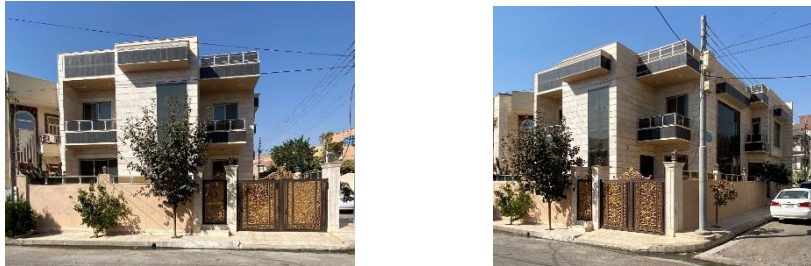
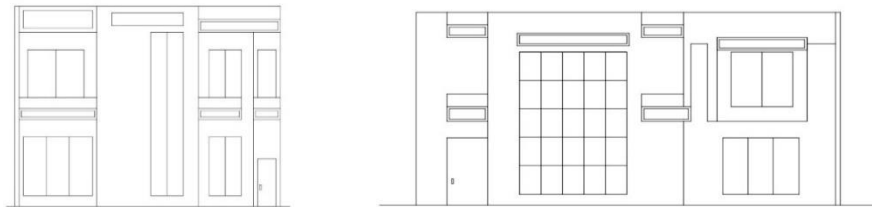

House code: C1		Construction period, year: 2015	Area: 250 m ²
		Construction process: By architect	No. Floors: 2
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	Simplicity is apparent in this house, use of design principles through the repetition of openings.	Building Materials	Natural stone and mortar are used, with using of iron for doors and aluminum for windows.
Shape and form of building	The shape of the house is regular. the building mass has a setback from the street side. Light and dark colors are used for this house. The openings contain rectangular windows and non-human scale is used.	Relationship with Context	Historical and local architectural elements were not used in this house.

Table 32.

Analysis of Case Study – House C1 (Author)

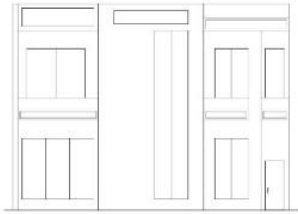

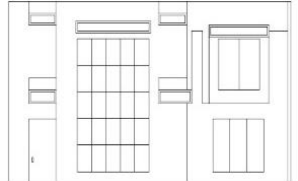

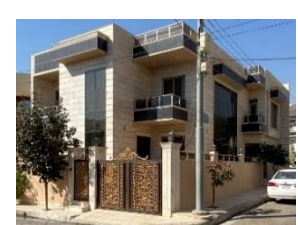



House code: C1								
Static elements of architectural identity	Variables		Values					
General design principles	Repetition and rhythm	Fixed		○				
		Varied repetition		●				
	Scale	Human		●				
		Non-human		●				
	Symmetry			○				
	Balance	Formal		○				
		Non-formal		●				
Shape and form of building	Building mass	Geometry of mass	Regular		●			
			Irregular		○			
		Mass relation with the ground	With the ground line		○			
			Excavated with the ground		○			
			Rising over the ground line		●			
		location	Fitting with land boundaries		○			
			Setback from sides		●			
			Free standing on land		○			
		Lines	Horizontal		●			
			Vertical		●			
			Inclined		○			
			Curved		○			
		Texture	Rough		○			
			Smooth		●			
			Transparent		○			
			Solid		●			
		Color	Primary		○			
			Non-primary		●			
			Light		●			
			Dark		●			
			Bright		○			
		Not bright		●				
	Building components	Opening	Doors (Entrance)	location	Center	○		
					One side	●		
					Other	○		
				accessibility	Direct	●		
					Indirect	○		
				Scale	Human	●		
			Non-human		●			

Table 32. (Continued).

		Windows	Size	Small	<input type="radio"/>		
				Medium	<input checked="" type="radio"/>		
				Large	<input checked="" type="radio"/>		
			Shape	Rectangular	<input checked="" type="radio"/>		
				Square	<input type="radio"/>		
				Circular	<input type="radio"/>		
				Others	<input type="radio"/>		
			Balcony	Size	Small		<input type="radio"/>
		Medium			<input checked="" type="radio"/>		
		Large			<input type="radio"/>		
		Shape		Rectangular			<input checked="" type="radio"/>
				Square			<input type="radio"/>
	Others			<input type="radio"/>			
	Fence	Hight	Small		<input checked="" type="radio"/>		
			Medium		<input type="radio"/>		
			Large		<input type="radio"/>		
		Designing	Designed		<input checked="" type="radio"/>		
			Not designed		<input type="radio"/>		
Building Materials		Structural system	R.C.C Frame structures			<input type="radio"/>	
	Bearing-wall			<input checked="" type="radio"/>			
	Roofing materials	Reinforced concrete slab			<input checked="" type="radio"/>		
		Traditional roofing (Timber and clay)			<input type="radio"/>		
	Openings materials	Timber			<input type="radio"/>		
		İron			<input checked="" type="radio"/>		
		Aluminium			<input checked="" type="radio"/>		
		Plastic			<input type="radio"/>		
	Facade materials	Natural stone			<input checked="" type="radio"/>		
		Artificial stone			<input type="radio"/>		
		plaster			<input checked="" type="radio"/>		
		Artificial decorative siding			<input type="radio"/>		
Relationship with Context	Historical architectural references	Correlation			<input type="radio"/>		
		No correlation			<input checked="" type="radio"/>		
	Materials type	Correlation			<input type="radio"/>		
		No correlation			<input checked="" type="radio"/>		

Factors affecting architectural elements (C1):

- General design principles
 - Economic:
In this house due to the economic situation of the owner, a detailed and designed facade can be seen in this house.
 - Political:
Westernization affected house design by using new styles because of the political situation that led people to build their houses inspired by other countries.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to build the house using this scale of mass and designing the house components.
 - Political:
The size of the windows are related to the safety situation which concederd stable in this period.
 - Social –Cultural:
Not affected.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this type of material.
 - Political:
Using of imported material from abroad like marble is related to the stability of the political situation.
 - Social –Cultural:
Not affected.
- Relationship with Context
 - Economic:
Using of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 33.

Case Study Data – House C2 (Author)



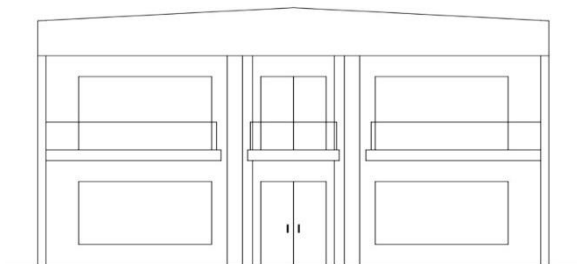
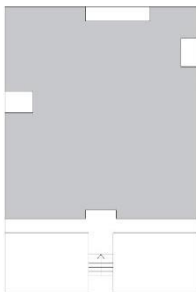
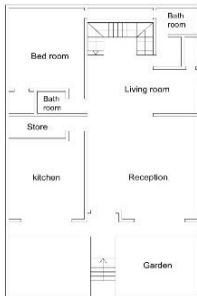
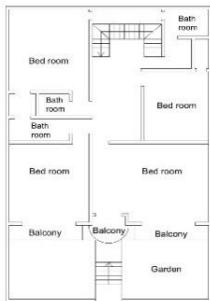
House code: C2		Construction period, year: 2017	Area: 250 m ²
		Construction process: By architect	No. Floors: 2
photographs	<div></div> <div></div>		
Elevations			
Plans	<div></div> <div></div> <div></div>		
Static elements of architectural identity			
General design principles	The design of this house appears using of design principles through repetition, balance and symmetry, also human and non-human scale is used.	Building Materials	Natural stone, artificial stone, and artificial decorative siding are used, with using of iron for doors and plastic windows.
Shape and form of building	The form of the house is designed with horizontal, vertical, and curved lines. Also, the house is built to rise over the ground line. Light color is used for this house.	Relationship with Context	Historical and local architectural elements were not used in this house, also it was designed without using any local materials.

Table 34.

Analysis of Case Study – House C2 (Author)

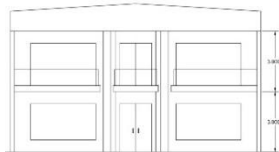
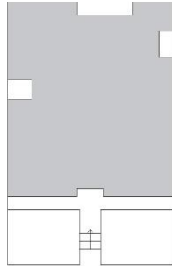





House code: C2							
Static elements of architectural identity	Variables		Values				
General design principles	Repetition and rhythm	Fixed					
		Varied repetition					
	Scale	Human					
		Non-human					
	Symmetry						
	Balance	Formal					
		Non-formal					
Shape and form of building	Building mass	Geometry of mass	Regular				  
			Irregular				
		Mass relation with the ground	With the ground line				
			Excavated with the ground				
			Rising over the ground line				
		location	Fitting with land boundaries				
			Setback from sides				
			Free standing on land				
		Lines	Horizontal				
			Vertical				
			Inclined				
			Curved				
		Texture	Rough				
			Smooth				
			Transparent				
			Solid				
		Color	Primary				
			Non-primary				
			Light				
			Dark				
			Bright				
			Not bright				
Building components	Opening	Doors (Entrance)	location	Center			
				One side			
				Other			
			accessibility	Direct			
				Indirect			
			Scale	Human			
		Non-human					

Table 34. (Continued).

		Windows	Size	Small	○			
				Medium	○			
				Large	●			
			Shape	Rectangular	●			
				Square	○			
				Circular	○			
				Others	○			
				Balcony	Size		Small	●
							Medium	○
		Large	○					
		Shape	Rectangular		●			
			Square		○			
			Others		●			
		Fence	Hight	Small	●			
				Medium	○			
				Large	○			
			Designing	Designed	●			
				Not designed	○			

Building Materials	Structural system	R.C.C Frame structures	○	
		Bearing-wall	●	
	Roofing materials	Reinforced concrete slab	●	
		Traditional roofing (Timber and clay)	○	
	Openings materials	Timber	○	
		Iron	●	
		Aluminium	○	
		Plastic	●	
	Facade materials	Natural stone	●	
		Artificial stone	●	
		plaster	○	
		Artificial decorative siding	●	

Relationship with Context	Historical architectural references	Correlation	○	
		No correlation	●	
	Materials type	Correlation	○	
		No correlation	●	

Factors affecting architectural elements (C2):

- General design principles
 - Economic:
Not affected
 - Political:
Westernization affected house design by using new styles because of the political situation that led people to build their houses inspired by other countries.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
Not affected.
 - Political:
The size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
Building the house rising over the ground line, the house setback from the street side is designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
Not affected.
 - Political:
Using imported material from abroad like marble is related to the stability of the political situation.
 - Social –Cultural:
Using of new materials in the region like artificial decorative siding is related to the owner and architect's opinion and the social culture which changed over time under affecting of social factors.
- Relationship with Context
 - Economic:
Useing of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 35.

Case Study Data – House C3 (Author)

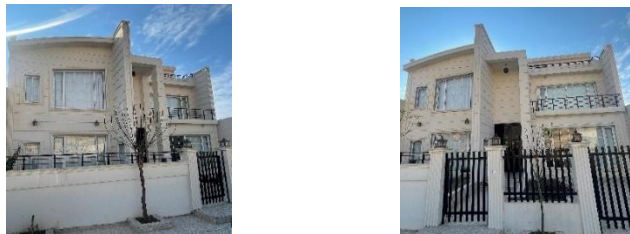
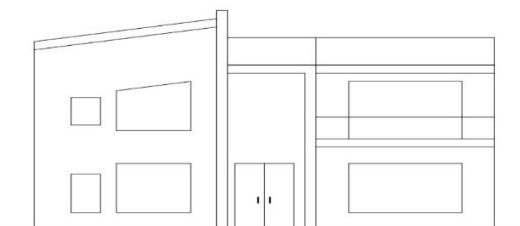

House code: C3		Construction period, year: 2018	Area: 250 m²
		Construction process: By architect	No. Floors: 2
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	Simplicity is apparent in this house, use of design principles through the balance and non-human scale is apparent at the entrance of the house.	Building Materials	Artificial decorative siding and plaster are used for facade, with using of iron for doors and plastic for windows.
Shape and form of building	The form of the house is designed with horizontal, vertical, inclined, and curved lines. Light color is used for this house. The openings contain rectangular windows.	Relations hip with Context	Historical and local architectural elements were not used in this house, also it was designed without using any local materials.

Table 36.

Analysis of case study – House C3 (Author)

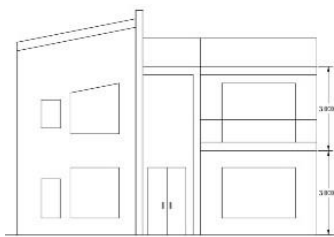

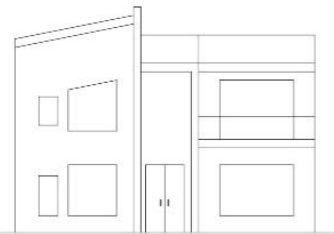

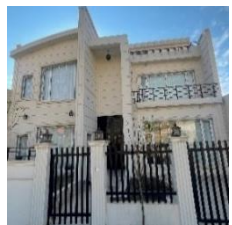


House code: C3									
Static elements of architectural identity	Variables		Values						
General design principles	Repetition and rhythm	Fixed				○			
		Varied repetition				○			
	Scale	Human				●			
		Non-human				●			
	Symmetry							○	
	Balance	Formal				○			
		Non-formal				●			
*Shape and form of building	Building mass	Geometry of mass	Regular				●	  	
			Irregular				○		
		Mass relation with the ground	With the ground line				●		
			Excavated with the ground				○		
			Rising over the ground line				○		
		location	Fitting with land boundaries				○		
			Setback from sides				●		
			Free standing on land				○		
		Lines	Horizontal				●		
			Vertical				●		
			Inclined				●		
			Curved				●		
		Texture	Rough				○		
			Smooth				●		
			Transparent				○		
			Solid				●		
		Color	Primary				○		
			Non-primary				●		
			Light				●		
			Dark				○		
			Bright				○		
			Not bright				●		
	Building components	Opening	Doors (Entrance)	location	Center			●	
					One side			●	
					Other			○	
				accessibility	Direct			●	
Indirect							○		
Scale				Human			●		
			Non-human			○			

Table 36. (Continued).

		Windows	Size	Small	●		
				Medium	●		
				Large	○		
			Shape	Rectangular	●		
				Square	○		
				Circular	○		
				Others	○		
		Balcony	Size	Small		○	
				Medium	●		
				Large	○		
			Shape	Rectangular	●		
				Square	○		
				Others	●		
		Fence	Hight	Small	●		
				Medium	○		
				Large	○		
			Designing	Designed	●		
				Not designed	○		

Building Materials	Structural system	R.C.C Frame structures			●	
		Bearing-wall			●	
	Roofing materials	Reinforced concrete slab			●	
		Traditional roofing (Timber and clay)			○	
	Openings materials	Timber			○	
		İron			●	
		Aluminium			○	
		Plastic			●	
	Facade materials	Natural stone			○	
		Artificial stone			○	
		plaster			●	
		Artificial decorative siding			●	

Relations hip with Context	Historical architectural references	Correlation			○	
		No correlation			●	
	Materials type	Correlation			○	
		No correlation			●	

Factors affecting architectural elements (C3):

- General design principles
 - Economic:
Not affected.
 - Political:
New forms and new designs appeared which affected house design by using new styles.
 - Social –Cultural:
Simple and new designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
Not affected.
 - Political:
The size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
The house setback from the street side, and the height of the fence are designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this type of material.
 - Political:
Using of imported material from abroad like marble is related to the stability of the political situation.
 - Social –Cultural:
Using of new materials in the region like artificial decorative siding is related to the owner and architect's opinion and the social culture which changed over time under affecting of social factors.
- Relationship with Context
 - Economic:
Useing of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 37.

Case Study Data – House C4 (Author)

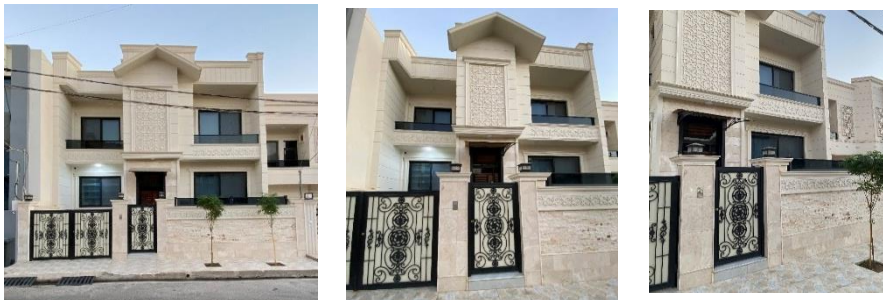
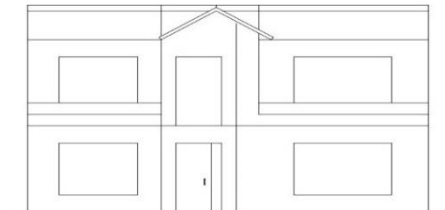
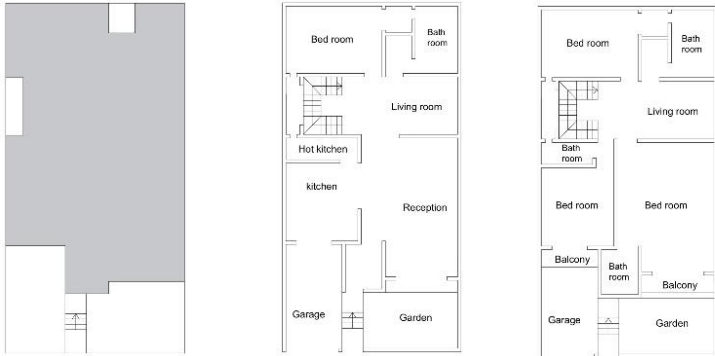

House code: C4		Construction period, year: 2021	Area: 200 m ²
		Construction process: Without an architect	No. Floors: 2
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	New design and international style is apparent in this house, use of design principles through the repetition and balance.	Building Materials	Natural stone, artificial stone, and artificial decorative siding are used, with using of iron for doors and aluminum windows.
Shape and form of building	The form of the house is designed with horizontal, vertical, and inclined lines. Also, the house is built to rise over the ground line. The openings contain rectangular windows.	Relationship with Context	Historical and local architectural elements were not used in this house.

Table 38. (Continued).

			Wind ows	Size	Small	<input type="radio"/>		
					Medium	<input checked="" type="radio"/>		
					Large	<input type="radio"/>		
				Shape	Rectangular	<input checked="" type="radio"/>		
					Square	<input type="radio"/>		
					Circular	<input type="radio"/>		
					Others	<input type="radio"/>		
					Balcony	Size		Small
		Medium	<input type="radio"/>					
		Large	<input type="radio"/>					
		Shape	Rectangular	<input checked="" type="radio"/>				
			Square	<input type="radio"/>				
			Others	<input type="radio"/>				
		Fence	Hight	Small	<input checked="" type="radio"/>			
				Medium	<input type="radio"/>			
				Large	<input type="radio"/>			
			Desig ning	Designed	<input checked="" type="radio"/>			
				Not designed	<input type="radio"/>			
				Building Materials	Structural system	R.C.C Frame structures		
Bearing-wall			<input checked="" type="radio"/>					
Roofing materials	Reinforced concrete slab				<input checked="" type="radio"/>			
	Traditional roofing (Timber and clay)				<input type="radio"/>			
Openings materials	Timber				<input checked="" type="radio"/>			
	Iron				<input checked="" type="radio"/>			
	Aluminium				<input checked="" type="radio"/>			
	Plastic				<input type="radio"/>			
Facade materials	Natural stone				<input checked="" type="radio"/>			
	Artificial stone				<input checked="" type="radio"/>			
	plaster				<input type="radio"/>			
	Artificial decorative siding				<input checked="" type="radio"/>			
Relations hip with Context	Historical architectural references	Correlation			<input type="radio"/>			
		No correlation			<input checked="" type="radio"/>			
	Materials type	Correlation			<input type="radio"/>			
		No correlation			<input checked="" type="radio"/>			

Factors affecting architectural elements (C4):

- General design principles
 - Economic:
Not affected
 - Political:
Westernization affected house design by using new styles because of the political situation that led people to build their houses inspired by other countries.
 - Social –Cultural:
Simple and new designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to build the house rising over the ground line, using this scale of mass and designing the house components.
 - Political:
The height and the size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
Building the house rising over the ground line, the house setback from the street side, and the height of the fence are designed in this way according to the owner choices.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this types of materials.
 - Political:
Using of imported material from abroad like marble and the artificial decorative siding is related to the stability of the political situation.
 - Social –Cultural:
Using the new materials in the region like the artificial decorative siding is related to the owner opinion.
- Relationship with Context
 - Economic:
Useing of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 39.

Case Study Data – House C5 (Author)


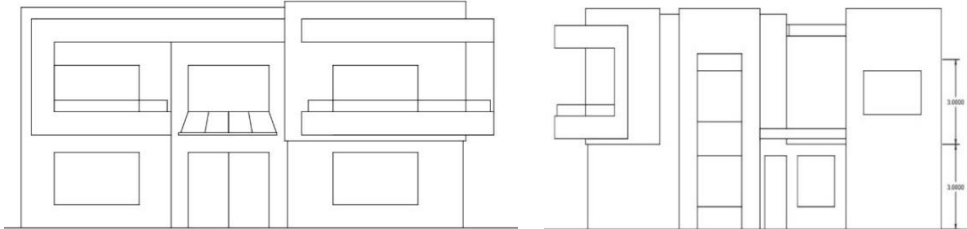
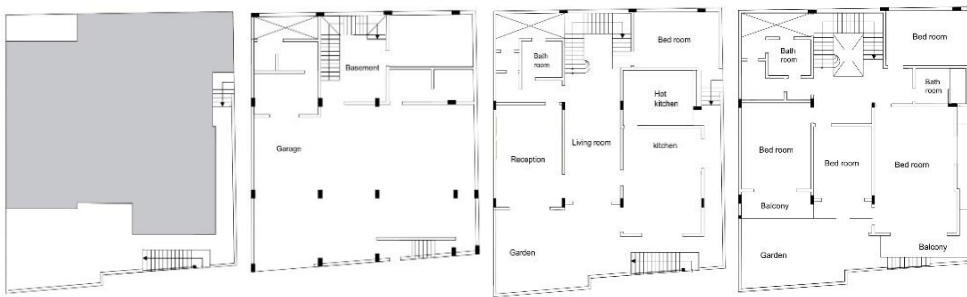
House code: C5		Construction period, year: 2020	Area: 300 m ²
		Construction process: By architect	No. Floors: 3
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	Simplicity, Modernism, and the new form are clear in this house, the design of this house appears using design principles through repetition and balance, and also human scale is used.	Building Materials	The facade reflects the simplicity of only plaster being used, with using of iron for doors and aluminum for windows.
Shape and form of building	The form of the house is designed with horizontal and vertical lines. The shape of the house is regular. the building mass has a setback from the street. The openings contain rectangular windows.	Relationship with Context	Historical and local architectural elements were not used in this house, also it was designed without using any local materials.

Table 40.

Analysis of Case Study – House C5 (Author)

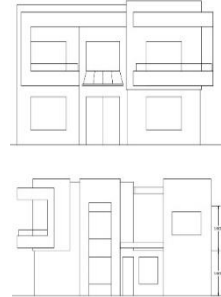
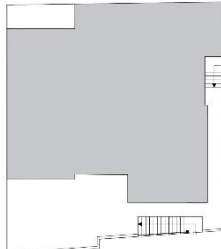
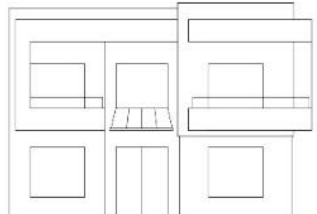






House code: C5								
Static elements of architectural identity	Variables		Values					
General design principles	Repetition and rhythm		Fixed		○			
			Varied repetition		●			
	Scale		Human		●			
			Non-human		○			
	Symmetry				○			
	Balance		Formal		○			
			Non-formal		●			
Shape and form of building	Building mass	Geometry of mass	Regular		●	  		
			Irregular		○			
		Mass relation with the ground	With the ground line		○			
			Excavated with the ground		●			
			Rising over the ground line		●			
		location	Fitting with land boundaries		○			
			Setback from sides		●			
			Free standing on land		○			
		Lines	Horizontal		●			
			Vertical		●			
			Inclined		○			
			Curved		○			
		Texture	Rough		○			
			Smooth		●			
			Transparent		○			
			Solid		●			
		Color	Primary		○			
			Non-primary		●			
			Light		●			
			Dark		●			
			Bright		○			
		Not bright		●				
	Building components	Opening	Doors (Entrance)	location	Center		●	
					One side		●	
					Other		○	
				accessibility	Direct		●	
					Indirect		●	
			Scale	Human		●		
				Non-human		○		

Table 40. (Continued).

		Windows	Size	Small	●			
				Medium	●			
				Large	○			
			Shape	Rectangular	●			
				Square	○			
				Circular	○			
		Others		○				
		Balcony	Size	Small			●	
				Medium			●	
				Large			○	
			Shape	Rectangular			●	
				Square			○	
	Others			○				
	Fence	Hight	Small		●			
			Medium		○			
			Large		○			
		Designing	Designed		●			
			Not designed		○			
Building Materials	Structural system	R.C.C Frame structures			●			
		Bearing-wall			●			
	Roofing materials	Reinforced concrete slab			●			
		Traditional roofing (Timber and clay)			○			
	Openings materials	Timber			○			
		Iron			●			
		Aluminium			●			
		Plastic			○			
	Facade materials	Natural stone			●			
		Artificial stone			○			
		plaster			●			
		Artificial decorative siding			○			
	Relationship with Context	Historical architectural references	Correlation			○		
			No correlation			●		
		Materials type	Correlation			○		
			No correlation			●		

Factors affecting architectural elements (C5):

- General design principles
 - Economic:
This house due to the economic situation of the owner, a detailed and designed facade can be seen in this house.
 - Political:
Globalization and westernization affected house design by using new styles because of the political situation that led people to build their houses inspired by other countries.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner and the architect.
- Shape and form of building
 - Economic:
The economic situation of the owner provided the opportunity to using this scale of mass and designing the house components.
 - Political:
The height of the fence and the size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
The house setback from the street side and the height of the fence is designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
Not affected.
 - Political:
Using new material types like this type of plaster is related to the stability of the political situation which provides the opportunity to import new materials and technical tools from abroad.
 - Social –Cultural:
Using of new materials in the region is related to the owner and architect's opinion and the social culture which changed over time under affecting of social factors.
- Relationship with Context
 - Economic:
Useing of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 41.

Case Study Data – House C6 (Author)


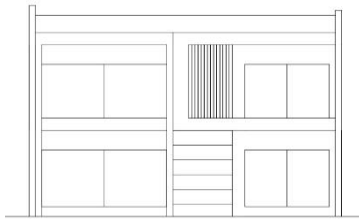
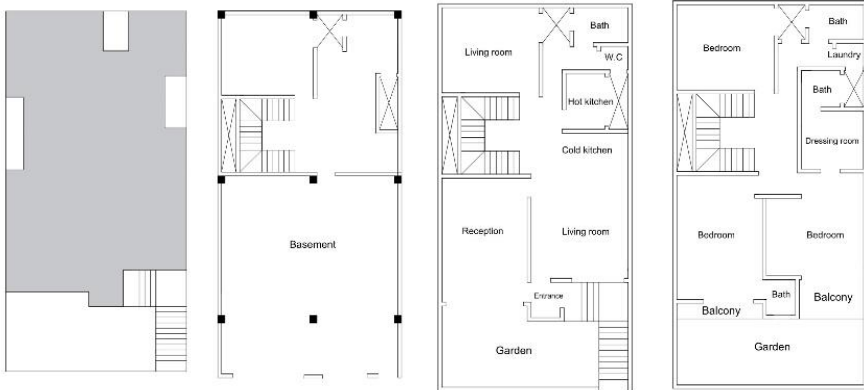
House code: C6		Construction period, year: 2021	Area: 200 m ²
		Construction process: By an architect	No. Floors: 3
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	Simplicity is apparent in this house, use of design principles through the repetition of openings.	Building Materials	Artificial decorative siding and plaster are used in this house, with using of iron for doors and aluminum for windows.
Shape and form of building	The form of the house is designed with horizontal and vertical. Also, the house is built to rise over the ground line. The openings contain rectangular windows.	Relationship with Context	Historical and local architectural elements were not used in this house.

Table 42.

Analysis of Case Study – House C6 (Author)

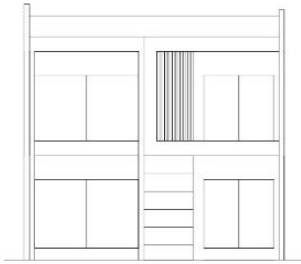
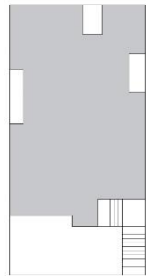
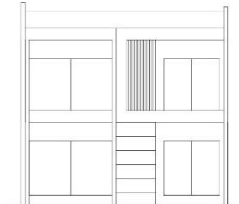



House code: C6									
Static elements of architectural identity		Variables		Values					
General design principles	Repetition and rhythm	Fixed				○			
		Varied repetition				●			
	Scale	Human				●			
		Non-human				○			
	Symmetry						○		
	Balance	Formal				○			
		Non-formal				●			
									
Shape and form of building	Building mass	Geometry of mass	Regular				●		
			Irregular				○		
		Mass relation with the ground	With the ground line				○		
			Excavated with the ground				○		
			Rising over the ground line				●		
		location	Fitting with land boundaries				○		
			Setback from sides				●		
			Free standing on land				○		
		Lines	Horizontal				●		
			Vertical				●		
			Inclined				○		
			Curved				○		
		Texture	Rough				○		
			Smooth				●		
			Transparent				○		
			Solid				●		
		Color	Primary				○		
			Non-primary				●		
			Light				●		
			Dark				○		
			Bright				○		
		Not bright						●	
	Building components	Opening	Doors (Entrance)	location	Center				○
					One side				●
					Other				●
				accessibility	Direct				●
					Indirect				○
				Scale	Human				●
			Non-human				○		
						  			

Table 42. (Continued).

		Windows	Size	Small	○			
				Medium	●			
				Large	○			
			Shape	Rectangular	●			
				Square	○			
				Circular	○			
				Others	●			
		Balcony	Size	Small			●	
				Medium			●	
				Large			○	
			Shape	Rectangular			●	
				Square			○	
				Others			○	
		Fence	Hight	Small			●	
	Medium			○				
	Large			○				
	Designing		Designed		●			
			Not designed		○			
Building Materials	Structural system	R.C.C Frame structures			●			
		Bearing-wall			●			
	Roofing materials	Reinforced concrete slab			●			
		Traditional roofing (Timber and clay)			○			
	Openings materials	Timber			○			
		Iron			●			
		Aluminium			●			
		Plastic			○			
	Facade materials	Natural stone			○			
		Artificial stone			○			
		plaster			●			
		Artificial decorative siding			●			
	Relations hip with Context	Historical architectural references	Correlation				○	
			No correlation				●	
Materials type		Correlation			○			
		No correlation			●			

Factors affecting architectural elements (C6):

- General design principles
 - Economic:
Not affected
 - Political:
New forms and new designs appeared which affected house design by using new styles.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner.
- Shape and form of building
 - Economic:
Not affected.
 - Political:
The size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
Building the house rising over the ground line, the house setback from the street side, and the height of the fence are designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
The economic situation of the owner provided the opportunity to use this type of material.
 - Political:
Using of imported material from abroad like marble is related to the stability of the political situation.
 - Social –Cultural:
New materials are used in this house, it is related to the owner and architect's opinion and the social culture which changed over time under affecting of social factors.
- Relationship with Context
 - Economic:
Useing of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

Table 43.

Case Study Data – House C7 (Author)


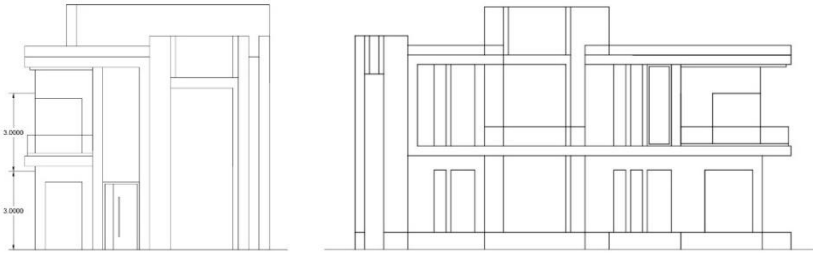
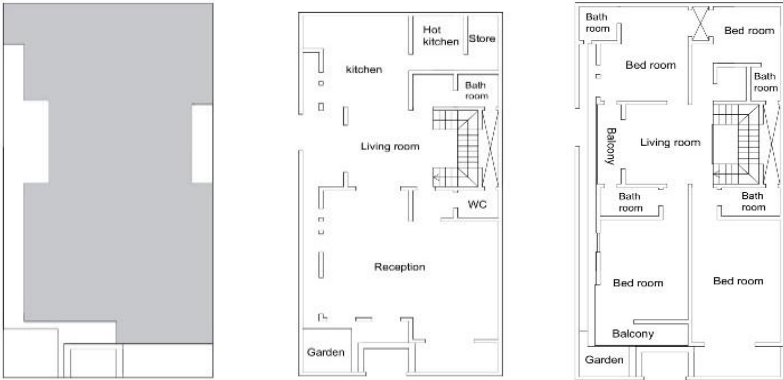
House code: C7		Construction period, year: 2022	Area: 200 m ²
		Construction process: By architect	No. Floors: 2
photographs			
Elevations			
Plans			
Static elements of architectural identity			
General design principles	Modern and new form is clear in this house, the design of this house appears using of design principles through repetition and balance, also human and non-human scale is used.	Building Materials	The facade reflects the simplicity of only plaster being used, with using of iron for doors and aluminum for windows. A timber door is used for the entrance.
Shape and form of building	The form of the house is designed with horizontal and vertical lines. The shape of the house is regular. the building mass has a setback from the street. The openings contain rectangular windows and non-human scale is used.	Relationship with Context	Historical and local architectural elements were not used in this house, also it was designed without using any local materials.

Table 44.

Analysis of Case Study – House C7 (Author)

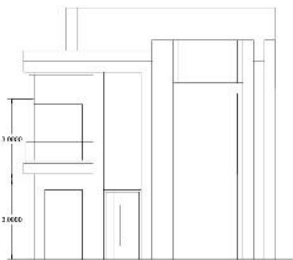
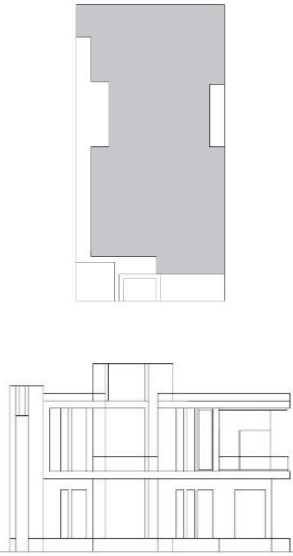




House code: C7							
Static elements of architectural identity	Variables		Values				
General design principles	epetition and rhythm	Fixed		<input type="radio"/>			
		Varied repetition		<input checked="" type="radio"/>			
	Scale	Human		<input checked="" type="radio"/>			
		Non-human		<input type="radio"/>			
	Symmetry			<input type="radio"/>			
	Balance	Formal		<input type="radio"/>			
		Non-formal		<input checked="" type="radio"/>			
Shape and form of building	Building mass	Geometry of mass	Regular		<input checked="" type="radio"/>		
			Irregular		<input type="radio"/>		
		Mass relation with the ground	With the ground line		<input checked="" type="radio"/>		
			Excavated with the ground		<input type="radio"/>		
			Rising over the ground line		<input type="radio"/>		
		location	Fitting with land boundaries		<input type="radio"/>		
			Setback from sides		<input checked="" type="radio"/>		
			Free standing on land		<input type="radio"/>		
		Lines	Horizontal		<input checked="" type="radio"/>		
			Vertical		<input checked="" type="radio"/>		
			Inclined		<input type="radio"/>		
			Curved		<input type="radio"/>		
		Texture	Rough		<input type="radio"/>		
			Smooth		<input checked="" type="radio"/>		
			Transparent		<input type="radio"/>		
			Solid		<input checked="" type="radio"/>		
		Color	Primary		<input type="radio"/>		
			Non-primary		<input checked="" type="radio"/>		
			Light		<input checked="" type="radio"/>		
			Dark		<input checked="" type="radio"/>		
			Bright		<input type="radio"/>		
		Not bright		<input checked="" type="radio"/>			
	Building components	Opening	Doors (Entrance)	location	Center	<input checked="" type="radio"/>	
					One side	<input checked="" type="radio"/>	
					Other	<input type="radio"/>	
				accessibility	Direct	<input checked="" type="radio"/>	
					İndirect	<input type="radio"/>	
				Scale	Human	<input checked="" type="radio"/>	
			Non-human		<input type="radio"/>		

Table 44. (Continued).

		Windows	Size	Small	○			
				Medium	●			
				Large	●			
			Shape	Rectangular	●			
				Square	○			
				Circular	○			
				Others	○			
				Balcony	Size		Small	●
							Medium	●
		Large	○					
		Shape	Rectangular		●			
			Square		○			
			Others		○			
		Fence	Hight	Small	●			
				Medium	○			
				Large	○			
			Designing	Designed	●			
				Not designed	○			
Building Materials	Structural system			R.C.C Frame structures			○	
		Bearing-wall			●			
	Roofing materials	Reinforced concrete slab			●			
		Traditional roofing (Timber and clay)			○			
	Openings materials	Timber			●			
		Iron			●			
		Aluminium			●			
		Plastic			○			
	Facade materials	Natural stone			○			
		Artificial stone			○			
		plaster			●			
		Artificial decorative siding			○			
	Relations hip with Context	Historical architectural references	Correlation			○		
			No correlation			●		
		Materials type	Correlation			○		
			No correlation			●		

Factors affecting architectural elements (A7):

- General design principles
 - Economic:
Not affected
 - Political:
Globalization and westernization affected house design by using new styles because of the political situation that led people to build their houses inspired by other countries.
 - Social –Cultural:
New designs are used in this house because of the choices of the owner and the architect.
- Shape and form of building
 - Economic:
Not affected.
 - Political:
The height of the fence and the size of the windows are related to the safety situation which concederd staible.
 - Social –Cultural:
The house setback from the street side and the height of the fence is designed in this way according to the owner and the architect choices.
- Building materials
 - Economic:
Not affected.
 - Political:
Using new material types like this type of plaster is related to the stability of the political situation which provides the opportunity to import new materials and technical tools from abroad.
 - Social –Cultural:
Using of new materials in the region is related to the owner and architect's opinion and the social culture which changed over time under affecting of social factors.
- Relationship with Context
 - Economic:
Useing of imported material related to the owner's economic situation.
 - Political:
The effect of political factors appears in the use of materials, that provide the opportunity to use imported materials.
 - Social –Cultural:
The social factor is the reason for designing houses without any local architectural element and building simple and functional houses.

CHAPTER IV

Findings and Discussion

This chapter presents the findings based on the collected data, and it explain the analyses of the data that collected by the application of the theoretical framework on the case study. After presenting the methodology of the study in the previous chapter, this chapter explain the result of applying of the theoretical framework and discussing the results, so it presents the results of the analysis, then translated into numerical results and draws interpretations in the discussion.

Finding of the Analysis

In this section, the findings are presented through an analysis of the case study, which supports the study's main aim of identifying the architectural elements that affect architectural identity. The analysis's findings are categorized into three groups: The first group consists of the houses from the first period, coded by (A), which includes 7 cases. The second group consists of the houses from the second period, coded by (B), which contain 7 cases. The third group consists of the houses from the third period, coded by (C), which contain 7 cases. Numbers are converted from the qualitative results. The findings of the qualitative analysis are as follows, they are presented in Table 45, Table 46, and Table 47.

Table 45.

Finding of Analysis for the First Period (Author)

Period A															
Elements of architectural identity						Cases							Results		
						A1	A2	A3	A4	A5	A6	A7			
General design principles	Repetition and rhythm	Fixed				●						●	●	3	
		Varied repetition					●							1	
	Scale	Human				●	●	●	●	●	●	●	●	7	
		Non-human								●	●	●		3	
	Symmetry														
	Balance	Formal													
		Non-formal				●				●	●	●		4	
	Shape and form of building	Building mass	Geometry of mass	Regular			●	●	●	●					4
Irregular								●	●	●		3			
Mass relation with the ground			With the ground line				●		●	●	●			4	
			Excavated with the ground												
			Rising over the ground line			●		●				●		3	
location			Fitting with land boundaries												
			Setback from sides			●	●	●	●	●	●	●		7	
			Free standing on land												
Lines			Horizontal			●	●	●	●	●	●	●	●	7	
			Vertical			●	●	●	●	●	●	●		7	
			Inclined			●	●	●		●	●	●		7	
			Curved				●		●				●	3	
Texture			Rough			●	●	●	●	●			●	6	
			Smooth							●	●	●		3	
			Transparent												
			Solid			●	●	●	●	●	●	●		7	
Color			Primary								●				1
			Non-primary			●	●	●	●	●	●	●		7	
			Light			●	●	●	●	●	●	●		7	
			Dark						●					1	
			Bright												
Building			Opening	Doors (Entrance)	location	Center			●						1
		One side				●	●	●	●	●	●	●		7	
		Other				●	●		●	●	●	●		6	

Table 45. (Continued).

				accessibility	Direct	●	●	●	●	●	●	●	7
					Indirect		●						1
				Scale	Human	●	●	●	●	●	●	●	7
					Non-human								
			Wind ows	Size	Small		●		●	●	●	●	5
					Medium	●	●	●	●	●	●	●	7
					Large								
				Shape	Rectangular	●	●	●	●	●	●	●	7
					Square								
					Circular								
					Others		●						1
		Balcony	Size	Small									
				Medium					●	●	●	●	4
				Large								●	1
			Shape	Rectangular					●			●	2
				Square									
				Others						●	●	●	3
		Fence	Hight	Small									
				Medium						●	●		2
				Large			●	●	●	●		●	5
			Desig ning	Designed			●	●	●	●	●	●	7
				Not designed									

Building Materials	Structural system	R.C.C Frame structures										●	1
		Bearing-wall				●	●	●	●	●	●	●	7
	Roofing materials	Reinforced concrete slab				●	●	●	●	●	●	●	7
		Traditional roofing (Timber and clay)											
	Openings materials	Timber				●	●		●			●	4
		Iron				●	●	●	●	●	●	●	7
		Aluminium							●	●	●	●	4
		Plastic											
	Facade materials	Natural stone				●	●	●	●	●	●	●	7
		Artificial stone											
		plaster				●		●		●	●	●	5
Artificial decorative siding													

Relationship with Context	Historical architectural references	Correlation					●	●	●				3
		No correlation				●				●	●	●	4
	Materials type	Correlation				●	●	●	●	●		●	6
		No correlation									●		1

Period A (1992-2003):

The results of the analysis for the first period are clarified as follows:

- General design principles: According to the general design principles, the human scale was the most common element that is used in all seven cases. However, on the other hand, none of them used symmetry and formal balance in their designs, instead, non-formal balance was prevalent in this period.
- Shape and form of building: Depending on the second section of the analysis which is the shape and form of the building, in this period the houses had both regular and irregular geometries. And the most preferred relation to the ground was the relation with the ground line, with setting back from sides as a location of the mass in the ground. Also, all the houses used both vertical and horizontal lines. The houses in this period preferred solid and rough textures over smooth and transparent textures. However according to the color of the mass in this period the people preferred using light colors that are not primary and not bright. As building components, the entrance doors of all cases were located on one side of the elevation and had direct accessibility from outside, and used the human scale. And all the windows had medium size with a rectangular shape. In accord with the balconies, most of them are medium in size with no defined shapes. Also, the fences were large in height and all of them were designed
- Building materials: In the manner of the building materials, the most common material that is used for the building structure is brick and concrete, and only reinforced concrete appeared in one case, in the case of the roofing material, reinforced concrete is the most common material among these seven cases. All of these cases used iron as a material for their openings and plastic has not appeared in this period. However, as a facade material, natural stone was the prevalent material in this period, and plaster at a lower rate.
- Relationship with context: According to the relationship with the context, most of them do not correlate with the historical architectural references but correlated with the materials type of the context.

Table 46.

Finding of Analysis for the Second Period (Author)

Period B														
Elements of architectural identity						Cases							Results	
						B1	B2	B3	B4	B5	B6	B7		
General design principles	Repetition and rhythm	Fixed					●						1	
		Varied repetition						●					1	
	Scale	Human				●	●	●	●	●	●	●	7	
		Non-human					●	●	●	●	●		5	
	Symmetry													
	Balance	Formal												
		Non-formal					●	●	●	●	●		5	
Shape and form of building	Building mass	Geomet ry of mass	Regular						●			●	2	
			Irregular				●	●		●	●	●		5
		Mass relation with the ground	With the ground line						●				●	2
			Excavated with the ground						●					1
			Rising over the ground line				●	●		●	●	●		5
		location	Fitting with land boundaries											
			Setback from sides				●	●	●	●	●	●	●	7
			Free standing on land											
		Lines	Horizontal				●	●	●	●	●	●	●	7
			Vertical				●	●	●	●	●	●	●	7
			Inclined				●	●	●	●	●	●	●	7
			Curved				●	●	●					3
		Texture	Rough					●	●	●			●	4
			Smooth				●	●	●		●	●	●	6
			Transparent						●				●	2
			Solid				●	●	●	●	●	●	●	7
		Color	Primary											
			Non-primary				●	●	●	●	●	●	●	7
			Light				●	●	●	●	●	●	●	7
			Dark						●					1
			Bright											
			Not bright				●	●	●	●	●	●	●	7
	Building	Openin g	Doors (Entra nce)	location	Center			●						1
					One side	●	●	●	●	●	●	●	7	
					Other	●	●	●	●	●	●	●	7	

Table 46. (Continued).

				accessibility	Direct	●	●	●	●	●	●	●	7		
					Indirect			●					1		
				Scale	Human	●	●	●	●	●	●	●	7		
					Non-humn	●	●	●			●		4		
			Wind ows	Size	Small	●	●	●	●	●	●	●	7		
					Medium	●	●	●	●	●	●	●	7		
					Large			●				●	2		
				Shape	Rectang ular	●	●	●	●	●	●	●	7		
					Square		●						1		
					Circular										
					Others										
		Balcony			Size	Small				●					
			Medium			●			●	●	●	●	5		
			Large			●		●					1		
			Shap e	Rectangular											
				Square											
				Others			●	●	●	●	●	●	●	7	
			Fence	Hight	Small			●	●						2
					Medium					●	●	●	●	●	5
					Large										
		Desig ning		Designed			●		●	●	●			4	
				Not designed				●				●	●	3	
Building Materials	Structural system	R.C.C Frame structures			●	●	●					3			
		Bearing-wall			●	●	●	●	●	●	●	7			
	Roofing materials	Reinforced concrete slab			●	●	●	●	●	●	●	7			
		Traditional roofing (Timber and clay)													
	Openings materials	Timber													
		İron			●	●	●	●	●	●	●	7			
		Aluminium													
		Plastic			●	●	●	●	●	●	●	7			
	Facade materials	Natural stone			●	●	●	●	●	●	●	7			
		Artificial stone					●					1			
		plaster				●	●			●	●	4			
Artificial decorative siding								●		1					
Relationship with Context	Historical architectural references	Correlation													
		No correlation			●	●	●	●	●	●	●	7			
	Materials type	Correlation				●		●			●	3			
		No correlation			●		●		●	●		4			

Period B (2004-2014):

The results of the analysis for the second period are clarified as follows:

- General design principles: According to the general design principles, the human scale was the most common element that is used in all seven cases along with the non-human scale for six cases. However, none of them used symmetry and formal balance in their designs, instead, the non-formal balance was also prevalent in this period.
- Shape and form of building: In the second section of the analysis which is the shape and form of the building, in this period the most of houses had irregular geometries. And the most preferred relation to the ground was rising over the ground line, with setting back from sides as a location of the mass in the ground. Also, all the houses used vertical, horizontal, and inclined lines. The houses in this period preferred solid and smooth textures, in accord with appearance of transparent textures in two cases. However according to the color of the mass in this period the people preferred using light colors that are not primary and not bright.

For the building components, the entrance doors of all cases were located on one side of the elevation and had direct accessibility from outside, and used the human scale in all cases along with non-human scale for 4 cases. All the cases had medium size and small size of windows, mostly with a rectangular shape. On the other hand, most of the balconies are medium in size and all of them designed with no defined shapes. Also, most of the fences were medium in height and four of them were designed.

- Building materials: For the building materials, the most common material that is used for the building structure is brick and concrete, and reinforced concrete used in three cases, in the case of the roofing material, reinforced concrete is the most common material among these seven cases. All of these cases used iron and plastic as a material for their openings. However, as a facade material, natural stone was the prevalent material in this period, and plaster at a lower rate.
- Relationship with context: According to the relationship with the context, all of them do not correlate with the historical architectural references but three of them correlated with the materials type of the context.

Table 47.

Finding of Analysis of Third Period (Author)

Period C													
Elements of architectural identity					Cases							Results	
					C1	C2	C3	C4	C5	C6	C7		
General design principles	Repetition and rhythm	Fixed				●		●		●		3	
		Varied repetition			●				●		●	3	
	Scale	Human			●	●	●	●	●	●	●	7	
		Non-human			●	●	●				●	4	
	Symmetry				●							1	
	Balance	Formal				●						1	
		Non-formal			●		●	●	●	●	●	6	
	Shape and form of building	Building mass	Geometry of mass	Regular			●	●	●	●	●	●	●
Irregular													
Mass relation with the ground			With the ground line					●				●	2
			Excavated with the ground							●			1
			Rising over the ground line			●	●		●	●	●		5
location			Fitting with land boundaries										
			Setback from sides			●	●	●	●	●	●	●	7
			Free standing on land										
Lines			Horizontal			●	●	●	●	●	●	●	7
			Vertical			●	●	●	●	●	●	●	7
			Inclined				●	●	●				3
			Curved				●	●					2
Texture			Rough				●		●				2
			Smooth			●	●	●	●	●	●	●	7
			Transparent			●						●	2
			Solid			●	●	●	●	●	●	●	7
Color			Primary										
			Non-primary			●	●	●	●	●	●	●	7
			Light			●	●	●	●	●	●	●	7
			Dark			●				●	●	●	4
			Bright										
			Not bright			●	●	●	●	●	●	●	7
Building		Opening	Doors (Entrance)	location	Center		●	●	●	●		●	5
					One side	●		●	●	●	●		5

Table 47. (Continued).

					Other	●						●	●	3		
				accessibility	Direct	●	●	●	●	●	●	●	●	7		
					Indirect					●				1		
					Scale	Human	●	●	●	●	●	●	●	●	7	
				Non-human		●							●	2		
				Windows	Size	Small			●		●			2		
						Medium	●	●	●	●	●	●	●	7		
						Large	●						●	2		
					Shape	Rectangular	●	●	●	●	●	●	●	7		
			Square													
			Circular													
			Others					●					1			
			Balcony			Size	Small		●	●		●	●	●	●	6
							Medium				●		●	●	●	4
				Large												
		Shape		Rectangular		●	●	●	●	●	●	●	7			
				Square												
				Others			●						1			
		Fence		Hight	Small				●		●	●	●	4		
					Medium		●	●		●				3		
					Large											
			Designing	Designed		●	●	●	●	●	●	●	7			
				Not designed												
			Building Materials	Structural system	R.C.C Frame structures						●		●	●		3
		Bearing-wall				●	●	●	●	●	●	●	7			
		Roofing materials		Reinforced concrete slab				●	●	●	●	●	●	●	7	
Traditional roofing (Timber and clay)																
Openings materials	Timber							●			●	2				
	Iron				●	●	●	●	●	●	●	7				
	Aluminium				●			●	●	●	●	5				
	Plastic					●	●					2				
Facade materials	Natural stone				●			●	●			3				
	Artificial stone					●		●				2				
	plaster				●		●		●	●	●	5				
	Artificial decorative siding					●	●	●		●		4				
Relationship with Context	Historical architectural references	Correlation														
		No correlation				●	●	●	●	●	●	●	7			
	Materials type	Correlation														
		No correlation				●	●	●	●	●	●	●	7			

Period C (2015-2022):

The results of the analysis for the third period are clarified as follows:

- General design principles: According to the general design principles, the human scale was the most common element that is used in all seven cases, while in four cases non-human scale is used. However, on the other hand, only one case used symmetry and formal balance, instead, non-formal balance was prevalent in this period.
- Shape and form of building: The analysis of the shape and form of the building, in this period all the houses had regular geometries. Most of them preferred relation to the ground was rising over the ground line, with setting back from sides as a location of the mass in the ground. Also, all the houses used both vertical and horizontal lines. The houses in this period preferred smooth and rough textures over solid and transparent textures. However according to the color of the mass in this period the people also preferred using light colors that are not primary and not bright, along with the use of dark color in some parts of the building.

As building components, the common location of the entrance doors of all cases were located on one side or at the center of the elevation and had direct accessibility from outside, and used the human scale. And all the windows had medium size with a rectangular shape. In accord with the balconies, most of them had rectangular shape with medium size. Also, the most fences were small in height and all of them were designed

- Building materials: In the manner of the building materials, the most common material that is used for the building structure is brick and concrete, and reinforced concrete appeared in three cases, in the case of the roofing material, reinforced concrete is the most common material among these seven cases. All of these cases used iron as a material for their openings and timber, aluminium, and plastic appeared in this period. However, as a facade material, plaster was the prevalent material in this period, natural stone, artificial stone, and artificial decorative siding which is called cork are at a lower rate.

- Relationship with context: According to the relationship with the context, all of them do not correlate with the historical architectural references, and also all of them are not correlated with the materials type of the context.

In general, the analysis shows that each period of Duhok City's development experienced differences in the affecting elements, which normally had an effect on the architectural identity of the city's houses. Due to the above, various architectural characteristics of houses have appeared within city sectors, as long as it is really difficult to categorize them into a single coherent system. The results of analyses in this chapter classify the architectural elements that shape an identity for each period. These results shed light on the differences among cases in each period of Duhok City's evolution and transformation. However, to clarify the differences between the three periods a comparative study has done, the comparative results of the elements of architectural identity in different periods of Duhok city are shown in table 48.

According to the general design principles, the human scale was the most common element that is used in all 21 cases as long as 14 cases used a non-human scale. However, on the other hand, the non-formal balance was prevalent in three periods.

Depending on the second section of the analysis which is the shape and form of the building, in the three periods, most of the houses had regular geometries. And the most preferred relation to the ground was rising over the ground line, with setting back from sides as a location of the mass in the ground. Also, all the houses used horizontal, vertical, and inclined lines. Most of the houses preferred rough, smooth, and solid textures. However, according to the color of the mass in the three periods, the people preferred using light colors that are not primary and not bright.

As building components, the entrance doors of most cases were located on one side of the building and had direct accessibility from outside, and used the human scale, as long as some other entrances are located in different positions.

However, the windows had medium size and small sizes with rectangular shapes. In accord with the balconies, most of them are medium in size with no defined shapes. Also, the fences were medium in height and most of them were designed.

In the manner of the building materials, the most common material that is used for the building structure is brick and concrete, in the case of the roofing material, reinforced concrete is the most common material among these 21 cases. All of these cases used iron as a material for their openings. However, as a facade material, natural stone and mortar were the prevalent materials in all three periods.

According to the relationship with the context, most of them do not correlate with the historical architectural references and not correlated with the materials type of the context.

Table 48.

Finding Analysis for Three Periods (Author)

Period A, B, C							
Static elements of architectural identity			The results of the cases in three periods			Total Results	
			A	B	C		
General design principles	Repetition and rhythm	Fixed	3	1	3	7	
		Varied repetition	1	1	3	5	
	Scale	Human	7	7	7	21	
		Non-human	3	5	4	12	
	Symmetry				1	1	
	Balance	Formal			1	1	
		Non-formal	4	5	6	15	
Shape and form of building	Building mass	Geometry of mass	Regular	4	2	6	12
			Irregular	3	5		8
		Mass relation with the ground	With the ground line	4	2	2	8
			Excavated with the ground		1	1	2
			Rising over the ground line	3	5	5	13
		location	Fitting with land boundaries				
			Setback from sides	7	7	7	21
			Free standing on land				
		Lines	Horizontal	7	7	7	21
			Vertical	7	7	7	21
			Inclined	7	7	3	17
			Curved	3	3	2	8
		Texture	Rough	6	4	2	12
			Smooth	3	6	7	16
			Transparent		2	2	4
			Solid	7	7	7	21
		Color	Primary	1			1
			Non-primary	7	7	7	21
	Light		7	7	7	21	

Table 48. (Continued).

			Dark			1	1	4	6			
			Bright									
			Not bright			7	7	7	21			
Building components		Opening	Doors (Entrance)	location	Center	1	1	5	7			
					One side	7	7	5	19			
					Other	6	7	3	16			
				accessibility	Direct	7	7	7	21			
					Indirect	1	1	1	3			
				Scale	Human	7	7	7	21			
					Non-human		4	2	6			
				Windows	Size	Small	5	7	2	14		
						Medium	7	7	7	21		
			Large				2	2	4			
			Shape		Rectangular	7	7	7	21			
					Square		1		1			
					Circular							
					Others	1		1	2			
			Balcony	Size	Small				1	6	7	
					Medium			4	5	4	13	
					Large			1	1		2	
				Shape	Rectangular			2		7	9	
					Square							
					Others			3	7	1	11	
			Fence	Hight	Small				2	4	6	
					Medium			2	5	3	10	
					Large			5			5	
				Designing	Designed			7	4	7	18	
					Not designed				3		3	
			Building Materials	Structural system	R.C.C Frame structures				1	3	3	7
					Bearing-wall				7	7	7	21
				Roofing materials	Reinforced concrete slab				7	7	7	21
Traditional roofing (Timber and clay)												
Openings materials	Timber				4		2	6				
	Iron				7	7	7	21				
	Aluminium				4		5	9				
	Plastic					7	2	9				
Facade materials	Natural stone				7	7	3	17				
	Artificial stone					1	2	3				
	plaster				5	4	5	14				
	Artificial decorative siding					1	4	5				

Table 48. (Continued).

Relationship with Context	Historical architectural references	Correlation	3			3
		No correlation	4	7	7	18
	Materials type	Correlation	6	3		9
		No correlation	1	4	7	12

Discussion of the Findings

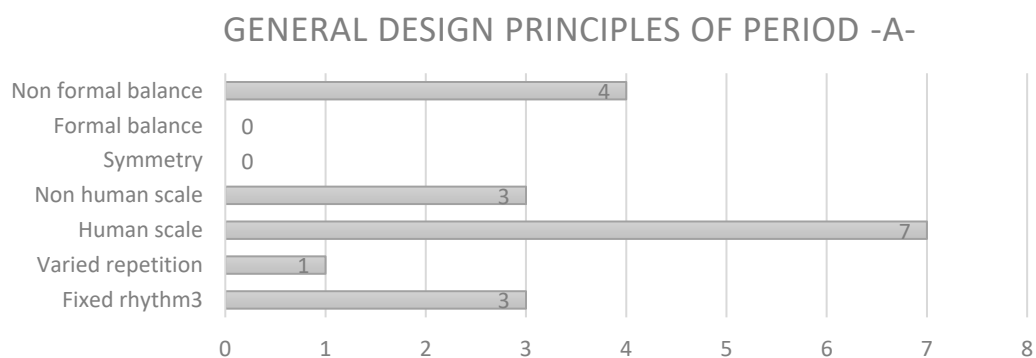
Depending on the findings that were presented through an analysis of the case study. In this section, the analysis's findings of the three groups which are the three periods of time that were mentioned previously are discussed and clarified.

The first period (1992-2003)

The study revealed that in the first period in most of houses, the common design principle that is used was human scale, however balance in designing was prevalent in this period, as shown in (Figure 18).

Figure 18.

The Results of the General Design Principles for the Houses in the First Period (Author)

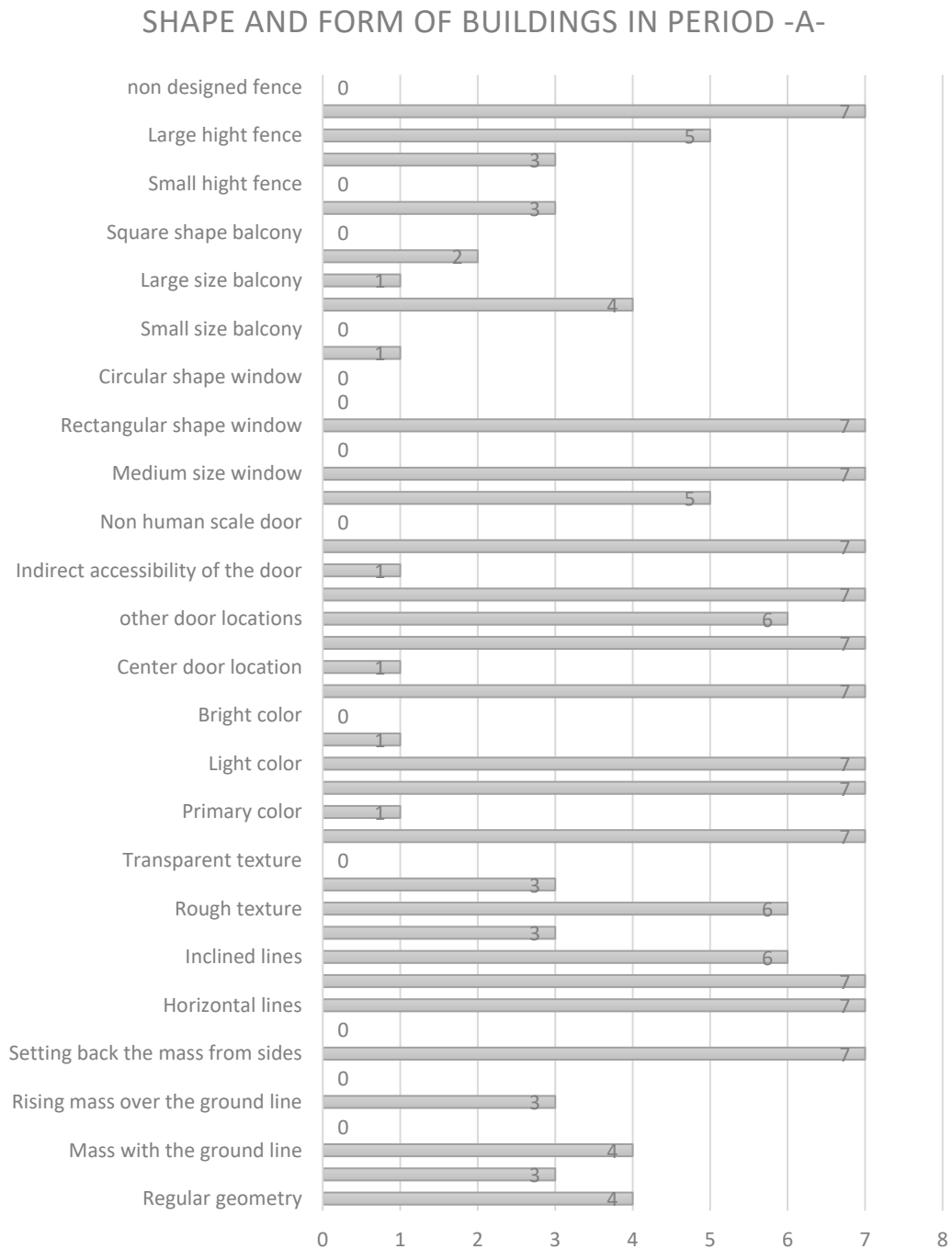


According to the shape and form of building, the houses consist of both regular and irregular shapes. Also, most of them was built with the ground line, and in designing the building horizontal and vertical lines are used, as shown in (Figure 19).

Due to the social-cultural factor most of the houses were built without an architect, the owner depended on his opinion and craftsmen's ideas, which led to the appearance of poor simple designs of houses. As building components, all the windows had a medium size with using of iron for windows and doors. In accord with the fences were large in height. That resulted from political factors and security issues related to the situation of the region. In the same time under the affection of social-cultural factors these features were preferred to achieve more privacy.

Figure 19.

*The Results of the Shape and Form of Building for the Houses in the First period
(Author)*

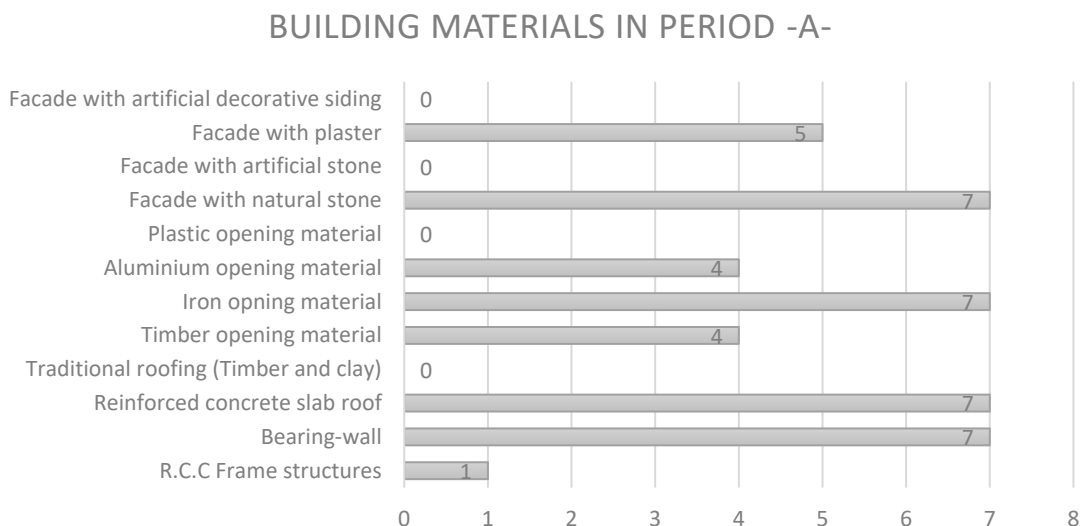


In the manner of the building materials, brick and concrete were the most common material that is used in the building structure, and for roofing reinforced concrete was used, because of the simple design that didn't have any more materials. However, as

a facade material, natural stone was the prevalent material in this period, and plaster at a lower rate, as shown in (Figure 20). Due to the political situation, these local materials were available and there were no imported materials, therefore people used them for the houses. relative to the economic conditions of the people in Duhok city in this period, natural stone was considered an expensive material, as long as it appeared the prevalent material for all houses, this case reveals that construction of houses was decreasing as a result of economic and political factors, and the construction was only for those with strong finances.

Figure 20.

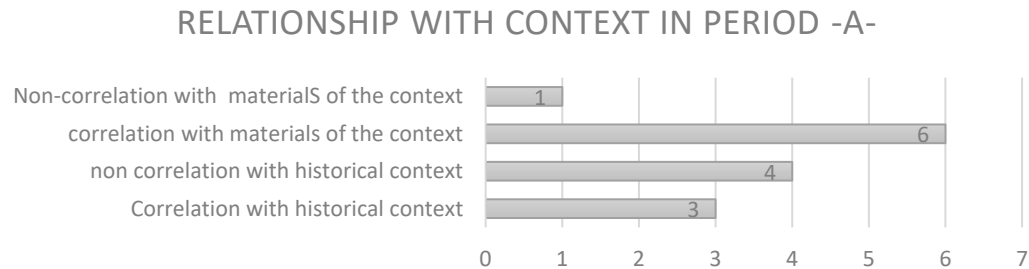
The Results of the Building Materials for the Houses in the First Period (Author)



According to the relationship with the context, the design of the houses in this period some of the historical architectural references were used, which correlated with the context, despite this, with the use of these references the features of Islamic architecture appeared instead of the Kurdish architecture, which can be considered the unique architecture of the region, as shown in (Figure 21). However, this was the result of the expertise and experience of the architects who used the design prevalent in other regions. Instead, the houses were strongly correlated with the context, in the type of the materials which was local materials.

Figure 21.

*The Results of the Relationship with Context for the Houses in the First Period
(Author)*

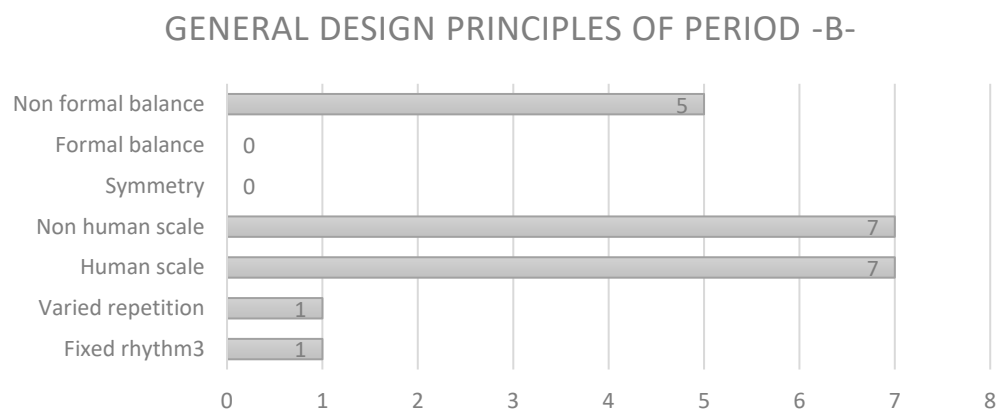


The second period (2004-2014)

According to the general design principles, in this period the non-human scale appeared in some parts of the building of houses, as shown in (Figure 22). This is related to the economic factor, as long as the economic situation has developed, as a result, people wanted to show the richness and change their lifestyle.

Figure 22.

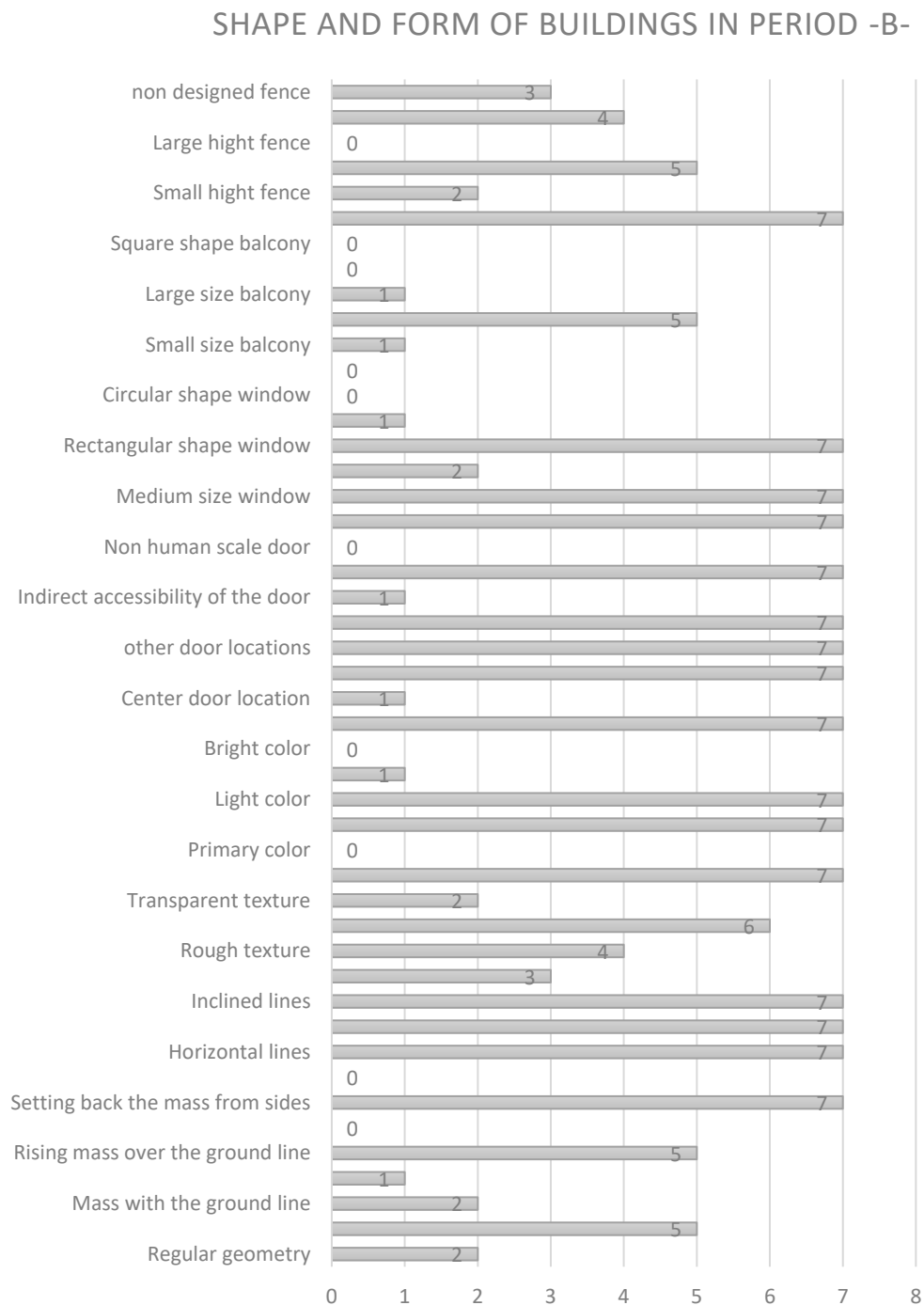
*The Results of the General Design Principles for the Houses in the Second Period
(Author)*



The shape and form of building mass of most houses in this period were designed with horizontal, vertical, and inclined lines. Also, most of them were built rising over the ground line, as shown in (Figure 23). The social-cultural factor was the reason that led to the changes in house designs along with the political factor, through stabilizing the general situation and the demographic change in the city led to this transformation. On the other hand, this economic development led to rapid development with the city's expansion. As a result, the construction process has become faster, therefore people start to use ready plans, and also architects copied these plans since there are no rules and controls on building process. Consequently, most of the houses in this period are similar. For the building components, the entrance doors of some houses were designed on a non-human scale. Also, most of the balconies are medium in size and designed with different shapes, as mentioned before these changes come through the changes of owner and architect's ideas as a result of the affecting factors and changing the general situation of the region.

Figure 23.

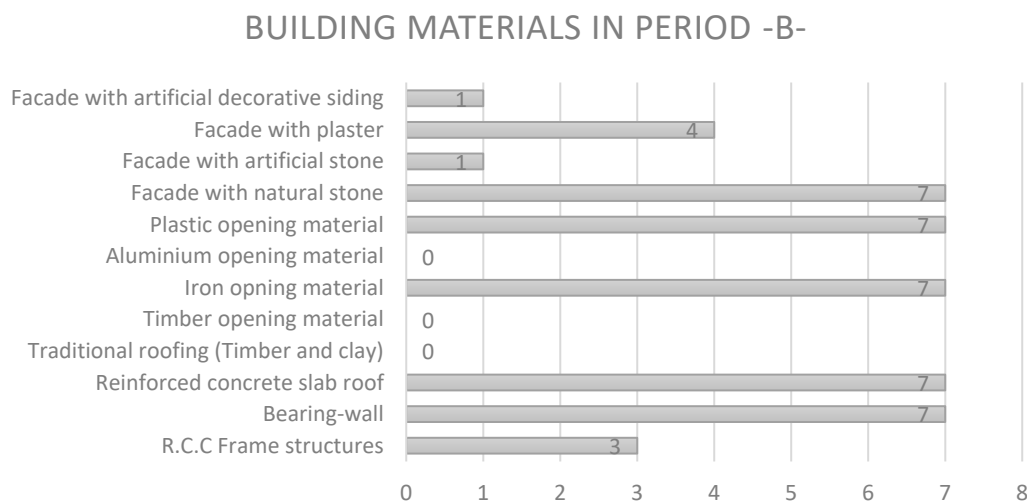
*The Results of the Shape and Form of Building for the Houses in the Second Period
(Author)*



The building material that was used in this period also experienced changes. The political factor played an important role in this field, thus paving the way for building materials to be imported from abroad. However, marble, artificial stones, artificial decorative siding, and others, plastic was also used for windows and doors, as shown in (Figure 24).

Figure 24.

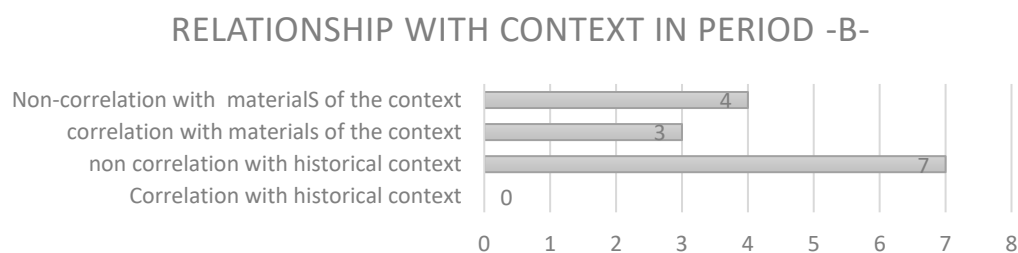
The Results of the Building Materials for the Houses in the Second Period (Author)



In the manner of the relationship with the context, almost the houses do not correlate with the context, instead of not using any historical architectural references. On the other hand, some of them used local materials giving the opportunity to be correlated with the context, as shown in (Figure 25).

Figure 25.

The Results of the Relationship with Context for the Houses in the Second Period (Author)

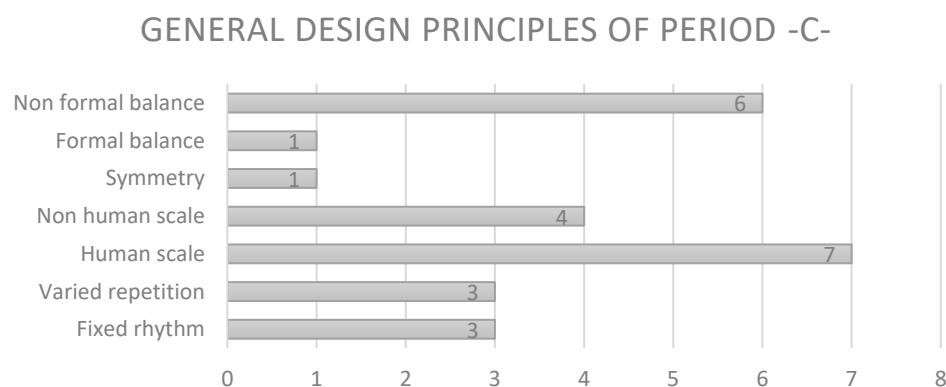


The third period (2015-2022)

In this period due to the general design principles, many types of designs appeared that used scale, balance, and symmetry in different ways, as shown in (Figure 26). Due to the direct affecting of western and international styles, lacked a coherent architectural goal, and reflected the wide range of artistic and architectural styles that were common in the west. As a result, it was chaotic and heavily influenced by Western models. However, this motif is all about openness to the world, under affecting of the social-cultural factor.

Figure 26.

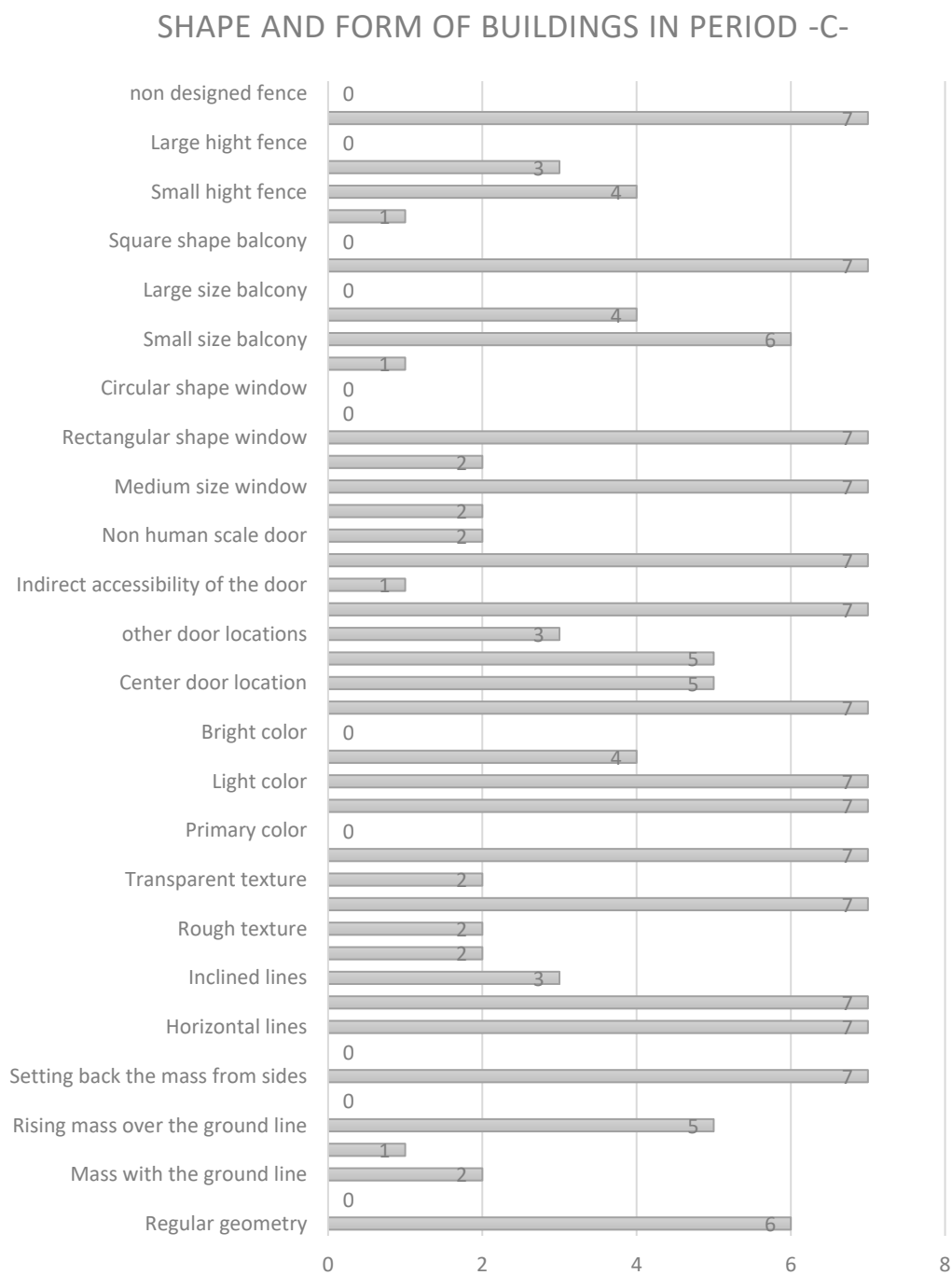
The Results of the General Design Principles for the Houses in the Third Period (Author)



The political and economic factors also affected this period through the imbalance in the security situation that occurred and the economic stagnation. Despite this, there were attempts at renewal by a limited class of society, thus, most of the houses had regular geometrical shapes and use both vertical and horizontal lines, as shown in (Figure 27). The houses' designs in this period appear with more transparent textures. However, according to the building components, the windows had large sizes. In accord with the balconies, most of them had large areas, based on the social transformation that is occurring and the decreasing importance of privacy. Also, most of the houses' fences were small in height due to the same reason.

Figure 27.

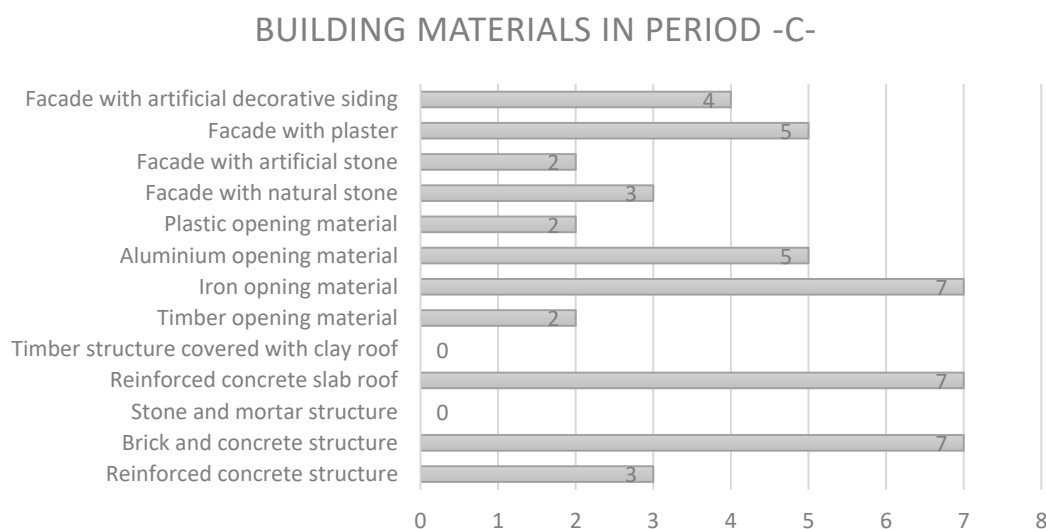
*The Results of the Shape and Form of Building for the Houses in the Third Period
(Author)*



The building materials that were used in this period for the facade were plaster and artificial decorative siding, these two materials were the prevalent materials in this period, as shown in (Figure 28). According to the social–cultural factor which was the reason for the direct affecting of international styles as a result of the influences of society imitating the west.

Figure 28.

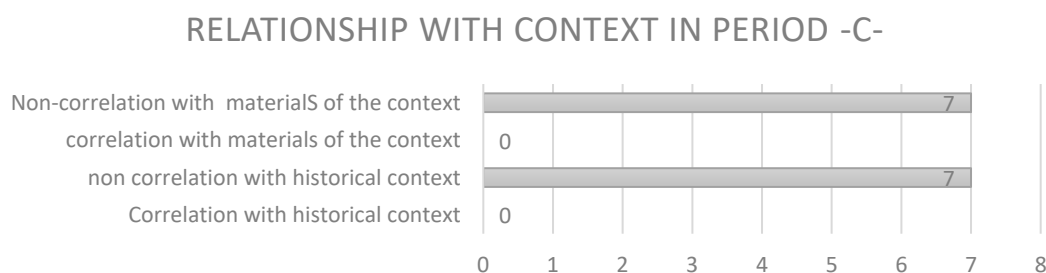
The Results of the Building Materials for the Houses in the Third Period (Author)



According to the relationship with the context, the houses do not correlate with the historical architectural references, and also, they are not correlated with the context through the use of local materials, as shown in (Figure 29). Thus, during this period, the influence of Western architecture on the Kurdistan Region caused a notable gap between the prevalent architecture and history and culture.

Figure 29.

The Results of the Relationship with Context for the Houses in the Third Period (Author)



In general, according to the previous results, each of the periods has its own different elements and factors that affect the architectural identity of Duhok city. The general results for the three periods are shown in the following figures below.

Figure 30.

The Results of the General Design Principles for the Houses in the Three Period (Author)

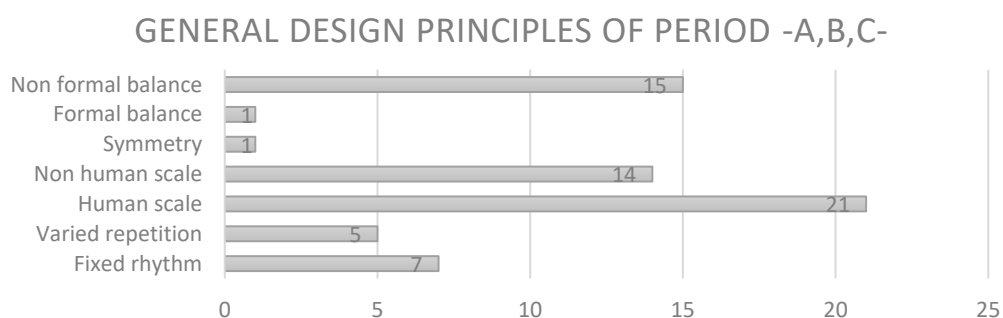


Figure 31.

The Results of the Building Materials for the Houses in Three Periods (Author)

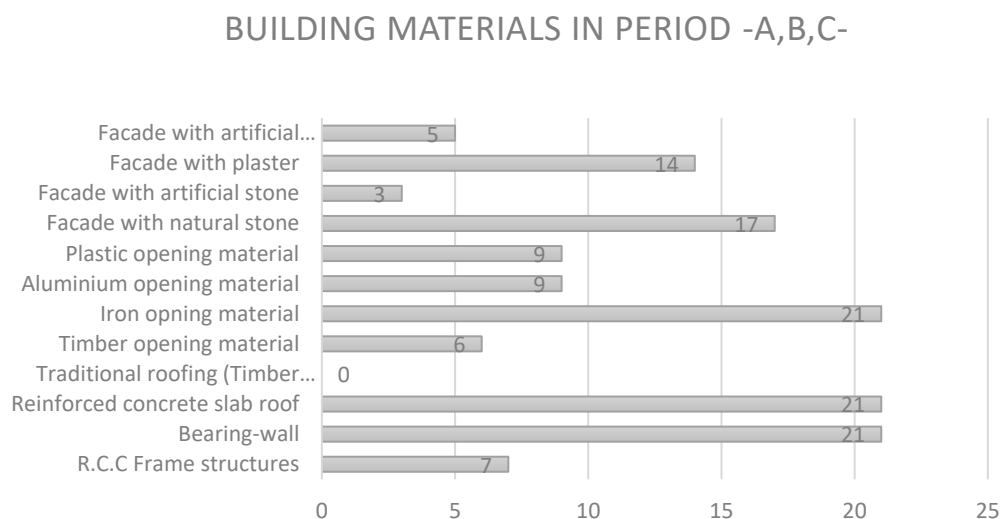


Figure 32.

The Results of the Shape and Form of Building for the Houses in the Three Periods (Author)

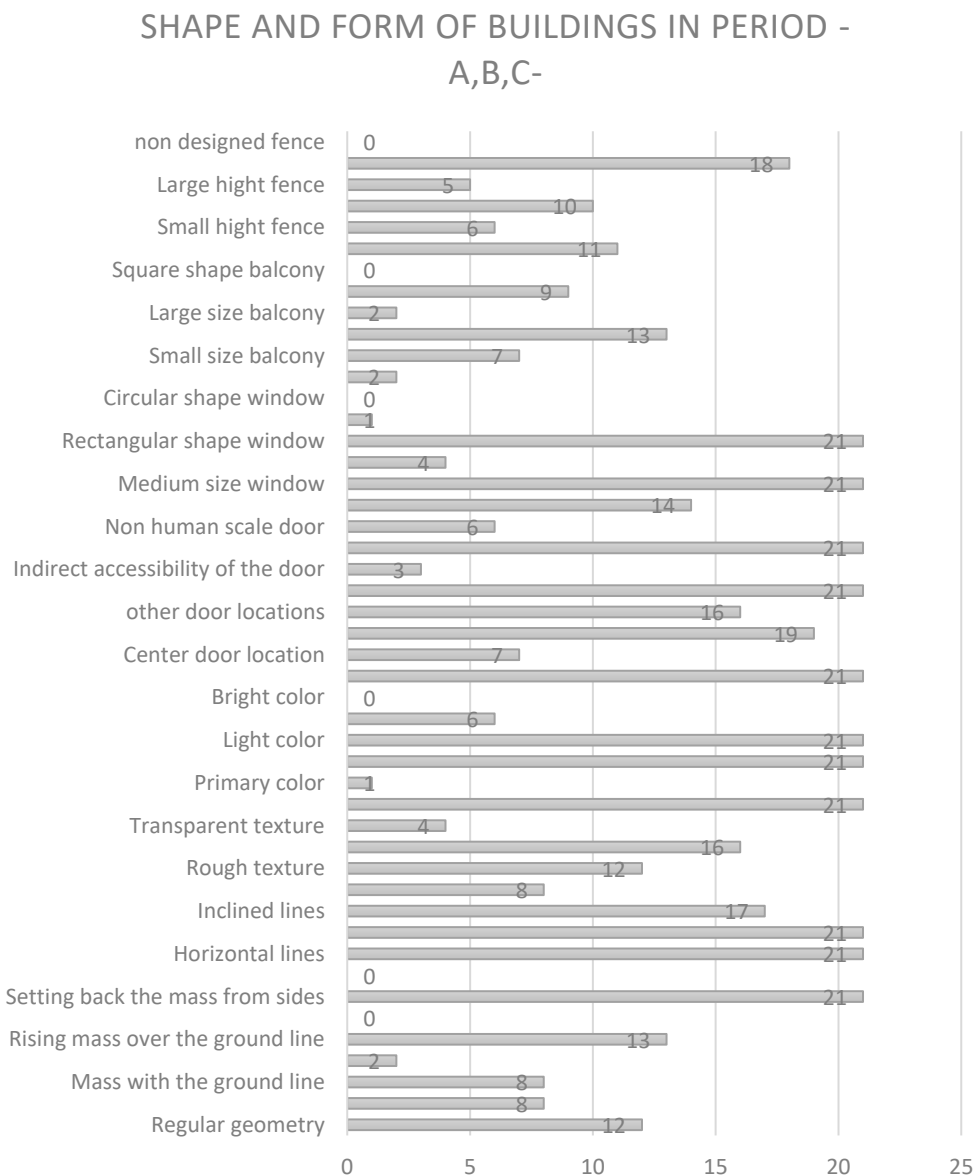
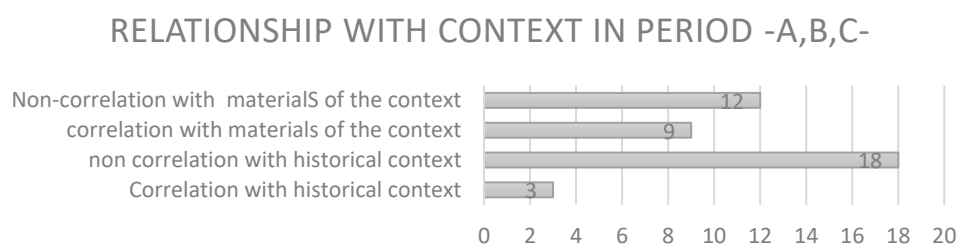


Figure 33.

The Results of the Relationship with Context for the Houses in the Three Periods (Author)



Accordingly, due to the findings results and discussion, the main factors that affect the architectural identity of the city, its effect changed from one period to another in different ways. In addition to this through the analysis, it was found that there are secondary affecting factors that have a clear and continuous effect on the identity of the houses in Duhok.

As mentioned previously the main factors are economic factor, political factor, and social-cultural factor. Through the influence of the social-cultural factor, a secondary factor becomes apparent which is the role of the designer, as is shown in the three periods many houses are built without any architect and this is related to the culture of society and thinking, as a result, this brings many issues, one of them is an identity issue. In another hand, the influence of political factors encourages a secondary factor which is rules and controls on the building process, so in the three periods, the effect of this factor was clear. Due to the political situation of the region, they neglect this issue, as a result, there is a lack of roles and controls for the building process.

The main factors:

- Economic factor
- Political factor
 - Rules and controls on building process
- Social-cultural factor
 - The role of designer

CHAPTER VI

Conclusion and Recommendations

The study conclusions, recommendations, and suggestions for further research are presented in the last chapter. Two main sections define the chapter: The general conclusions of the research are presented in the first section, which focuses on achieving the study's main objectives by understanding and identifying the architectural identity of Duhok city in the three specific periods. The second section discusses providing recommendations and suggests possible future studies concepts.

Theoretical Conclusions

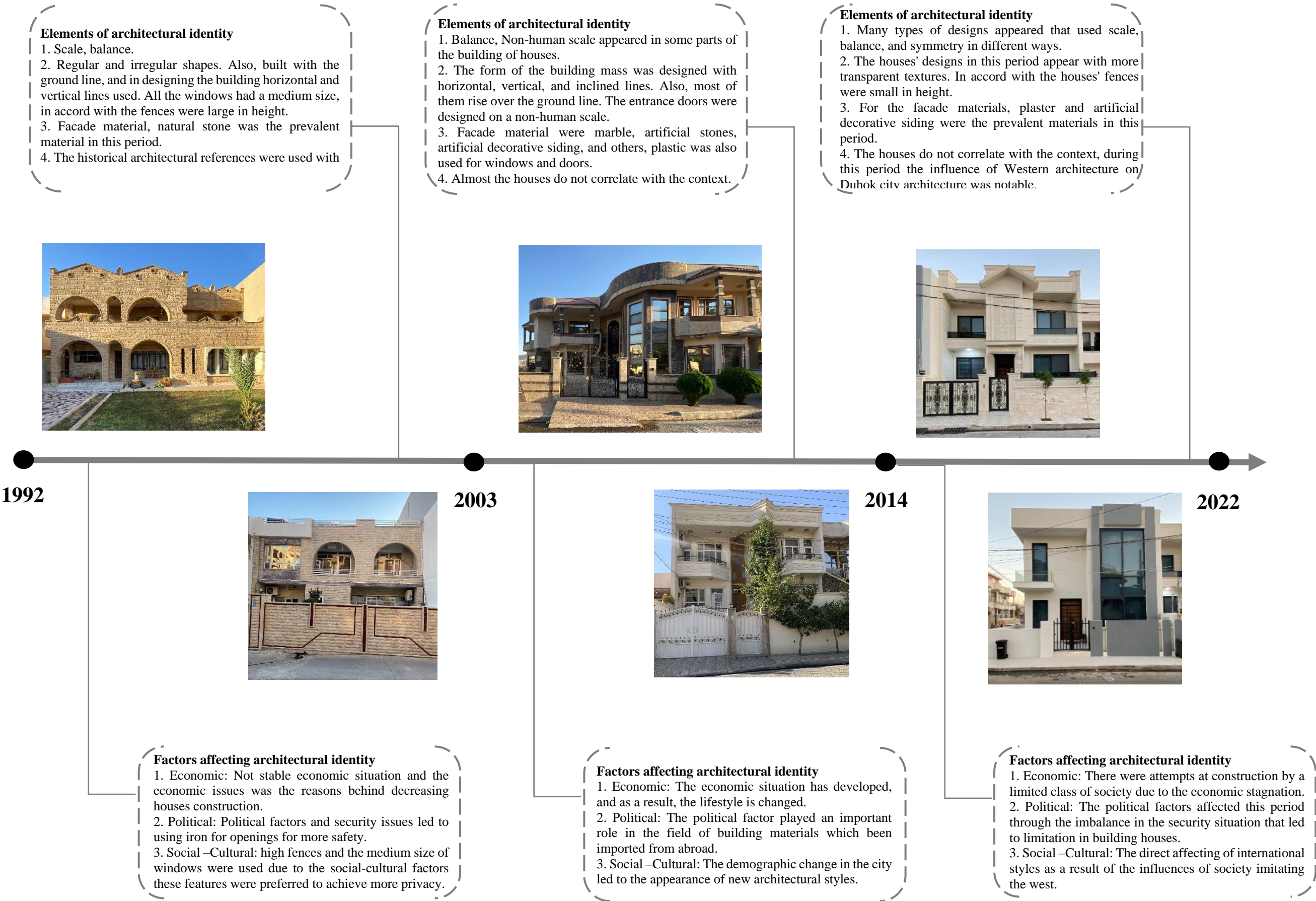
This study starts with understanding the concept of identity and identifying identity issues. It appears that the influence of the concept of identity in architecture is significant. In this regard for the specific region and period which are discussed in this study, a theoretical framework has been done to understand the architectural identity through the main elements that shape architectural identity and the main affective factors in Duhok city in the specific period (1992-2022).

Practical Conclusions

The research analysis and results consider that for each period there is a different affection of the main factors and elements of Duhok city identity, for each period it is clarified as follows:

Figure 34.

Summary of the Three Period's Conclusion (Author)



General Conclusions

Based on what was presented in this study, it was possible to achieve the main aim of this study which is understanding and identifying Duhok city identity through the proposed framework of the study. Thus, the research hypothesis considers that the lack of awareness of the significance of architectural identity by architects and society in general, led to the chaos and crises of architectural identity. And according to the secondary hypotheses, after applying the conceptual framework to different case studies, it appeared that the application of new and different styles in architecture is in accord with the demographic change in the city were the reasons for changing the identity. However, the rapid development with the city expansion and the influences of the building process without an architect was other reasons. After applying the theoretical framework, the main question of the study has been answered and the main elements that shape the architectural identity are considered as follows:

- The general design principles, the scale and balance are the most common and prevalent element.
- The shape and form of the house's buildings, most of the houses have regular geometries. And the most preferred relation to the ground is rising over the ground line, with setting back from sides of site. Also, all the houses are using horizontal, vertical, and inclined lines.

According to the color of the houses, it preferred using light colors that are not primary and not bright, also most of the houses preferred rough, smooth, and solid textures.

The entrance doors in most of houses is located on one side of the building and had direct accessibility from outside. Also, the windows have medium size and small sizes with rectangular shapes. The balconies, most of them are medium in size. Also, the fence is one of important elements which is mostly designed with a medium height.

- The building materials, the most common material that is used for the building structure is brick and concrete. Iron is a prevent material for the doors and for the windows are aluminium and plastic. Also, the facade material are natural stone and mortar are the prevalent materials.

- The relationship with the context, most of the houses do not used historical architectural references and the materials types which is correlated with context.

Recommendations

According to the information and data presented in this study, results, And conclusions, the study recommends the following:

- The study results recommended the importance of the existence of rules and controls in construction to give a general identity to the architecture in the region.
- The study recommended the academic side to explain the process of design depending on the design methods that preserve identity.
- The study's theoretical framework provided a list of the architectural elements that shape identity as a building design approach. Consequently, it might be taken as a guide for architects to use in their projects.

Beneficiaries of the Study

As identity considered an important issue and topic, The beneficiaries of this study lie on three levels and fields:

- Academic
 - Architectural engineering departments.
 - Scientific research and studies centres specialized in architecture.
- Practical
 - Engineering consulting offices.
- Administrative
 - Municipality.
 - Engineers Syndicates.

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