EUROPEAN UNIVERSITY OF LEFKE

INSTITUTE of GRADUATE STUDIES & RESEARCH

DEPARTMENT of ARCHITECTURE

MASTER'S THESIS

FAÇADE TYPOLOGY of TRADITIONAL LEFKE HOUSES

Şeyda DOĞANAY

SUPERVISOR

Assist. Prof. Dr. Makbule OKTAY

LEFKE 2020

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Şeyda DOĞANAY, a Master of Architecture student of European University of Lefke, Institute of Graduate Studies and Research defended her thesis entitled "**Façade Typology of Traditional Lefke Houses**", on Jan 21, 2020 and has been found to be satisfactory by the jury members.

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ÖZET

Tarihi şehirler, barındırdıkları kültürlerin izlerini taşıyan önemli taşınmaz kültürel miraslardır. Her kültür, dini, kamu, eğitim binaları ve evleri ile yıllar boyunca kendi mimari dilini oluşturur. Geleneksel evler, bu kültürlerin yaşam biçimleri ve gelenekleri hakkında birçok bilgi içerir. İnsanların yaşadığı dönemlerin değer ve yaşam tarzlarının birleşiminin sonucu olan bu geleneksel yapıların aynı grupları kendi içlerinde bir kavram ve düzene sahiptir. Bu geleneksel evleri geleceğe taşımak için, geleneksel evlerin yoğun olduğu tarihi yerleşimlerde dokümantasyon çalışmaları yapılmaktadır.

Koruma altındaki geleneksel Lefke evleri, kentin mimari mirasının kültürel bir parçasıdır ve tarihi çevrenin izlerini taşımaktadır. Bu çalışmanın amacı Lefke'deki geleneksel evlerin cephe tipolojisini incelemektir. Bu bağlamda, birinci derece korunan alanda bulunan geleneksel evlerin yoğun olduğu sokaklar seçilmiştir. 94 ev ve 103 cephenin incelendiği bu tezde evlerin cephe analizi ve düzenlemeleri saha çalışmaları ile incelenmiştir. Evlerin cephe özellikleri ve cephe elemanları da çizimleri içeren envanter çalışmaları ile belgelenmiştir. Elde edilen veriler, sayısal yoğunluklarına göre ayrı olarak tablolaştırılmıştır.

Saha çalışması ve envanter çalışmalarından elde edilen veriler ışığında geleneksel Lefke evlerinin cephe tipolojisi belirlenmiştir. İncelenen evlerin cephe ve cephe elemanlarındaki müdahaleler ve bozulmalar belirlenmiş ve alınabilecek tedbirlerden bahsedilmiştir. Bölgenin koruma sorunlarından ve koruma kavramının oluşturulması için yapılabilecek eylemlerden söz edilmiştir.

Anahtar Kelimeler: Geleneksel, Ev, Cephe, Cephe Tipolojisi, Lefke.

ABSTRACT

Historical cities are important immovable cultural heritages that bear the traces of the cultures they host. Each culture creates its own architectural language over the years with its religious, public, educational buildings and houses. Traditional houses contain a lot of information about the living styles and traditions of these cultures. The same groups of these traditional structures, which are the result of the combination of the values and lifestyles of the periods in which people live, have a concept and order within themselves. In order to carry these traditional houses to the future, documentation studies are being carried out in the historical settlements where the traditional houses are dense.

Traditional Lefke houses, which are under protection, are a cultural part of the architectural heritage of the city and bear the traces of the historical environment. The aim of this study is to examine the façade typology of traditional houses in Lefke. In this context, streets with a high density of traditional houses were selected in the first degree protected area. In this thesis, in which 94 houses and 103 façades were examined, the façade analysis and arrangements of the houses were inspected by field studies. The façade features and façade elements of the houses, have been documented through inventory studies that included drawings too. The data obtained were tabulated separately according to their numerical density.

In the light of the data obtained from the fieldwork and inventory studies, the façade typology of traditional Lefke houses was determined. The interventions and deteriorations in the façade and façade elements of the investigated houses were determined and the measures that could be taken were mentioned. The conservation problems of the region and the actions to be taken for the formation of the protection concept are mentioned.

Keywords: Traditional, House, Façade, Façade Typology, Lefke.

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I would like to express my gratitude my advisor Assist. Prof. Dr. Makbule OKTAY for her more than helpful assistance, criticism and suggestions for development of this thesis. I feel honored for her guidance, patient and persistence throughout my academic profession. I feel more than blessed to have her as my advisor.

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Lastly, a special thanks to my family. Words cannot express how grateful I am to my family for all of the sacrifices and supports that you've made on my behalf. I feel honored to have such parents and their unlimited supports.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

AMM	Department of Ancient Monuments and Museums
DUP	Department of Urban Planning
ICOMOS	International Council on Monuments and Sites
PWD	Public Work Department
TRNC	Turkish Republic of Northern Cyprus

LIST OF FIGURES

LIST OF TABLES

LIST OF MAPS

1. INTRODUCTION

People need a place where they can survive like other creatures in nature. In the early ages, people met the need for shelter due to the protection instinct at places such as caves, rock shelters, and bark. The shelter, which is the first form of settlement of human being, is an important step for the beginning of the construction. The first typical product of the design, the shelter has changed and evolved over the centuries like human beings. The shelter took its present form of residential building.

Residential buildings are shaped according to the different needs of different societies and deeply affected by climate, geography, and topographic formations. Residential buildings vary from region to region and from society to society with spatial organization, interior design, material type, furniture designs, and façade organizations, indoor and outdoor interactions. When all these factors are combined, every society and every region achieved its own traditional architecture. The traditional architecture, which forms the identity of a society and makes it different from other societies, is shaped by the interaction between the social-cultural environment of the society and the physical environment of the region. (Alga, 2005)

Traditional architecture, which is the most important identity of historical cities, is the immovable cultural heritages of great importance in that transfer the past to the future (Ahunbay, 2009). Traditional houses, which are examples of civil architecture, are among these immovable heritages like monumental, religious, and cultural structures. Traditional houses that reflect spiritual and material cultural elements, provide important information about the cultural values (social, cultural, economic, aesthetic, etc.) and the architectural characters (parcel usage, plan solutions, façade arrangements, building materials, construction technique, etc.) of the period in which they were made (Algan, 2016).

The town of Lefke, located on the north-west side of the Turkish Republic of Northern Cyprus (TRNC), is a settlement hosted people of different ethnic and religious

backgrounds throughout history. After the 1974 Peace Operation, the fact that the Lefke town remained on the South Cyprus border and the region's economy mainly based on agriculture led to restrictions on investments in the region (Gültekin, 2019). Therefore, the fact that urban development is more stable than other cities on the island has helped the Lefke town to preserve its original character and its historical texture, including mosques, shops, and traditional houses. Due to the European University of Lefke, which was established in 1990, the region of Lefke started to develop because of the education sector. In the face of this development; to protect the existing urban fabric, Lefke was declared as 1st and 2nd degree urban protected area in 2014 (TRNC Official Newspaper, 2014). Lefke town was become one of the citta-slow cities in 2015 (Yeni Düzen, 2019). The urban planning of the Lefke town was taken under protection and tried to be controlled by The Streets and Buildings Regulation Law (*Fasıl* 96).

According to the list of listed buildings in the Lefke protection area, which was published in the TRNC Official Newspaper on 04 February 2014, there are 104 listed buildings in Lefke. 46 of these buildings are traditional Lefke houses that reflect the architectural features of the region. Due to the growing need for housing with the development of the European University of Lefke, the changing user profile in Lefke town, the migration of the local people to the central places, the unconscious user, the unconscious intervention, and the wrong methods of protection caused to the rapid deterioration of the urban texture integrity and individual building.

In addition to these reasons, the lack of any typological academic study related to the traditional houses in the region, the insufficiency of the archives of the official institutions responsible for urban planning and protection, and the insufficiency of the institutions carrying out the conservation planning in the region, prevent the protection of traditional buildings and their transfer to future generations. In the face of the protection problems and wrong interventions to the centre of Lefke town, which maintains its originality with its topography, street and residential texture, it is necessary that existing residential settlement forms, façade elements and layouts should be documented with the help of drawings, photographs, and tables and transferred to future periods.

1.1. Aims and Objectives

The aim of this study is to analyses the front façades of traditional houses located at the centre of Lefke according to the determined criteria and to find out the façade typology. 94 house and 103 façades were examined including the side façades of the houses in corner parcels. The façades were examined in terms of number of floors, structural systems, status of the building, current and former usage types, house layouts in the parcels, entrance organizations, originality of façade elements, door and window arrangements, façade organizations, architectural elements and façade features, projection organization, roof types, façade covering and colours. The objectives of the thesis are:

- To analyse the residential façades in the selected region and determining the importance of façades in the "Traditional Lefke Houses",
- To document the characteristic and original texture,
- To document and detected interventions and distortions on façades,
- To create a design guide of the town with the inventory work on the façades and to provide typological data to new buildings,
- To shed light on future academic studies.

1.2. Methodology

The method used in this study, which aims to document the typology of the façade of the traditional residential buildings in the historical texture of Lefke is to first understand the physical formation and basic character of the town through literature review, then to determine the typology of the front façade with field study. Literature review covers academic studies on the Lefke town, traditional architecture, and façade. The data required for typological classification and how to use them were formed from academic studies. In order to define the current status of the structures, the archives of the Municipality of Lefke, the Department of Ancient Monuments and Museums (AMM) and Department of Urban Planning (DUP) and interviews where necessary and possible were used together with the field studies. As a first step, registered houses

and the buildings with architectural value were identified in first-degree protected area (Figure 1.1).

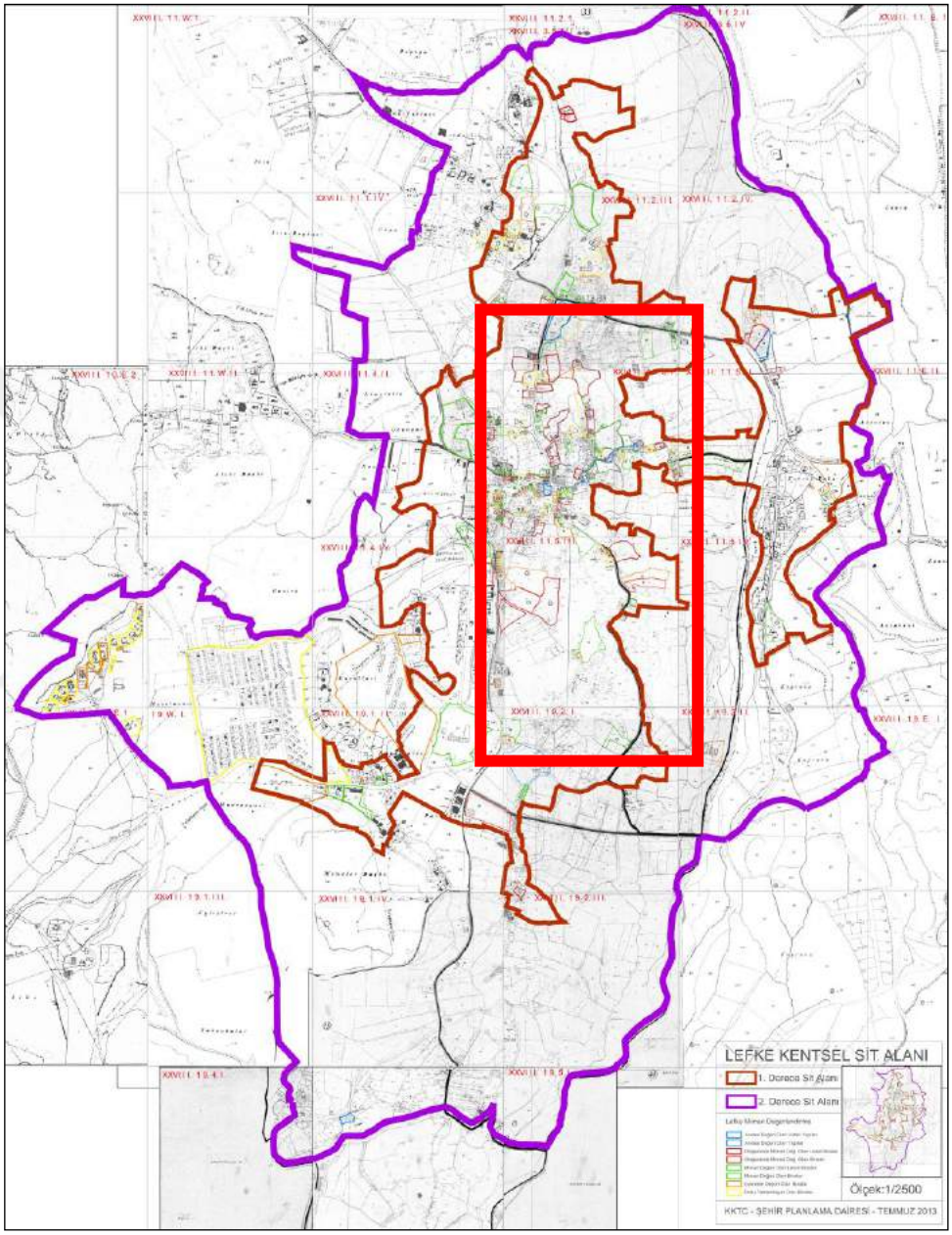


Figure 1.1: Map of Lefke town urban protection area (Archive of DUP, 2014)

Due to the size of the protected area and the intensive number of houses, the study area is limited to the streets where the listed residential buildings and the residential buildings with architectural value are dense such as: 9 Eylül, Şeyh Nazım Kıbrısi, Şeyh

Nazım El Hakkani, Fadil Nekipzade, Aziz Çavuş, Bey Efendi, Tahir Efendi, Küçük İzzet, Daniş Efendi, Hacı Paşa and Hacı Emin Efendi Street (Figure 1.2). The houses in the selected streets were numbered systematically and a determination and evaluation study was carried out (Map 1). Site plans, detailed façade drawings and façade elements drawings were made by taking into consideration the location of the site and the parcels of the buildings by using the data obtained from the field studies.

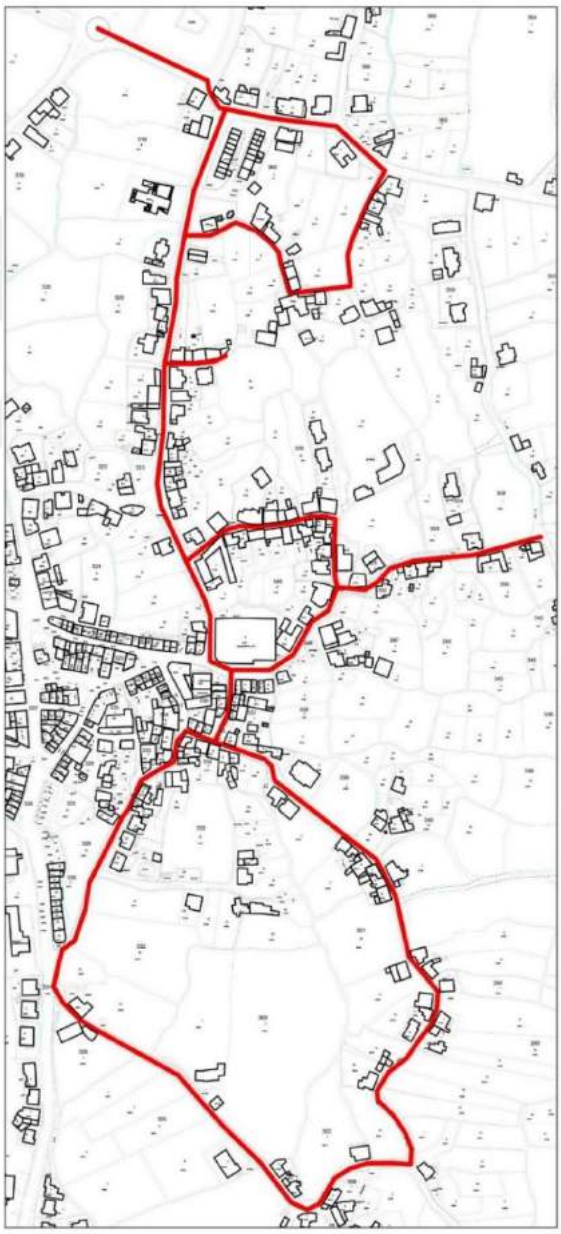


Figure 1.2: Selected streets on Lefke Town Centre

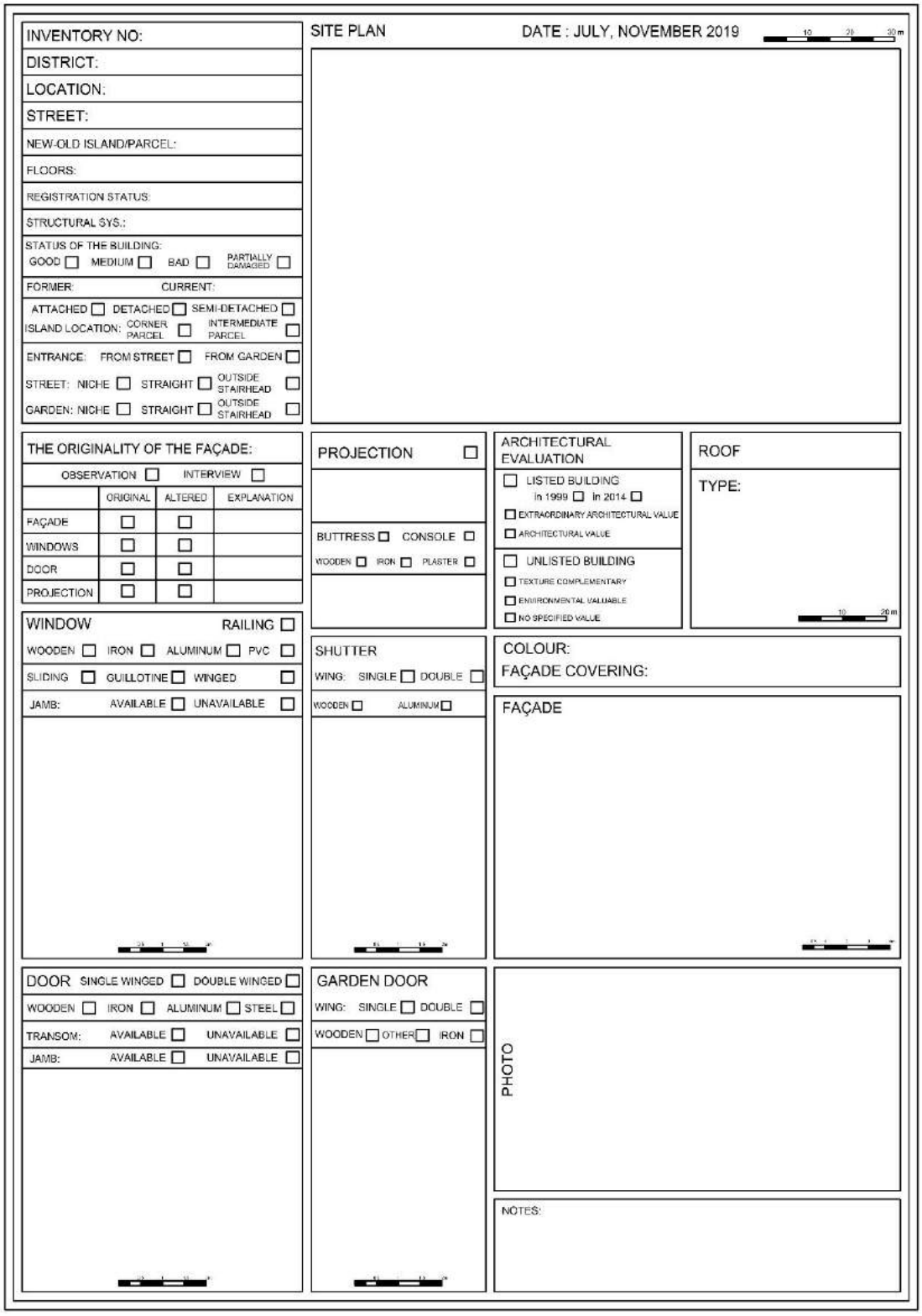
As a result of the situation assessments and investigations made in the field, an inventory table (Table 1.1) has been prepared for each house. In the inventory table, besides the general information of the structures, there are information about such as; houses' settlements layouts, entrance organizations, originality of façade elements, door and window arrangements, façade organizations, architectural elements and façade features, projection organization, architectural evaluations, roof types, façade covering and colours.

1.3. Limitations and Scope

Within the scope of the study, the centre of Lefke has been investigated. The reasons for choosing Lefke; is a lack of study related to the typology although has an important traditional architecture, is located in the protected area and which has suffered deterioration due to "development and abandonment" but has not lost all its values. This study is limited to traditional and residential buildings.

The relationship of residential buildings with the street is important in terms of showing the public-private interaction of the user in the society. Front façade is the nearest unit to the public space; is the first element that separates the private and the public space (Doğan, 2016). The front façade has the most direct interact with the user and street. For these reasons, the study relates to the traditional houses façades facing the street. The reasons for conducting the analyses within the scope of the research only on the entrance façade; the observation of the house-street relationship in the traditional houses of Lefke and in general the front façade has more elaborated construction than others and is easily accessible, can be examined.

Table 1.1: Inventory table example



1.4. Structure of Thesis

In Chapter 1, the subject is defined and the aim, objectives, methodology, scope, limitation and structure of thesis are explained.

Chapter 2 is the literature review. It is divided into 2 headings as: traditional architecture, traditional architecture in North Cyprus. Traditional architecture in North Cyprus is divided into 2 headings as: Ottoman Period architecture and British Period architecture. In these headings; traditional settlements, traditional house definitions are made and the importance of the façade in the concept of traditional house is mentioned. In Chapter 3, information about the geographical location of Lefke town, history, and properties of physical texture, monumental structures in the region, registration, and protection status are explained.

Chapter 4 is the analysis chapter. According to the inventory studies, the analysis of the traditional houses is consisting of 4 main headings (general analysis of selected houses, house location layout, façade analysis of traditional Lefke houses, detected interventions and distortions on façades) and 11 subheadings (façade and entrance organization, door, garden doors, windows, shutters, ratios of façade elements, projections, support elements, façade covering, roof arrangements, other façade elements). The interventions and deteriorations in the façade and façade elements of the investigated houses were determined.

In Chapter 5, which is conclusions section, results of the thesis are presented based on the data obtained from field study. In the light of the data obtained from the land and inventory studies, the façade typology of traditional Lefke houses was determined. The measures that can be taken against the interventions and deteriorations in the façade and façade elements are mentioned. The protection problems of the region and the measures to be taken to form the concept of protection are mentioned.

2. TRADITIONAL ARCHITECTURE

2.1. Traditional Architecture

The origin of the word "tradition" is Latin and it comes from the word "*tradere*" which means "transferring, transmitting" (Eyüce, 2005). In general it might be described that, traditional architecture, which has been formed through trial and error processes for many years, defines structures that are shaped according to needs and beliefs and which are compatible with the environmental conditions of the region (Sözen & Eruzun, 1992; Eyüce, 2005). Traditional structures are considered as immovable cultural heritage because they give us information about the past and are of great importance in order to transfer the past to the future (Ahunbay, 2009).

Traditional architecture can be defined as names: public architecture, vernacular architecture, local architecture, public building art, architecture without architects, anonymous and primitive architecture (Bektaş, 2001). The word "vernacular" comes from the word "*vernaculus*" in Latin, which is native, country-specific and is known that the word was first used in 1861 (Eyüce, 2005). According to Kuban, the word vernacular is similar to the local, plain and anonymous words (Kuban, 1995). The word anonymous means "unknown, unnamed". Anonymous architecture means unnamed architecture, which is the common property of the public, whose creators are unknown (Hasol, 1998). Rudolfsky (1964) argued in his book "Architecture without Architects" that traditional architecture is a non-formal and unclassified building tradition (Rudofsky, 1964). Traditional structures without aesthetic concerns may vary according to each community and region, even though they resemble each other with similar spatial solutions (Eyüce, 2005).

In the Encyclopedia of Vernacular Architecture of the World, Paul Oliver stated that there was no single definition of vernacular architecture due to its variety (Oliver, 1997). Vernacular architecture is housing and all other buildings built by property

owners and society, in relation with their environmental factors by using existing resources and traditional technologies (Oktay, 2006).

R. W. Brunskill (1978), in his book “Vernacular Architecture”, divided the vernacular architecture into three categories: domestic, agricultural and industrial. “Domestic vernacular architecture” includes buildings designed for life, “agriculture vernacular architecture” buildings of the farmstead apart from the farm-house and “industrial vernacular architecture” buildings that accommodate industrial activities related to rural areas. (Brunskill, 1978)

Similar solutions were found in traditional structures, although the regions and traditions were different. For this reason, traditional structures should be considered together with the traditional settlements they belong to and should be examined considering their mutual interaction. Traditional structures have a similar typology with repetitive patterns (Figure 2.1) (Eyüce, 2005).

Figure 2.1: Traditional settlement in Halfeti / Turkey (left); traditional settlement-In Fez / Morocco (right) (Eyüce, 2012)

In October 1999, International Council on Monuments and Sites (ICOMOS) defined the vernacular architecture in the ICOMOS Charter on the Built Vernacular Heritage in Mexico as follows:

- A manner of building shared by the community;
- A recognizable local or regional character responsive to the environment;

- Coherence of style, form and appearance, or the use of traditionally established building types;
- Traditional expertise in design and construction which is transmitted in formally;
- An effective response to functional, social and environmental constraints;
- The effective application of traditional construction systems and crafts (ICOMOS, 1999).

Traditional architecture is the way in which communities reflect their lifestyle using known symbolic forms and local materials. Based on this, it can be said that traditional structures are influenced not only by traditions but also by the region. Regional factors, although not a definitive determinant of architectural formations, play an influential role on buildings (Eyüce, 2005), but traditions are more influential on houses. For this reason, Lefke houses will be examined in the context of "traditional houses".

2.2. Traditional Architecture in North Cyprus

The island of Cyprus, located at the 35°N meridian, is the third largest island in the Mediterranean, after the islands of Sicily (25,460 km2) and Sardinia (24,090 km2) with an area of 9,251 km2 (Çağanağa, 2014). The capital city of the Cyprus is Nicosia. Cyprus summers are hot and dry on the plains, humid at the seaside, warm and arid in winters and the prevailing wind comes from the western direction (Özay, 2005). Cyprus, which is located between three continents which are Europe, Asia and Africa, 64 km away from Turkey, 379 km from Egypt and 94 km from Syria (Figure 2.2) (Feridun, 1976).

Figure 2.2: Geographical location of Cyprus (Feridun, 1976) (Adapted by author)

The local architecture of the island can be studied in two areas: rural and urban. Although the geographical features, topographic structures, climate and building materials are similar, it can easily be seen that the two areas are different from each other (Numan et al., 2001) (Figure 2.3). House-courtyard relationship, number of floors, floor heights, door and window sizes and proportions, the existence of the semi-open living spaces on the first floor, and ornaments vary in urban and rural house (Dinçyürek, 2009). Door and window voids of the urban houses had bigger dimensions than the rural houses. Furthermore, urban house windows have stone framed windows with foldable shutters (Pulhan, 2002). Urban house forms were influenced by mainly prevailing cultures and lifestyles while rural forms developed with the effect of an agricultural lifestyle, existing building materials and climatic conditions (Dinçyürek, 1998).

Figure 2.3: Examples for rural and urban house, Cyprus (Oktay & Dinçyürek, 2007)

The typical urban house form of Cyprus can be defined as a combination of single and two-storey buildings in a neighbourhood. As a regional landmark in Cyprus, the living area on the second-floor extends onto the street with projection. These projections are usually made to provide privacy to the interior and are supported by wooden buttresses (Figure 2.4) (Dinçyürek, 2009).

Figure 2.4: Urban houses in Nicosia (Türkan, 2016)

There are many traditional urban houses in Cyprus that can be considered as cultural heritage. Some of them have been restored by the Department of Antiquities and Museums and have been registered as works with different functions such as: Dervish Pasha Mansion, Chamber of Turkish Architects Office Building (Figure 2.5), Eaved House, and Lusignan House (Türkan, 2016). At the same time, there are many non-

restored houses because of they are private property and they are threatened with extinction, due to factors such as misuse, wear and neglect.

Figure 2.5: Chamber of Turkish Architects Office Building restoration (Mesda, 2012)

According to Dinçyürek (2002), Cypriot rural architecture is divided into four main regions; *coastal highlands*, *inner highlands*, *central lowlands* and *coastal strips* (Figure 2.6). The main feature of the settlements on the *coastal highlands* is the organic architecture on the rugged topography and faces towards the sea. Rural settlements in the *inner highlands* regions are organically formed and clustered. The *central lowlands* include most of the settlements and the biggest settlements are located in the central lowlands. All of the urban settlements, except the capital, Nicosia, are located in the *coastal strips* of the island (Dinçyürek, 2009).

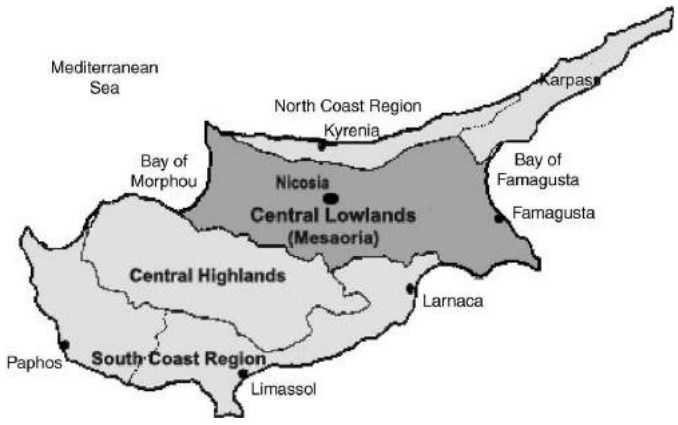


Figure 2.6: Main regions of Cyprus (Dinçyürek et al., 2003)

The rural settlement patterns are *nucleated, clustered* and *compact* in the island (Dinçyürek, 2009). The form of the houses and the settlement pattern are also formed according to the topographic characteristics of the areas (Oktay & Dinçyürek, 2007) (Figure 2.7). Also, the conditions brought by the Mediterranean climate are an important factor in shaping local houses. Oktay and Dinçyürek (2007) explained the measures taken in local houses according to climatic conditions such as: courtyard wall to ensure privacy and protection from strong winds, orientation to use the sun and wind factor, semi-open areas-halls to utilize or avoid weather conditions, cross ventilation system for ventilation, roof slope due to rainfall, hearth for heating and cooking, building material due to climatic conditions.

Figure 2.7: Rural house formation considering different topographies (Oktay & Dinçyürek, 2007)

Furthermore, materials commonly used in the local houses of Cyprus; adobe in construction technique, stone in masonry, timber in some cases as construction element, doors, windows, stairs, railing and ceiling, gypsum roof finishing, and in some cases on the walls, local marble in flooring, for the roof of the reed, straw and mat (Oktay, 2006).

Dinçyürek (2002) defines the main functions of the rural vernacular houses of the island as *living spaces, hall, storage, kitchen, bathroom and toilet, shelter for domestic animals and others, such as well, earth oven, yards* (Figure 2.8).

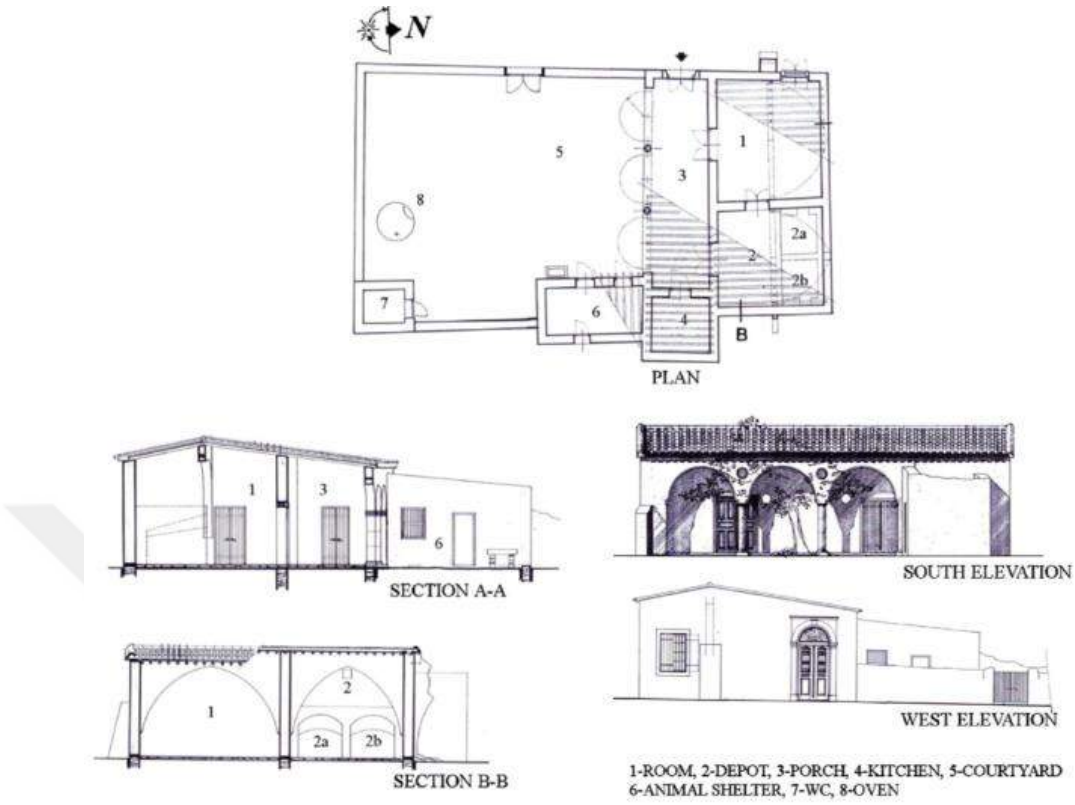


Figure 2.8: Example of a Cyprus traditional house (Christou et al., 1995).

The rural houses of Cyprus have open, semi-open and closed spaces from south to north. Traditional Cyprus dwellings, which is the first examples were single-roomed and one-storey houses, were evolved with the addition of rooms due to daily necessities. The number of storey, size of house, and number of arches vary according to social status and economic situation (Günçe et al., 2008). The houses with front gardens where the street façade are predominantly identified by high garden walls are mostly found in rural settlements while the attached courtyard houses which the building itself defined the street façade are more common in urban areas (Dinçyürek, 2009).

2.2.1. Pre-Ottoman Period Architecture in North Cyprus

Cyprus has hosted many cultures due to its geopolitical location and strategic importance such as: Phoenicians, Assyrians, Egyptians, Persians, Hellenics, Romans,

Byzantines, Arabs, Franks, Genoveses, Venetians, Ottomans and British (Hill, 1949) (Table 2.1).

Table 2.1: Table of the Cyprus periods (Çağanağa, 2014)

PERIOD NAME	DATE
Ancient Times, Persians, Roman Periods	58 Bc-395 Ad
Byzantine Period	395-1192
Lusignan Period	1192-1489
Venetian Period	1489-1571
Ottoman Period	1571-1878
British Period I	1878-1917
British Period II	1917-1960
The Republic of Cyprus	1960-1974
Turkish Federated State of Cyprus	1974-1983
Turkish Republic of Northern Cyprus	1983-Present

During the years when Cyprus remained under the Eastern Roman (Byzantine) administration, many churches were built on the island. The Lusignans who ruled the island since 1192 left an intense cultural heritage until the Venetians arrived in 1489 (Erçin, 2014). The first city walls in Nicosia were built during the Lusignan Period (Figure 2.9). In the Lusignan Period, castles were built at important and strategic points that concern the whole country (Balkan, 1998). In the Lusignan Period, there were also houses with garden built of cut stone material, as well as flat-roofed houses built with mudbrick material and covered with soil. Rich people's dwellings were usually two floors. There were gothic arched doors and windows on its flat and plain façades (Çoğaloğlu, 2016). The Lusignan House is an example of a dwelling that has survived from the Lusignan Period to the present and partially reflects the period and has been transformed into a Traditional Turkish House character with the renovations made during the Ottoman Period.

During the Venetian Period, defense of the island against foreign attacks gained importance. For this purpose, many architectural works belonging to the Lusignan

Period were demolished and the walls of Nicosia and Famagusta were built with their stones. Many buildings were destroyed due to earthquakes in the Venetian Period and the residential architecture was negatively affected. Examples of dwellings from the Venetian Period to the present are very limited, and the most preserved are the Caterina Carnana House, the House with a Fireplace in Famagusta and the Venetian Houses in Nicosia. (Çoğaloğlu, 2016)

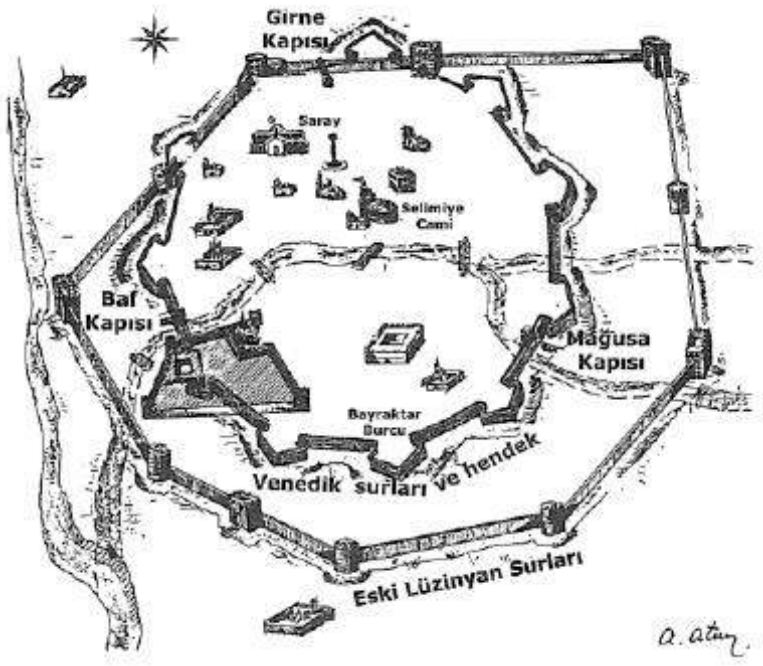


Figure 2.9: The city walls in Lusignan and Venetian Periods, in Nicosia (Erçin, 2014)

The influences of different cultures affected the administrative, religious, public and militarist structure (Dinçyürek & Türker, 2007). The island has created its own unique architecture by synthesizing Eastern and Western cultures. The multicultural identity of the island of Cyprus allowed different styles and structures to coexist in architecture such as: Ottoman mosques, Gothic cathedrals, Venetian walls, Roman amphitheaters, Orthodox churches and British colonial centres (Pulhan & Numan, 2005).

Among the historical periods of Cyprus mentioned in Table 2.1, Ottoman (1571-1878) and British Colonial (1878-1960) periods have the most significant influences on the formed of Cyprus architecture (Özay, 2005).

2.2.2. Ottoman Period Architecture in North Cyprus

Many researchers have discussed the concept of traditional housing in the Ottoman period with different terminologies such as “Turkish House”, “Ottoman House” and “Anatolian House”. These terms used by researchers by linking them to the region, culture and traditions have led to label discussions.

The definition of the “Turkish House” can be broadly explained as the type of house in which the Turks lived throughout history. However, the definition of the Turkish house used today mostly includes the houses that survived from the Ottoman Empire until the 17th century (Ürer, 2013). It is not correct to reach a conclusion that only the Turkish people lived in the Turkish House because of many different ethnic and religious societies lived together under the rule of the Ottoman Empire. Hülya and Ferhan Yürekli, in their book “The Turkish House – a concept Re-Evaluation”, argued that the phrase Turkish House was an accurate use and explained the reason as follows: “*The reason is that this house type has very clear common properties, and they mainly exist in the mountainous areas where the Türkmen’s first settlement*”. Kuban (1995) expressed the Turkish House as a type of house founded in the Balkans and the mountainous regions surrounding the central Anatolian plateau.

Sedad Hakkı Eldem (1954) plays an important role in the use of the phrase “Turkish House”. “*The Turkish House is a type of residence settled within the borders of the Ottoman Empire, developed and held for five hundred years, with its own characteristics”* (Eldem, 1987). Eldem explains that although the Ottoman house has undergone different and regional developments, the main Turkish civilization lifestyle forms the Ottoman house. Eldem classified the traditional houses in “Turkish House plan types” and created a certain plan typology (See Figure 2.15) (Eldem, 1954). However, differences in the plan type varying by region should not be ignored. Some of the houses that differ according to the region have common features, but not all of them show all the characteristics of these houses. For example, stone houses in Kayseri or Black Sea houses (Yürekli & Yürekli, 2005).

Küçükerman (1978) and Aksoy (1963) argued that the origin of the Turkish house was based on the nomadic culture. Since the nomadic culture was before the establishment of the Ottoman Empire, Yürekli and Yürekli (2005) expressed that the term "Ottoman house" was incorrect term. On the other hand, Arel (1999) preferred to define the Ottoman house by arguing that the spatial organization of traditional houses is based on cultural data (Tuztaşı & Aşkun, 2013).

Many regions have been the living areas of Turks throughout history such as: Central Asia, the Balkans, North Africa, the Arabian Peninsula, Anatolia, the north of the Black Sea (Ürer, 2013). Therefore, it is not wrong to refer to these houses as "Anatolian house", but it is an insufficient expression.

In the works of many researchers and writers, a common terminological term could not be determined despite the fact that this subject was handled with different labels such as "Turkish House", "Ottoman house" and "Anatolian House". However, no matter which label is chosen in the studies, it has been observed that traditional houses are made with certain physical and cultural values (Tuztaşı & Aşkun, 2013).

Not all of the features of the Turkish House are found in all houses. Although there are both form and plan differences of traditional houses according to regions, their common characteristics are too many to be ignored. For this reason, some researchers have adopted an attitude towards vernacular architecture, which has been associated with the region where the traditional house is located. For example, traditional Safranbolu houses, Van houses, Erzurum houses, Eskigediz houses. In general it might be described that, this label style is a more accurate definition because of including the generalizations to accept the differences as well.

The Ottomans, which is the came to the island in 1571, gave many monumental structures to the island reflecting Turkish culture such as: baths, aqueducts, inns, mills, educational institutions, commercial places and traditional houses. There are many Ottoman houses all over the island that have survived to the present day. Traditional

houses on the island often have influences from Turkish culture and Islamic life (Özay, 2005). Also there may be parallels between the houses in Cyprus and the houses in Anatolia, but they still have local diversity in both architectural aspects as well as the living traditions of its inhabitants. In fact, the Ottoman houses in Cyprus show partly Mediterranean coastal features and partly Anatolia (Yıldız, 1998). Most of the Cypriot people adapted the life style and house type of Ottomans to themselves depending on the effect of living together (Özay, 2005).

2.2.2.1. Traditional Settlements in Ottoman Period

The patterns of urban settlements, where traditional structures were predominant, mainly reflected the Medieval-Ottoman synthesis in Cyprus (Dinçyürek, 2009). Especially the capital city, Nicosia is surrounded by organic and narrow streets, strongly defined by façades of Ottoman-Turkish style houses (Figure 2.10) (Numan et al., 2001).

Figure 2.10: The city form and the street pattern of the walled city Nicosia (National Library of Scotland, 2019a)

Due to the fact that Anatolia is close to Cyprus, it has been affected by developments and changes in Anatolia (Kuban, 1995). In the late nineteenth century, the social and administrative structure in Anatolia was reorganized during the Tanzimat period.

These developments and changes affected the social life and building environment on the island. The gridiron pattern defined by attached houses along the linear paths of the Mersin houses of Anatolia and Arabahmet and Tophane districts of Cyprus is similar to each other (Numan et al., 2001).

Anatolia, an important link between Asia and Europe, has been the settlement and propagation of many different civilizations since the early ages. In addition, many different climatic regions of Anatolia affected the settlement of these civilizations. The difference in the cultural and physical environment of Anatolia, which does not have a geographical and cultural homogeneous structure, has caused diversity in the forming of houses (Küçükerman, 1978). Küçükerman (1978) has divided Anatolia into three main regions in order to classify these varieties: regions that are open to external effects, inner regions and mixture generation. The regions open to external effects are the coastal regions of Anatolia and the Asian and European connections. The inner regions are the most closed parts to the external influences and this is the centre where the Turkish house in Anatolia is dominant. Among the outer and inner regions, there is the so-called “mixture generation”, which is co-affected by these two regions (Küçükerman, 1978).

Although the housing formations and material types of traditional settlements vary by region, the settlement structure is generally similar. Each settlement is usually built around a square, a fountain or a religious centre. In the traditional settlements, there are two types of street; open-ended street and *cul-de-sac*. *Cul-de-sac* means a dead end street (Doğan, 2016). There is a street layout formed by aligning houses with nature and topography. Therefore, Turkish settlements have a random and scattered appearance. However, they have settled in the best way to meet their needs (Küçükerman, 1978). In the settlements, which are often built on inclined lands, the houses respect one another by not cutting the view and sunlight of another house (Bektaş, 1996) (Figure 2.11).

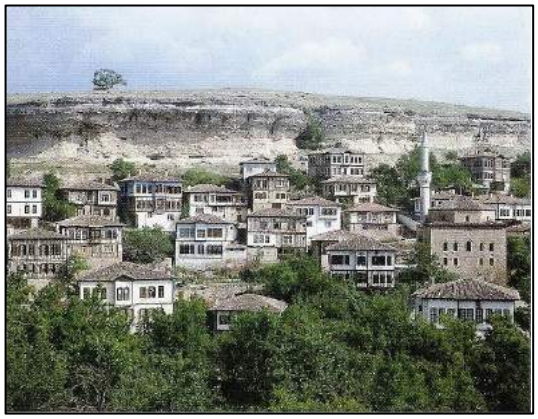


Figure 2.11: Traditional urban settlement, Safranbolu (Günay, 1998)

The organic streets in Cyprus, which is formed during the medieval times, were intensively settled and developed by the Ottomans. In addition, the blind streets (*cul-de-sac*) began to be seen on the island during the Ottoman period (Dinçyürek, 2009). The houses of different sizes are arranged side by side along the narrow streets in the attached settlements, reflecting the historical neighbourhood textures of the Ottoman period (Figure 2.12) (Türkan, 2016).

Figure 2.12: Traditional Ottoman attached houses in Nicosia (Türkan, 2016)

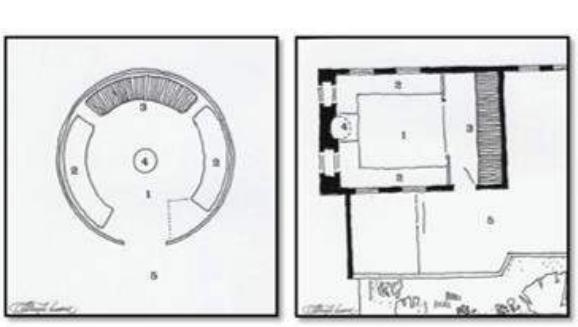
As in all settlements, the settlements in Cyprus were chosen for certain reasons such as: security, water supply and sociability of the people. People have settled in the inner

parts rather than the coastline for security reasons, near the water resources and around a religious building. It is possible to observe the more than one square in the mixed communities like the Christians around the church and the Muslims around the mosque in the same settlements (Dinçyürek, 2009).

2.2.2.2. Traditional Houses in Ottoman Period

Housing is the result of the interaction between human and physical environment. In socially; traditions, customs, life styles and beliefs; in physically, topography, wind, sun, temperature, humidity, such as the climatic conditions of the region play a role in the change of traditional dwellings (Rapoport, 1969). According to the common needs and beliefs of the society, traditional structures shaped over time are not made by a professional designer, but made by local people and local craftsmen in the region with local worker technique.

The traditional houses, whose examples have survived until today, have been formed by the synthesis of the cultural and architectural heritage they brought from Central Asia and environmental and cultural environment of Anatolia by which Turks who settled in Anatolia after emigrating to Anatolia. Therefore, the origins of the concept of "Turkish House" are based on the nomadic periods. The usage areas of the houses that the Turks built in Anatolia are parallel to the tent organization used in Central Asia (Küçükerman, 1978) (Figure 2.13)



1. Multipurpose central area
2. The area formed for seating
3. Closed areas (figures, boxes, loads)
4. Heating. In the middle of the tent, the hearth slid to the side of the building.

Figure 2.13: Transformation from tent culture to traditional Turkish house (Küçükerman, 1978)

Turkish houses are generally single storey or two storeys. In two storeys, the lower floor usually consists of places where service spaces are located, while the upper floor contains living spaces (Uşma & Urfalıoğlu, 2018). In the Turkish house, the elements that can respond to every need of daily life in the concept of a room are placed with great skill. Each room is equipped with functions that can be sit, bedded, washed, eaten and even cooked (Küçükerman, 1978). The rooms can be changed and a flexible layout to accommodate the different functions and needs of the rooms. It is observed that these functions are associated with the habits of the tent culture dating from nomadic (Ürer, 2013) (Figure 2.14)

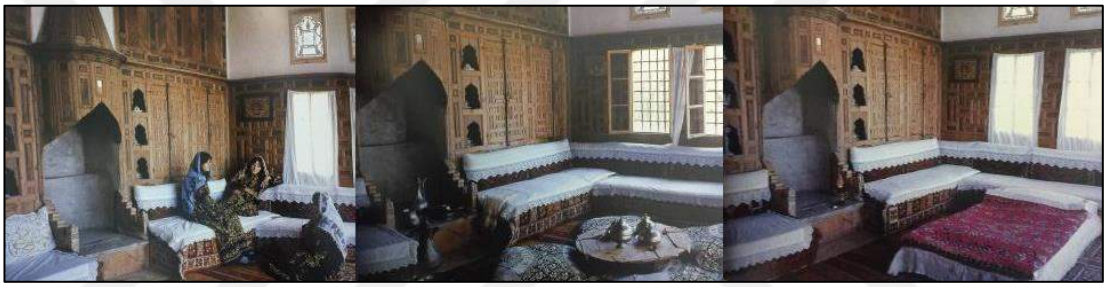


Figure 2.14: Multifunctional using in Safranbolu house (Günay, 1998)

Sedad Hakkı Eldem divides the space distribution in traditional Turkish houses into rooms and *sofa*. The rooms function as an independent living unit as well as a unit of housing. The *sofas* are large spaces that allow access to the rooms. Eldem stated that the Turkish House plan types vary depending on geographical regions, and that different plan types and material characteristics can be encountered in the same area, and made the plan types of the Turkish house according to the place of the *sofa* in the house and collected them in four main groups; a) Plan type without *sofa* b) Plan type with exterior *sofa* c) Plan type with interior *sofa* d) Plan type with central *sofa*. (Figure 2.15) (Eldem, 1954).

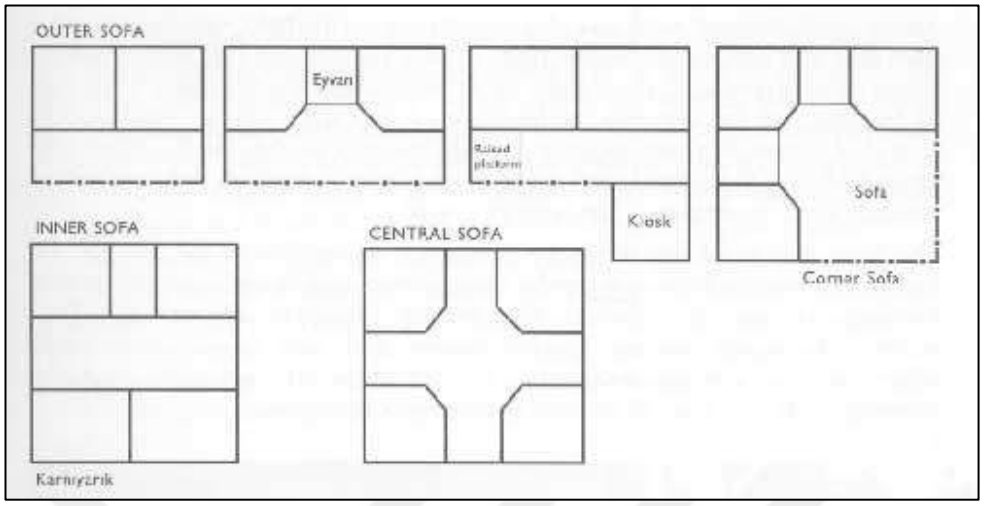


Figure 2.15: Traditional Turkish house plan types (Günay, 1998)

According to Bektaş, in traditional houses, realistic and functional attitude comes before aesthetical and form concerns. The topography and environmental factors are taken into consideration while the plans and structure of the houses are being constructed. Rational, flexible, and practical solutions have been implemented. The design evolves from the inside out and every measure comes out of the human body (Bektaş, 1996).

The Ottoman houses in Cyprus are mostly located within the Nicosia walled city and Famagusta walled city while there are in other towns such as Kyrenia, Paphos, Lefke, Lapitos, Larnaca and Limassol (Yıldız, 1998). In the old parts of Nicosia and Famagusta, there are many eclectic dwellings within the city walls. In these houses, the doors and façade walls are in Gothic or Venetian style while the interior design of houses is completely Turkish (Yıldız, 1998). The houses, which were initially built in plan type with exterior *sofa*s and interior *sofa*s since the end of the nineteenth century, are generally two storeys in Cyprus. On the lower floors, there are mostly service spaces such as kitchens, warehouses, and on the upper floors there is a living area. (Figure 2.16)

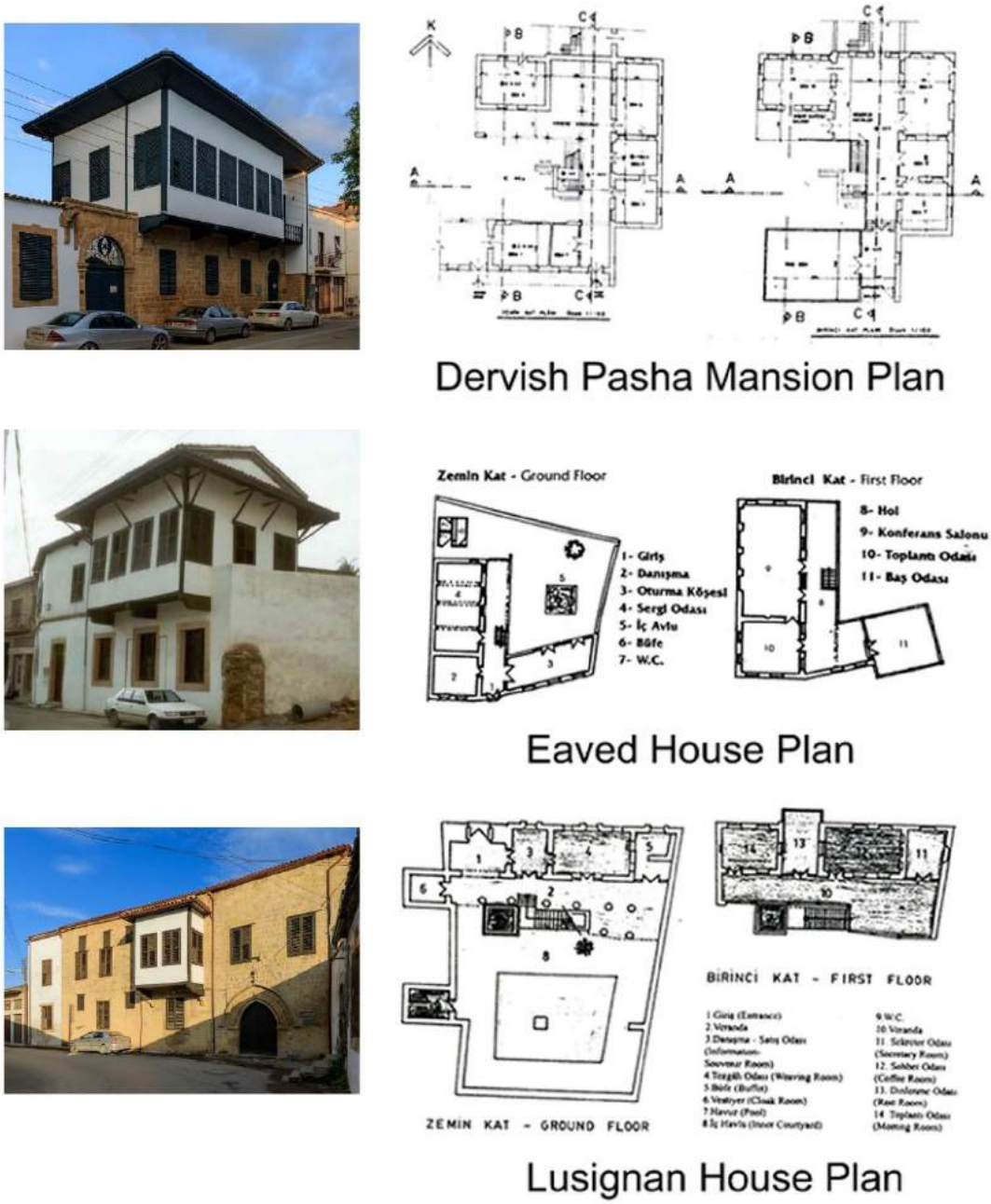


Figure 2.16: Important Ottoman houses plan in Nicosia (Archive of AMM)

The rooms are multi-purpose and open to the *sofa*. These houses, which are designed with simple façade character, have been designed using masonry construction system such as stone, adobe and wooden. The roof system is a sloped roof with wooden structure (Türkan, 2016). The travel books give many information about the Ottoman houses types and façades while there is nearly no information about interior design of Ottoman houses built during the early periods of Ottoman rule (Yıldız, 1998).

2.2.2.3. Façade of Traditional Houses in Ottoman Period

The word of “façade “comes from the French language from “faccia” meaning “face” or “frontage”. The word “façade” was first used in 1681 (Knaack et al., 2007). The façade is a part of urban character and identity and the first element perceived of the building from the outside (Hasol, 1998). At the same time, the façade in user-urban interaction is the structural element that has the highest architectural interaction with the user (Doğan, 2016). The use of façade elements, material, proportion, and relations with each other constitute the identity and character of the façade. The façades provide users with reflections from the culture, history, social-economic structure, materials and construction techniques of their periods (Davarpanah, 2013). However, in local architecture, façade has been developed in a limited context depending on the environmental factors and the plan.

The façades of the traditional Turkish houses are important cultural heritage formed by the unique cultural accumulation in different parts of Anatolia. The façade arrangement in traditional Turkish houses is very simple and it is seen that is shaped according to the location of the parcel or the street (Gürsoy, 2016). Symmetry is also taken into consideration on the façade. In two or multiple storey houses, the fact that the entrance floor is used for service areas adds simplicity, while the upper floor includes living spaces adds dynamism to the façade. The entrance arrangements of the houses on the façade, eaves, window and door designs, *cumba*s, buttress, and other structural elements are the factors that are moving to the façade (Eldem, 1987).

The front façades of traditional houses serve as a border that separates public and private space due to they are façades that look out onto the street. Pulhan defined the façade of building as “*the border where exterior turns into interior or vice versa*” (Pulhan, 2002). The relationship between outdoor and interior space is defined as activities in-between spaces with horizontal and vertical extensions. These extensions can sometimes be balcony or sometimes be projection. The projections seen on the upper floors are called “*cumba*” with their local name. Various projections have been

made for reasons such as facilitating indoor use, using of sunlight, need for space, air conditioning of the building, expansion of the field of view. Eyüce describe *cumba* as: "*the protrusion form which is the main body of the building that plays so important role in spatial syntax both house and the whole settlement*" (Eyüce, 2012) (Figure 2.17).

Figure 2.17: *Cumba* in Kula Street (Bektaş, 1996)

Religious beliefs and privacy have an important influence on the formation of a traditional house form (Rapoport, 1969). As in every culture, "religion" has been effective in shaping house plans. Cultures and believes produce similar architectural formations in different regions. For this reason, people who have different beliefs in the same region produce different places and people who have the same beliefs in different regions produce similar spaces show the importance of beliefs and traditions in traditional structures (Eyüce, 2005). The walls of the ground floor constitute a strong distinction between the interior and the exterior and the *cumba*s, extend from the interior to the outside on the upper floors, explained the privacy relationship between the family and society in the traditional Turkish society (Gürsoy, 2016). The ground floor is the transition area between public space and private space. High walls provide

privacy between the street and the garden on the same floor. Windows on the upper floors makes it easy to see from above, down and the road in depth while makes it difficult to see from below to above with their elevation and orientation. (Figure 2.18)

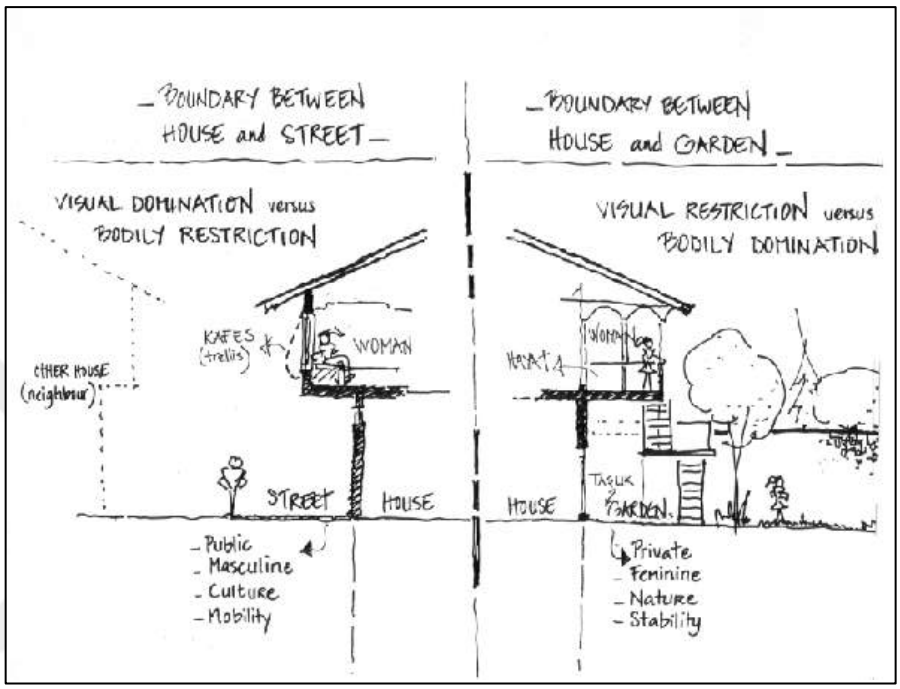


Figure 2.18: The relationship between house-street, house-garden (Dengiz, 2001)

In Islamic culture, the fact of privacy that arises due to the importance given to women affects the plan organization of the house (*haremlik-selamlık*) as well as the façades. The courtyard provides in order to ensure that women meet their daily needs and keep their connection from the outside environment. There are two different approaches in façade organizations. One of them is the outer façade with the extension "*cumba*" and is in a certain communication with the street. The second is the inner façade which is completely open to the courtyard (Doğan, 2016). Therefore, the façade of the traditional houses facing the street and the façade facing the garden are different. The street façade has an introverted, while the courtyard façade is more extroverted (Dengiz, 2001). (Figure 2.18, Figure 2.19)

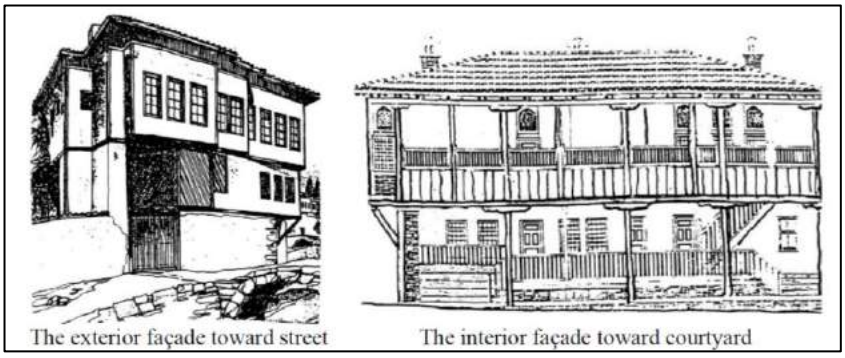


Figure 2.19: The exterior and interior façade organization (Doğan, 2016)

In traditional Turkish houses, there is a direct relationship between the plan schemes and the façade. The general façade features of the Turkish house reflect the function of the interior completely to the façade, as a result of its forming from inside to the outside (Figure 2.20). When looking at the house from the outside, it is possible to comment on the plan type and function locations of the house (Bektaş, 1996). In the traditional Turkish houses, the outer *sofa*, called *hayat*, is an important element in the façade arrangement. (Bektaş, 1996; Kuban, 1995). In addition; *eyvan*, *köşk*, stairs, indoor and outdoor projections, *cumba* have an important place in the design of the façade. (Eldem, 1987). However, although it varies depending on the climate conditions, there is a correct ratio between the number of windows in hot climates and the size of the space to which it belongs (Ürer, 2013).

Figure 2.20: The relationship between plan and façade (Ürer, 2013)

Windows are wooden and usually rectangular in traditional Turkish houses. The fact that windows were symmetrical in some houses or asymmetrical in different sizes in some houses gave birth to different results on the façades. The windows on the upper floor are not at eye level with the road level because of the privacy, so the windows are larger and living spaces take lighter. On the lower floor which is the service area, smaller windows were used both as purpose of use and effect of privacy (Kuban, 1995). (Figure 2.21)

Figure 2.21: Traditional house façade (Ürer, 2013)

According to Evren (1959), projection types are examined in three groups;

- According to the forms; straight, miter, chamfered,
- According to the direction situation on the façade; centre, through the façade, side and corner,
- According to the direction; it can be one-way, two-way, three-way and four-way (Figure 2.22).

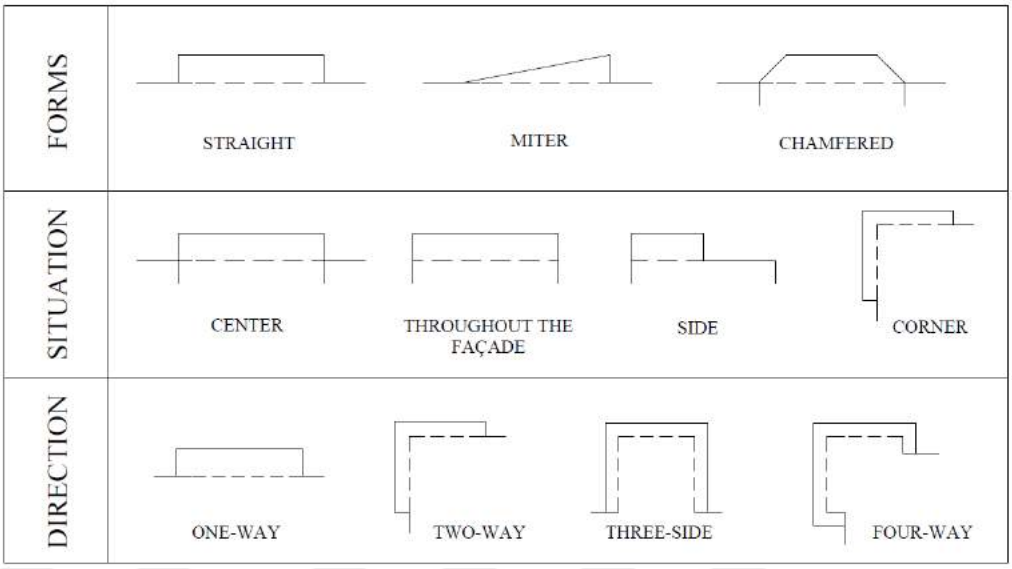


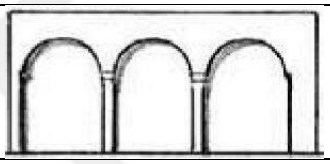
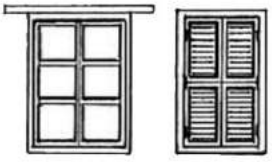
Figure 2.22: Types of projection (*cumba*) (Evren, 1959) (Adapted by author)

The houses are entered from through the doors opening directly to the street. The main entrance doors of the houses are sometimes opened directly to the street on the ground, while some of them are pulled inward and the entrance is provided with stone stairs. At the top of the entrance door there are wrought iron fence with herbal motifs. Also eaves and ornaments add character to the structure is one of the façade elements. The simplicity of the entrance floor forms a whole with the top floors with the decorations applied on the façade (Kuban, 1995).

The preferred construction technique in the construction of the house and the material used is other factors that are effective in the formation of the façade identity. The Turkish house, which is compatible with nature and environment, continued its compliance with the environment in terms of material selection. Different materials were chosen in different parts of Anatolia according to the geological structure and climate characteristics of the region. In traditional Turkish houses where regional and local materials are used, the basic building materials are wooden, stone and brick. Adobe is frequently used in regions where the steppe is dominant (Bektaş, 1996; Günay, 1998).

In Ottoman houses in Cyprus can be seen many of these characteristics such as: organic street texture, placement of buildings in harmony with the topography, respect for the neighbouring building, projections sourced from the privacy, semi-open areas, use of local material and traditional techniques (Table 2.2).

Table 2.2: Architectural characteristic of Ottoman Period houses in North Cyprus (Özay, 2005)

	Ottoman Period (1571-1878)	
Strategy	To respect to the neighbour building and harmonious with nature and topography	
Form and Shape	Cubical form and rectangular shape	
Semi-open Spaces	Courtyard / Transitional Space	
Structural System	Hybrid structure (*Himish & Baghdadi*), Load-bearing	
Building Material	Traditional and local material - adobe and stone, timber framed	
Door	lots ornamentation and decoration with flower and geometric shape Semicircular transom	
Window	smaller than First British period	
Projection	Close Projection (*cumba*)	
Roof	Gable roof	
Shading Devices	Projection , wooden shutters, *sofa* / transitional spaces / *sundurma*	
Colour	Yellow, red, white, blue, pink, olive green	

As in Ottoman houses, in Ottoman residences in Cyprus, the street façade has an introverted, while the courtyard façade is more extroverted (Figure 2.23).

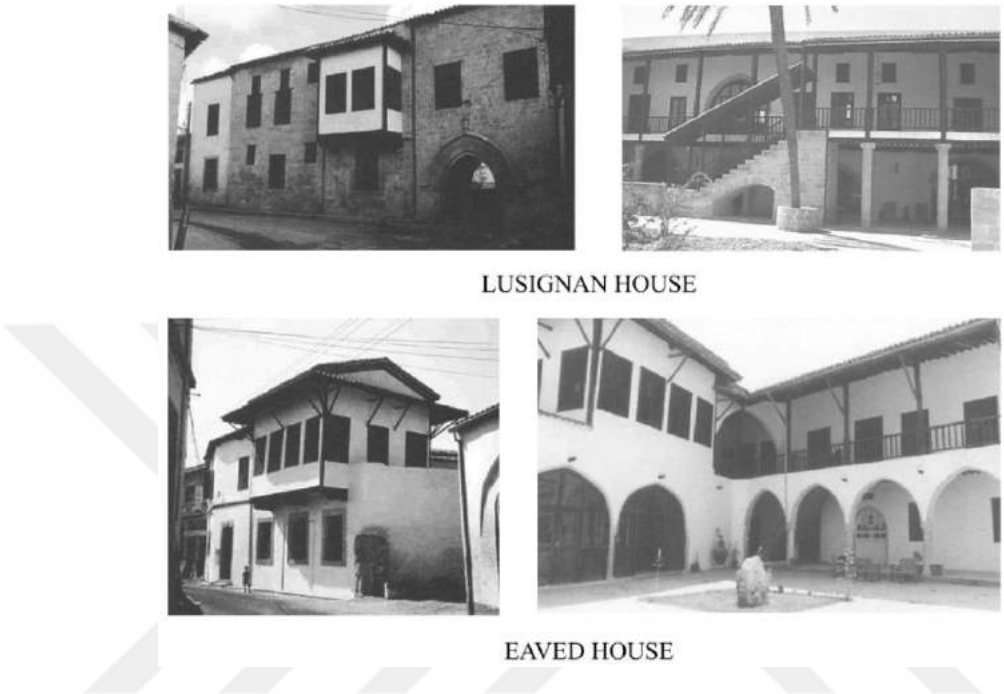


Figure 2.23: The exterior and interior façades in North Cyprus (Pulhan & Numan, 2006)

2.2.3. British Period Architecture in North Cyprus

The island of Cyprus was under the control of the Ottoman Empire until 1878. In 1878, the Ottoman Empire rented of the island to the British Empire. As a result of the agreement signed between Britain and the Ottoman Empire on 4 June 1878, Cyprus was rented by the Ottoman Empire to the British Empire (Varol, 2013). After nearly three hundred years of sovereignty of the Ottoman Empire on the island, the British Empire became another important civilization that dominated the island of Cyprus. The British Empire sovereignty in the island can be divided into two periods; I. British Period (1878-1929) and II. British Period (1930-1960). In the I. British Period, the British was the administration of the island but in the II. British Period, British became the government of the island (Davarpanah, 2013).

2.2.3.1. Traditional Settlement in British Period

When the British began to rule the island, they acted politically to balance relations and activities between the two countries. During the First British Period, the British implemented a political strategy and built new buildings, respecting existing buildings, traditions and cultural values (Faslı, 1997).

The development of technology and its associated changes in the world also affected the island. The British rulers changed and developed city planning according to new system of administration, transportation, economy, lifestyle and other technical matters. Developments such as the establishment of royal railways, the promotion of electricity and the distribution of road networks took place on the island. The distribution of new roads allowed the cities to expand beyond the city centre, especially in Nicosia. Thus, the connections between the old and new roads were provided, and the city axis changed from the "T" shape to the "Cross Shape" (Numan et al., 2000).

The expansion and development of the city brought new working opportunities. The people migrated from rural to urban areas for the work and required new settlements for the people coming to the city to work in new fields. The urban fabric that emerged as a result of these new developments was in a geometric shape, very different from the existing Medieval-Ottoman organic model (Figure 2.24). Especially, Samanbahçe inside of the walled city, Yenişehir, Köşklüçiftlik, Çağlayan and Küçük Kaymaklı at the outside of the walls are the most dominant urban fabric with their geometric forms of the British period (Numan et al., 2001).

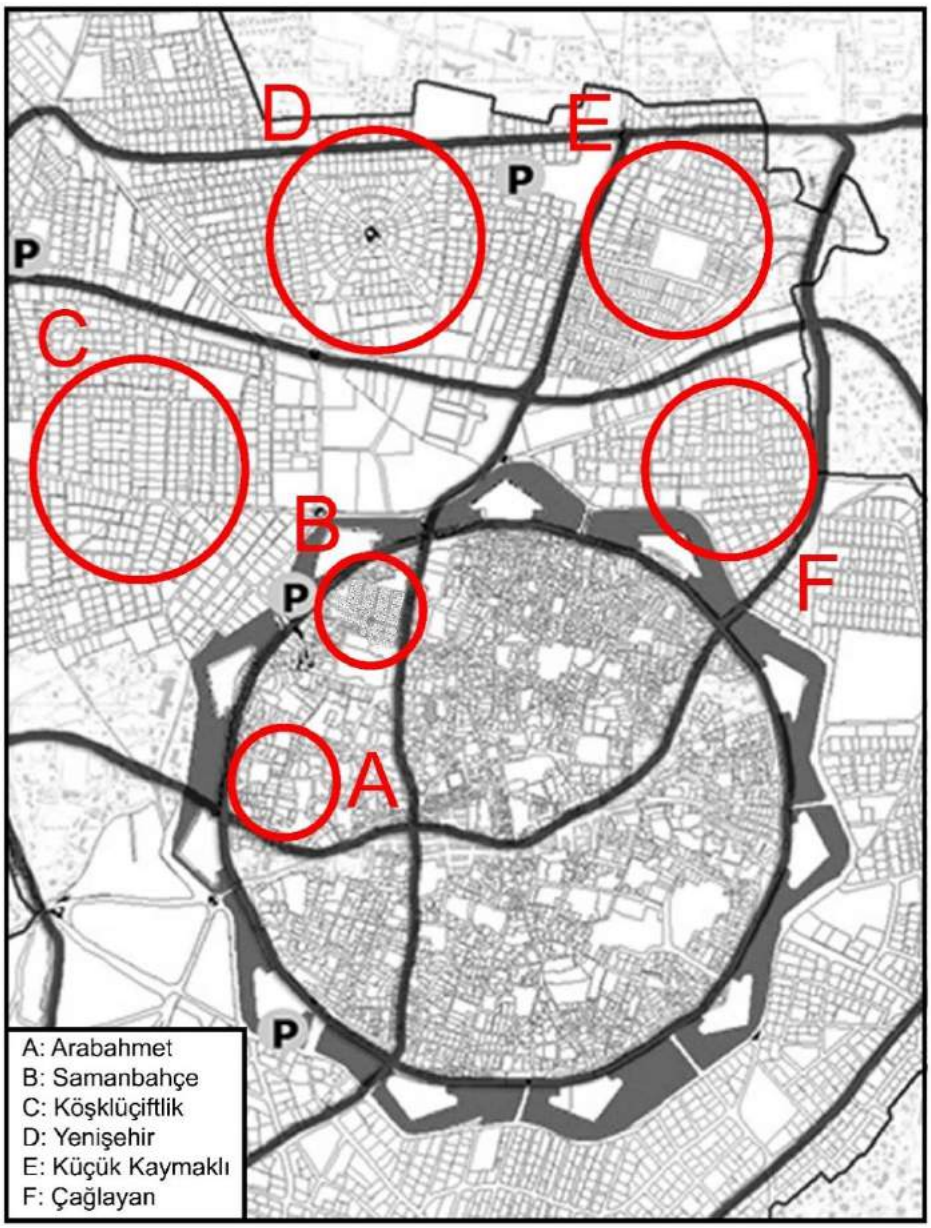


Figure 2.24: District in the Nicosia city map (Buckland Architects, 2019) (Adapted by author)

2.2.3.2. Traditional Houses in British Period

The architecture developed in the first period is close to the Ottoman period. The existing architectural features of houses in residential architecture continued with minor changes made under the influence of the British period. The use of local and traditional materials such as yellow stone and adobe as building material has continued (Özay, 2005).

The houses, which were built using the plan of the Traditional Turkish House with an inner hall, were built in two floors during the early years of the British Period, but were built as single floors in the following years. “Samanbahçe Houses” in Nicosia can be given as examples of the British Period residences (Figure 2.25). Samanbahçe Houses have the same plan type and were built in adjacent order. These houses constitute a neighbourhood that is considered to be the first example of social housing in Northern Cyprus (Çoğaloğlu, 2016).

Figure 2.25: Samanbahçe Houses (Çoğaloğlu, 2016)

In the Çağlayan and Köşklüçiftlik district, the detached houses with private gardens can be seen, unlike Samanbahçe attached houses. Yenişehir is one of the first examples of district with geometric form outside of the walled city. Yenişehir houses, which have private gardens, were placed along a circular form around the public garden. Küçük Kaymaklı Standard Row Houses are the first example that is fully planned according to all public requirements (educational, commercial, recreational, public health etc.) based on imported origin (Numan et al., 2001).

The British who were on the winning side after World War I completely changed the strategy applied throughout the island during the 2nd British Period. These administrative effects were felt on architectural products. For the first time colonial

buildings were built. They introduced new construction materials and techniques to the island with the development of technology such as: concrete, reinforced concrete (Özay, 2005). In the house as seen Figure 2.26, designed by architect Theodoros Fotiadis for businessman Kostas Christodoulou in 1921, reinforced concrete was used for the first time with traditional stonework (Tozan, 2008).

Figure 2.26: Kostas Christodoulou Residence, T. Fotiadis, 1921 in Nicosia (Tozan, 2008)

During the I. British period, the British were retaining the existing street texture and were continuing the construction of houses with courtyards. Afterwards the British's began to expand the narrow streets from the beginning of 1930 and started to build colonial type houses (Davarpanah, 2013). As a result of the need for new areas with the change of lifestyle, changes have been made in existing and new houses. The plans of the houses have become more compact by combining the main living unit with service areas such as bathroom, toilet, and kitchen. Instead of the open courtyards seen in the Ottoman Empire, the spaces such as "veranda" (semi-open entrance) began to be used (Figure 2.27). For example, the projection, which is typical feature of Ottoman houses, turned into balconies and terraces during the British period (Özay, 2005).

Figure 2.27: Yellow stone houses of the II. British Period (Özay, 2005)

At the beginning of the British Period, the British authorities were living on the island by renting houses because the number of houses planned and built by the British was limited. After World War I, British officials who came to the island faced accommodation problems. The British Governments provided accommodation only for senior officials therefore other officials had to find and rent the houses. However, in those years, the rental prices for the houses in Cyprus were very expensive. The construction works was conducted by Office of War until the establishment of Public Work Department (PWD) in 1898. To solve this problem, the PWD decided to design a home model for the officials in 1920 (Figure 2.28). Nearly thirty houses of different types were built until the end of 1923. These type projects, which are created according to different needs, are the first examples of architecture in mass production logic which is a part of modern life in Cyprus (Tozan, 2008).

George Theocharous as mention (Schaar et al., 1995);

> "*As a Cypriot and an architect, I believe that colonial architecture has influenced the environment and attitudes of Cypriots to a great extent. All the private buildings built by Cypriots in those years were designed in a very clean and simple way which did not impinge on the environment or the viewer. Elements in Cypriots*

architecture such as the rounded form of the dining room, the symmetrical roof, and the round ventilator in the gable are common to both colonial and domestic architecture in Cyprus. The reason for this is that the architectural style of domestic buildings was influenced by the styles of houses created by the PWD".

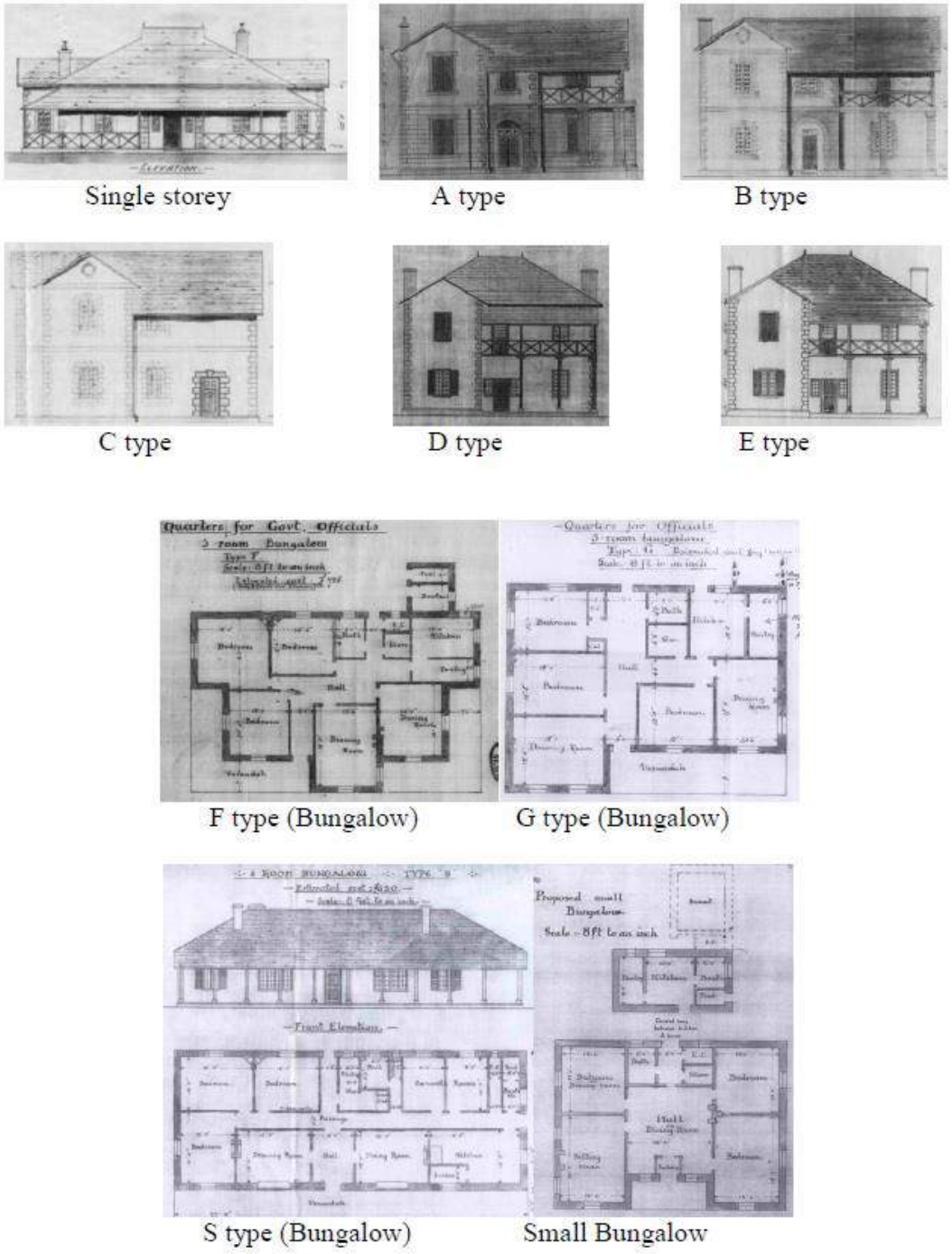


Figure 2.28: Different types house design by Gimson (Tozan, 2008)

2.2.3.3. Façade of Traditional Houses in British Period

During the British period, the façades of the houses were completely changed, as service rooms such as kitchens, toilets and others were brought together inside the house. In the British Period, the use of stone frames on doors and windows was distinctive character of façades. In addition, the combination of wood, glass and iron for doors and windows was another feature of the British period (Davarpanah, 2013). The house façades were increasingly extroverted and the size of the windows was gradually growing because privacy during the British Period was not as important as in the Ottoman period.

While the British were administered to the island during the 1st British period, they respected the old structures (Faslı, 1997), but they started to produce new types of buildings according to technological development in the second period. Therefore, while designing cubical form and rectangular shape buildings in the first period, they began to construct colonial buildings in the second period in addition to these forms (Davarpanah, 2013). Comparison of characteristics differentiations between two periods in general are shown in Table 2.3.

Table 2.3: Differences of architectural characteristic of First and Second British Period (Davarpanah, 2013) (Özay, 2005)

	First British Period (1878-1929)	**Second British Period (1930-1960)**
Strategy	To respect to the pre-existing buildings	To started to produce new types of buildings according to technological development
Form - Shape	Cubical form and rectangular shape	Cubical form and rectangular shape + Colonial
Semi open Spaces	Courtyard	Veranda / Terrace
Structural System	hybrid structure (Himish & Baghdadi), Load-bearing	Skeletal frame and Load bearing

Building Material	Traditional and local Yellow sandstone, adobe and timber		New material & technique (Reinforced concrete) Yellow sandstone, adobe	
Door	lots ornamentation and decoration with flower and geometric shape Semicircular transom		less ornamentation and simple geometric shape than First Period Rectangular transom	
Window	bigger than Ottoman period		bigger than First British Period	
Projection	Close Projection *(cumba)*		Open Projection (balcony)	
Shading Devices	Projection , wooden shutters, entrance hall		Projection, wooden shutters, horizontal or vertical sun devices, veranda / terrace	
Ornamentation	buttress Doric style column		without buttress Doric + Ionic and Tuscan style	
Roof Type	Gable roof		Hipped roof	
Colour	Gray, White, Yellow			

3. LEFKE TOWN

3.1. Physical Environmental Analysis of Lefke

Geographical coordinates of Lefke is on 35°06'34.17" latitude - 32°50'52.59" longitude and the total area of the town is approximately 8 km2 (Figure 3.1). Lefke, located in the north-west of Cyprus, is located in a valley between the mountains of Karadağ and Karşıyaka, at the foot of the Trodos Mountains, near the South Cyprus border and about 4 km from the Mediterranean coast (Çağanağa, 2014). The Lefke town, which has a variety of irrigation canals, is covered with orange garden, olive groves, Arabian dates and walnut trees (Kırşan, 1998). Lefke has a typical Mediterranean climate and summers are hot and dry, winters are mild and rainy (Feridun, 1976).

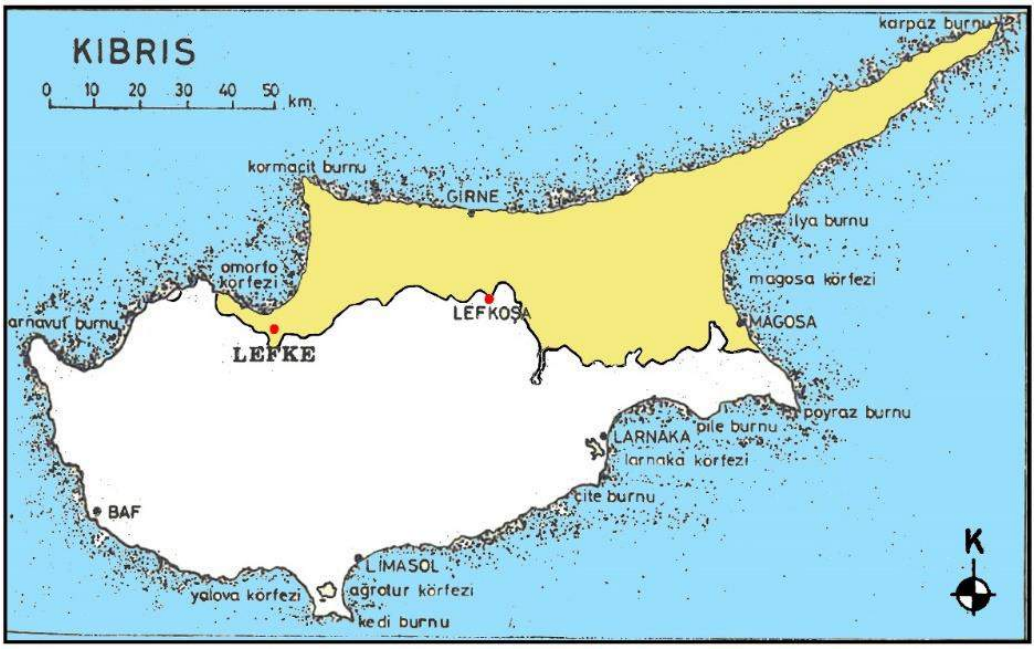


Figure 3.1: Geographical location of Lefke (Feridun, 1976) (Adapted by author)

The Lefke town, which has a population of 11,091 according to the results of the TRNC census of 2011, became the sixth district of Northern Cyprus on 27 December 2016 while it was a town connected to Güzelyurt. Lefke district consists of 18 villages such as: Bademköy, Bağlıköy, Cengizköy, Çamlıköy, Doğancı, Erenköy, Gaziveren,

Günebakan, Kurutepe, Lefke, Madenliköy, Ömerli, Süleymaniye, Şirinköy, Taşköy, Taşpınar, Yeşilırmak and Yeşilyurt (KKTC İç İşleri Bakanlığı, 2019).

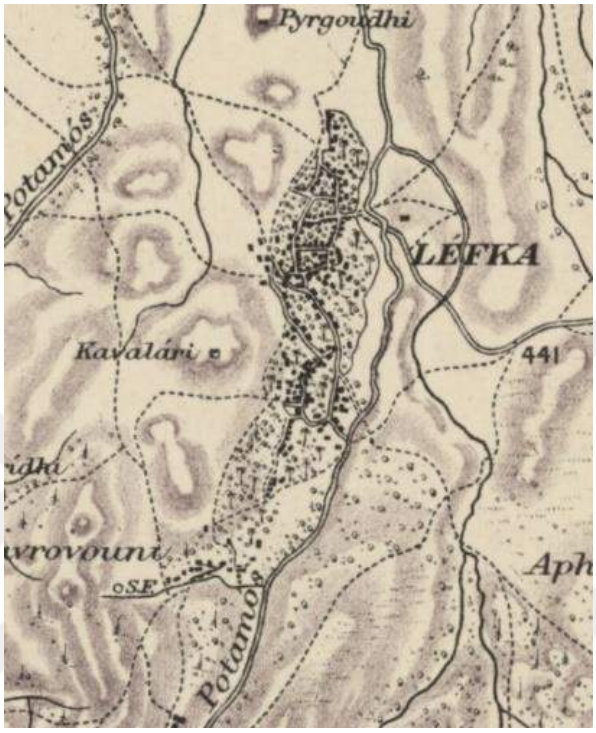


Figure 3.2: Lefke settlement map (National Library of Scotland, 2019b)

Lefke, which is famous for its rich mineral deposits and citrus groves, is divided into numerous regions. Such as: Tepe Region, Yeni Karadağ Region, Eski Karadağ Region, Çarşı Region, Acendu Region, Karşıyaka Region, Aplıç Region, Pir Paşa (Yukarı) Cami Region, Aşağı Cami Region, Armutlular Region, Esentepe Region, Memeler Dağı Region, Harmanlar Region, Alçı Dağı Region (Ferlison, 1986). Although it is a small city centre, the reason why it is divided into so many regions; it is due to the fact that it has a scattered, organic and spread settlement texture as Ottoman settlements (Figure 3.2) (Kırşan, 1998). The shape and layout of the buildings have been formed according to the topographic features of the Lefke town. The region is generally composed of one and two storeys buildings (Map 2). These buildings align with nature and topography, creating an organic street layout (Figure 3.3).

Figure 3.3: Lefke town aerial view (Lefke Belediyesi, 2019a)

3.2. History of Lefke

There are many beliefs about where the name "Lefke" came from. According to one belief, it is come from the Ptolemic period. During this period, many towns were built in Cyprus. Thus, Lefkos, the son of Ptolemy the Saviour, built the Lefka next to the ancient Soli in 3 BC (Beratlı, 2002). According to other belief; since there were many poplar trees in the Lefke town under Byzantine rule, the region was called "*λεύκα*", which means "poplar" in Greek (Çağanağa, 2014). According to another belief, because the trunks of poplar trees are white and the Greek word "Lefkos" or "Lefka" means white, there is a discourse that the name of the region may come from here (Kırşan, 1999).

Lefke has been home to many civilizations throughout its history. Lefke remained under the rule of Phoenicians (4000 BC), Byzantine (789-1489), the Lusignan and Venetians (1192-1571), Ottomans (1571-1878) and the British (1878-1960), respectively (Zafer, 1999).

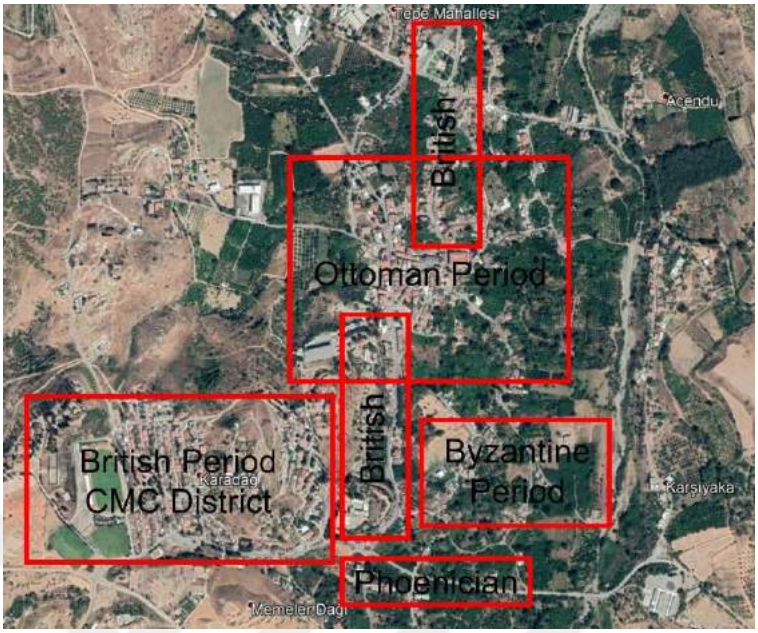


Figure 3.4: Lefke town periodical (Cömert & Hoşkara, 2013)

As shown in Figure 3.4, the development of Lefke begins with the Phoenicians settling around the copper mine in the south. During this period, the establishment of a water canal system in the city greatly affected the development of Lefke (Cömert & Hoşkara, 2013). During the Byzantine period, St.Yorgi church was built for the first time and the centre began to take shape around the church with the organic road texture (Cömert & Hoşkara, 2013). After the occupation of Cyprus by the Lusignan and the Venetians, the Lusignan and the Venetians (1192-1489) settled in the town of Lefke. The Venetians period, who began to rule the island in 1489, continued until the Ottoman Empire conquered the island in 1571 (Department of Urban Planning, 1989).

In the Ottoman period, the city centre shifted to the north compared to the Byzantine period and began to grow. There were inns, madrasas, mosques, and many mansions in the centre. In addition, housing started to develop around this centre (Cömert & Hoşkara, 2013).

Lefke, who was a Turk after the arrival of the Ottomans in 1571 to the island, took from the majority of its cultural and architectural heritage from the Ottomans although the home of many civilizations throughout its rich history (Kırşan, 1999). Lefke has

become one of the important centres of the Ottoman Empire with its narrow and dead-end streets (*cul-de-sac*) and dense texture (Cömert & Hoşkara, 2013). The town of Lefke has preserved its unique residential architecture to the present day with its Ottoman urban fabric and reflecting the characteristics of the traditional Anatolian house (Kırşan, 1998). The buildings in Lefke city center were generally built during the Ottoman and British periods (Figure 3.5).

Figure 3.5: Periods of buildings in Lefke city center [1]

During the British period, the city centre caused the settlement to shift south and west due to copper mineral resources (Cömert & Hoşkara, 2013). The centre in the west is

[1] Şener, D. "Traditional Residences of Lefke Street Gates", European University of Lefke, Institute of Social Sciences and Humanities, Department of Architecture, 2010-2011 academic year, Fall Semester, from ARCH-546 Traditional Housing Building course, conducted by N. Gültekin, from a term paper that was prepared on investigations of the registry inventory of the immovable cultural property in their own places.

residential areas, social areas and shopping areas for the mine workers, while the centre in the south is a residential area for public and public area (Figure 3.6) (Map 3) (Lavender, 1962). In addition, due to the abundance of copper and sulphur in the region and the extraction of these mines, the area is surrounded by arid hills of reddish and yellowish (Kırşan, 1998).

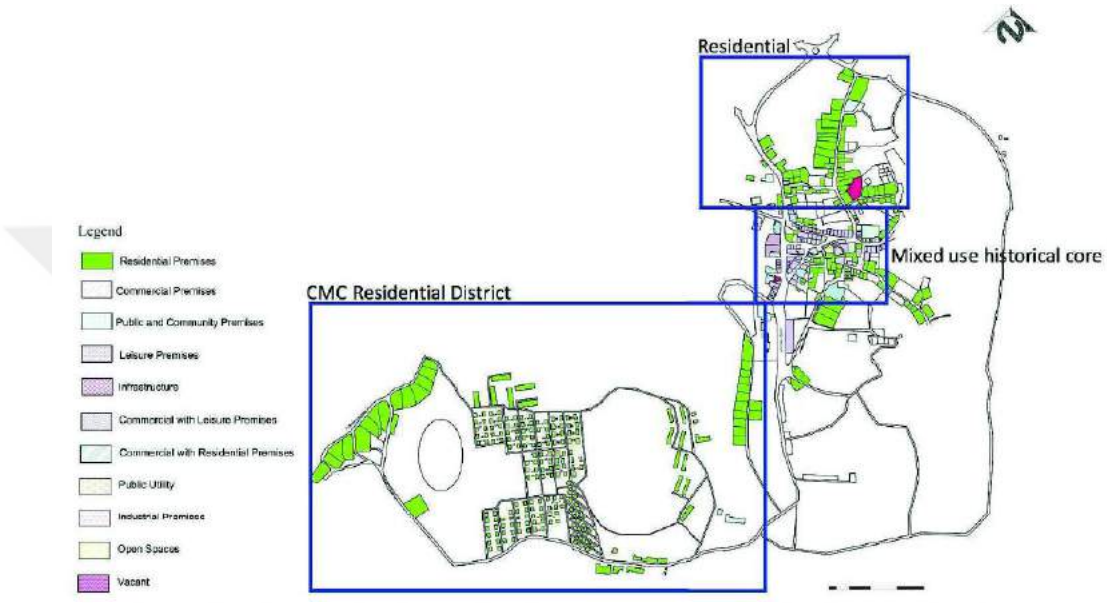


Figure 3.6: Functional analysis of Lefke (Cömert & Nezhadmasoum, 2017)

After the island passed under British auspices in 1878, the importance of Lefke increased with the start of the copper mine operation in 1916 by the American company Cyprus Mines Corporation (CMC). The population of the region has started to increase due to the people migrating to work in the mine. Lefke, which was formerly an agricultural city, became a mining city. (Kırşan, 1999). Housing problems of the mineworkers emerged with the opening of the mining company. The workers villages were established in 1926 in Gemikonağı and in 1928 in Karadağ. A total of 3 workers' villages were established on the island, one in the southern part of Cyprus (Skouriotissa) (Figure 3.7) (Beyaz et al., 2017). The status and marital status of the employees were taken into consideration while building CMC houses. For this reason, four different types of houses were observed: single worker unit, married workers' unit, foremens' unit and senior staff unit. Each category has varied in itself (Çağanağa, 2014).

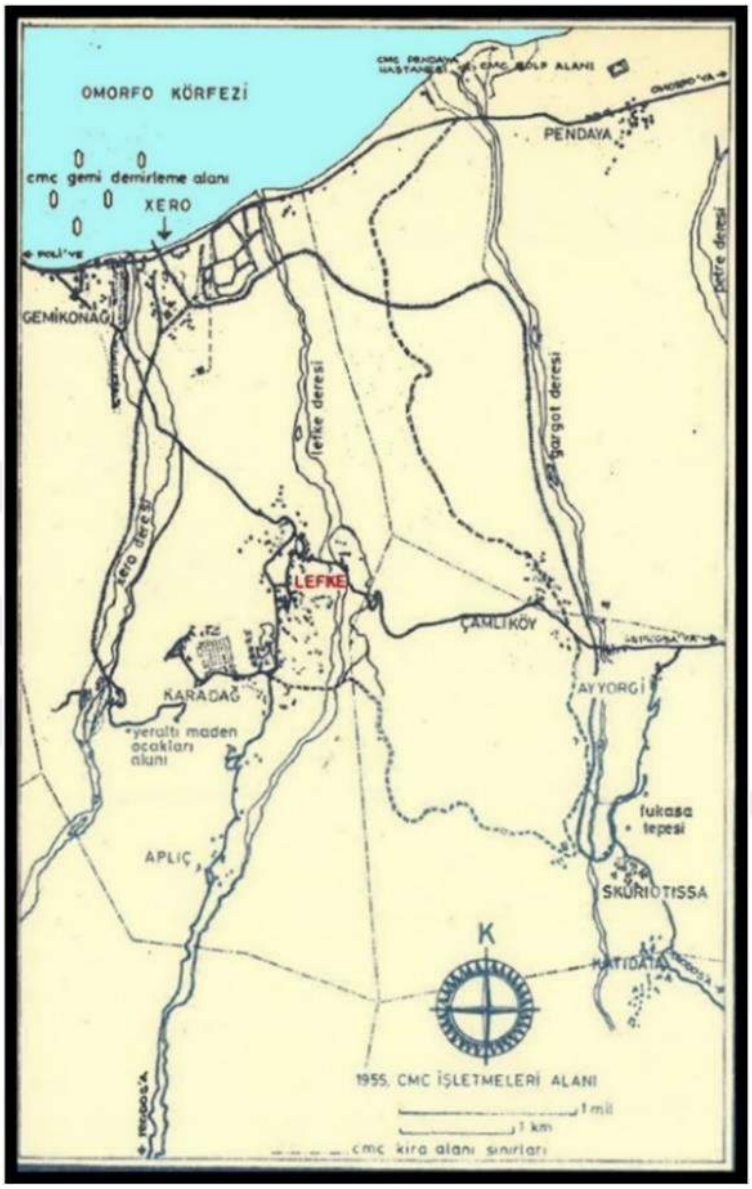


Figure 3.7: Lefke city map (Feridun, 1976) (Adapted by author)

The area in which these worker houses were established was far from the traditional tissue boundaries of Lefke, thus preventing the deterioration of the traditional texture. These dwellings have been placed grid and systematically on the area, they are located. Because of the traditional urban texture of Lefke was organic and also with material, formal and functional differences, the working villages remained separate from the traditional fabric and did not deteriorate the image and character of the region (Figure 3.8) (Kırşan, 1999).

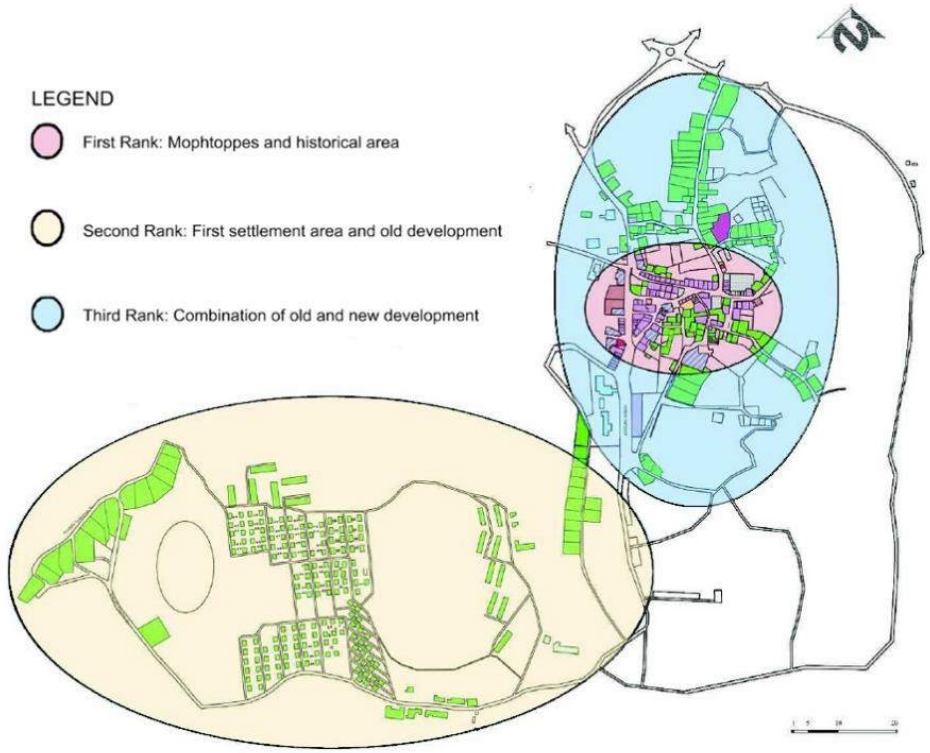


Figure 3.8: Lefke town morphological region analysis (Cömert & Nezhadmasoum, 2017)

3.3. Monumental Structures in Lefke

In Lefke, there are 3 mosques from the Ottoman era, a church, a coronation monument and the public buildings from the British era, aqueducts from Ottoman period and a fountain as a monumental structure.

There are three mosques in Lefke: *Yukarı*, *Orta* and *Aşağı* Mosque. It is known that three of them were built on the ruins of the old church (Kırşan, 1998).

The mosque, known as the "*Yukarı* Mosque" because it is located at the top of Lefke, is the oldest of the three mosques in Lefke (Figure 3.9). The mosque is also called as Piri Pasha Mosque, Piri Mehmet Pasha Mosque and Minareli Mosque. Because it is the only mosque with a minaret at that time (Ağayev, 2018). Piri Pasha Mosque was built on the foundations of the church known as "*Ay Yorgi*" (Department of Urban Planning, 1989).

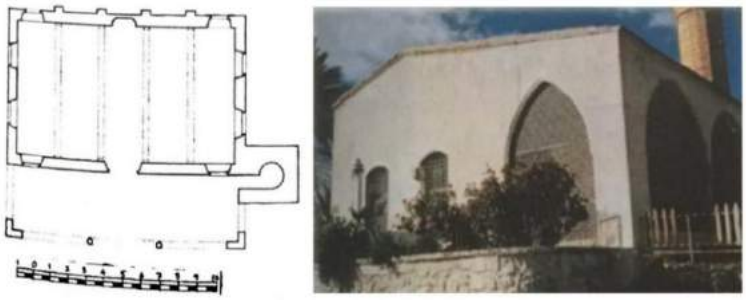


Figure 3.9: Lefke *Yukarı* Mosque plan (Bağışkan, 2005) and photo (Çağanağa, 2014)

The *Orta* Mosque (Figure 3.10), which is located in the centre of Lefke, was built in the 19th century during the Ottoman period (Çağanağa, 2014).

Figure 3.10: Lefke *Orta* Mosque plan (Bağışkan, 2005) and photo (2019).

The *Aşağı* Mosque (Figure 3.11) which is located in the lower part of Lefke, was built in 1904. It is also known as the Courts Mosque and *Ebu-Bekir* Mosque (Çağanağa, 2014).

Figure 3.11: Lefke *Aşağı* Mosque plan (Bağışkan, 2005) and photo (2019).

Acentou Church is the only church in Lefke that was used as a place of worship for Orthodox Christians. Acentou Church, which is a one aisled barrel-vaulted church with cylindrical apse and belfry, is constructed from reinforced concrete and the bell tower was built later. (Çağanağa, 2014) (Figure 3.12)

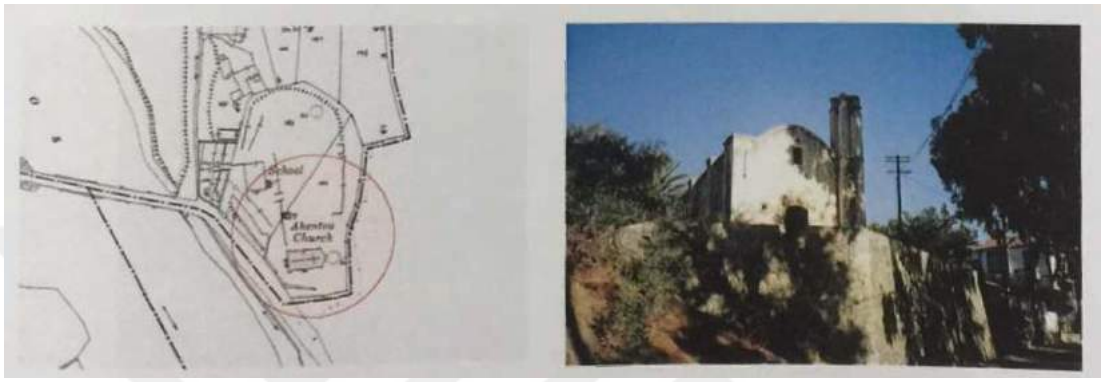


Figure 3.12: Acentou Church plan and photo (Çağanağa, 2014).

There is an inscription on the monument (Figure 3.13) describing the coming to the kingdom of George VI and the British Royal Coat of Arms. The Water Reservoir, built on 12.5.1937, is located in the centre of Lefke.

Figure 3.13: Monument of Coronation of King George IV (2019).

Since Lefke was the administrative centre of the region during the British colonial period, administrative buildings were needed in the region. For this reason, the plans

of Governor's Office, Court, and Post Office buildings (Figure 3.14) were drawn by architect P.S. Drawn by Stavrinides. The two-storeys buildings made of yellow stone were built by PWD on the main road passing through Lefke in 1937-1939 (Bağışkan, 2019).

Figure 3.14: The public buildings built in British Colonial Period (2019).

The fountain is a spring water of the XV-XVI centuries in which Cyprus is under the administration of Venetians. It is said that this water was found by a Venetian commander named Cento, located in the east of the town, between the Lefke Creek and Lağuna Mountain. When the Venetians came here, a commander named Hacı Pasha built a fountain here. It is a vaulted cistern made of collection stones. There is a niche on the façade of the fountain (Figure 3.15) and a faucet inside the niche. (Ağayev, 2018)

Figure 3.15: Acendu (*Aqua de cento*) Fountain (Lefke Belediyesi, 2019b)

Lefke, which has fertile fields extending to the sea, was one of the grain (barley, wheat) production centres in Ottoman times. For this reason, many mills have been built to grind the grains and aqueducts (Kırşan, 1998) are built to run these mills (Figure 3.16).

Figure 3.16: Aqueducts in Tahir Efendi Street (2019).

3.4. Protection and Registration Status

Lefke, which was declared as a citta-slow city on 7 November 2015, urban planning region was taken under protection and tried to be controlled by the law of *Fasıl* 96. The buildings in the region are mostly registered. (Map 4)

In 1999, 41 buildings were listed in Lefke by the Immovable Antiquities and High Council of Monuments. 29 of these listed buildings are residential. On 28 January 2014 (Map 5), Lefke 1st and 2nd degree protected area was declared and buildings with historical and cultural value were re-listed. In the list published in 04 February 2014, 46 of the 104 listed buildings are residences. The protection area decision was organized and published in the official newspaper for the second time on 14 February 2014. (TRNC Official Newspaper, 2014).

4. TRADITIONAL LEFKE HOUSES

4.1. General Analysis of Selected Houses

The study area is limited to the streets where the listed residential buildings and the residential buildings with architectural value are dense. 94 houses and 103 façades were examined according to the criteria determined and selected streets as explained in Chapter 1 methodology part.

In the residential architecture, the number of floors of the houses one of the most important element in the factors that make up the façade character. Traditional house texture of selected area consists of diversification of two different floor heights (Map 6). The dominant silhouette of the region is determined by the large number of one floor houses.

The percentage distribution of 94 houses analysed in terms of number of floors;

One floor houses: 62 houses, % 66,
Two floor houses: 32 houses, % 34 (Table 4.1).

Table 4.1: Floor analysis

ONE FLOOR	TWO FLOOR	TOTAL
62	32	94

Figure 4.1: Ground floor levels differences (2019)

Three types of ground floors were observed in the houses; one is at the same level as the road level, second is the ground level raised by steps and three is below as the road level (Figure 4.1).

Floor heights of the ground floors vary according to the entrance level. In the houses whose entrances are at the same level as the road level, the floor heights vary between 2.2 m and 4 m. It has been determined that the height of the floors increases up to 5 m in the houses whose entrance is raised with steps. In two storeys houses, the heights of the houses vary between 6 m and 8.5 m. Basement floor and loft floor formations are not seen in traditional Lefke houses.

The buildings has architectural value in the Lefke town were listed in 1999 and 2014. These structures, which were built in different periods, were registered because they reflect the characteristics of their periods.

The percentage distribution of 94 houses analysed in terms of registration;

Registered houses: 88 houses, % 94,

Unregistered houses: 6 houses, % 6 (Table 4.2) (Map 7).

Table 4.2: Registration analysis

REGISTERED	UNREGISTERED	TOTAL
88	6	94

36 houses (38%) were listed and 58 houses (62%) were not listed (Table 4.3). Of the 37 houses, 20 houses (55%) were listed in 1999 and 16 houses (45%) were listed in 2014. The majority of the listed houses are two floor houses. According to the site map published in 2013 (Map 8), the listed and unlisted buildings and their architectural values are shown in Table 4.3.

Table 4.3: Listed and unlisted buildings with architectural evaluation analysis

LISTED BUILDINGS				UNLISTED BUILDINGS			TOTAL
36				58			
in 1999		in 2014					
20		16					
extraordinary architectural value	architectural value	extraordinary architectural value	architectural value	texture complementary	environmental valuable	no specified value	94
17	3	2	14	14	6	38	

Percentage distribution of 94 analysed houses in listed-unlisted context;

Listed buildings: 36 buildings, % 38,

Unlisted buildings: 58 buildings, % 62.

Table 4.4: Structural system analysis

LOAD-BEARING	LOAD-BEARING / REINFORCED CONCRETE	TOTAL
93	1	94

The structural systems of the traditional Lefke houses have been determined through observation since the users of most houses cannot be reached. The majority of the examined houses consist of load-bearing structures constructed by traditional method (Table 4.4). Most of these houses were built using adobe on stone. In addition, an additional reinforced concrete porch was constructed on the front part of the house in located 333 Island 2 parcel, which was examined in Inventory Table 62. (See Figure 4.27 left)

While evaluating the existing conditions of the houses, mass integrity and façade coverings were taken into consideration. Within the framework of these criteria, houses are examined under four main headings; good, medium, bad and partially damaged (Figure 4.2).

Figure 4.2: Examples of good, medium, bad and partially damaged buildings, respectively (2019)

- Good condition buildings: These houses have largely preserved their mass integrity and have good condition façade. The façade covering of the majority of these buildings is not original, but is renovated in accordance with the original state.
- Medium condition buildings: These houses have preserved their mass integrity and need slight alteration of the façade. There are fissures on the façade covering.
- Bad condition buildings: These houses have lost their mass integrity and need serious alteration of the façade. There are fragmentations in the façade covering.
- Partially damaged condition buildings: These houses have largely lost their mass integrity and need heavy alteration of the façade. There are demolitions on the façade covering. In some houses, some windows were demolished.

The percentage distribution of the examined 94 houses in the context of the status of building;

Good condition: 33 houses %36,
Medium condition: 38 houses % 40,
Bad condition: 19 houses %20,
Partially damaged condition: 4 houses %4 (Table 4.5) (Map 9).

Table 4.5: Status of building analysis

GOOD	MEDIUM	BAD	PARTIALLY DAMAGED	TOTAL
33	38	19	4	94

The houses selected according to the specified criteria were built to be used as houses in the period they were built. However, over time, the functions of some of these houses have changed. Some of the houses are empty and some used as storage. On the other hand, majority of them are still used as house (Table 4.6).

Table 4.6: Type of use analysis

RESIDENTIAL	STORAGE	RUIN	EMPTY	STORAGE-EMPTY	TOTAL
81	4	4	4	1	94

The socio-economic situation of the region has been effective in the current usage of the houses. The first owners of the houses migrated to the town centre and left the district for economic reasons. Some homeowners maintain houses in their existing function for holiday in summer or weekend. Some houses were rented to students due to the increasing student population because of the university in the region. Some of the neglected houses were abandoned because they were not used and were in danger of extinction.

Figure 4.3: Houses in Inventory Table 61 (left); Inventory Table 66 (right) (2019)

There was no commercial function change in the selected houses, since the commercial structure of the area is situated on a specific area. On the other hand, the doors of the houses examined in the inventory table 61 and 66 were changed to shop doors. However, these houses are currently empty and are used as storage (Figure 4.3).

4.2. Housing Location Layout

4.2.1. Intra-Island Locations of Building Parcels

It was determined that the islands take shape according to the land structure. It was observed that the houses which were arranged in accordance with the topography were arranged as intermediate and corner parcels. There are 14 corner parcels (15%) and 80 intermediate parcels (85%) (Table 4.7).

Table 4.7: Intra-island locations of building parcels analysis

CORNER PARCEL	INTERMEDIATE PARCEL	TOTAL
14	80	94

The location of the parcels in which the buildings are located is an important factor in plan and façade formation. The houses built on the corner of the building island are generally in detached order. These houses show more than one alternative according to their approach to each other and have different features on their façades. In similar parcels of similar dimensions, there are houses in the attached order with their façades resting against each other. The unilateral houses leaning on the building next to them are semi-detached houses.

The percentage distribution of the examined 94 houses in the context of the order;

Attached order: 26 houses %28,
Detached order: 34 houses %36,
Semi-detached order: 34 houses %36 (Table 4.8).

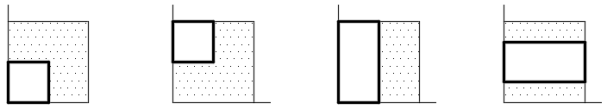
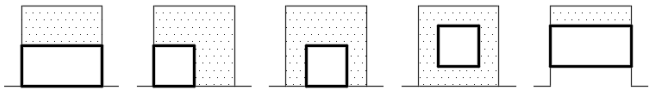
Table 4.8: Relationship analysis of buildings with neighbouring buildings

ATTACHED	DETACHED	SEMI-DETACHED	TOTAL
26	34	34	94

4.2.2. Intra-Parcel Positioning Characteristics of Houses

The houses are positioned in different ways according to the parcel size. Due to their large surface area, the corner parcels allowed the houses to be positioned in different ways. Intermediate parcels showed limited construction tendency due to space constraints and the presence of parcels having the same characteristics on both sides. Although there is an intermediate parcel, there are also building parcels that have a larger façade to the street. These, like the structures in the corner parcels, provide multiple approaches to house and planning alternatives. It is seen that the houses which are generally built close to each other are have two façades, mostly street and garden. In addition, in some house examples have three or four façade (Table 4.9).

Table 4.9: Intra-parcel positioning characteristics of houses

PARCEL POSITIONING PROPERTIES					TOTAL
CORNER PARCEL					
					14
6	2	3	3		
INTERMEDIATE PARCEL					
					80
48	24	3	2	3	

The parcels in the central part of the islands have narrow façades and elongated positions compared to the ones at the end. For these reasons, there are many residential parcels where the street façades are shortened to 6 meters. The houses built on the parcels have two sides, usually street and backyard.

Due to the relationship between the parcel-house and the house area, the garden layout in the houses has been applied in many examples. In the parcels, a large part of the houses have garden. The house arrangements with gardens are positioned in four different ways according to the gardens around them. In most of these, the garden is one side and is usually located at the back of the house (Table 4.10).

Houses throughout the Lefke town;

Garden layout: 84 houses, % 89

No garden: 10 houses; % 11.

Table 4.10: Garden layouts analysis of house

CORNER PARCEL					**INTERMEDIATE PARCEL**					
Garden				**No Garden**	**Garden**				**No Garden**	**TOTAL**
1 side	2 side	3 side	4 side	1	1 side	2 side	3 side	4 side	9	
6	4	2	1		49	14	6	2		
13				1	71				9	94
14					80					

4.2.3. Forms of Approach to Houses

The location and surface area of the parcels in the island, as well as the garden arrangements of the buildings, provide differentiation in the approaches to the houses. House approaches in Lefke are provided in three ways, either directly from the street, from the garden or from both the street and the garden, depending on the location of the parcels and the houses on them (Figure 4.4).

Figure 4.4: Forms of approach to houses - directly street, only garden, street and garden and no door, respectively (2019)

The distribution of percentages of the entrances on house based;

From directly street: 56 houses % 60,

From only garden: 13 houses % 14,

From both the street and the garden: 25 houses %26 (Table 4.11)

Table 4.11: Entry ways of house – House based analysis

HOUSE BASED	STREET	GARDEN	STREET - GARDEN	TOTAL
	56	13	25	94

When 9 houses examined in the double façade are included in the analysis, the percentage distribution of entrance to residences on façade based;

From directly street: 58 façades, % 56

From only garden: 15 façades, % 14

From both the street and the garden: 26 façades, %26

Façades without entrance doors: 4 façades, %4 (Table 4.12).

Table 4.12: Entry ways of house – Façade based analysis

FAÇADE BASED	STREET	GARDEN	STREET - GARDEN	NO DOOR	TOTAL
	58	15	26	4	103

The houses in the study area generally cover the whole façade without leaving any garden distance. This positioning of the houses necessitated building approaches directly from the street. In the houses where the entrances are provided from the gardens, the entrance hall and the entrance door cause to be ignored in the design of

the façades facing the street. This situation where the entrance door is not on 0the street façade is an arrangement that distorts the visual richness in the streets.

It is seen that the entrances are compulsory from the street fronts in the areas located in the city centre and where there are mostly attached houses. However, in exceptional cases, there are also house entrances that can be accessed from the garden. The house entrances in the selected area have four different types of approaches from the street and three different types of approaches from the garden (Table 4.13).

Table 4.13: Entrance forms analysis and percentages

ENTRANCE FORMS	STREET	GARDEN
Straight	58 (%57)	37(%37)
Niche	11(%11)	1(%1)
Outside Stairhead	13(%12)	1(%1)
Outside Stairhead - Niche	2(%2)	-
No Door	19(%18)	64(%61)
TOTAL	103	103

Figure 4.5: Entrance forms - straight, niche and outside stairhead, respectively (2019)

Although the direct street entrances were generally straight, there are niche and outside stairhead type too (Figure 4.5). The entrance doors in Lefke are mostly located on the façade plane. In the door examples in the niche, depths were created in the front façade and façades gained movement. At the same time, the entrance is protected against the effects of rain and sun. It is observed that the niche entrances are sometimes deep

inside and sometimes slightly inside the façade. In addition, in some niches and flat entrances, the entrance to the house was provided with steps. There are two façades where the outside stairhead and niche entrance type are used together. 19 façades without direct entrance from the street were identified. The entrances to the garden are mostly straight. There is no entrance to the garden directly from the street on the 64 façades in the 103 façades examined.

4.3. Façade Analysis of Traditional Lefke Houses

4.3.1. Façade and Entrance Organization

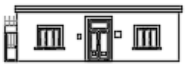
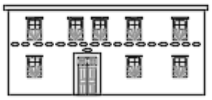
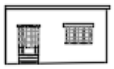
One of the reasons why street fronts are chosen, the back and side façades of the study area houses were often ordinary and simple, since and the houses were generally built close together. The façade elements of the houses give typological and numerical results according to their dimensions, materials and shapes within the scope of analysis and evaluation. These elements also form façade arrangements according to the form and frequency of existence. The location of the entrance door, the number and repetition of the windows, the locations of the projections help to easily unravel the plan from the outside. Therefore, house entrance arrangements, which are the determining elements of both the plan and the façade, have been one of the main factor of the typological façade evaluations. The entrance arrangements seen in traditional Lefke houses were examined in 5 different groups as shown in Table 4.14

Table 4.14: Positioning of houses entrances on façade

ENTRANCE DOOR AND FAÇADE RELATIONS	CENTRE	NEAR CENTRE	SIDE	TWO SIDE	NONE	TOTAL
HOUSE BASED	42	14	23	4	11	94
FAÇADE BASED	43	15	25	4	16	103

When the façade organizations of the traditional Lefke houses are examined according to the number of floors and the entrance door, 10 different façade arrangements emerged (Table 4.15).

Table 4.15: Floor and entrance door location relationship analysis

	ONE FLOOR	TWO FLOOR	TOTAL
CENTRE	 INVENTORY NO: 29	 INVENTORY NO: 73	43
	29	14	
NEAR CENTRE	 INVENTORY NO: 80	 INVENTORY NO: 50	15
	9	6	
SIDE	 INVENTORY NO: 33	 INVENTORY NO: 68	25
	14	11	
TWO SIDE	 INVENTORY NO: 4	 INVENTORY NO: 16	4
	2	2	
NONE	 INVENTORY NO: 69 (CONTINUE)	 INVENTORY NO: 15 (CONTINUE)	16
	12	4	
		TOTAL	103

Traditional houses' entrance doors throughout Lefke are largely located in the centre of the façade. The houses with central entrance are generally symmetrical façade order. In 14 houses and 15 façades, the entrance door is located on the right or left of the centre of the façade. These façades in this order are asymmetrical façade order. There are 23 houses and 25 façades where the entrance of the house is on the side of the façade. The entrance is asymmetrical in the houses with the entrance at the side like the houses near to the centre. In 4 houses (Inventory Tables: 4, 5, 16, 85) there are two entrance doors on the façade. The houses are in asymmetric order except for the house examined in Inventory Table 4.

9 houses with examined on two façades; while 4 houses (Inventory Table 1, 41, 44, 66) provide access from the street to the house on two sides, there are no doors on the second side of the 5 houses (Inventory Tables: 2(continue), 9(continue), 15(continue), 58, 69(continue)). The entrance of the 11 houses which do not have an entrance door on the street façade is directly from the garden or from the side.

Traditional Lefke houses also have a direct relationship between the plan schemes and the façade (Figure 4.6). As in traditional Turkish houses. Especially plan and façade design easily affect each other in houses have only single façade to the street (attached order). As a result of its forming from inside to the outside, interior function completely reflects to the façade. When looking at the house from the outside, comments can be made about the plan type and function locations of the house.

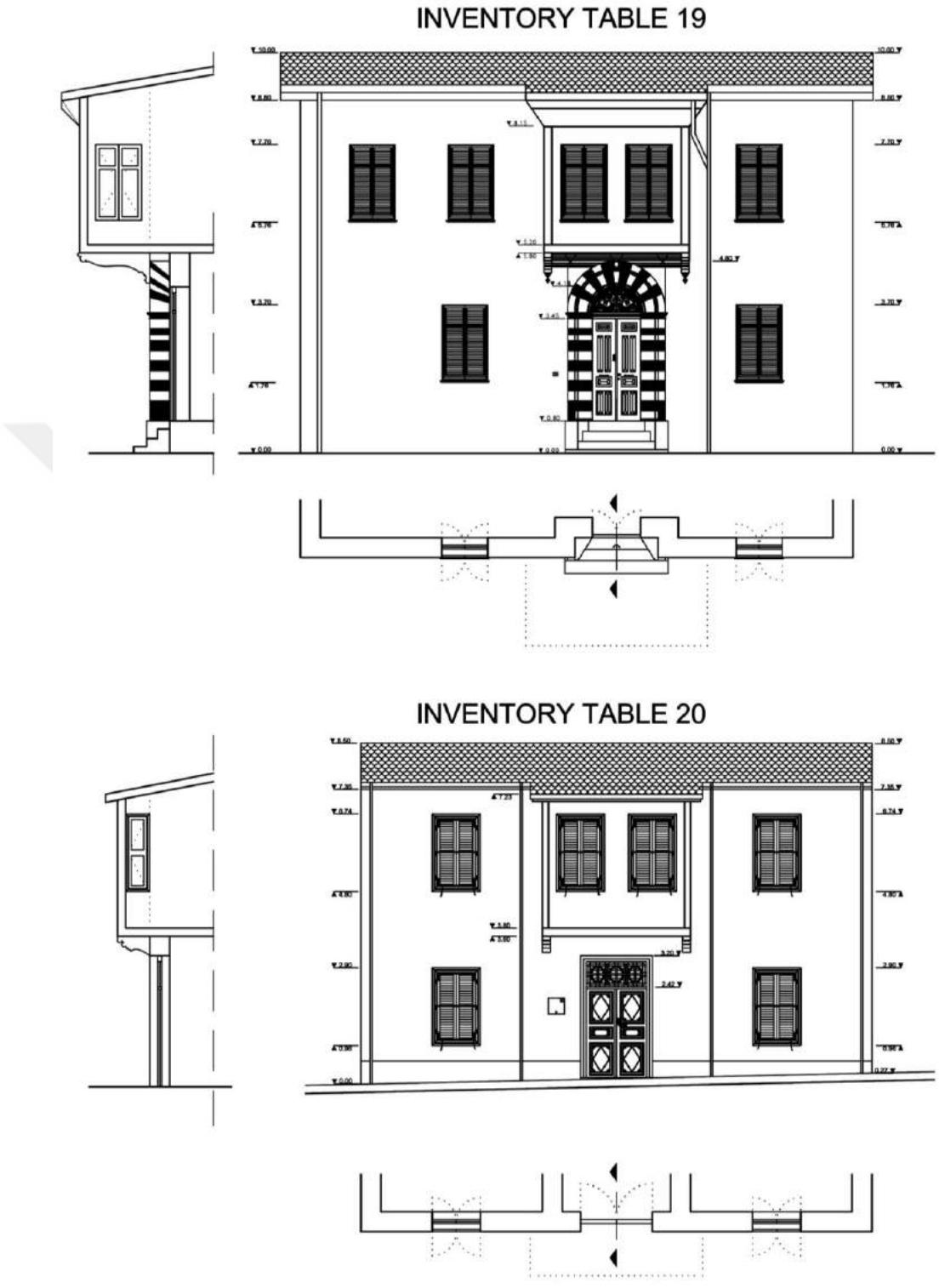


Figure 4.6: Entrance and façade relationship

4.3.2. Doors

In traditional houses, house doors consist of two parts: garden and building doors. In traditional Lefke houses, the entrance doors usually consist of wooden doors. In addition, iron, aluminium and steel doors were found. Since there are double entrance doors on four façades, 107 doors were identified in total on 103 façades. Due to the fact that some of the houses are corner parcels, both façades have been examined. For this reason, some fronts do not have an entrance door. In some façades, the entrance gate could not be identified because it was not on the street façade. A total of 93 doors were examined (Table 4.16).

Table 4.16: Doors analysis

WOODEN	IRON	ALUMINIUM	STEEL	TOTAL	NONE	NOT INVESTIGATED	TOTAL
63	18	10	2	93	5	9	107

Table 4.17: Doors detailed analysis

DOOR MATERIAL	WOODEN		IRON		ALUMINIUM		STEEL	
	63		18		10		2	
WINGED	Single	Double	Single	Double	Single	Double	Single	Double
	26	37	18	-	10	-	2	-
TRANSOM	4	28	5	-	4	-	-	-
JAMB	2	23	3	-	4	-	-	-

The doors were examined under five main headings according to their materials, number of wings, originality, transom and jambs (Table 4.17)

Doors according to the material, (Table 4.18)

a. Wooden doors: 63 doors, % 68

a.1. Single winged: 26 doors

a.2. Double winged: 37 doors

b. Iron doors: 18 doors, % 19

b.1. Single winged: 18 doors

b.2. Double winged: 0 doors

c. Aluminium doors: 10 doors, % 11

c.1. Single winged: 10 doors

c.2. Double winged: 0 doors

d. Steel doors: 2 doors, % 2

d.1. Single winged: 2 doors

d.2. Double winged: 0 doors.

Doors according to the winged,

a. Single winged doors: 56 doors % 60

a.1. Transom: 13 doors

a.2. Jamb: 9 doors

b. Double winged doors: 37 doors % 40

b.1. Transom: 28 doors

b.2. Jamb: 23 doors.

Table 4.18: Door examples according to materials and wings (2019)

Doors according to the originality,

Most of the 93 doors examined were generally changed as material. There are also doors that have altered in shape, type and size.

a. Original doors: 34 doors % 37 (Figure 4.7),
b. Altered doors: 59 doors % 63 (Figure 4.8).

Figure 4.7: Original doors (2019)

Figure 4.8: Altered doors (2019)

Doors according to the transom,

The transom is the door-top window used to illuminate the interior more. It is also one of the important façade elements because it adds dynamism to the door and façade. In totally 41 doors have transom. Most of these transoms are located on double-winged wooden doors.

a. Wooden doors: 63 doors, % 68
    a.1. Transom: 32 doors
    a.2. No transom: 31 doors

b. Iron doors: 18 doors, % 19

b.1. Transom: 5 doors

b.2. No transom: 13 doors

c. Aluminium doors: 10 doors, % 11

c.1. Transom: 4 doors

c.2. No transom: 6 doors

d. Steel doors: 2 doors, % 2

d.1. Transom: 0 doors

d.2. No transom: 2 doors

The transoms in traditional Lefke house doors and transoms are usually rectangular, but there are also half-moon transoms. In the doors that maintain their originality, transoms are usually with wrought irons. The rectangular transoms are generally vertically divided into three parts. The wrought irons on the transoms are geometric or floral motifs (Figure 4.9). On the doors that maintain their originality, the transoms in the form of a half-moon are generally divided into pieces. These wrought irons are in the form of floral motifs (Figure 4.10).

Figure 4.9: Rectangular transoms (2019)

Figure 4.10: Half-moon transoms (2019)

Some wrought irons were observed to have date. However, it is not known whether these dates are the dates when the house was built or the date when the wrought irons was produced.

Doors according to the jambs,

Jamb is another important façade elements that adds dynamism to the door and façade. There are totally 32 jambs in the doors examined. Most of these are found in double-winged wooden doors. The average width of jambs is 23 cm.

a. Wooden doors: 63 doors, % 68
    a.1. Jamb: 25 doors
    a.2. No jamb: 38 doors
b. Iron doors: 18 doors, % 19
    b.1. Jamb: 3 doors
    b.2. No jamb: 15 doors
c. Aluminium doors: 10 doors, % 11
    c.1. Jamb: 4 doors
    c.2. No jamb: 6 doors
d. Steel doors: 2 doors, % 2
    d.1. Jamb: 0 doors
    d.2. No jamb: 2 doors

In traditional Lefke houses, the material of the entrance door jambs is yellow stone. Some jambs were painted in different colours, while others were used with their own colour. Rectangular and half-moon shapes were used in the jambs as in the doors. Generally, there are simple and rectangular jambs that surround the door by making indentations from the inside. In addition, the jambs can be column, geometric and motif ornamented (Figure 4.11).

Figure 4.11: Jambs with ornaments of different shapes (2019)

The majority of the doors are rectangular, but there are also arched doors. Most of these arched doors have yellow stone jambs. Although the jamb is arched, the door is rectangular (Figure 4.12).

Figure 4.12: Rectangular door with arched jamb (2019)

4.3.3. Garden Doors

In the traditional Lefke houses examined, the garden is an important factor due to agriculture. However, since most houses are built in an attached order, the garden

remains at the back and the passage is only through the house. There are 41 façades with direct entrance from the street to the garden. There are no garden doors on 62 façades. It was seen that wood, iron and aluminium were used as materials in the garden doors (Table 4.19).

Table 4.19: Garden doors analysis

WOODEN	IRON	ALUMINIUM	TOTAL	NONE	TOTAL
12	26	3	41	62	103

Table 4.20: Garden doors detailed analysis

MATERIAL	WOODEN		IRON		ALUMINIUM	
	12		26		3	
WINGED	Single	Double	Single	Double	Single	Double
	5	7	14	12	3	-

The garden doors were examined under two main headings according to their materials and number of wings (Table 4.20).

Garden doors according to the material, (Table 4.21)

a. Wooden garden doors: 12 garden doors, % 29

a.1. Single winged: 5 garden doors

a.2. Double winged: 7 garden doors

b. Iron garden doors: 26 garden doors, % 64

b.1. Single winged: 14 garden doors

b.2. Double winged: 12 garden doors

c. Aluminium garden doors: 3 garden doors, % 7

c.1. Single winged: 3 garden doors

c.2. Double winged: 0 garden doors

Garden doors according to the winged,

a. Single winged garden doors: 22 garden doors % 55

b. Double winged garden doors: 19 garden doors % 45

Table 4.21: Garden door examples according to materials and wings (2019)

4.3.4. Windows

Windows are elements that add dynamism to the façade due to their frequency and number. In traditional houses, due to the fact of privacy, the façades were left simple except for basic needs. There are many examples where the lower and upper windows differ in the two floor houses. It was found that there were two different types of windows on some façades and three different types on some façades. 131 different types of windows were identified on 103 façades. 30 windows could not be investigated due to the closed shutters. A total of 101 windows were examined (Table 4.22).

Table 4.22: Windows analysis

WOODEN	IRON	ALUMINIUM	PVC	TOTAL	NOT INVESTIGATED	TOTAL
66	10	17	8	101	30	131

Table 4.23: Windows detailed analysis

MATERIAL	WOODEN			IRON			ALUMINIUM			PVC		
	66			10			17			8		
OPENING	Sliding	Winged	Guillotine	Sliding	Winged	Guillotine	Sliding	Winged	Guillotine	Sliding	Winged	Guillotine
	-	64	2	-	10	-	10	7	-	2	6	-
RAILING	-	21	-	-	9	-	2	2	-	1	3	-

The windows were examined under five main headings according to their materials, opening types, railings, size and originality (Table 4.23).

Windows according to the material, (Table 4.24)

a. Wooden windows: 66 windows, % 67

a.1. Sliding windows: 0 windows

a.2. Winged windows: 64 windows

a.3. Guillotine windows: 2 windows

b. Iron windows: 10 windows, % 10

b.1. Sliding windows: 0 windows

b.2. Winged windows: 10 windows

b.3. Guillotine windows: 0 windows

c. Aluminium windows: 17 windows, % 17

c.1. Sliding windows: 10 windows

c.2. Winged windows: 7 windows

c.3. Guillotine windows: 0 windows

c. PVC windows: 8 windows, % 8

d.1. Sliding windows: 2 windows

d.2. Winged windows: 6 windows

d.3. Guillotine windows: 0 windows

Traditional Lefke houses have 7 types of windows: wooden winged, wooden guillotine, iron winged, aluminium sliding, aluminium winged, PVC sliding and PVC winged. The majority is wood and winged windows. There are many types of windows that are formed by dividing wooden winged horizontally and vertically in many different ways. Depending on the width of the window, sometimes one and sometimes two wings can be movable.

Table 4.24: Windows examples according to materials and opening type (2019)

The windows are located in different parts of the façade for that the interior places such as room, entrance hall, wet volume and projections can get light. In addition, some door types have windows next to the door (Figure 4.13).

Figure 4.13: Door side window types (2019)

Windows according to the railing,

Windows with railing: 38 windows, % 37

a. Wooden windows: 21 windows
b. Iron windows: 9 windows
c. Aluminium windows: 4 windows
d. PVC windows: 4 windows

Some single floor houses and ground floor windows of two floor houses were found to have railing. There are 38 types of railings in 101 window types. It is usually found in wooden winged windows. Railings are generally flat, geometric and floral motifs (Figure 4.14).

Figure 4.14: Railings with ornaments of different shapes (2019)

Windows according to the size,

a. Horizontal windows: 14 windows
b. Square windows: 17 windows
b. Vertical windows: 70 windows

Three basic window layouts were used in traditional Lefke houses: horizontal windows, square windows and vertical windows. The most commonly used window layout is vertical windows. The windows in the horizontal position (longer than the width) are mostly used on wide façades and on the lower floors of two-storey houses. Vertical windows are generally used in series and on all façades including projections. The side windows in closed projections are seen in different widths according to the changing depth of the projection, in accordance with the other windows at height. Window widths vary from 50 cm to 200 cm and lengths vary from 54 cm to 245 cm.

Windows according to the originality,

a. Original windows: 60 windows % 60 (Figure 4.15),
b. Altered windows: 41 windows % 40 (Figure 4.16).

In façades, windows have been the most changed elements like doors. For various reasons, while the original wooden materials of the windows have been changed the dimensions and types have been changed too. This condition has caused the window-façade ratios to deteriorate in the traditional texture.

Figure 4.15: Original windows (2019)

Figure 4.16: Altered windows (2019)

4.3.5. Shutters

Shutters are used for both security and protection from climatic conditions. Of the 131 windows in Lefke houses, there are shutters in 73 windows (Table 4.25). It was seen that wood and aluminium were used as materials in the shutters. All shutters are double winged. There are yellow stone jambs in 8 windows.

Table 4.25: Shutters analysis

SHUTTER	**WOODEN**		**ALUMINIUM**		**TOTAL**	**NONE**	**TOTAL**
MATERIAL	58		15				
WINGED	Single	Double	Single	Double	73	58	131
	-	58	-	15			
JAMB	-	7	-	1			

The windows were examined under three main headings according to their materials, number of winged and jambs.

Shutters according to the material and winged, (Table 4.26)

a. Wooden shutters: 58 shutters, % 67

a.1. Single winged: 0 shutters

a.2. Double winged: 58 shutters

b. Aluminium shutters: 15 shutters, % 10

b.1. Single winged: 0 shutters

b.2. Double winged: 15 shutters

Shutters according to the jamb,

a. Wooden shutters: 59 shutters, % 67

a.1. Jamb: 7 shutters

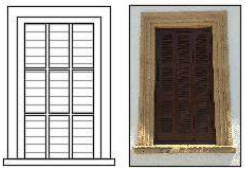
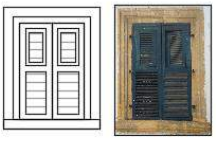
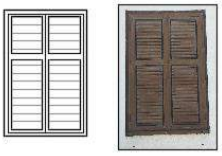
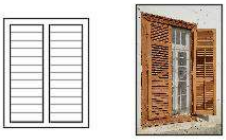
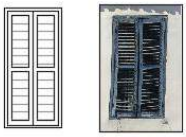
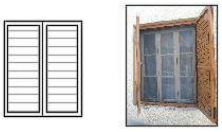
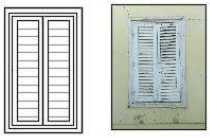
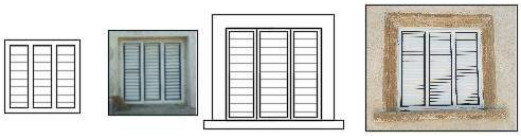
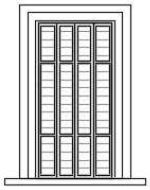
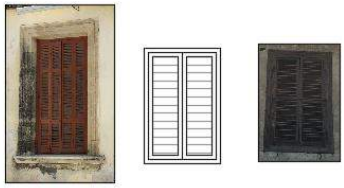
a.2. No jamb: 51 shutters

b. Aluminium shutters: 15 shutters, % 10

b.1. Jamb: 1 shutters

b.2. No jamb: 14 shutters

Table 4.26: Shutters examples according to materials (2019)

WOODEN		ALUMINIUM	
 INVENTORY TABLE 4	 INVENTORY TABLE 10	 INVENTORY TABLE 1	 INVENTORY TABLE 19
 INVENTORY TABLE 16	 INVENTORY TABLE 70	 INVENTORY TABLE 22	 INVENTORY TABLE 69 (continue)
 INVENTORY TABLE 20	 INVENTORY TABLE 32	 INVENTORY TABLE 47 INVENTORY TABLE 29	
 INVENTORY TABLE 69	 INVENTORY TABLE 94	 INVENTORY TABLE 79	 INVENTORY TABLE 88

4.3.6. Ratios of Façade Elements

The areas covered by the façade elements on the façades are important for the façade characteristics. For this reason, ratio calculations were made for doors, garden doors, windows and shutters to shed light on future buildings (Table 4.27).

Table 4.27: Ratios of openings and entrance elements

		TOTAL	RATIO	WIDTH/LENGTH
	DOORS	93	1/2	125/240
Material	Wooden Doors	63	1/2	127/248
	Iron Doors	18	3/5	127/218
	Aluminium Doors	10	1/2	115/232
	Steel Doors	2	1/2	92/200
Wing	Single Winged Doors	56	1/2	117/217
	Double Winged Doors	37	1/2	136/272
	GARDEN DOORS	41	6/7	137/173
Material	Wooden Garden Doors	12	4/7	118/205
	Iron Garden Doors	26	1	152/156
	Aluminium Garden Doors	3	3/7	87/203
Wing	Single Winged Garden Doors	22	1 1/9	180/173
	Double Winged Garden Doors	19	5/8	102/174
	WINDOWS	101	4/5	106/137
Material	Wooden Windows	66	3/4	101/142
	Iron Windows	10	1 1/9	120/112
	Aluminium Windows	17	8/9	119/138
	PVC Windows	8	8/9	100/122
Size	Horizontal Windows	14	1 1/3	144/110
	Square Windows	17	1	122/120
	Vertical Windows	70	2/3	95/146
	SHUTTERS	73	4/5	118/156
Material	Wooden Shutters	58	3/4	116/161
	Aluminium Shutters	15	1	125/138

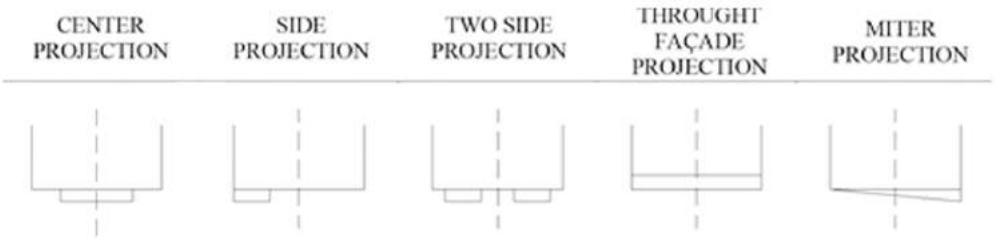
- According to the calculations made on 93 doors examined, the ratio of doors of traditional Lefke houses is 1/2. The average width/length is 125/240.
- According to the calculations made on 41 garden doors examined, the ratio of garden doors of traditional Lefke houses is 6/7. The average width/length is 137/173.
- According to the calculations made on 101 windows examined, the ratio of windows of traditional Lefke houses is 4/5. The average width/length is 106/137.
- According to the calculations made on 73 shutters examined, the ratio of shutters of traditional Lefke houses is 4/5. The average width/length is 118/156.

The solid-void rates on the façades vary from house to house. Sequential vertical windows generally follow similar rhythms and have tried to maintain the distance between them. However, these examples do not constitute a general judgment due to distortions, additions and changes. Therefore, it is not possible to determine a common solid-void ratio for the selected area analysis houses.

4.3.7. Projections

The projections in traditional houses have been made to expand the usage area on the main living floor and to open the view, garden and street as much as possible. It is also one of the most important elements that complements the façade characteristics. According to this parameter, which focuses on whether the façade is narrow or wide and differentiated depending on the location of the parcel, Lefke houses; centre projection, side projection, two-side projection, through to the façade projection, miter projection is divided into five sub-groups (Table 4.28)

Table 4.28: Projection types in traditional Lefke houses



15 houses have projection on examined houses and 17 façades have projections on examined façades. 79 houses and 86 façades have no projection (Table 4.29). The houses examined in the inventory table 1 and 58 were corner parcels and it was found that there were projections on both sides (Figure 4.17).

Table 4.29: Projections analysis

	PROJECTION	**NO PROJECTION**	**TOTAL**
HOUSE BASED	15	79	94
FAÇADE BASED	17	86	103

Figure 4.17: Houses with projections on both façades (2019)

The projections are divided into two as open projections and closed projections (Figure 4.18). Open projections are balconies and closed projections are *cumba*s. When we examine the façade based, there are 6 open projections and 11 closed projections (Table 4.30).

Table 4.30: Projection types analysis

	PROJECTION TYPE		
FAÇADE BASED	OPEN PROJECTION (BALCONY)	CLOSE PROJECTION (*CUMBA*)	TOTAL
	6	11	17

Figure 4.18: Projection types – open projection, close projection (2019)

The projections in Lefke houses are straight or miter according to their forms. According to the position of the projection on the façade, it was found that there are types of projection along the façade and in the centre. When the projections are examined according to their forms and position on the façade, it is seen that there are 4 different types of façade arrangements (Table 4.31).

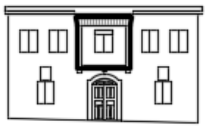
Table 4.31: Projection analysis by forms and locations

	STRAIGHT	**MITER**	**TOTAL**
CENTRE	13	-	13
THROUGH THE FAÇADE	1	1	2
SIDE	2	-	2
TOTAL	16	1	17

Façade arrangements with projections are classified according to the location of the façade and entrances on the façade. When the façade organizations of traditional Lefke

houses are examined according to the position of the projection and entrance door on the façade, 5 different façade arrangements emerged (Table 4.32).

Table 4.32: Entrance and projection relationship analysis

ENTRANCE DOOR LOCATION	PROJECTION LOCATION: CENTRE	PROJECTION LOCATION: THROUGHT THE FAÇADE	PROJECTION LOCATION: SIDE	TOTAL
CENTRE	 INVENTORY NO: 17 8			8
NEAR CENTRE	 INVENTORY NO: 32 4			4
SIDE		 INVENTORY NO: 58 (CONTINUE) 2	 INVENTORY NO: 67 2	4
NONE	 INVENTORY NO: 58 1			1
TOTAL	13	2	2	17

In the selected houses, the houses with the entrance and projection in the centre are the majority. There are eight façade organizations in this order. These façades have a symmetrical façade layout. There are four façades where entrance door and projection located to the right or left of the façade centre. There are two façades where the house entrance location on the side of façade while the projection extends throughout the façade. These façades have an asymmetrical façade layout.

There is one façade where the entrance and projection of the house is located on the side of the façade. This façade has an asymmetrical façade layout. There is one façade where the entrance of the house is on the side and has two projections on both sides of façade. This façade also has an asymmetrical façade layout. There is one house that has no entrance and projection in the centre. This façade has an asymmetrical façade layout due to the window alignments on the ground floor.

The projections add dynamism to the façade not only by their size and volume, but also by their decoration. In the houses examined, 4 of them have pediments (Figure 4.19). These pediments also covered with plain or decorated wood.

Figure 4.19: Closed projection types with pediment (2019)

4.3.8. Support Elements

Just as in the Ottoman houses, there are also support elements (buttress or consoles) in the houses that have projection in traditional Lefke houses. The most commonly used

support elements are usually wooden buttress using in closed projections (Table 4.33). The buttress are usually located on two sides of the under the projections.

Table 4.33: Support elements of projection analysis

PROJECTION TYPE	OPEN PROJECTION (BALCONY)		CLOSE PROJECTION (*CUMBA*)		TOTAL
	6		11		17
SUPPORT ELEMENT	**BUTTRESS**	**CONSOLE**	**BUTTRESS**	**CONSOLE**	
WOODEN	-	-	11	-	11
IRON	2	-	-	-	2
PLASTER	-	4	-	-	4

While wooden buttress are generally used for closed projections, iron buttress and plaster console are used for open projections (Table 4.34).

Table 4.34: Buttress and console examples (2019)

BUTTRESS	
WOODEN	IRON
	
CONSOLE	
PLASTER	
	

4.3.9. Façade Covering and Colour

The majority of the 103 façades studied were covered with plaster (Table 4.35). Other façade covering materials are gypsum plaster, stone cladding, plaster-brick, plaster-yellow stone, plaster-stone cladding, plaster-stone cladding-ceramic (Figure 4.20). The wooden covering type commonly used in traditional houses is not seen in Lefke houses due to climatic conditions.

Figure 4.20: Façade covering types (2019)

Table 4.35: Façade covering analysis

FAÇADE COVERING	FAÇADES
PLASTER	87
PLASTER - YELLOW STONE	8
PLASTER – STONE CLADDING	3
GYPSUM PLASTER	2
PLASTER - BRICK	1
PLASTER - STONE CLADDING - CERAMIC	1
STONE CLADDING	1
TOTAL	103

Façade covering according to the originality;

Original façade covering: 22 façades %22,
Altered façade covering: 81 façades %78.

Changes in façade coverings are usually in the form of renovation (Figure 4.21). There are also façade coverings that change with ornament, additional and material changes.

older version (AMM) new version (2019)

Figure 4.21: Façade covering renovation

Façade and façade elements according to the colour;

a) General in façade; white-brown, white-brown-yellow stone, white, white-brown-green, and white-green colour combinations were used.
b) Façade covering; white, grey and yellow stone,
c) Doors; brown, white, green and orange
d) Windows; brown, green, blue and white colours are used.
e) Brown, white, grey, blue, green and yellow stone are generally used as colour in façade and façade elements.

4.3.10. Roof Arrangements

Lefke houses generally have a gable roof. However, there are houses with shed and hipped roofs too (Table 4.36). In addition, it has been determined that some houses have more than one roof type.

Table 4.36: Roof analysis

ROOF TYPE	HOUSES
GABLE ROOF	68
SHED ROOF	10
GABLE - SHED ROOF	7
HIPPED ROOF	6
HIPPED - SHED ROOF	1
SHED - FLAT ROOF	1
FLAT ROOF	1
TOTAL	94

4.3.11. Other Façade Elements

Some façades are decorated with yellow stone exposed bond stone in the façade corners and door and window jambs (Figure 4.22). This form of ornament is a type of ornament belonging to the British period.

Figure 4.22: Examples of exposed bond stone at the corner and on jambs (2019)

The mouldings that add dynamism and enrichment to the façade were used in Lefke residential façades in three different places: under the eaves, between the floors (Figure 4.23) and the lower level of the projection. It was also found that some of the windows had eaves (Figure 4.24).

Figure 4.23: Moulding example located between the floors (2019)

Figure 4.24: Eaves above the some windows (2019)

4.4. Detected Interventions and Distortions on Façade

A deterioration is observed in the houses in the study area. User and climate-related deterioration manifests itself in different parts of buildings. The effects of user and climate conditions are more visible on the exterior and the mass. Changes in social life and functional differences bring about the change of physical structure of historical

cities. The fastest and most noticeable effect of these changes is seen on the façades of buildings.

In the analysis of originality situation on the façade, all physical changes of windows, doors, façade covering, and other building elements were taken into consideration. When examining these changes: the mass elements added to or removed from the structure and the façade elements are removed from the façade or the addition of a new element to the façade.

The deterioration of the façade is examined under two headings: the deterioration of the façade organization and the deterioration of the façade elements. It has been observed that the deterioration of the façade organization occurs in two ways as mass and façade integrity. These are mass changes such as breaking or adding a part of the structure that determines the general outline of the structure, changes in the plane of the plan and adding floors.

In the traditional Lefke houses, mass integrity and façade distortions are encountered in many houses and many different ways: using techniques and materials contrary to the original structure of the building (Figure 4.25), adding floors (Figure 4.26), and additions to the structure in the plan plane in forms and proportions contrary to the traditional texture (Figure 4.27), the addition of a balcony (Figure 4.28), demolition of the structure and make a reinforced concrete structure (Figure 4.29).

Figure 4.25: Use of techniques and materials contrary to the original structure of the building (2019)

Figure 4.26: Adding floor to the house (2019)

Figure 4.27: Additions to the structure in the plan plane (2019)

older version (AMM) new version (2019)

Figure 4.28: Renovation of the façade and the addition of a balcony to the interior façade

older version (AMM) new version (2019)

Figure 4.29: Demolition of the structure and make a reinforced concrete structure

Material and measurement distortions that occur on the surfaces of the houses are evaluated as deterioration of façade elements. According to this, whether the houses are original or not, depends on the deterioration rates of the house in terms of mass and façade. On the other hand, partial deterioration or changes in the façade covering, alteration of any of the façade elements such as doors, windows, buttresses, railings and balustrades do not mean that the originality is completely degraded.

The interventions and deteriorations in traditional Lefke houses in the context of façade elements are examined under two headings: solid-void oriented and material-oriented. The most changed façade elements on the façade are doors and windows. In the light of the information obtained in accordance with the analysis, changes and distortions were determined in the materials and forms of the façade elements of many buildings in the area.

The most common element among the façade elements is windows. The windows of traditional Lefke houses have lost their originality over the years. The changes seen with intensity in the windows are the interventions in which the joinery and wings are changed by keeping stable the voids of windows. Wooden windows, which is damaged, lost their functionality and worn, were replaced with aluminium and PVC windows in many houses. These changes distort the traditional and original appearance of the house (Figure 4.30). Another intervention in windows is the solid-void changes caused by adding (Figure 4.31) or removing (Figure 4.32) windows.

Interventions on the entrance doors, which are another important façade element, are mostly the changes that occur when the doors are changed as material. There are many examples in which the wooden doors seen in the majority of Lefke houses were replaced with iron and aluminium doors (Figure 4.33, Figure 4.34).

The façade covering of many houses was renovated due to the fact that it was damaged due to climatic conditions (Figure 4.35). Plaster and paint were used on the façade of most renovated houses (Figure 4.36). Another intervention in the entrance doors, windows and shutters is colour changes (Figure 4.37). Brown, green and blue colours are used in original wooden doors, windows and shutters.

older version (AMM) new version (2019)

Figure 4.30: Replacement of upper floor windows and shutters with non-original material

older version (AMM) new version (2019)

Figure 4.31: Transformed garage door to the windows

Figure 4.32: Transformed window to the balcony door (2019)

older version (Lefke Belediyesi, 2019c) new version (2019)

Figure 4.33: Replacement of garage door and shutters with non-original material

Figure 4.34: Use of materials of the doors and shutters contrary to the original structure (2019)

older version (Lefke Belediyesi, 2019c) new version (2019)

Figure 4.35: Renovation of two floor house façade with projection

older version (AMM) new version (2019)

Figure 4.36: Renovation of one floor house façade and colour changes of façade elements

older version (AMM) new version (2019)

Figure 4.37: Colour changes of door and shutter

5. CONCLUSION AND RECOMMENDATIONS

Traditional Lefke houses, which are under protection, are a cultural part of the city's architectural heritage. These houses bear the history of the region and the traces of the cultures it hosts. In this study, the street façades which strengthen the relationship of the house with the street and which are important for the whole mass were examined. As a result of the examinations carried out on the streets with a high density of traditional houses within the first degree urban protected area of Lefke town, a total of 94 houses and 103 façades were investigated.

As a result of data collection, numerical and typological evaluations on 94 houses and 103 façades, detailed results were obtained on the façade typology of traditional Lefke houses:

- Traditional Lefke houses are often built on the street boundary and usually in an attached order. As a result, the façades are shaped according to the street texture and the street texture is shaped according to the façades. Lefke shows a settlement type that is compatible with the topography with organic street texture as in Ottoman settlements.

- The houses in the region are generally single storey, but the number of two storey houses is quite high. However, due to the sloping structure of the land, it was observed that although the neighbouring two houses had the same number of floors, different eaves were formed. Floor heights in single storey houses vary between 2.2m - 4m, while in two storeys houses it is seen that it varies between 6m - 8m.

- Three types of entrance level were observed in the houses; one is at the same level as the road level, the second is the level raised in steps and three is below from the road level.

- Most of the houses in the selected area are registered houses. In addition, 36 houses are listed and 58 houses are not listed.

- Structural systems have been identified through observation, as house users are hardly accessible. As a result of the observations, it was seen that the majority of the houses examined were load-bearing.

- As a result of the analysis carried out considering the integrity of the façade, the houses were examined under four headings as good, medium, bad and partially damaged. Good and medium status houses are predominant in traditional Lefke houses.

- Investigated houses are still being used as houses while preserving their current functions. In addition, some houses are empty, some houses are in storage and some houses are in ruins due to neglect. As stated in the functional analysis of the Lefke town, the commercial and residential areas of the Lefke town are almost separate. Therefore, it is not possible to see the conversion of houses to commercial spaces due to its distance from the commercial area.

- In traditional Lefke houses where the houses are located in harmony with the topography, two different islands positioning can be seen as corner parcel (14) and intermediate parcel (80). The location of the parcel is one of the important factors affecting the façade layouts. When the houses were examined in terms of their approaches to each other, there different approaches were seen as attached, detached and semi-attached. The houses are located in the parcels, four types in the corner parcels and five types in the intermediate parcels. Regardless of how they are located in the parcel, almost all houses have a garden, even on one side.

- In traditional Lefke houses where the garden layout is important, the way of approach the houses are also affected by the phenomenon of garden. There are

three different approaches to house, from the street, from the garden, from both the street and garden. In addition, these entrances are straight, niche and outside stairhead in three different forms. The houses, which have direct entrances from the street and the façade plane, are the dominant type in the traditional Lefke houses.

- Entrance arrangements have been an important factor affecting the façade dynamism of houses. In traditional Lefke houses, the entrance doors are usually located on the street façade and in the centre of the façade. Therefore, many façades have symmetrical layout.

- The doors of the traditional Lefke houses, there are four different material types as wood, iron, aluminium and steel, and two different opening types as single and double winged. In order to illuminate the interior spaces where the doors were opened, transoms were used. The most commonly used entrance door type in traditional Lefke houses are wooden and double-winged have yellow stone jamb and transom. In traditional Lefke houses, the door ratio is 1/2.

- The type of garden door that prevails in the selected area is the single winged iron door. The ratio of garden door in houses is 6/7. Some doors are marked by yellow stone jambs. There are two types of door forms as arched and rectangular door.

- While arched doors are generally used in Ottoman architecture, there are rectangular doors with yellow stone jambs during the I. British period. In the II. British period, the lighting window was started to be used on the sides of the doors, not on the door. And the doors are rectangular form without jamb (Özay, 2005). The fact that there are too many door variations in the houses in the selected areas indicates that the periods were affected by each other.

- Another important factor affecting the façade dynamism is windows. In Lefke, wooden, iron, aluminium and PVC windows according to the materials ; winged, sliding and guillotine windows according to opening types; horizontal, vertical and square windows according to the size are available. The most common type of window used in traditional Lefke houses are vertical wooden winged windows. Traditional Lefke houses have a window ratio of 4/5.

- Shutters are used in the windows for security and protection from climatic conditions. Shutters are divided into two; wood and aluminium shutters. All types of shutters are double-winged. The most common shutter type used in traditional Lefke houses is wooden double winged. Some of the windows are surrounded by yellow stone jambs and added richness to the façade. In addition, dynamism on the façades is provided by jamb ornaments, eaves, support elements and moldings. Yellow stone jamb and large, horizontal and vertical split into a large number of vertical windows are one of the prominent features of the windows of the II. British period (Özay, 2005).

- While typological classification of houses façades, it is divided into two basic classes with and without projection. The façade arrangements in the projection houses were examined according to the location and geometric shape of the projection. 86 façade is in the form of straight façade without projection. The most common type with 29 examples in straight-façade houses was the arrangement with one floor and the entrance from the façade centre. All of these façades are almost all symmetrical. The projections are divided into open and closed projections. During Ottoman and I. British period houses used in the *cumba* whereas during the II. British period, used in the balconies or the *cumba*s turned into balconies. In this way, it is concluded that it can be benefited from the projections about which house belongs to which period.

- It has been determined that 17 houses have projection on the street façade. The most commonly applied model in such examples with 8 examples was the

arrangements where projection and entrance were at the centre of the façade. In traditional Lefke houses, the most common projection type is closed projection with wooden buttress. In the most common projection façade arrangement type, the projection and entrance door are in the centre.

- Gable roof type is mostly used roof type in the traditional Lefke houses.

- Façade coverings are generally in the form of plain white plaster or paint over plaster. On the other hand, yellow stone, plaster - yellow stone, stone, plaster - stone façade coverings are also seen in houses façades.

- When the houses are examined in terms of colour, white, gray and yellow stone colours are generally used in the façade. Brown, green, blue, white in the windows and brown, white, green and orange in the doors are frequently used. These colors used in the façade were then painted by the users. When the façade is examined in general, white-brown, white, white-brown-yellow stone, white-brown-green, white-green colour combinations dominate the façade.

- In Lefke houses, which are generally built in attached order, the façade decoration is seen mostly on the street façade. Façade decorations are attracted attention in moldings, door and window jambs and decorative stone ornaments.

- Electrical panels, stoves and ventilation chimneys and air conditioning motors on the house façades affects the façades to a small extent in physical and visual appearance.

Traditional Lefke houses show the characteristics of the Ottoman Houses in general, while the façade decorations and façade elements are influenced by the British period. When it is examined in the context of the distinction between urban and rural houses built for Cyprus houses, it is observed that it shows the characteristics of two types of houses. However, it mainly showed the characteristics of urban houses.

The houses in Lefke are mostly influenced by natural causes such as weather conditions. It has been determined that attached houses affect each other and are more easily damaged than detached houses. When the factors such as unconscious intervention and attrition caused by human effects are added to natural causes, it becomes inevitable that the structures will be worn out. The random and contradictory renewal of the façade elements such as doors, windows, plaster and paint, which succumbs to time, damages the historical identity of the city and the building.

In order to transfer to the future generations and protection of Traditional Lefke houses with their multicultural identity, certain attitudes should be followed in physical and social context. User requirements and comfort are extremely effective in maintaining the originality of traditional houses. Therefore, in all kinds of repairs and new arrangements to be made in the houses, it should be paid attention to search for suitable solutions while making the comfort conditions of the houses suitable for contemporary living needs.

Each building should be protected by its own qualities, problems and opportunities. At the same time, protection problems should be seriously examined and provided with permanent solutions. The multi-storey buildings constructed with the new construction system in the area and which do not comply with the environment should be harmonized with the traditional texture. New structures to be constructed, should be built on the basis of the existing traditional houses and considering the rates. Floor height, façades and façade colour of new buildings should be compatible with the environment and texture.

The architectural elements of the buildings, such as wood, terracotta, stone, decaying or deteriorating, must be replaced with the same material in accordance with their original form. The deterioration of the plaster formed on the façade should be renewed in accordance with the original form by providing colour and material harmony. Façade paints should be made compatible with each other. Wear, loss of property and damages on mouldings, buttresses, façade coverings, doors and windows should be renewed in accordance with their original form. The façades should be made suitable

for the traditional texture by removing the façade elements added in the form and material contrary to the traditional texture features. The structures that are in good condition should be renewed with maintenance and cleaning, the structures that require simple repair with reinforcement and the structures that require seriously repair should be renewed by restoration. The competent local authorities for protection should be raise the awareness of public about the protection as soon as possible.

The existing settlement plans, plan organizations and façade elements of traditional Lefke houses should be documented with the help of drawings, photographs and tables and transferred to future periods. The historical development, general regional characteristics, social and economic order relations of the houses in the region have not been studied in detail by the experts. This study, which is important in terms of both urban history and the characteristics of the buildings, is important for the permanence of the buildings and should be done as soon as possible.

Necessary financial support should be provided for the structures in the protected area and for structures that may need to be protected in the future. Public opinion should be created for the protection of registered structures and the leadership and financial contribution of the public sector should be provided. As a result, the protection in traditional houses must be not only physically but also social.

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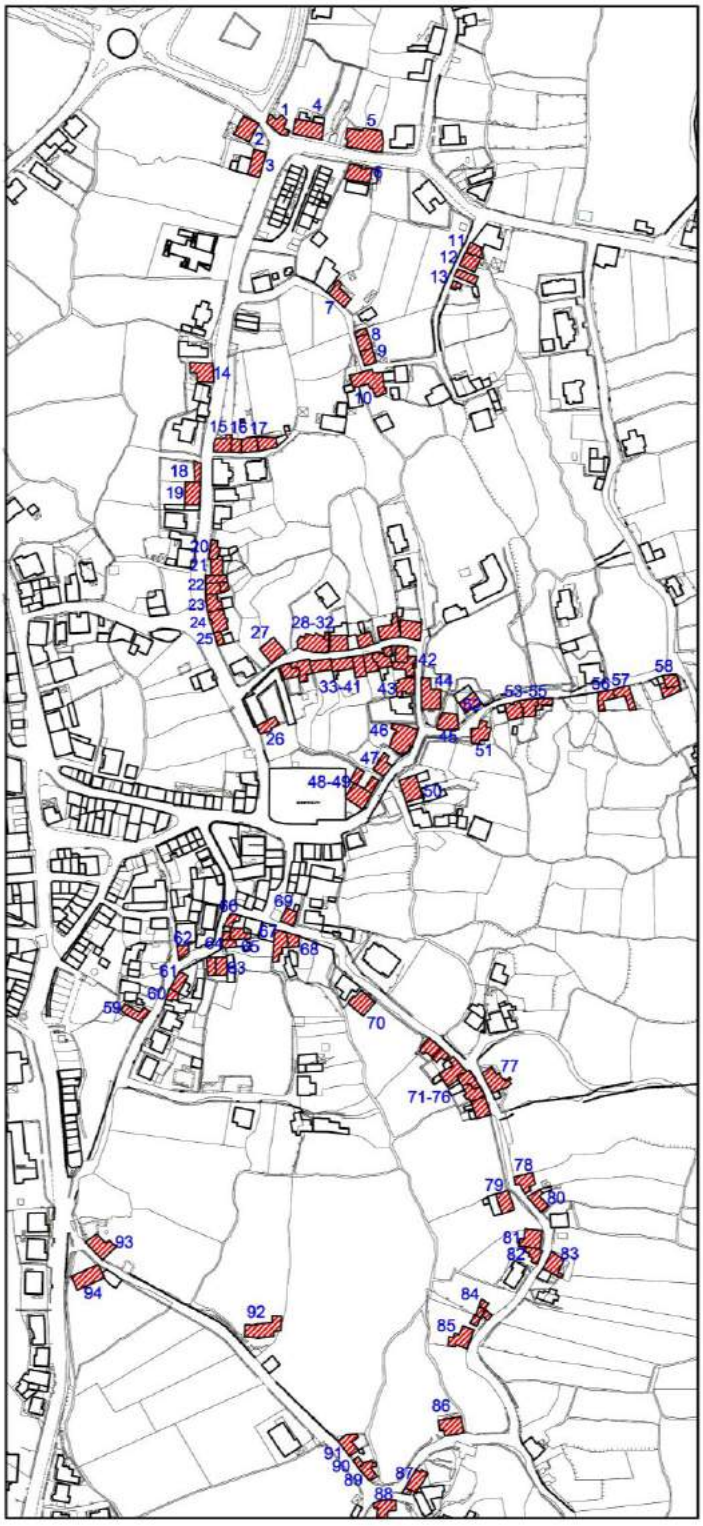
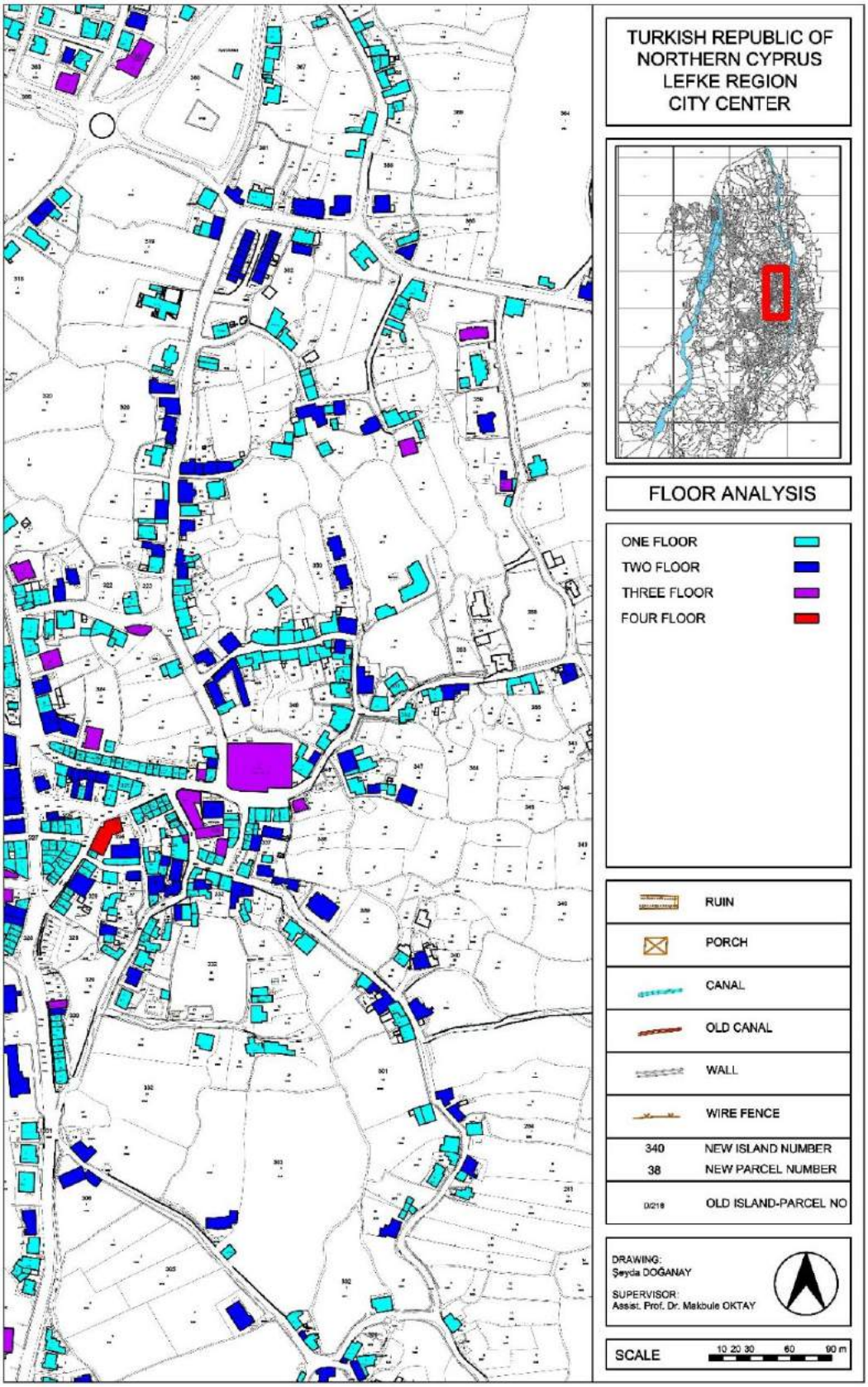
APPENDICIES

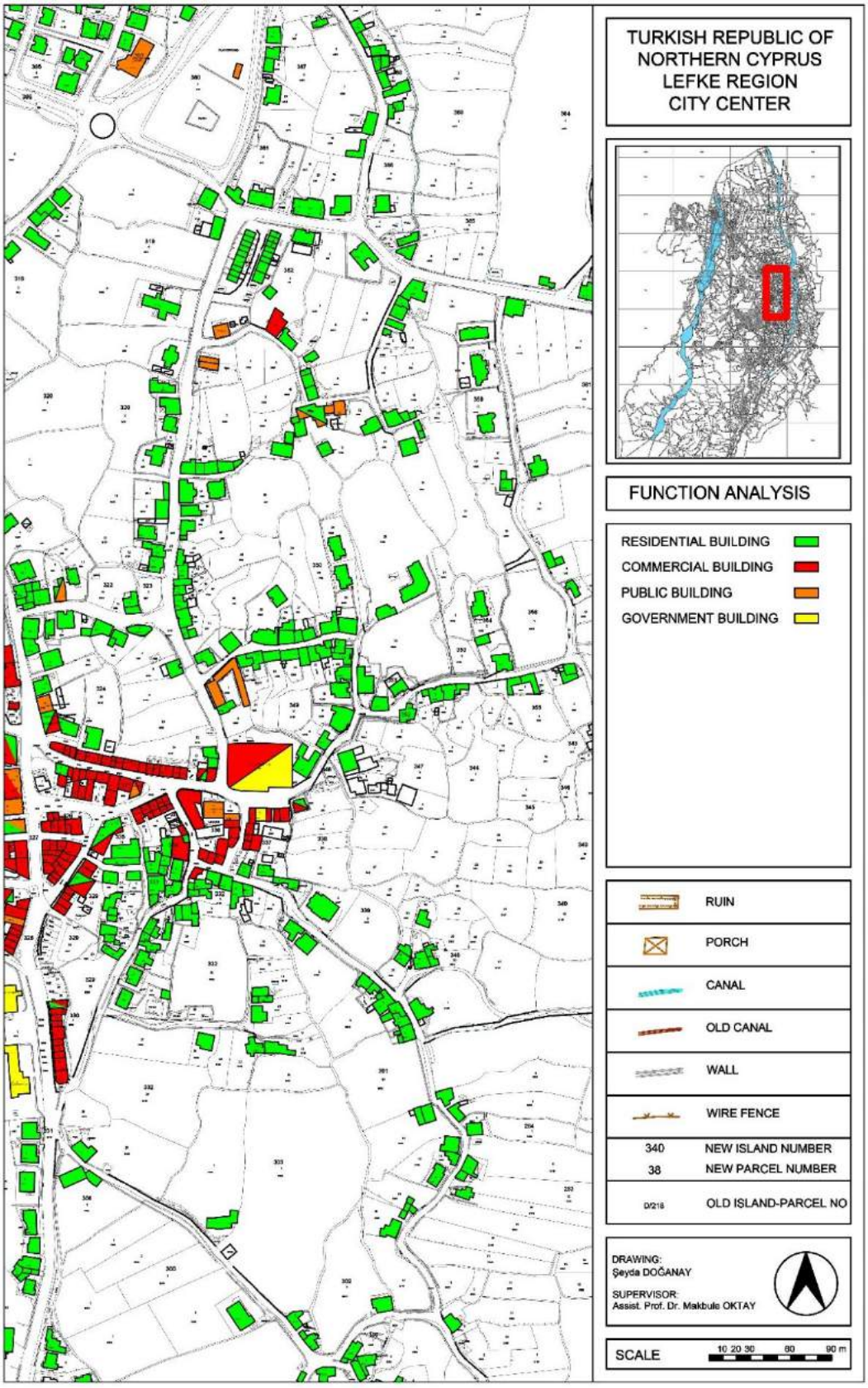
MAPS



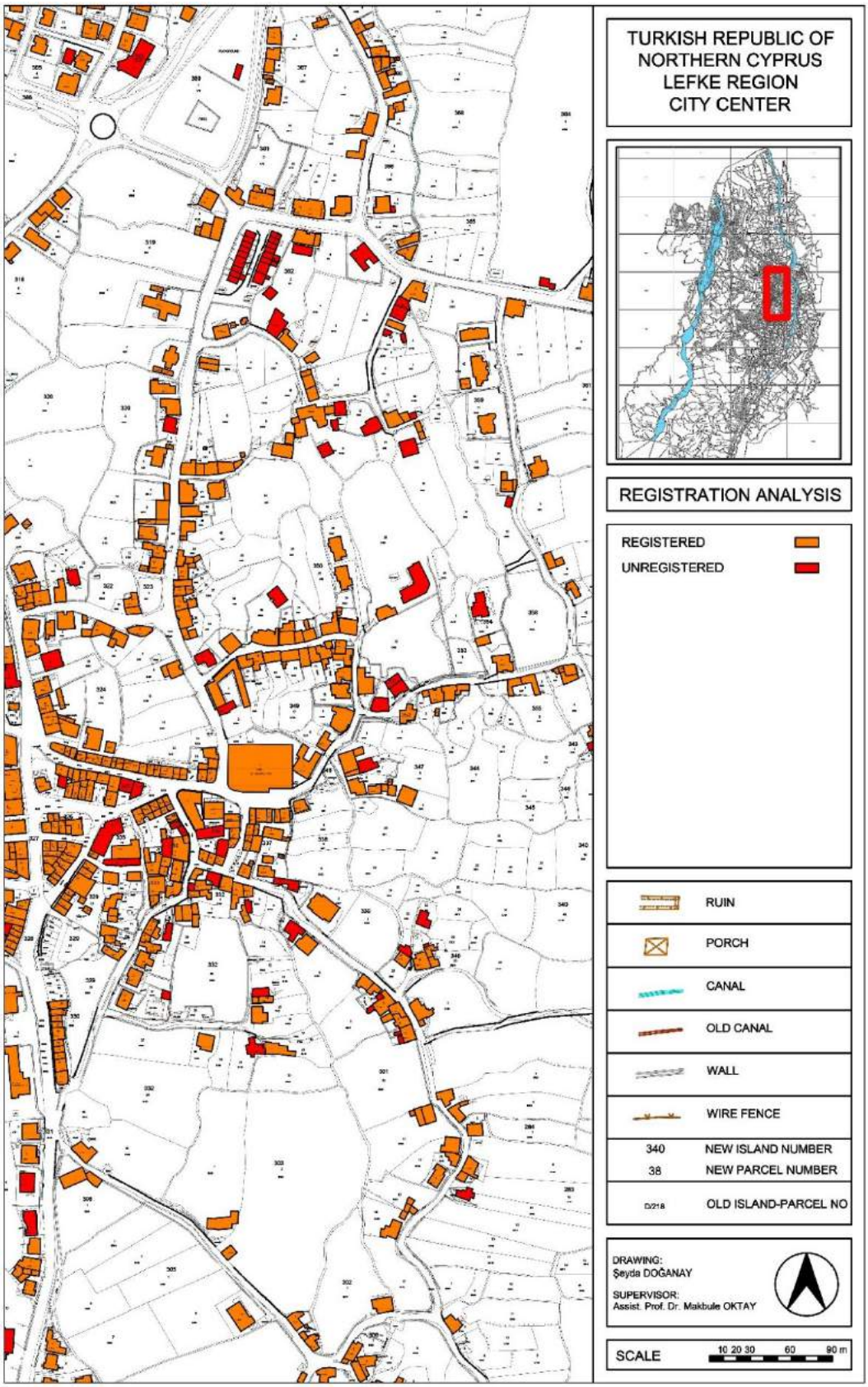
Map 1: Selected houses with inventory table numbers



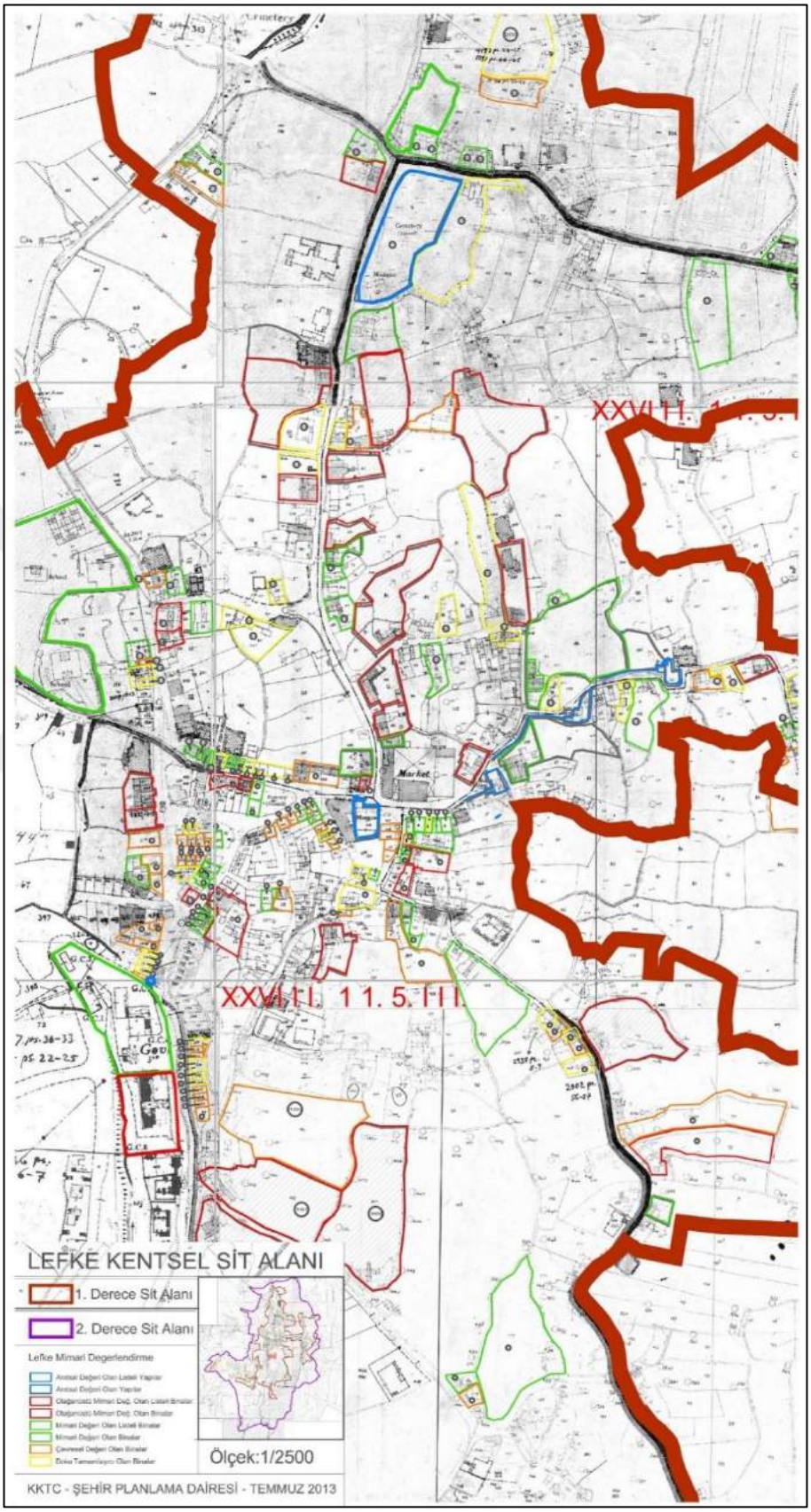
Map 2: Floor analysis of Lefke



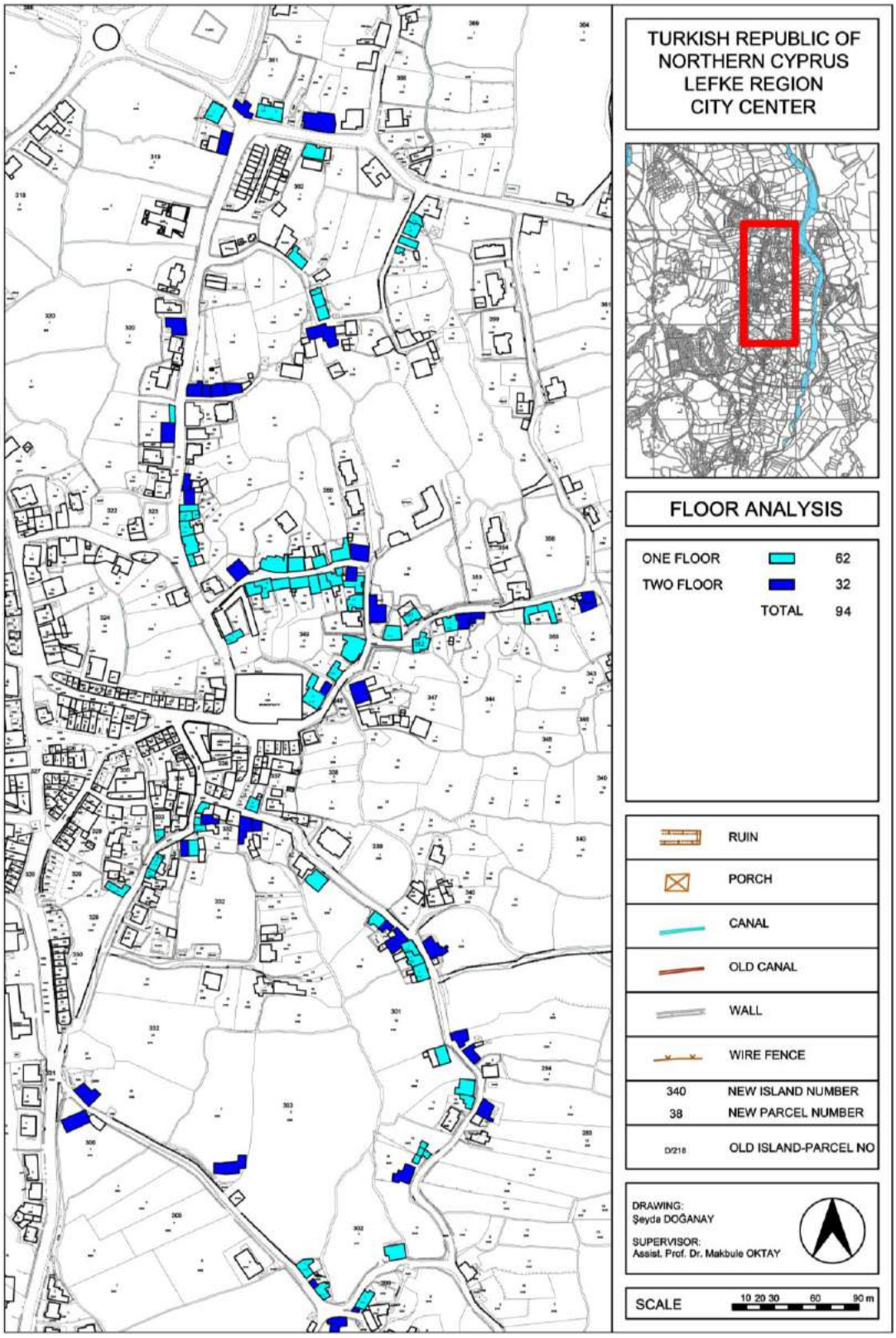
Map 3: Function analysis of Lefke



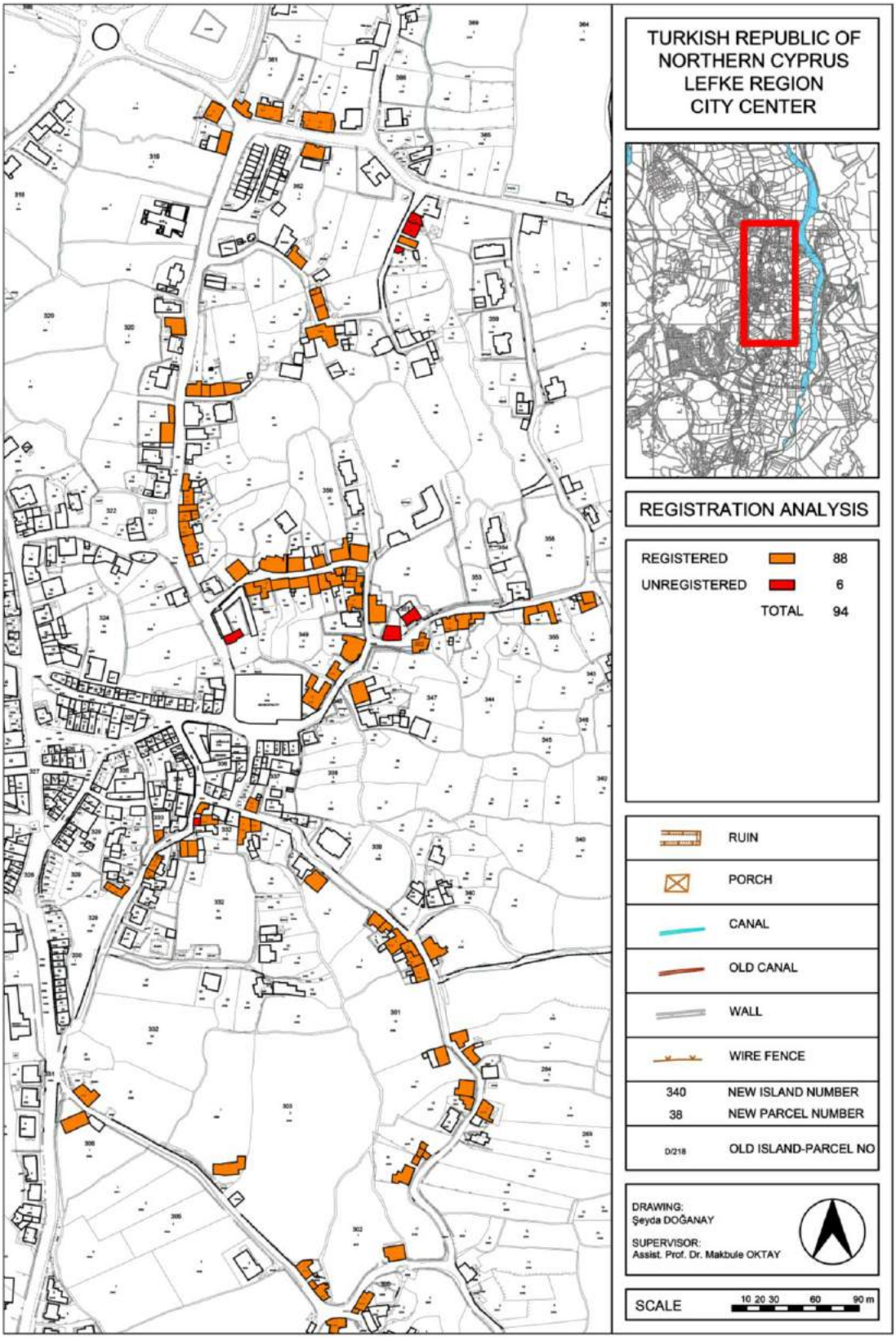
Map 4: Registration analysis of Lefke



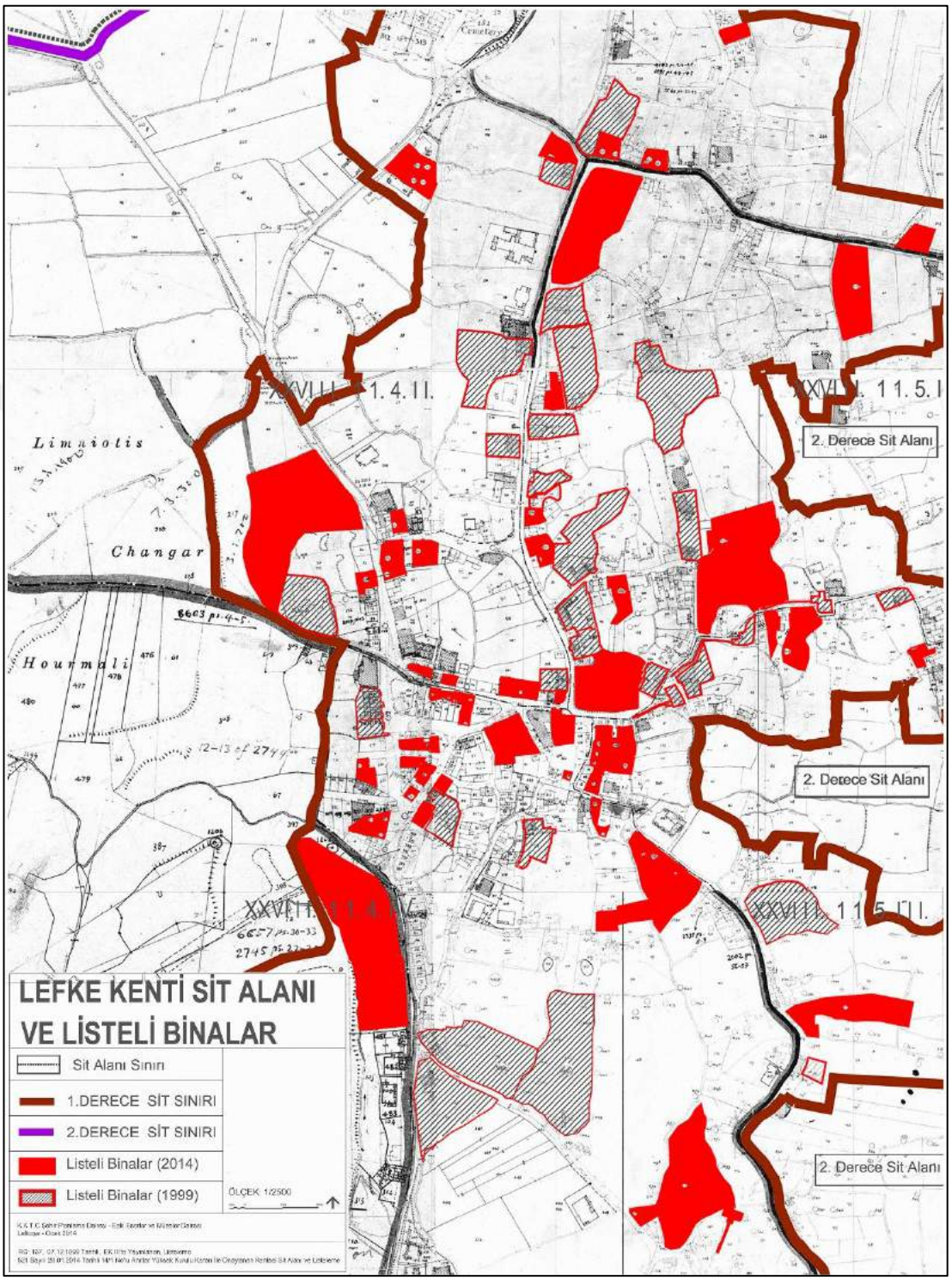
Map 5: Architectural evaluation on selected area (Archive of DUP)



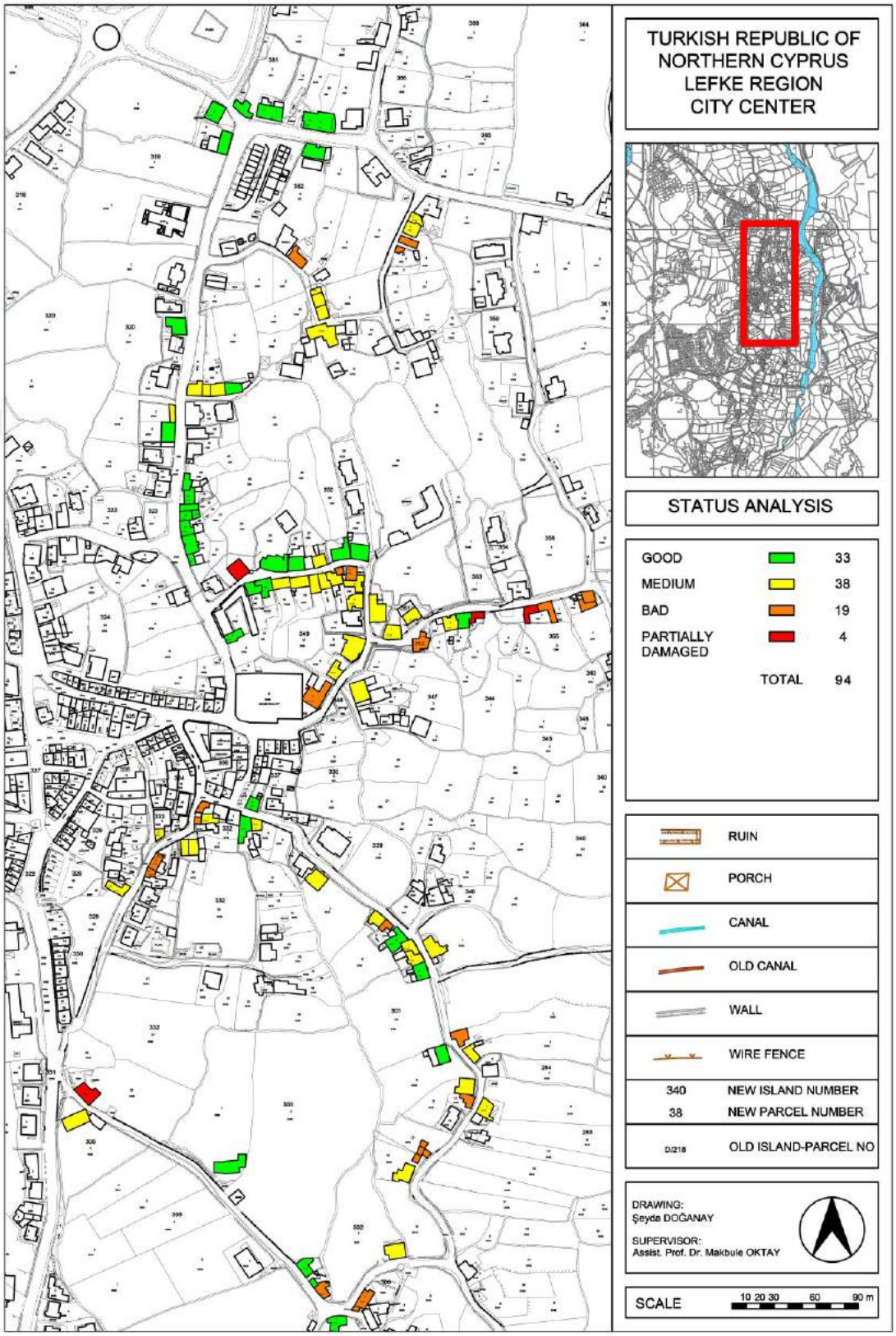
Map 6: Floor analysis on selected area



Map 7: Registration analysis on selected area



Map 8: Listed buildings in Lefke town (Archive of AMM)



Map 9: Status of buildings analysis on selected area