

# **Identification of Bungalow Houses in North Cyprus**

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## **ABSTRACT**

Colonial movements, which were continued for centuries, influenced the vernacular (local) architecture of regions, where they established, beside their cultural, economical, political effects. The colonizer either brings his/her architectural language totally to the colonized region or makes changes on the vernacular architecture of colonized region.

The main purpose of this research is identifying the constructed Bungalow Houses, which are originally belonging to the Traditional Vernacular Architecture of India, during the British Colonial Period in North Cyprus. In this respect, this study includes mainly seven chapters.

First chapter is an introduction, which will provide fundamental information about the study. The definition of subject, the aim of the work, used research methods and techniques, limitations of the study will introduced in this chapter.

In the second chapter, the meaning and the history of ‘colonization’ will be discussed in general. In addition, British colonization system will be focused and discussed in terms of management and architecture.

The general overview on Bungalow Houses will be provided in the chapter three. The meaning of the term ‘Bungalow’, the first user and usage of it will be described. Also, the history of British Colonization in India and the effects of this process on the Bungalow Houses will discussed and finally, the story of spread of this house model to the world will explained.

The fourth chapter deals with the British Period in Cyprus. The history of establishment of British colonization on the island and the whole period (1878-1960) will be explained in terms of political and administrative issues at the first part of this chapter. Then, the evolution of built environment in Cyprus during the British Period will be discussed in general.

In the next chapter, the emergence and development of Bungalow Houses in North Cyprus will be identified in terms of spatial organization, formal configuration, uses of spaces / functional analysis, building materials, construction / structure techniques and environmental issues.

In the sixth chapter, the features of Bungalow Houses in North Cyprus will be compared with the features of Bungalow Houses in general in the light of the previous chapter.

**Keywords:** Colonialism, British colonization, British colonial architecture, Bungalow Houses, N. Cyprus

## ÖZ

Yüzyıllardır devam eden koloni hareketleri, koloni haline getirilen toplumlar üzerindeki kültürel, ekonomik ve politik etkilerinin yanısıra, o topluma ait yerel mimari dili de direkt olarak etkilemektedir. Bu etkileşim, diğer bölgelerden koloni haline getirilen topraklara gelip yerleşen kişilerle birlikte gelen farklı mimari anlayışla gerçekleşebilmekte ya da gelen kişilerin halihazırda o bölgeye ait mimariyi kendilerine uygun bir hale dönüştürmeye çalışmasıyla olabilir.

Bu çalışmanın ana amacı, mimari kimlik olarak Hindistan yerel mimarisine ait olup, İngiliz Dönemi'nde Kuzey Kıbrıs'ta inşa edilen Bungalov Evler'in incelenmesidir. Çalışma yedi ana bölümden oluşmaktadır. Giriş bölümünde, çalışmanın konusu, amacı, kullanılan araştırma yöntem/teknikleri ve kısıtlamalar anlatılmaktadır.

Çalışmanın ikinci bölümünde, sömürgeciliğin tanımı ve tarihi yapılan teori çalışmalar çerçevesinde anlatılmaya çalışılmıştır. Buna ek olarak, İngiliz sömürgeciliği idari ve mimari açıdan daha detaylı bir şekilde tartışılmıştır.

Üçüncü bölümde Bungalov ev tipi detaylı olarak tartışılmıştır. Kelime olarak ne anlama geldiği, bu ev tipini ilk kimlerin kullandığı ve kullanım şeklinin nasıl olduğu görsel dökümanlardan faydalanarak anlatılmıştır. Ayrıca, bu bölümde Hindistan'da kurulan İngiliz Sömürgesi'nin bu konut tipi üzerindeki etkileri incelenmiş, Bungalov evlerinin dünyaya yayılma hikayesinden bahsedilmiştir.

Dördüncü bölüm, Kıbrıs'ta İngiliz Sömürge Dönemi'nin genel olarak anlatıldığı bölümdür. Bölümün ilk kısmında, 1878 ve 1960 yılları arasında kalan dönem politik

ve ynetimsel aıdan incelenmektedir. İkinci kısımda ise adanın bu tarihler arasında mimari aıdan gelişimi belirli başlıklar yardımıyla (altyapı, konut ve idari yapılar) incelenmiştir. (başlıklar, bu dönemde uygulanan projelerin yoğunluğu dikkate alınarak belirlenmiştir)

Beşinci bölüm, Kuzey Kıbrıs'ta seçilmiş altı adet Bungalov konut tipinin mekansal organizasyon, biçimsel organizasyon, fonksiyonların analizi, kullanılan malzeme, yapı/strüktür teknikleri ve çevresel sorunlar açısından incelendiği bölümüdür.

Üçüncü bölümdeki yapılan çalışmadan faydalanarak, Bungalov evlerinin genel olarak mimari özellikleri altı madde halinde belirlenmiştir. Bunlar; tek katlı müstakil yapı, merkezi giriş holünün bulunması, simetri plan organizasyonun bulunması, yarı açık veranda, yükseltilmiş zemin seviyesi ve eğimli çatıdır. Beşinci bölümde Kuzey Kıbrıs'taki Bungalov evlerin incelenmesinden sonra elde edilen sonuçlar doğrultusunda, genel olarak Bungalov evleri ve adada inşa edilen Bungalov evleri altıncı bölümde karşılaştırılmıştır. Karşılaştırma sonuçları değerlendirilmiş ve yorumlanmıştır.

**Anahtar Kelimeler:** Sömürgecilik, İngiliz sömürgeciliği, İngiliz sömürge mimarisi, Bungalov Evleri, Kuzey Kıbrıs.

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# Chapter 1

## INTRODUCTION

The colonialism, which lasted for centuries and is still ongoing on the world, affects the social, economical, political structure of countries, where it is established. Dominate the others was not the meaning of the colonialism at the beginning. The meaning of it was a settle a somewhere else to have a better life in terms of economic, politic, religious, etc. at the beginning (Young, 2006 in Tozan, 2008). However, later colonialism has gained a new understanding with the start of Age of Enlightenment period. The necessary technical staffs were invented to achieve the other geographies on the world. After this period, economic benefits were the first aim of the establishing colonization for the powerful countries. In addition, the architecture was one of the factors that affected by colonialism directly or indirectly. It is known that, architecture affects and is affected by many things such as cultural, economic, political, social and lifestyle. Parallel with the colonialism, colonial architecture was started to be mentioned. It is described as “An architectural style from a mother country that has been incorporated into the buildings of settlements or colonies in distant locations.” (URL 1)

Throughout the history, the Island Cyprus was kept under control by many rulers. Phoenicians, Assyrians, Egyptians, Persians, Hellenics, Romans, Byzantines, Arabs, Franks, Genoeses, Venetians, Ottomans and finally British were the rulers of the island throughout its history. Due to the architecture in Cyprus reflects the many



variations. Each of those civilizations introduced their own cultural and architectural contribution to the island. British period was the last the colonial stage in the island. Thus, it is possible to observe different architectural products in different architectural understanding all around of the island beside the local vernacular architecture of Cyprus.

Cyprus was a colony of British between the 1878 and 1960. Considerable improvements observe in infrastructure at the beginning of British Period in Cyprus. Also, improvements related with education, agriculture, ports, urban, architecture and conservation observe in the following years. British Colonial Architecture, which is one of the unique architecture on the island, had been occurred because of the characters of applied projects in the field of architecture.

Bungalow House Model, which was also became a colonial architectural product in India by British, is one of the constructed house models during the British Colonial Period in Cyprus. This study explores the history and story of bringing and construction of Bungalow House model.

## **1.1 Problem Statement**

The Bungalow House model is belonging to the traditional vernacular architecture of India originally and the term “Bungalow” is derived from ‘Bangla’, which described the temporary Indian structure (Glover, 2004). Then, the word ‘Bangla’ was Europeanized in the 18<sup>th</sup> century and called ‘Bungalow’ in 1784 (King, 1984). It was describing the form and name of one unique house model.

Due to British colonialism, new inhabitants (commercial and governing class) from the Europe were arrived to India. Indigenous peasant dwellings were transformed and improved to meet the requirements of new comers. As a result of this, Anglo-Indian Bungalow, which is new type of Bungalow House, was created. This model was spread to different British Colonial countries by Public Works Department of British Government (King, 1984).

High rent prices were problem for British officials until the 1920s in Cyprus and houses only provided for British most senior officials. To solve this problem Joseph Gaffiero and Martin Gimson started to work on designing houses on behalf of the PWD. Bungalow type house model was one of the constructed houses by PWD (Schaar *et all*, 1995).

Bungalow Houses, which can named as a colonial product of British colonization in India, were constructed in another one of the colonial countries of British Empire (Cyprus).

Unfortunately, there was not sufficient detailed information about the Bungalow houses in Cyprus. All the researches were mentioning about the British Architecture in general, not studied in depth.

## **1.2 Aims and Objectives**

The main aim of this study is to identify the Bungalow Houses, which were constructed during the British Period in North Cyprus, through the learning from general characters of colonial architecture in the island and the general features of Bungalow House in its native form. This identification is carried out under this headings; spatial organization, formal configuration, use of spaces/functional

analysis, building materials, structure and construction techniques and environmental issues.

This study includes main objectives. First, the understanding of the general characters of the British Colonial Architecture in Cyprus; second, the determination of features of Bungalow Houses in general; third is the identification of Bungalow Houses in North Cyprus and finally the comparison of Bungalow Houses in North Cyprus with Bungalow Houses in general. In particular, it is going to be answered the following research questions;

- What are the general features of Bungalow House in its original form?
- What are the identities of Bungalow Houses in North Cyprus?
- What are the similarities and/or differences between Bungalow House in N. Cyprus and Bungalow Houses in general?
- What are the reasons behind them?

### **1.3 Research Methodology**

Literature survey, field study, observation, taking photos and conducting sketches are the data collection methods in this study. All the stages have done according to the problem of the study. Books, E libraries, magazines, journals and articles are used for literature survey. Colonialism, British colonization, colonial architecture, British period in Cyprus and Bungalow Houses are interrogated in the literature survey part.

The existence of Bungalow Houses in North Cyprus is determined and existing 6 houses in different places in North Cyprus have been visited and examined according to the requirements of prepared catalogue. (Fig. I- 1)

That catalogue includes the written information part about the house, which helps to identify the location, first usage, construction date/materials/techniques, considered environmental issues. Also, the physical features of the houses such as type of veranda, spatial organization, construction and structural details and materials are investigated by the helping of figures and drawings on the catalogue paper.

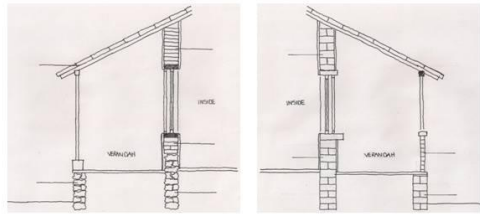
Master of Science in Architecture "Identification of Bungalow Houses in North Cyprus"			SPATIAL ORGANIZATION OF THE HOUSE	
EMU/ Department of Architecture by Gökhan Varol Date:.....			1. Dining Room 2. Hall 3. Bedroom 4. Drawing Room 5. Kitchen 6. Bath / WC 7. Store 8. Laundry 9. Dressing Room 10. Verandah 11. Others	
No:..... GENERAL INFORMATION ABOUT THE HOUSE				
Village / City Name: .....	First Usage of the House: ..... Worker's House ..... Statesmen's House ..... Others .....	Construction Technique of the House: .....	<b>STRUCTURE / CONSTRUCTION DETAILS</b>  	
Regional Location: .....	Considered Principles of the House: ..... Environmental Control ..... Topography ..... View ..... Others .....	Construction Materials of the House: Foundation:..... Outer Walls:..... Inner Walls:..... Ceiling:.....		
Date of Construction: .....	Original Owner of the House: .....	Building Materials of the House: ..... Cut Stone ..... Natural Stone ..... Adobe ..... Others .....		
Current Owner of the House: .....				
<b>TYPES OF VERANDAH</b> 			Extra Notes:.....	
Type A <input type="checkbox"/>	Type B <input type="checkbox"/>	Others <input type="checkbox"/>		
<b>ELEVATIONS / PHOTOGRAPHS OF THE HOUSE</b>				
Front Elevation	Rear Elevation	Side Elevation	Side Elevation	

Figure I- 1: Catalogue

## 1.4 Limitations of the Study

The first important limitation of this study is British Period in Cyprus, which is referring to the years 1878-1960. The development of built environment of the island during the British Period is investigated in general. In this thesis, the main focus is on Bungalow House type.

A geographical constraint form is the other important limitation for this study. Only the northern part of the island is taken into account while defining the cases. The other limitation in this research is the unnecessary of technical measured drawings as requirements of the study during the identification process of Bungalow Houses in North Cyprus.

## **1.5 Background of the Study**

Literature survey constitutes a large part of this study. As it is stated in the research method section, publications about colonialism, British period in Cyprus, Bungalow houses in general and Bungalow houses in Cyprus were investigated in this literature survey.

Since the many types of architectural projects (such as house, mass housing, administrative buildings, and schools) were constructed in British Period, their architectural identities are investigated generally. In this respect, the limited related studies of British Architecture in Cyprus are mentioned below.

Related to the thesis, Anthony D King's "The Bungalow - The production of a global culture" is considered as one of the fundamental resources in this field. It provides information about the history and story of Bungalow Houses in India. Moreover, it gives information about how this house model spread around the world and became a global product. However, it does not include any particular information about the Bungalow Houses of Cyprus.

The book, which is named as 'Under the clock - Colonial Architecture and History in Cyprus, 1878-1960' by Kenneth W. Schaar, Michael Given and George Theocharous (1995) was another important source for this study. It includes information about the

Public Works Department (PWD) employments and colonial government attitudes towards the architecture of the island during the period. Bungalow House type is mentioned in this book but not in detail.

Other doctoral dissertation is written in Turkish and named as ‘Bir sömürge modernleşme örneği olarak Kıbrıs’ta kent ve mimarlık (1878-1960)’ (Urbanization and Architecture in Cyprus as an example of colonial modernization) by Asu Tozan. In this study, the modernization process of island during the British Period was investigated in terms of city and architecture. The period was divided into three main parts as Erken Dönem (Early Period), Yoğun Uygulama Dönemi (Intensive Improvement Period) and Son Dönem (Late Period). The study provides information about the types of projects, which were applied during all those periods.

Şaziye Hafizoğlu’s ‘Stone Use in British Domestic Architecture in North Cyprus’ is an published master thesis, which is related with the usage of traditional stone in residential architecture. Unlike the previous study, the British Period in Cyprus was divided and investigated into two part as Early British Period (1878-1929) and Late British Period (1929-1960) in this study. Selected houses examples, which were constructed during the British Period in Cyprus, are examined. One of those selected cases was a Bungalow House, which is located in Famagusta.

In the light of discussions above, it is understood that, there is a limited detailed studies about the Bungalow Houses in Cyprus. In this respect, this research is developed to fulfill the necessities in this field.

## Chapter 2

# AN OVERVIEW ON THE COLONIZATION AND ITS ARCHITECTURE

### 2.1 The Meaning of the Colonization / Colonialism

The term “Colony” is originally derived from Latin word ‘*Colōnia*’, which is based on ‘*Colōnus*’ that was used to denote the colonist. Also, it was used to mention someone, who involved in agriculture (farmer) in 14<sup>th</sup> century (Tatar, 2009). The term of ‘colonialism’ used to describe the process of European settlement and political control over the rest of the world, including Americas, Australia, and parts of Africa and Asia in the *Stanford Encyclopedia of Philosophy* in 2006 (Kohn, 2006). Horvath explains the Colonialism as a “form of domination – the control by individuals or groups over the territory and/or behavior of other individuals or groups.” (Horvarth, 1972)

Beside this explanation, Horvath said that “The idea of domination is closely related to the concept of power.” (Horvath, 1972) The meaning of power which is mentioned in Horvath’s explanation is described as money by Parsons (Parsons, 1963).

According to the Ferro, colonialism includes some basic activities in terms of the occupation of another land, use of that land and getting benefit from it and bringing immigrants to the occupied land (Ferro, 1997).

Alfred (2009) has approximately same explanation with Ferro in his PhD thesis about colonialism and he explains colonialism as see the someones' native land as a source and also he mentions how people perceive the colonialism. He says that racism, taken away of certain rights, wardship and dependency are perceived as a meaning of colonialism by most of the people (Alfred, 2009).

Tatar explains the meaning of the word 'colony' as, the use of any kind of economic resources such as land, potential of labor, in an unacceptable way by other powerful states (Tatar, 2009). This defines the fact that, the main factor of this process was economic conditions. Man and animal power, the natural resources, geostrategic position and market potential of exploited region are very important.

Raimondo (1957) explained colonialism as a fight between the civilized societies and non-civilized societies (Raimonda, 1957).

In other words, Jürgen Osterhammels explains the 'colonialism' in his book titled as *Colonialism: A Theoretica Overview*, as: "Colonialism is a relationship between an indigenous (or forcibly imported) majority and a minority of foreign invaders. The fundamental decisions affecting the lives of the colonized people are made and implemented by the colonial rulers in pursuit of interests that are often defined in a distant metropolis. Rejecting cultural compromises with the colonized population, the colonizers are convinced of their own superiority and their ordained mandate to rule." (Osterhammels, 2005)

## **2.2 A Global Overview on the History of Colonialism**

"Every major and minor civilization has sought to extend its borders and influence." (Horvath, 1972) In different periods of history, most of the communities adopted that



kind of intension for sustaining their future. As it is mentioned in the previous section, colonialism has a very long history which is based on ancient times. According to the Raimondo (1957), for the old colonial states, colonialism was basically based on agriculture. In those times, production depended to craftsmanship and manual labor potential in agriculture and all areas (Raimondo, 1957).

Dursun (1990) mentioned that, there is no possibility to specify the beginning date of the colonialism. Since the ancient times, it is possible to meet colonization movements. Some of the powerful ancient civilizations such as Egyptians, Persians, Phoenicians, Greeks and Romans established colonies during that time (Dursun, 1990).

With the beginning of ‘age of discovery’ in 15<sup>th</sup> century, modern colonialism period started for Europeans (Eyicil, 2005). In his book, titled as *Sömürgeci Fransa’nın Tarihi* in 1991, written that, when the King of Kastilya (IV. Enrique) gave the Canary Islands to the Jean de Bethencourt as a fief, a real sense of colonialism had began (Ferro, 1997).

With the impetus of discoveries, sea transportation was provided by powerful states such as Kingdom of Spanish and Portuguese and adventurers started to go the south direction, especially through the west side of Africa (Eyicil, 2005). At the end of those journeys, adventurers reached to the coast of Africa and from there they reached to the South Asia and America. On those achieved lands, they established colonies (Dursun, 1990).

According to the Ferro (1997), in the years between 16<sup>th</sup> and 18<sup>th</sup> centuries, the relationship between the colonial states and the exploited communities was different. Unlike the present situation, there was a small difference and balance between them in terms of economic, military and technical issues (Ferro, 1997). They were founded by their's mother land and the connection between them was very close (Martin, 2000).

At the end of Middle Age, a great revolution occurred in Europe era. The invention of gunpowder, printing machine and the emergence of Bourgeois class caused the start new period in Europe which is called Renaissance. Many machines were invented in that period and factories were now more prominent; it can be said that machine civilization appeared. However, by the developing of Industrial Revolution in 18<sup>th</sup> century, the way and the meaning of colonialism started to gaining different meanings (Raimondo, 1957).

Francis Bacon, was an English philosopher, statesman, scientist, jurist, and author, explained his opinions and concerns about these invention; "Let's examine the invention of printing machine, gunpowder and compass. They are all changed the appearance and conditions of the world. The first one had influence in the literature, the second one had influence in the military and the third one had influence in the maritime field. Other changes and inventions occurred after those main revolutions. That inventions effected everything on the world with their's power." (Raimondo, 1957)

As it is mentioned before, the main reason behind colonialism is economic factors. During that process, some problems such as having over production and raw material

appeared. In order to overcome these problems, developed states have to find new lands to achieve new raw materials and they have to find new market places to sell the products to carry on their industrial development (Armaoğlu, 2010). Especially, Europeans preferred to establish a colony on places, where the population was sparsely and tending to be poor because of the disease climates (Lange, Mahoney, and Hau, 2006).

In this period, Europeans were thinking that, they are the only civilization on the world. They see other communities as barbarians. They did not have gunpowder, spinning machine, etc. That is why, they select the region, where they will have colony, from the undeveloped societies (Raimondo, 1957).

On the contrary, they introduce the word *colonialism* to the rest of the world as a helping and contributing activity on the weak societies for their developing (Armaoğlu, 2010).

Jules Ferry, who was French statement, mentioned his idea about this new tendency in Europe; “Colonial policy is the child of the industrial policy. Exportation is the basic factor to create welfare community for the rich and powerful states [...] If they could achieve any order in Europe, they would not need to find new market places to sell their products. However, each state in Europe wants to produce thread, forge iron, distilled liquor, produce sugar and export all those produced goods to another communities.” (Ferro, 1997)

Armaoğlu in 2010 says that, in this colonization process most of the European countries followed the England because, it was the good example in this process. In

19<sup>th</sup> century, England was full industrialized and they had strong relationship with other countries. In that period, England was a first state, which improves industrialization initially. Other states were following this movement because of the fact that establishing colony at the other country was becoming a first rule to be powerful state (Armaoğlu, 2010).

During the 19<sup>th</sup> century, Africa and Far East were popular regions for Europeans to establish a colony (Armaoğlu, 2010). Local peoples were migrated permanently from the European regions to the colonized regions such as Latin America, North America, Australia, New Zealand, Africa and the Asia (Horvath, 1972). According to the studies, this migration from Europe to another places, affects the contemporary growth ratios and democratic survival of local societies. In addition to this, orientation of new comers (colonizers) changes the socioeconomic and cultural structure of the societies (Lange, Mahoney, and Hau, 2006).

Geertz described the European colonization as “the imposition of economic and political control of European societies on non-western ones.” (Geertz, 1963)

Acemoglu et al. (2001) mentioned that, percentage and way of settlement were a very important in the colonies for the European colonization because, type of institution, which was established there, was defined by that percentage of settlement (Acemoglu et al, 2001). Angeles (2006) divided the colonies into three groups according to the percentage of European settlers to total population during the colonial periods (Angeles, 2006).

That division is listed as:

1. *New Europes*: Where the most of the population is formed by European settlers.
2. *Settler Colonies*: Where the large minority of the total population is constituted by the European settlers.
3. *Peasant Colonies*: Where the small minority of the total population is constituted by the European settlers. (Angeles, 2006)

After several important inventions, the difference between colonizers and colonized communities in terms of standard of living was growing steadily. Colonialism was not same anymore as how it was in the ancient times (Ferro, 1997).

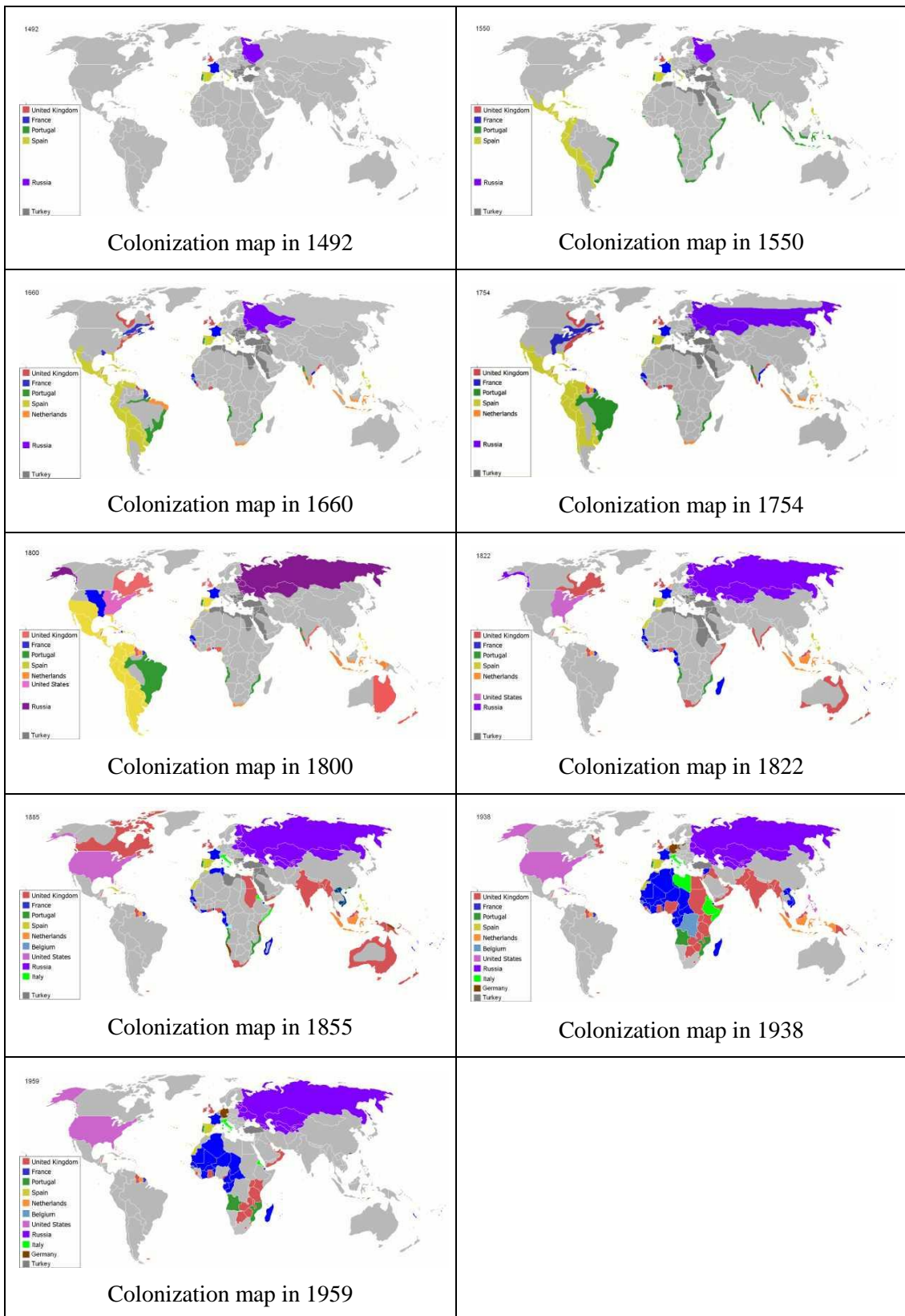
Cesaire in 1955 explained the situation clearly; “Between colonizer and colonized, there is room only for forced labor, intimidation, pressure, the police, taxation, theft, rape, compulsory crops, contempt, mistrust, arrogance, self-complacency, swinishness, brainless alites, degraded masses. No human contact, but relation of domination and submission which turn the colonizing man into a class-room monitor, an army sergeant, a prison guard, a slave driver, and the indigenous man into an instrument of production.” (Cesaire, 1955)

It must be said that, colonial events, which had been done in the past and still continuing today, is a major reason behind the large inequality between the today’s powerful and less powerful countries. In other words, colonial history and experience of each today’s developing states is directly related with economic evolution (Angeles, 2006).

Also, European colonialism had important effect on non-European countries. It caused a considerable changes in levels of improving in those non-European world (Acemoglu, Johnson, and Robinson 2001, 2002; Engerman and Sokoloff, 2002 in Lange, Mahoney, and Hau, 2006).

The process of colonization (from the 1492 to 1559) in a global scale is shown below. (Table II- 1) As it is seen from the picture, this process began with the capture of a large part of the coast of Africa, India, and South America by the Portuguese. Then, colonial movements continued over the years and especially the continent of Africa was colonized by many powerful European states.

Table II- 1: The process of colonization in a global scale



After  
(URL 2)

## **2.3 Focus on British Colonization: General Characteristics of British Colonial Administration**

Before mentioning about the general characters of British Colonial Administration, it will be more helpful if the two ideal types of model of colonization are explained as (Lange *at all*, 2006); *Mercantilist model* and *Liberal model*. Lange, Mahoney, and Hau (2006) defined those two models in their article;

“A *mercantilist model* organizes productive activity to obtain national economic self-sufficiency and short term gains through favorable trade balances and the accumulation of precious metals.” (Heckscher, 1935 in Lange, Mahoney, and Hau 2006) “A *liberal model* organizes productive activity toward maximizing profit through Exchange in free markets.” (cf. Wallerstein, 1974; Roemer, 1982 in Lange, Mahoney, and Hau 2006)

From the beginning of the colonialism, British always adopted a liberal colonialism understanding. That is why, English colonialism provided better situations and results in comparison with others. The main reason of this real on is adaptation of a high levels of personal freedom and British legal institutions/establishment were provided by British culture (Hayak 1960, Lipset 1993, North 2005, LLSV 1998 in Lee, Schultz)

British colonization is one of the oldest colonization states and they accept their colonies as the business area or administrative area. Due to this perception, they appointed administrators for those colonies from their empire land (Öze, 2011).



Lange, Mahoney, and Hau (2006) pointed out that, British colonialism have four different types in terms of management approach; *settler colonialism*, where the permanent settlers carried from the Britain, *indirect colonialism*, where they give chance to pre-colonial leaders maintain legal and political power, *direct colonialism* and *hybrid colonialism* are between settler and indirect colonialism. British established first colonies according to the settler colonies understanding (Lange, Mahoney, and Hau, 2006).

Also, Lange (2004) wrote an article about the British colonial rule, which was named '*British Colonial Legacies and Political Development*' and in this article, author mentioned about the management approach of British colonies; "...British colonies have historical roots and have been shaped by the extent to which they were ruled either directly or indirectly during the colonial period." (Lange, 2004)

In addition to this, Lange mentioned that, there were five determinative factors in British Colonies which shaped the form of rules (direct or indirect) (Lange, 2004).

The factors are listed below;

1. Presence or absence of large numbers of European settlers.
2. Strategic geopolitical importance of colony.
3. Economic potential of the colony.
4. Disease environment of the colony.
5. The presence of local population.

If the British colonialism was more extensive, a rule of law, competitive markets, and influential administration were introduced by them (Lange, Mahoney, and Hau, 2006).

## **2.4 General Characteristics of the Colonial Architecture**

“So many immigrants bring their architecture with them, and persist in its use even though it is often unsuitable for the new era in which they live.” (Rapoport, 1969)

Some of the countries were kept under control by many rulers throughout the history. As a result of this situation, the language of the architecture was changed and affected by settlers. As Rapoport mentioned above, settlers designed, constructed or re-used existing buildings according to their architectural style, opinion, beliefs, etc. to meet their needs.

Also, Rapoport mentioned that in his book which is named as House Form and Culture (1969), “The form of the house is affected by the extent to which one lives in it and the range of activities that take place in it.” (Rapoport, 1969)

With this sentence, he is mentioning that, the owner of the house and which kind of activities will take place in the house are very important factors which can directly affect the form of the house.

For example, Polaski (2012) is explaining the concept of colonial dwellings in the New England, which is name given to the northeastern corner of the United States of America, in an architectural way with these words;

“Colonial homes do not offer the wild design of Gothic Revival or Victorian dwellings, but they have a simple and enduring charm...Each culture added its own individualized touch to what has become a very popular style of dwelling.” (Polaski, 2012)

Polaski (2012) prepared a list which is listed below, about which culture designed homes in that region of USA in which architectural understanding;

- English Colonial homes were built using techniques brought by settlers from England. The basic designs were the Saltbox style and the Cape Cod style.
- Dutch Colonial homes added steeply pitched gambrel roofs, split doors or batten doors and chimneys on either side of the house.
- French Colonial homes reflected the artistic French culture, with tall, narrow Windows and doors, hipped or gabled roofs and shutters.
- Spanish Colonial homes are generally made of stucco with smooth adobe walls and chimneys and red-tiled roofs.
- Georgian Colonial homes added paneled doors with intricately carved crowns and columns, supported by hipped roofs and adorned with double-hung windows, crisscrossed into 9 to 12 small panes of glass.

Also, way of doing this colonial architecture was different in some of the colonial countries. In general, immigrants were bringing their dwelling types and constructed them with their hands and according to their cultural/traditional ideas. This situation was different in India; the immigrant's profile was different; they were merchants, officers, diplomats and traders, not settler. Because of this situation, social relations in the society were changed also. Castes started to be observed in the society. For example, Europeans began to see local Indian people as a 'potential labor' and when they constructed their dwelling, indigenous were working under the European supervision (King, 1984)

Local requirements were determining factors on the colonial architectural style as well. For instance, there is description about the requirements of local conditions of New England and Virginia in the *'Home Builders Catalogue'* in 1928 and it is written that: "As has been pointed out, local conditions play a tremendously important part in the shaping of an architectural style. Thus we see two different styles of Colonial architecture in New England and in Virginia and the South which are designated as New England Colonial and Southern Colonial. The difference in climate shows its effect upon the height of ceilings, high ceilings being required in the South because of the heat. The local supply of material accounts for the fact that, New England Colonial homes are almost invariably built of wood siding, while the discovery of excellent beds of clay in Virginia caused brick to become popular there." (Home Builders Catalogue, 1928)

In the same reference, Dutch Colonial Architecture is defined as; "While the term "Dutch Colonial" conveys a definite type of house to almost everyone, the name itself is misleading. "Dutch" does not refer to Holland and "Colonial" has no direct relationship with Colonial Architecture. This type of home takes its name from the Dutch Colonists who settled in the lower parts of New York and New Jersey. There they lived for many years in warm and cheery comfort. The Dutch Colonial house conveys to us this rich domesticity and love of good living." (Home Builders Catalogue, 1928)

It is possible to understand from this description that, it is not necessary having tangible architectural examples to define colonial architecture in some region. As it happened above, the users/settlers can create a colonial architecture as well.

## Chapter 3

# DESCRIPTION OF GENERAL CHARACTERISTICS OF BUNGALOW HOUSES

### 3.1 The Meaning of the Bungalow

The term Bungalow, both in name and form, was originated in the 17<sup>th</sup> century from the ‘*bangla*’ and was used to define the temporary Indian structure, which was a thatched hut in the 17<sup>th</sup> century (Glover, 2004).

In addition to this explanations, King (1984) mentioned that, in Hindi or Mahratti *bangla* means ‘of or belonging to Bengal’ (Yule and Burnell, 1903 in King 1984).

Kramer in 2006 wrote an article, which is *Applying the Lessons of Indian Vernacular Architecture*. In this article, author stated about the emergence and evaluation of Bungalow houses as well. Kramer said that, *bangla* was a thatched hut of indigenous people and the walls of it were constructed with mud. If the mud is not available in the region, they used to construct it with bunches of straw or mats formed by bamboo frame (King, 1984 in Kramer, 2006) (Fig. III- 1).

In addition to the explanations about the description of *bangla*, Ahmad (1994) said that, *bangla* had an enclosing verandah around it with curved roof at the ridge (Ahmad, 1994).



Figure III- 1: Peasant dwelling: sketches of the indigenous ‘banggolo’, 1813. Bengal,  
George Chinnery  
(India Office Library in King, 1984)

A European traveler Francis Buchanan described these native dwellings in 1810; “The style of private edifice that is proper and peculiar to Bengal, consist of a hut with a pent roof constructed of two sloping sides, which meet in a ridge forming the segment of a circle so that it has a resemblance to a boat when overturned... This kind of hut, it is said, from being peculiar to Bengal, is called by the native Banggolo[...] Where the materials admit, the walls of the hut are made of mud and the floor is always raised a foot or two above the level of the plain, but not always so high as to be above water in the rainy seasons; so that a platform of bamboos is then constructed at one end of the hut and upon this the family sit and sleep while they must wade through the mud to reach the door.” (Buchanan quoted in King, 1984 in Kramer, 2006)

Also, Buchanan mentioned that, “the poor man has one hut for himself and cattle, the richer men increase the number without altering the plan of the building.” (Buchanan quoted in King, 1984 in Kramer, 2006)



Figure III- 2: Peasant dwelling: materials and form. Chinnery’s sketches show two or three types of hut.  
(India Office Library in King, 1984)

King, in his study of the bungalow form, states that, these kinds of dwellings are frequently located in Bengal. However, in some cases it occurs in different way. He mentioned that, “... Whether the multiplication of the single, simple hut in the Bengal peasant household resulted from structural limitations of bamboo building materials or other cultural factors is not clear.” (King, 1984 in Kramer, 2006)

The reason behind multiplication of single hut in some region of Bengal, which is not clear in the explanations of Anthony King, is estimated by Kramer in his study. He points out that, climatic conditions of the area can be the main reason because, small huts create air movements between them in the humid regions of Bengal (Kramer, 2006). (Fig. III- 3 and 4)



Figure III- 3: Bangla model in rural Bengal (King, 1984)



Figure III-4: Pyramidal roofs clerestory, Vishnapur, West Bengal (Kramer, 2006)

Later on, the term of *bangla* was adopted by European in the 18<sup>th</sup> century. The word was started to be changed in this order; bungelow, bungelo (1711), bangalla (1747), bungalo (1780) and as a finally it was called ‘Bungalow’ in 1784 (King, 1984).

### **3.2 Effects of British Colonization on Bungalow House Type**

The official involvement of British Empire in the India began in 1600 with the establishing the East India Company to challenge the century-long Portuguese monopoly of the spice trade. (Fig. III- 5) This monopoly was broken by Dutch Empire at the end of 16<sup>th</sup> century. Also, this situation was a stimulus for other European countries about entering the Asian spice trade market (King, 1984).

In this time, beside the Dutch; Britain, France, Sweden and the Netherlands established a trading posts in India. In 1818, British completed the conquest in India effectively. From this date, British Empire had a right in the administration of India (Kramer, 2006), until the India’s 1947 Independence (Fracchia, 2006).

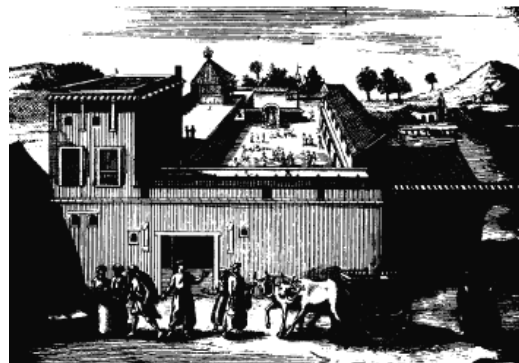


Figure III- 5: Factory of the East India Company, 17<sup>th</sup> century  
(King, 1984)

The East India Company was on the edge of East India in an urban area and it had fortified departments like offices, accommodations, and storehouses. It had newly constructed forts inside either for security purposes or in converted native buildings



(Kramer, 2006). Roberts in 1952 described the East India Company as “...where even the chiefs were rarely accompanied by their wives, and the others were not expected to marry... Meals were taken in common... there were daily prayers, and the gates were closed at stated hours.” (Roberts, 1952)

At the beginning of the British colonization in India, merchants were a large portion of British citizens and most of them served in that East India Company factory building. Before the mid-18<sup>th</sup> century, military was the main British community in India. Same as merchant’s life, they had a small defensible and communal settlement life (Kramer, 2006). (Fig. III- 6) When the military victories occurred in the mid-18<sup>th</sup> century, British in India started to look more than the goal of commercial exploitation (Harrison, 1999). Due to this expansion, the needs of new building patterns appeared in the interior parts of the country. New settlers started to make search about appropriate region to establish a new towns and to design house type for living in at the interior part of the India. Nangia mentioned about this exploration that, “A number of new towns and new suburbs were built to house the British, and the pattern of new town planning changed.” (Nangia, 2004)



Figure III- 6: British Territorial Annexations in India, 1797  
(Harrison, 1999)

The explanations of Smith in 1873 about British colonization in India are, “No Englishmen is a settler in India. We do not transport ourselves, our houses, and our modes of life to that country. We only go there for a term of years, and consequently, looking upon the whole thing as temporary, we put up with that which in a real colony would soon be superseded.” (Smith, 1873 in Scriver and Prakash, 2007)

As it is understood from the explanations of Smith, British settlers did not bring anything from the Britain. Economical, social and cultural changes were occurred. India was becoming a commercial center (King, 1984).

Before the colonialism, the routine daily life of local Indian people was supporting the family and village relations. They were raising, producing and gathering of local agricultural products (Shiva, 1989 in Fracchia, 2006). British administration applied what was common for other colonizations, to reform the social and cultural structures

in India; they focused on men as the means of change. By doing this, they empowered the gender inequality which was already present before the British colonization. They forced the ideology that the place of women is in the home. This ideology caused the powerful inequalities and hierarchical divisions both in villages and families (Fracchia, 2006).

Depending on the development of economy, mode of production and social organization, vernacular architecture of India was affected as well. In the book, which is '*Vernacular Architecture of the World*', the author Lewcock states that; "The vernacular that developed during the British occupation of India had its origin in two distinct sources. The first was the influence from the buildings designed by the military engineers, comprising mainly government buildings, houses for the administration and religious buildings. The second was the influence of Indo-European contractors who acted as intermediaries between the expatriates and the local population and provided the highest quality building services available." (Oliver, 1997)

Also, the impact of British Colonization can be observed on the dwelling forms. The most important and effective changes happened on the bangla house model. As it is mentioned before, in the middle of the 18<sup>th</sup> century, British settlers started to move from factory and military camp to the interior regions to establish permanent settlements. The first spread of British citizens was centered in Bengal located on the east coast of India (Kramer, 2006). (Fig. III- 7)



Figure III- 7: Location of Bengal in India  
(URL 3)

Climatic conditions of Bengal totally different than the climatic conditions of United Kingdom. One British experienced this situation in the early 1800s and wrote that, “Were I disposed to pursue a contrast betwixt the climate of Bengal and that of England; it would be easy to turn the scale on either side.” (Harrison, 1999) Trade and security were more important than having long-term settlement for the earliest British settlers in India. Because of this, they did not create a suitable building model for this climatic condition which is tropical. However, when they decided to move interior part, somehow they had to find solutions. At this stage, bangla, which is traditionally Bengali house model, considered as the base model by British settlers for the design of new appropriate dwelling (Kramer, 2006). They adapted the bangla hut model and modified it according to their needs and they added more bedrooms and bathrooms. However, they kept the front and rear verandahs for natural ventilation (Ahmad, 1994).

At the end of this adaptation, by conserving the bangla's main characters, the new British bungalow, which was used to describe the residential structure for house used by Europeans, produced (Glover, 2004).

Martha Sherwood (1828) described the Bungalow as; "built of unbaked bricks and covered with thatch, having in the centre a hall...the whole being encompassed by an open verandah." (Sherwood, 1828 in Lancaster, 1985)

Pitched thatched roof, the verandah, the raised base platform and the free-standing single-storey structure were the main characters of bungalow house. These new style Bungalow houses became a symbol of power in India. (Fig. III- 8)

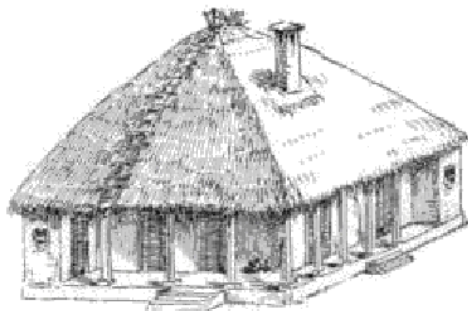


Figure III- 8: Early form of Englishman's Bungalow  
(Atkinson, *Country Life in America* in Kramer, 2006)

Also, becoming a symbol was mentioned by King in 1984 and he said that, "With the growth of industry and capitalism in the 19<sup>th</sup> century Britain and the exploitation of colonies abroad, the bungalow in India became a symbol of the new imperial power." (King, 1984)

Henry Roberdeau, who was an army officer in India and lived in the bungalow in 1803, wrote that; "The Englishmen live in what are really stationary tents, which have run aground on low brick platforms. They are 'Bungalows', a word I know not

how to render unless by a Cottage. These are always thatched with straw on the roof and the walls are sometimes of bricks and often of mats. Some have glass windows besides the Venetians but this is not very common... To hide the sloping roof we put up a kind of artificial ceiling made of white cloth... There are curtains over the doorway to keep out the wind... I have two Bungalows near to each other, in one I sleep and dress and in the other, sit and eat.” (Nilsson, 1968 in Kramer, 2006)

In addition to this, British settlers changed the type of veranda as well. They expanded it to encircle the dwelling. They closed the veranda with permeable mat or brick walls. In this way, they achieved privacy and shade (Grant, 1849 in King, 1984). Also, they put separated rooms at the corners of the veranda for bathing or sleeping. (Fig. III- 9)

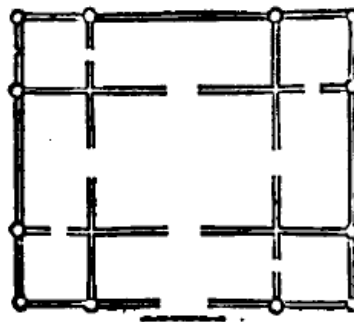


Figure III- 9: Bungalow plan with partitioned corners  
(King, 1984)

Later on, the basic form developed more by British settlers and it became more complexity. All the rooms had access to the veranda on at least two sides. By this way, they were able to take cooled air and available breeze (Kramer, 2006). (Fig. III- 10) (Fig. III- 11) (Fig. III- 12) (Fig. III- 13)



Figure III- 10: Developed bungalow forms  
(Atkinson, *Country Life in America* in Krarner, 2006)



Figure III- 11: The Rev. J.F. Cole's Bungalow  
(Atkinson, *Country Life in America* in Krarner, 2006)



Figure III- 12: Example of Developed Bungalow Form  
(Nangia, 2004)

Important British-Indian historian men emphasizes the importance of bungalow houses and says that, not only government servant represents the imperial power of the colony in India, also the residences, which are bungalow, of them represents the poer in the colony (Metcalf 1989:9 in Glover, 2004). In other words, Bungalows became a reflection of hierarchy within the British community in India (Nangia, 2004).



Figure III- 13: Example of Developed Bungalow Form  
(Nangia, 2004)

### **3.3 Diffusion of Bungalow Houses**

Bungalow as a form of house accepted as a unique and very special housing typology and a kind of cultural heritage belonging to India. The latest version of Bungalow, which also can called basic model, was adopted with modifications and built in most of the British colonization. As a general architectural language; a low, one-storey, spacious building, internally divided, having a symmetrical layout with a veranda all around, situated in a large compound can be listed (Miki Desai and Madhavi Desai, 2011). Bungalow house model was one of those standard dwelling model for the PWD and it was distributed to different British Colonial countries on the world.

Glover in 2004 state about the spreading of Bungalow houses to the world scale; “The PWD (Public Works Department of British Government) established standard plans, so that all but most important buildings were designed and constructed according to fixed principles, merely adapted to meet particular needs. These standard plans offered, as it were, colonial bungalows off the peg, with instructions about how they could be modified to make them serve one function or another.” (Glover, 2004)

Lancaster (1995) defined the Bungalows as; “For a half century longer the bungalow continued to be considered a primitive dwelling, at best fit for civilized people only



as temporary shelters, or caravanserais, when they were journeying in backward foreign lands.” (Lancaster, 1995)

As it is noted before, Bungalows Houses were constructed in many regions of the world such as; Sri Lanka, America, Australia, Jamaica, Singapore and Malaysia. Those constructed buildings were built in late 19th and early 20th centuries (Ahmad, 1994).

Sri Lanka was under control of British between the 1798 and 1948. Bungalows were constructed during this period in Sri Lanka. For example, Bungalow for British Government Agents (GA) in Sri Lanka was built in the 1870’s as a circuit Bungalow. The first British GA occupant was Mr. W. Harington. (Fig. III- 14)



Figure III- 14: Rest house in Sri Lanka  
(URL 4)

It is possible to see the Bungalow style houses, which made its way to America because of the English sailors, in many American countries such as Chicago, California, Utah, etc. (Fig. III- 15) It did not become popular in America until the turn of the century where they were first built in California. They started to seen in 1880s. (URL 5) Its popularity in the United States, and particularly in those cities, was the result of American Arts and Crafts movement. The Craftsman was an important factor in the popular development of the American Bungalow. The

Bungalow House used to be a comfortable-looking, low profile house that communicated a sense of shelter. Because of its feature, this type of houses became an Everyman's house in America. Other types of Bungalows seen throughout the United States are; Ranch Bungalow, Raised Bungalows, Chalet Bungalow, Craftsman Bungalow, California Bungalow, Chicago Bungalow, Milwaukee Bungalow and Michigan Bungalow. (URL 6)



Figure III- 15: Examples of Bungalow Houses in Chicago and Utah  
(URL 6)

A bungalow type house was imported originally from California in 1916 by a real estate agent and the first Australian Californian Bungalow was constructed in Sydney. It became the favorite house style in Australia immediately after World War I. Then, it spread to all Australian towns and cities. It was serving the two great needs affordability and suitability for a dry, warm climate. (Fig. III- 16)



Figure III- 16: Examples of Bungalow Houses in Melbourne  
(URL 7)

Malaysia was one of the colonial countries of British. Multi racial immigrants were brought to Malaysia by British. As in other countries, housing typologies were developed and influenced by cultural and social exchange. Commercial agriculture was revived in that time, and the word ‘Bungalow’ was commonly used for any staff’s house. Also, it was named as “Garden House”, “Planter’s Bungalow” or “Colonial Bungalow”, which was used as dwelling for government officials (Jenkin and Waveney, 2007 in Ju and Omar, 2011). The typical features of Malaysian Bungalow are described by Ju and Omar as; “...spacious, airy, detached, two-storey houses constructed with timbers or bricks. The façade of bungalow has full length windows with molded reveals, timber shutters and balustrade rails.” Also, they mentioned that, all those features were derived from the traditional Malay timber house (Ju and Omar, 2011). (Fig. III- 17)



Figure III- 17: Indo-Malay style Bungalow in Malaysia  
(URL 8)

The Bungalow House examples on the world are not that much limited like the examples shown above. In addition to those examples, there are Bungalow type houses in Canada, Great Britain, Ireland, South Africa and Pakistan as well.

## **Chapter 4**

### **COLONIAL PERIOD IN CYPRUS**

#### **4.1 History of the British Period in Cyprus**

A pronouncement of a German critic mentioned that, “He who would become and remain a great power in the East must hold Cyprus in his hand.” (Hill, 1952)

In this explanation, the importance of Cyprus Island can be understood easily. Throughout history, the island of Cyprus was kept under control by many rulers because of its strategic importance in the Mediterranean Sea. Phoenicians, Assyrians, Egyptians, Persians, Hellenics, Romans, Byzantines, Arabs, Franks, Genoese, Venetians, Ottomans and British as the rulers of the island throughout its history. All those communities came to Cyprus with their own characters. They tried to adapt them to the existed situation or dictate their rules (Dinçyürek and Numan, 2002).

British Empire had a plan about the island of Cyprus. After the opening of Suez Canal (1869), the Cyprus became even more strategic point in the Mediterranean Region because of its location on the main maritime trade way between the Europe and the East (Newman, 1937). What is more, India was the biggest colony of the British Empire and Cyprus would be a great control point on the trade way from India to Great Britain (Tozan and Akın, 2009). Until the 1878, the island Cyprus was under the control of Ottoman Empire. Ottoman Empire gave the control of island to British Empire in 1878.

In 4 June 1878, agreement was signed between Great Britain and Ottoman Empire. It was rented to the British Empire and 92.986 pound was paid to Ottoman Empire for per year (Keser, 2000). The first authorized British person Admiral Lord John Hay entered to island from Larnaca in 8 July 1878 and the British flag was hoisted instead of the Ottoman flag which was on the Paphos Gate in 12 July 1878 (Zia, 1975). (Fig. IV- 1 and 2)

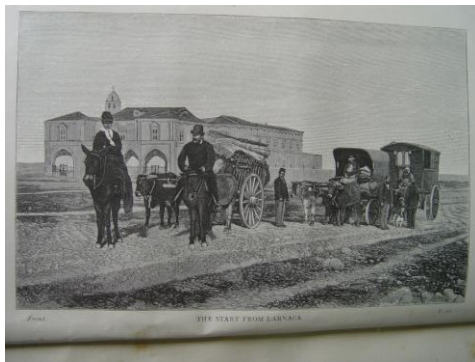


Figure IV-1: The start from the Larnaca, 1878  
(Baker, 1879)



Figure IV-2: Hosting the British flag at Nicosia, 1878  
(National achieve of TRNC)

The Pall Mall Gazette in Great Britain wrote about this agreement in 9 July 1878; “This is not a victory. However, it is a win in a sense. Without this victory, the prestige of British Empire at the East region would be damaged.” (Zia, 1975)

Her Majesty Queen Victoria emphasized some issues in her the proclamation that was gave to Sir Garnet Wolseley. Those were, prosperity of the people, who live in Cyprus, supporting the commerce and the agriculture of the island, affording the people the blessing of security, freedom and justice. In addition to these, Queen asked from Sir Garnet Wolseley to protect the ancient institutions and customs of the country and provide a consistent with the good government, the principles of liberty and civilization (Newman, 1937).

The initial thoughts of Sir Garnet Wolseley about the Nicosia were as follows; “It is a commodious place, clean but in the midst of filthy houses, the streets all around it, like all the streets of the place being narrow lanes from 8 to 12 feet wide, badly paved and with an open gutter running down the centre.” (Wolseley, 1878 in Schaar *et all*, 1995)

In the earlier years of British period in Cyprus, management system established by Ottoman Empire was protected, only the managers were changed because, the time of process was very short and British did not have enough time to plan the new administrative system of Cyprus (Zia, 1975).

#### **4.1.1 Period between 1878-1925**

When the history of island was investigated, this time the conquest was different for the island because, it was temporary and there were strategic reasons behind it. At the beginning, the aim of British was not improve the economic situation. They were just planning the get benefit from harbors, cheap labor force, natural resources and as a military base.

In British Empire, Cyprus Department was established under the control of Ministry of Foreign Affairs of British Empire to manage the island from there. After two years, in 1880, the control of Cyprus was transferred to Ministry of Colonies (Öncan *et all*, lecture book of history of Cyprus).

As a first step, a Legislative Council was established in the island by the High Commissioner Sir Garnet Wolseley and he was authorized by this council to make laws that might be necessary for the government of the island. This established council was temporary and it consisted of seven members. The new Legislative

Council appointed in 1882 with the consisted of the High Commissioner and 18 members (Newman, 1937).

In 1914, World War I had begun and Ottoman Empire became at war with Great Britain alongside Germany. Because of that, all situations had changed in the Island. British Empire considered the 1878 agreement as an invalid unilaterally and they declared war with Turkey in 5 November 1914. Beside this, they announced that a decision of annexation of Cyprus to British territory was decided by Ministry of Foreign Affairs and Colonies. All of those decisions were declared by British governor at the Sarayönü Square in Nicosia (Keser, 2000).

Especially for the Turkish community in Cyprus, this announcement was made in 5 November 1914, from now on Ottoman citizens, who were born in Cyprus and still living in Cyprus, are British citizen. Ottoman citizens, who were not born in Cyprus, have chance to leave the island in one year. At the end of one year, if they will not leave, they will assumed as a British citizen as well (Öncan *et all*, lecture book of History of Cyprus).

Because of this explanation, many Turks had to leave from the island. In the period, which Cyprus was given to Britain, the population of Turks in the island was 95.000. However, after this explanation, that number decreased to 46.428 in 1911 (Keser, 2000).

Cyprus was recognizing as a British land after 1914. Turks, who did not leave the island, became a British citizen. After the World War I, England made a new evaluation about the island. As a result of this evaluation, they became aware of

Cyprus once again in terms of importance of geographic and strategic location. If the control of Cyprus passes to another state, the presence and interest of England was compromised in East Mediterranean, Middle East and Suez Canal. That is why, British Empire decided to keep the control of Cyprus in later years.

#### **4.1.2 Period between 1925-1960**

After the decision of annexation of Cyprus to British Empire in 1914, Cyprus became a Crown Colony in 1925. The title of High Commissioner removed and Sir Malcolm Steveson became a governor of Cyprus. Due to this development, important changes have occurred in Cyprus. Because, it can be said that annexation to the British Empire provides more security and freedom within the boundaries of island and also in a world (Newman, 1937).

Due to improved living conditions on the island, local people became a more conscious about each sense. Especially Greek Cypriots were pressuring the British administration about Enosis and they were asking more political rights and freedom from government of British. In addition, they were complaining about tax issues. Because of those problems, rebellions started against to government. Those rebellions reached the highest level in 1931. Events known as the Revolt of 1931, started in Limassol, Nicosia and spread to the whole island in a short time. Within the scope of these events, government house was burned as well. In addition, the press was censored, postal and telegraph connected to governorship and censored, education law and program were connected to British administration (somehow the effect of church on education was prevented). All those measures provided Enosis movement to stop for a while on island (Öncan *et all*, lecture book of History of Cyprus).



The request of Greek Cypriots about the Enosis continued during the World War II. They continued to give report about this request to Colonial Ministry of Great Britain. However, British administration reported that there would not be any changing in terms of the status of the island. Until the 1950-54, Great Britain was quite about Cyprus case.

Apart from those events, British Government prepared a ‘Ten-year program of development for Cyprus’ after World War II. One of the main aims of that program was improve the health conditions and services in the rural regions in Cyprus. Thus, the application of Medical Department Mobile Health Units was started in 1948. 8,000 miles was traveled and 7,000 patients were checked. Also, many events were organized to give lecture and to introduce something. In addition, there was a plan about providing clean water to those rural areas in this program. Until the 1949, in 32 villages it was provided and in other 24 villages, it was under construction (Schaar *et al*, 1995).

The result of the occupation was to open to Cyprus the European civilization which had grown up in the last 300 years. Now the door was open and the Cypriot was free to profit by influx of modern ideas (Newman, 1937). With the London Agreement, the island became an independent republic in 1959 and British Period was ended in 1960.

#### **4.2 Evolution of Built Environment during the British Period**

From the beginning of the colonial period in Cyprus, a rapid transformation and development took place in terms of education and health services, transportation and communication network, agriculture, urban and rural improvement. Those reforms

were the signs of modernization process. It can be mentioned that, , clerks from Ottoman period, engineers from Great Britain and different colonies, educated Greek, Turk and Armenian technical staff under the supervision of Public Works Department (PWD), Greek Cypriots and Armenians who educated in Europe, a few foreign architects, and Turkish Cypriot architects played important role in this transformation process (Öze, 2011).

The first commissioner of Cyprus Sir Garnet Wolseley invited Samuel Brown, who made an important career in engineering world, to island to identify the needs and requirements (Brown, 1879). Already, the department, which will deal with these problems, was established by Sir Garnet Wolseley (Schaar *et all*, 1995).

After Samuel Brown arrived to Cyprus, during three mounts he made an observation about the urgent needs of the island. He wrote a report; “It is impossible, under just laws and equal rights, to induce a people of mixed race and creed to live peaceably and happily together; to remove by education much of their ignorance and resulting prejudice; to develop material resources, revive agriculture, re-clothe the bare hills with forest, create commerce, and thus provide for the maintenance of a largely increased population? If all this can be accomplished as in the time and by judicious effort it undoubtedly may, the result cannot fail to have an influence for good on the whole of Asia Minor.” (Brawn 1879 in Schaar *et all*, 1995)

In the study of Tozan and Akin in 2009, which is titled ‘İngiliz sömürge dönemi ve sömürge sonrası Kuzey Kıbrıs’ta kent ve mimarlık’, colonial architecture in Cyprus was divided into three according to the application density, varying economic-social conditions and stylistic features;

### **1. *Early Period (1878-1918)***

In this period, public buildings were built with features such as; single-two storied, masonry, the plan schemes with veranda and pitched roof. Generally existing buildings were re-used because of the limited budget and political uncertainty. Also the electrical energy was introduced to the island in this period. Electricity was used in 1903 first time by and later it was used more widely after 1960s.

### **2. *Intensive Improvement Period (1919-1938)***

Compared with previous period, more public buildings and residential building for civil servants were built in this period. Civil servants were staying face to face with some problems such as, the lack of suitable housing, high rental fees, etc. In addition, public buildings in different regions of Cyprus were not meeting the needs of developing conditions. Reinforced concrete was used first time in this period. House project for Kostas Christodoulou in 1921 is the first case that reinforced concrete was used with the traditional stones. As a result of a few incorrect applications of this new material and technique, new regulation, which provides a control system for PWD, was created.

### **3. *Late Period (1939-1960)***

After the World War II, construction sector was stopped totally. Thus, need of housing problem occurred especially for the people who emigrated from the villages to around Nicosia to serve the troops and Greek immigrants who immigrated to Cyprus because of the World War II. That is why; especially housing production was performed in this period (Tozan and Akin, 2009).

Hafizoğlu mentioned related with those periods that, “They used stone as a basic construction material since it was locally available and economy at the beginning of British period. In the late period, government engineers and architects started to

design houses combining British Architecture and Cypriot Architecture. New construction technologies brought by British to the island and began to use in architecture.” (Hafizoğlu, 200)

When the enacted regulations, which were made during the British Period in Cyprus, examined, it can be seen that, in the earlier years they preferred to make laws for local needs like ‘Famagusta Development Plan’ instead of regulations that form architecture and urban planning of whole island. In the following years, they started to make laws to control the development and architecture of the cities. The first extensive editing about the cities, which is titled as ‘Construction of Buildings, Streets and Wells on Arazi Mirie Laws’, had realized in 1927. ‘Arazi Mirie’ means that the land, which is new development area for cities. In 1938, this regulation was revised and in 1945 it separated into two parts as ‘Urban Planning’ and ‘Roads and Buildings Regulation Law’. However, because of the lack of urban planning expert in Cyprus, those two parts were connected as one law - ‘Roads and Buildings Regulation Law 1946’ - which is still used nowadays. Beside those regulations, for protecting and developing the Walled City of Nicosia and Famagusta, some regulations were made and changed as well. For example, for the new buildings in walled cities, necessity of flat roof and height limit were introduced. Also, a road which was surrounding inside the walled cities was thought. What is more, to provide the better perception of walls, buildings were pushed 180 m back from the walls (Tozan and Akin, 2009).

Due to those made and revised laws, urbanization gained a new dimension in Cyprus. Settlements in Nicosia and Famagusta started to overflow towards the outside of city walls.

Briefly, the urban structure of the Walled City started to change with the beginning of British Period. The British way of life and culture were the dominant factors that affect the urban development and new urban requirements like in all colonies. New urban functions related to commerce, administration, housing education and communication were adapted into the city by the British people. As a result, new urban patterns and architectural elements developed in the Walled City of Nicosia, deteriorating the existing urban layout.

The influences of colonial architecture in Cyprus describes by George Theocharous as; “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 Public Works Department.” (Schaar *et all*, 1995)

#### **4.2.1 Infrastructure**

Institutional and legal improvements had been seen in terms of management, education and health systems, transportation and communication network, agricultural, urban and rural development from the beginning of the colonization process.

The improvement of infrastructure was conducted by Office of War until the establishment of PWD in 1898. From this date, they aimed to restructure and revitalize the economy of island by improving the land, maritime and rail transport, supporting the trade activities and using the appropriate position of island for external trade (Tozan and Akin, 2009).

The situation of transportation network was very weak at the beginning of British occupation. Transportation communication between all the settlement areas and the access to harbors was the main aim of British administration. In general, more than 300 salaried workers were worked in the repair and construction of roads and bridges. There was existing 798 km (496 mil) main road and 2414 km (1500 mil) village road in 1898. The length of main road was increased to 1094 km (680 mil) and village road was to 3218 km (2000 mil) (Schaar *et all*, 1995). Briefly, around two thousand miles of roads and more than two thousand bridges and culverts were constructed during the British Period (Orr, 1918).

Harbors had an importance all the times because of the location of Cyprus in the Mediterranean region. There were main 5 usable harbors in the Cyprus. They were Famagusta, Larnaca, Limassol, Paphos and Kyrenia harbors. Some of them were improved by British for different purposes. For example, Famagusta and Limassol Harbors would use for trading purpose, Larnaca Harbor for mail and cargo shipment. The pier of Larnaca harbor was extended more into the sea. By this way, passengers, mails and goods went ashore in heavy weather conditions in a safer way (Schaar *et all*, 1995). The improvement of Kyrenia Harbor was kept limited because of its natural structure (Tozan, 2008).

The railway construction plans was started in 1891 in Cyprus. This railway would construct to promote the trade activities and connect the cooper mine. Between Famagusta port and Nicosia, thirty-six miles, was finished in 1905. After that, railway extended to Morphou, a further twenty-five miles and it was opened for traffic in 1907. In 1914, again it was extended fifteen miles more from Morphou to the villages of Trodos hills (Orr, 1918). The aim of last extension was to attract the attention of tourists to Trodos Mountain. However, it did not succeed in this sense. It was used for different purpose, which was carrying timber from the mountain, during the World War I. That railway gave service until the 1951 (Radford, 2003). (Fig. IV-3)

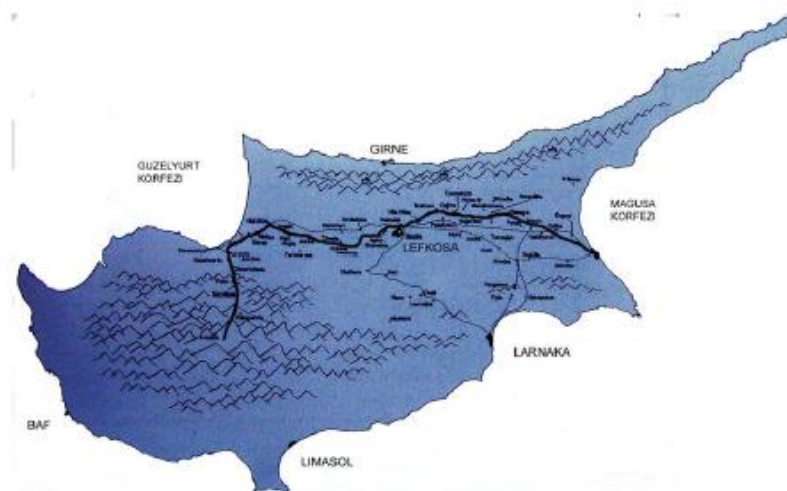


Figure IV- 3: Railway map of Cyprus (Radford, 2003)

In the following years, British Government was kept the improvement of roads and harbors. Beside these improvements, it is possible to mention about the improvements of supplying clean water and electricity throughout the island.

#### **4.2.2 Administrative Buildings**

Official projects were constructed according to the needs in the early period. The first aim was re-designed the existed buildings in an economic way at the beginning of the British rule in Cyprus. For example, Great Khan was used by visitors and

businessman during the Ottoman Period. However, it was re-organized and used as prison and police station until the 1895.

Nicosia Pioneer Barracks, which designed by William Williams in 1880, was the one of the earliest constructed important project. In March, 1881, the Pioneers were connected with Cyprus Military Police and that building converted home for central government offices. The building was very simple designed: []-shaped plan organization, three rows of rooms fronted by verandah, standard room sizes (Schaar *et all*, 1995). (Fig. IV- 4) Also, hospital complex with office and other service buildings was designed by William Williams and constructed in 1880.

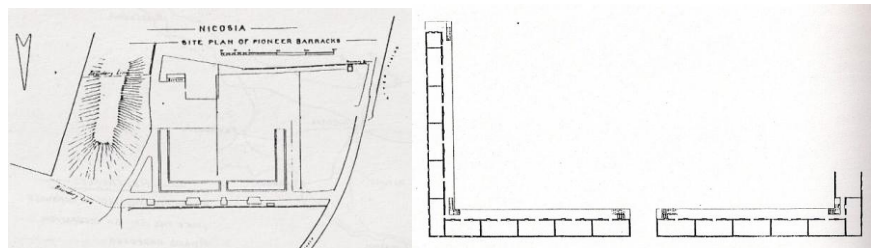


Figure IV- 4: Site plan and partial first floor plan of Pioneer Baracks, Nicosia (Schaar *et all*, 1995)

Especially in the cities, structures (Konak), where the all government offices gathered under one roof were being constructed. Konak in Larnaca, which was constructed in 1882, was first of Konak buildings. (Fig. IV- 5) For the Konak in Nicosia project, the first proposal was designed by William Williams in 1896, second one designed by George Jeffery in 1898 and the third one designed by Charles Bellamy in 1898. The proposal of William Williams (Fig. IV- 6) was selected by PWD and constructed between 1900-04 and occupied by the office for the Land Registry, District Commissioner and Land Courts. The building, which is used as a central court of TRNC nowadays, was described as the first example of British colonial architecture in Cyprus by Schaar *et all* (1995). It has rectangular shape with



an internal courtyard. There are several buildings that are attached and some are completely separate from the main building. On the south-eastern corner of the walls, there is the coat of arms of the British Empire.

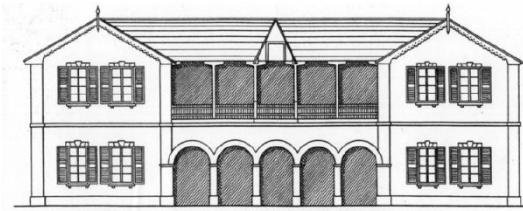


Figure IV- 5: Konak in Larnaca  
(Schaar et all, 1995)

Figure IV- 6: Konak in Nicosia  
(Tozan, 2008)

Train Station in Famagusta was an important project because of the improvement of railways and its closeness to harbor. (Fig. IV- 7) The construction of the building was completed in 1904. Nowadays, it is used as Land Registry Office in Famagusta District. For the Konak Building in Kyrenia, the first proposal was not accepted because of its character. (Fig. IV- 8) The project, which was similar with other Konak projects, was prepared and constructed in 1909. The middle part of the façade of the building was pushed back. Also, it had symmetry character, which was common in administrative buildings. The other Konak project, which was Lefkara Konak, was designed by William Williams in 1908 and constructed in 1910. It was a simple and unpretentious (Tozan, 2008).

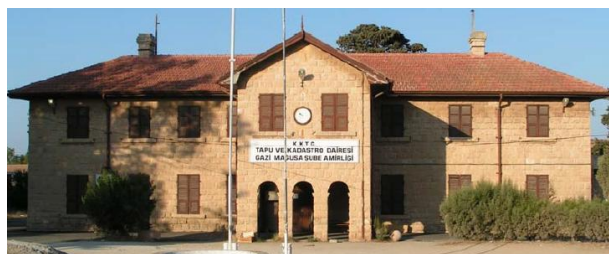


Figure IV- 7: Train station in Famagusta

Figure IV- 8: Konak in Kyrenia

Post Office and Land Registry building in Nicosia, which was designed by Gaffiero in 1919, was a little bit different from the others. (Fig. IV- 9) For example, although

the façade of it had symmetrical organization, it had a nonsymmetrical plan organization. It had more free room divisions. However, still the general character of colonial architecture, which is the vestiges of an all-round verandah, was obtained.

Similar with that building in Nicosia, also the Post Office and Land Registry in Paphos was designed by Gaffiero and constructed in 1919. The façade organization in both cases is very similar to each other. Symmetry is the basic similarities between them. Apart from Post Office and Land Registry building, Konak was designed and constructed in 1920. Same architect was designed it. Due to, same architectural elements were repeated on the Konak building.

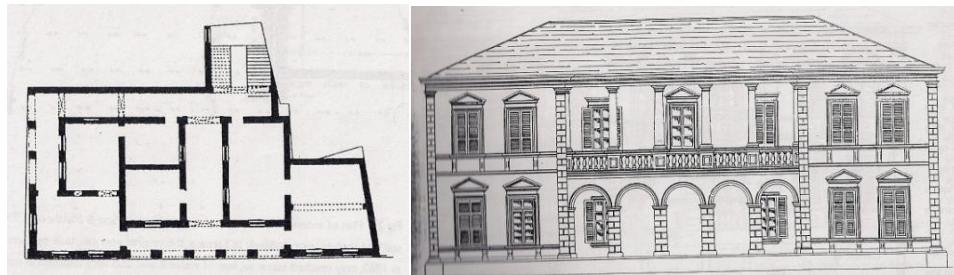


Figure IV- 9: Plan and Elevation of Post Office and Land Registry Office Building, Nicosia (Schaar *et all*, 1995)

In addition, Gaffiero produced a project in the field of health as well. Hospital in Limassol District was designed by him in 1922. Also, the dispensary department of hospital was designed and constructed in 1921-22 (Tozan, 2008).

In 1940s, British Government continued to apply the architectural projects according to the changed and increased needs. The problem of providing materials was occurred because of the World War II. Due to, projects, which were the most urgent were constructed. Office Building and Staff Quarters belonging to the Kyperounda

Sanatorium in the in Trodos Mountain were the important proposed projects in that period (Schaar *et all*, 1995).

First proposal of Konak Building in Morphou was designed by Caruana in 1938. The construction of it was postponed because of the World War II. Macartney re-designed the project in 1945 but, the construction of it was postponed again and it was constructed in 1958 (Tozan, 2008). (Fig. IV- 10)

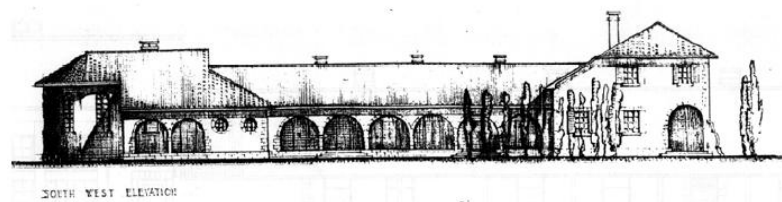


Figure IV- 10: Konak in Morphou, Macartney, 1945  
(Schaar *et all*, 1995)

The projects within the Police construction program such as Police Headquarter in Nicosia, District Police Station and City Police of Limassol, Firehouses in Kyrenia and Paphos were some of the important in 1958. Finally, Nicosia Hospital Policlinic was one of the large-scale projects in that period (Anon, 1959 in Tozan, 2008).

In terms of architectural understanding, there were simple certain features that architects were using for governmental buildings such as rows of single rooms, external stairways and colonnaded verandahs with crossed wooden balustrades on the first floor and tiled roof. Especially the roofs of veranda and the main building were separated from each other. That architectural feature was used until the 1920s and it was also available in the architecture of houses.

### 4.2.3 Housing

At the beginning of British Period, the numbers of planned and constructed houses by the British were very limited. British officials were trying to solve this problem by renting a house individually.

One of the most important housing projects was Government House. War Office in England decided to design Government House, which was being largely wooden and prefabricated in England in 1878. (Fig. IV- 11 That house was designed and constructed as temporarily in Cyprus. However, it hosted 9 high commissioners and 2 governors until it burned in 1931 during rebellion. It was U-shaped building to enclose the garden. All the parts of those three wings had verandah facing through the garden (Given, 2005).

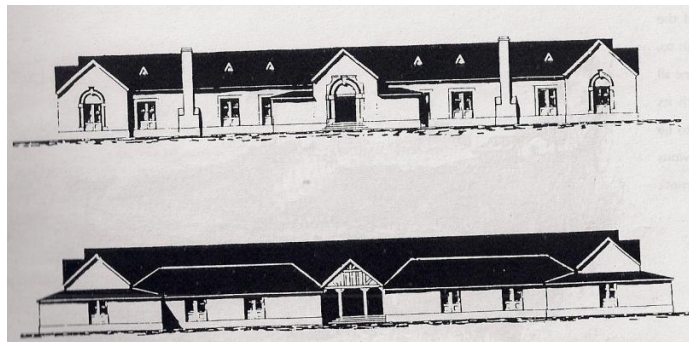


Figure IV- 11: Government House by William, Nicosia  
(Schaar *et al*, 1995)

Another housing project, which was conducted at the beginning, was Commissioner's Residence in Limassol. L-shape plan organization, symmetric façade organization and surrounding with semi-open veranda are the most significant features of this residence. Like Government House, it was burned in 1931 and re-constructed (Tozan, 2008).

After World War I, British officials came to Cyprus and they faced with accommodation problems. British Governments provided houses for only senior officials. Other officials needed to find and rent the houses by themselves. Home rental fees were very high in those years in Cyprus. To solve this problem, PWD (Public Work Department) decided to design house model for the aggrieved officials in 1920. Captain Henry Simms, who was chair of the department, assigned two important architects, Joseph Gaffiero, who was a full engineer and charge of Western Division, and Martin Gimson, who joined the department in 1919 and was prolific designer, for developing architectural projects. Most of the constructed houses in 1919 and 1920 were designed by those two architects. They were pioneer architects, who established a basic style of colonial residences in Cyprus. Almost thirty houses in different types were constructed by the end of 1923 (Schaar *et al*, 1995).

Those houses can be listed as; single and double storey houses by Gaffiero in 1919, single (bungalow) and double storey houses for married officials by Gimson in 1920, A Type, B Type, C Type, D Type and E type houses for officials by Gimson in 1920, F Type, G Type, S Type and Small type bungalow houses by Gimson in 1923. (Fig. IV- 12) Addition to low-cost projects, special houses was constructed for the officials, who employed in a high-status such as a residence for district court in Larnaca by Gaffiero in 1926, a residence for president of Nicosia district court by Gimson in 1926 (Tozan, 2008).

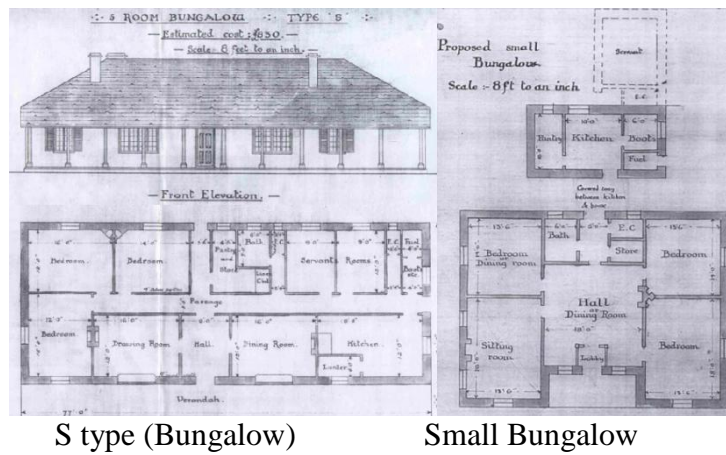
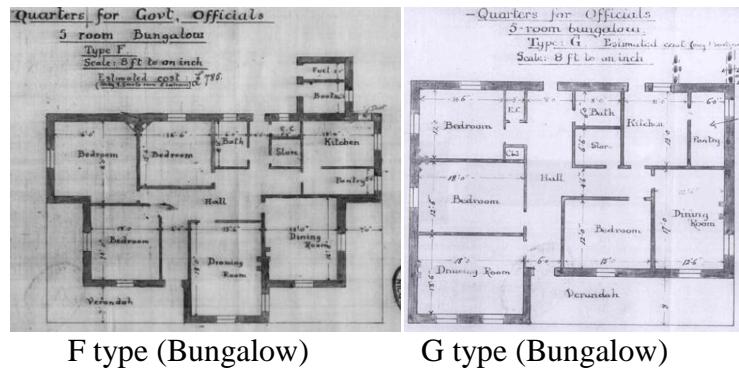
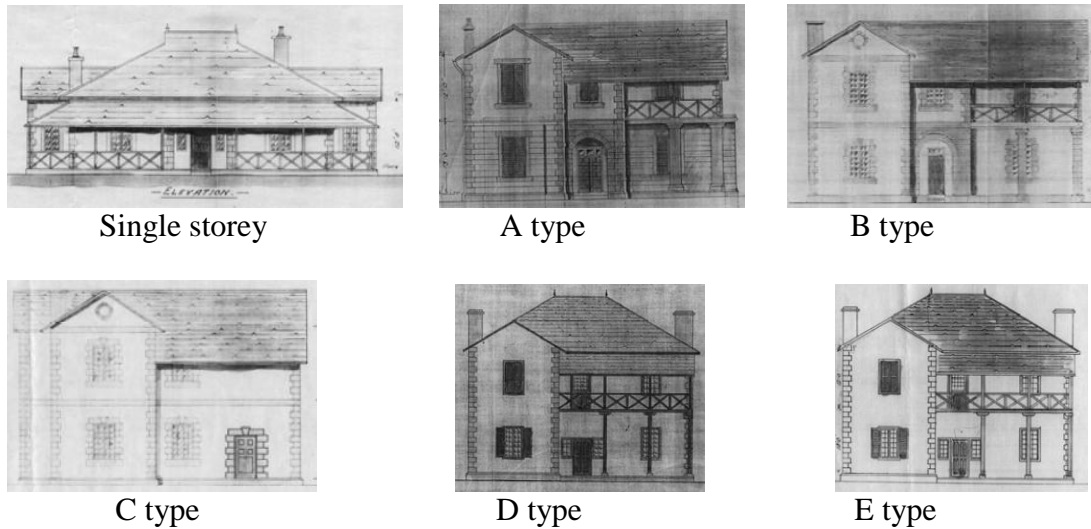


Figure IV- 12: Single storey, A-S Types and Small Bungalow by Gimson (Tozan, 2008)

Instead of burned Government House in 1931, it was necessary to build the new Government House, which reflects the British prestige.(Fig. V- 13) The first aim of the governor Sir Storrs for this project was the combination of local elements with colonial architecture instead of using European or British styles (Schaar *et all*, 1995).

Before applying the project, Sir Ronald Storrs left from the Cyprus. The newly appointed governor asked from Maurice Webb to design a cheaper, simpler building and also use local materials and labor (Given, 2005).



Figure IV- 13: Government House by Webb (1933-37), Nicosia (Given, 2005)

In addition to the project constructed in this period, two houses designed by Caruana in 1938 can be added as well. One of them was used as Deputy Governor's Residence.

Projects, which were constructed in last period, can divide into two groups. First of them was to provide housing for government officials in different status. Second one was constructing low-cost mass housing projects for emergency situations (Tozan, 2008).

Commissioner's Residence in Nicosia in 1939 and Doctor's House by Macartney in 1940 were first two projects in this period. Especially after being Crown Colony, the number of a soldiers and officials, who settled in Cyprus, increased significantly. Due to this realm, the need of more houses was appeared in that period. Treasurer, who was the governor in this period, wrote a letter to Colonial secretary about this problem (Schaar *et all*, 1995). According to the suggestion of Treasurer, it was

decided to construct twelve houses, which were designed by R. H. Macartney and many designers, on various lands of Nicosia.

For the development of rural region of Cyprus, preparing of standard plan type cheap houses suggested in 1938. Construction Council decided to prepare a six different house models for villagers in 1939 but, there is not any information that standard type model houses constructed in that time (Tozan and Akın, 2009).

In addition to the house projects for government officials, Bungalow house with two-bedroom (Fig. IV-14) and double-storey house projects by C. Christofides in 1943, three-bedroom houses types (by unknown architect) (Fig. IV- 15) in 1943 can be listed as well (Tozan, 2008).

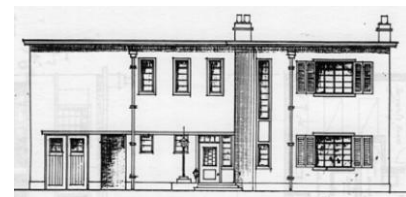
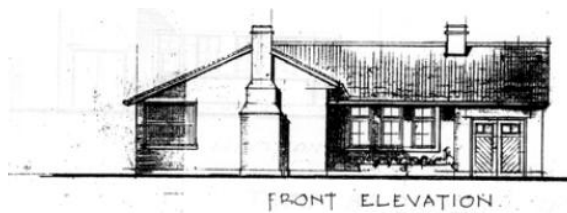


Figure IV-14: Bungalow House with 2 bedroom type

Figure IV-15: 3 bedrooms house type

(Tozan, 2008)

Beside those mentioned houses, ARCON type house model was constructed in 1948. It was prefabricated and took into consideration the climatic conditions of Cyprus. Schaar *et all* describes ARCON buildings as “...the best example of bioclimatic architecture in Cyprus from the colonial period.” It had veranda along all sides and it provides shade for windows (Schaar *et all*, 1995).

Accommodation problem of workers during the World War II were also considered as well by British Colonial officials. First of all, three mass housing projects, which



included hostel for 200 single men and 100 family apartments (designed by Macartney), were prepared by PWD in 1944. The other important project was designed by William Caruana in 1946 at Omorphita. It had alternatives such as attached house (Type B) and twin house (Type C). The first government-supported mass house project, which was Subsidized Workers' Housing by Caruana, was applied in 1946 to solve the emergence of accommodation after World War II. It was a satellite settlement and a little bit far from the local way of life. It had a small center and a few shops and coffee house in that center (Schaar *et al*, 1995).

The other applied mass house project was Police Flats by Christofides in 1958 at Omorphita, which was similar with the project of Golden Lane in England. It has three separate blocks connected by pedestrian bridges (Tozan, 2008).

Bungalow House, which was one of the constructed house types during the British Period, will be identified in detail in the following chapter.

## Chapter 5

# THE IDENTIFICATION OF THE BUNGALOW HOUSES IN NORTH CYPRUS

In this part of the study, Bungalow Houses of North Cyprus have been investigated in terms of spatial organization, formal configuration, uses of spaces/functional analysis, structure and construction techniques and environmental issues and the results are presented in the following sections. Those 5 criteria will help to find the general characteristics of the Bungalow Houses in North Cyprus. The examples of Bungalow Houses in Cyprus are limited. Some of them were constructed in '*Yönetim Mahallesi*' (administrative region) at the southern part of the Nicosia. However, they were demolished. In this study, a limited number of Bungalow Houses that were constructed during the British Period in North Cyprus has been reached. In this respect, 6 Bungalow House examples are determined.

Cases are named as House 1, House 2, House 3, House 4, House 5 and House 6. House 1 is located in Palm Beach region in Famagusta city and used as a government department, which is named as 'Kuzey Kıbrıs Türk Cumhuriyeti - Maliye Bakanlığı - Devlet Malzeme Dairesi' nowadays. House 2 is located in Köprülü (Kouklia) village in Mesaoria region. It was constructed during the 1930s. It is not used nowadays. House 3 and House 4 are located next to each other in the Çamlık region in Famagusta city. House 3 was burned and is in a bad condition. House 4 is used a house. They were constructed during the 1920s to accommodate the British officials.

House 5 is also located in the Çamlık region next to the Famagusta Municipality in Famagusta. It is also used as government department, which named as ‘K.K.T.C. Hukuk Dairesi – Gazimağusa’. House 6 is located in Kyrenia city and constructed during the 1930s. It is used as a restaurant & bar nowadays. General locations of them in North Cyprus are shown on the map below: (Fig. V- 1)



Figure V- 1: Location of cases on the map of North Cyprus

## 5.1 Spatial Organization

Spatial organization is one of the major factors with interior quality and design characteristics of the space, which are determining the housing typologies in each context on the world (Ghobadian, 2006 in Adeli, 2011).

In the following part of this section, relations of spaces (cells) between each other and with outside will be examined for each of cases.

## House 1

In figure V- 2, the first plan is being analyzed. In this case, relationships of the spaces (cells) are in a central organization manner. All of the spaces are located around the central space. On the right side of the figure, each space in the mentioned plan is simplified and coded as letter. The central space, which is named as “b”, is an entrance hall and acting as the heart of the building because, as it is mentioned above; all the other spaces are located and connected to that central space. Semi-open veranda of the building is named as “a”, the kitchen “l”, bathrooms and toilets are named as “k” and “f”. All the other spaces, which are used as an office, around “b” are named as “c”, “d”, “e”, “g”, “h”, “i” and “j”. The space “i” is connected to only space “h”. It supposed to be more private and specialized space in comparing others because; it has not any relation with “a” (veranda) in terms of visual or physical. Only “b” (entrance hall) and “d” has an access to the veranda, which is “a” on the figure. Also, “k” (bathroom) and “l” (kitchen) has a direct access to the outside at the backside.

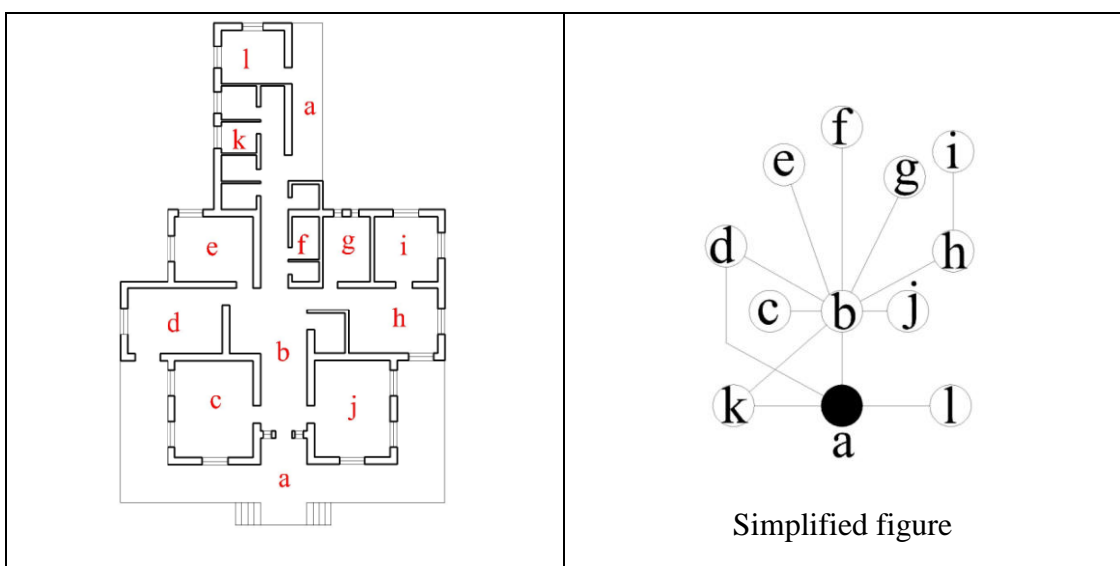


Figure V- 2: Cell relation and connection analysis of House 1

Nowadays this mentioned building has additional parts, which are shown with color on the plan drawing. (Fig. V- 3) According to the one of the officers, those additional parts were constructed in order to meet the requirements of scouts, who stayed as a group. They are located around the existing service part of the building. Most probably they were used for service facilities as well in that time. Nowadays, both parts are locked and not used for any function. The smaller one, which is close to the kitchen, has large windows from every side. It was probably used by the scouts to eat meals as a group. (Fig. V- 4)

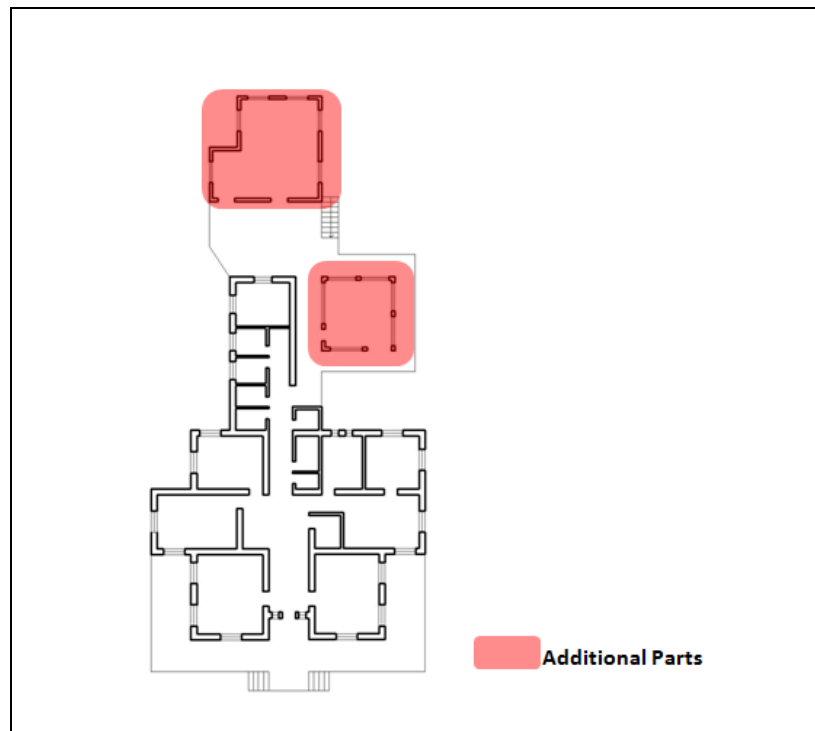


Figure V- 3: Additional parts of House 1



Figure V- 4: View of additional parts of House 1  
(Author, 2012)

## House 2

In the first form this house, similar to House 1, relationships of the cells are in a central organization manner. However, in fact there are two central spaces in this case. The spaces “b” and “c” act as a central space in the plan organization. As it is observed from the simplified figure, all the other functions are located around them. One of the central spaces “b” was an entrance hall and spaces “d” and “g” are connected to it. Also, it has direct connection to the semi-open space (veranda), named as “a”. In addition to them, the other central space, which is named “c”, is also connected to “b” (entrance hall). The space “c” can be accepted as a central space of rear part of this house because, the spaces “e” and “f” (bedrooms), which are located at the back side, are connected to “c”. Also, it had direct connection with back garden. Service spaces, which are named “h” and “i” (kitchen), are separated from the main living area and they have direct connection to the outside. It was probably, the space “c” was used to achieve to the services parts in the first plan organization of this house. Only “d” (drawing room) and “g” (dining room) have direct connection and relation with the outside (semi-open veranda). (Fig. V- 5)

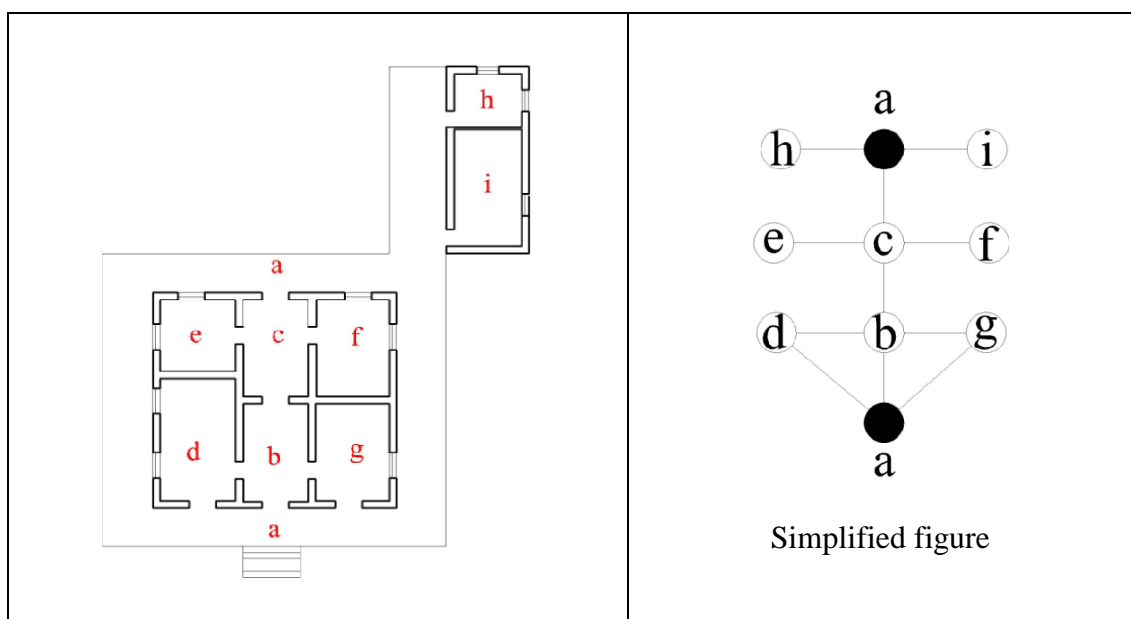


Figure V- 5: Cell relation and connection analysis of House 2

Current owner of this house (Zühre Öztürk) also did some changes and additions on this house. Additional part was constructed as a service part (toilet). By this way, the space “c” became more central and its connection and relation with the outside was terminated. (Fig. V- 6 and 7)

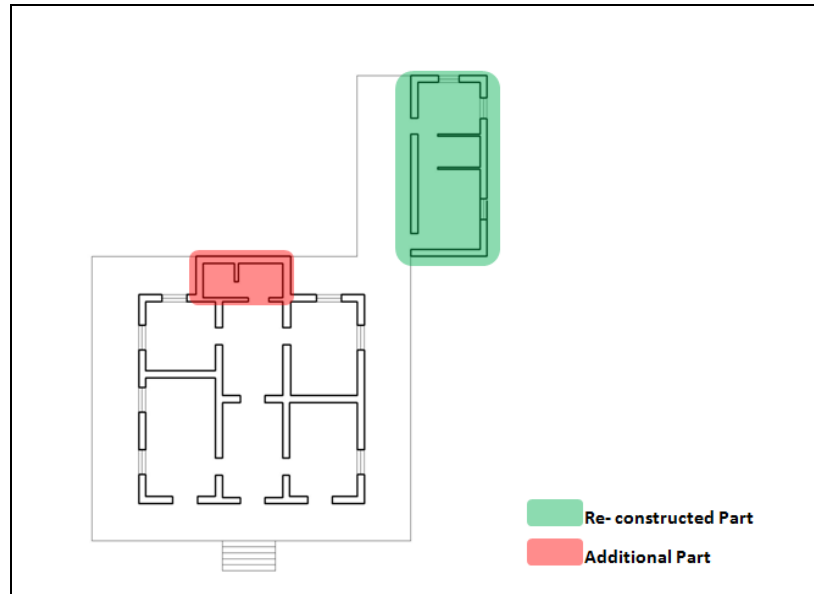


Figure V- 6: Added and re-constructed parts of House 2



Figure V- 7: View of added and re-constructed part of House 2  
(Author, 2012)

### House 3 and House 4

Spatial organizations of House 3 and House 4 have serious resemblances to each other. Like the previous cases, all spaces are located around the central part (entrance

hall), which is “b” in those two houses. Other spaces; “c” (drawing room), “d” (bedroom), “e” (bedroom), “f” (service room), “g” (bedroom) and “h” (drawing room) have direct connections to the central space and they also have direct accesses to the veranda except the space “f” (service room). The main difference from the other houses, those houses have basement floor under the ground floor in each of those houses depending on the topographical necessities. The spatial organization is directly repeated on the spatial formation of the basement floor in both cases. However, there is not direct access between the ground and basement floor from the indoor spaces. Only the central space, named as “b’ “ has direct access to the outside.

(Fig. V- 8) (Fig. V- 9)

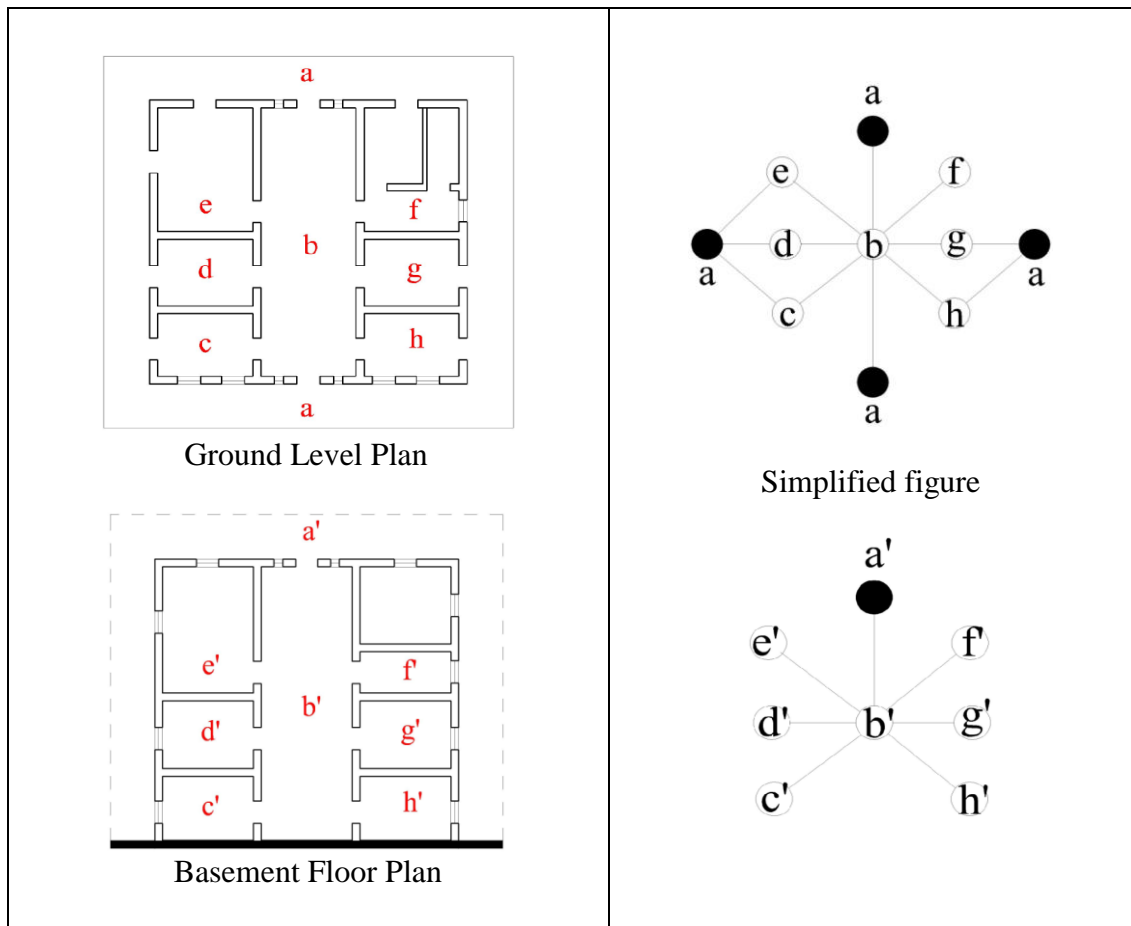


Figure V- 8: Cell relation and connection analysis of House 3



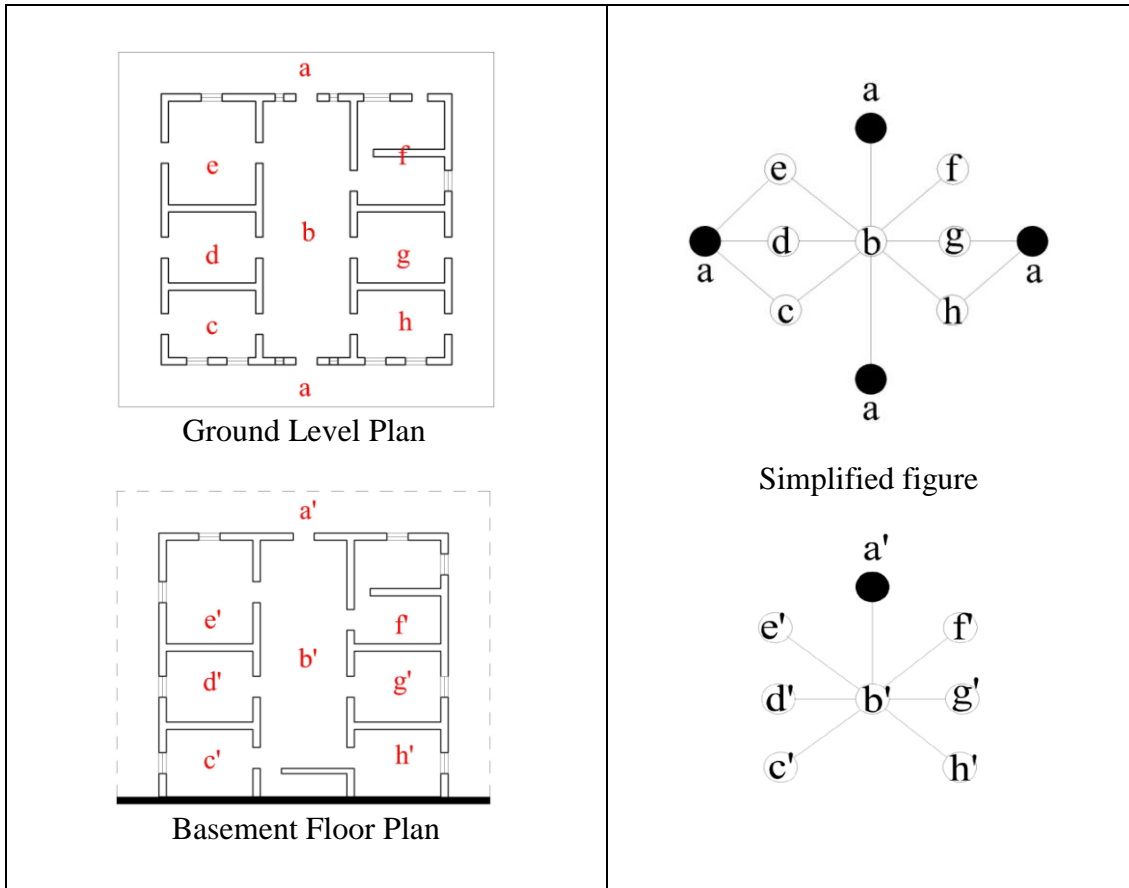


Figure V- 9: Cell relation and connection analysis of House 4

House 3 was burned in 1990s and it was not re-constructed later. Still, it is in a very bad condition.

House 4 is still using as a house and users did some changes and addition in the spatial organization of house. For example, the central space, which is “b”, was smaller in the current situation of the house. A dining room was located by current owner at the side of the central space. By this way, “b” was centralized more and the access from “b” through the back side of the veranda was cut. In addition to this, staircase was put in the space “f” (service room) to have an indoor access from the ground level plan to basement level plan. (Fig. V- 10)

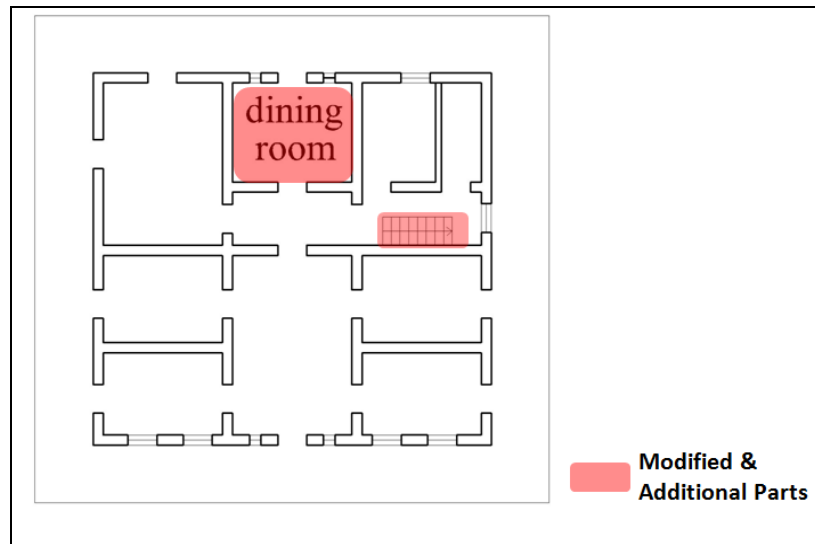


Figure V- 10: Additional parts of House 4

### House 5

Spatial organization of House 5 is investigated in figure V- 11. Again the central part is named “b” in this case and as it is observed from plan drawings and simplified figure, it is acting as heart of the building. It provides an access from the front to the rear side of the building. Only “c” and “g” have a direct relation with the “b” (entrance hall) on the ground level. The services parts, which are “e” and “f”, are located at the rear side of the building and there is not any access from the indoor space. Semi-open space at the back side (“a”) was used to access those service parts.

Unlike the previous cases, House 5 has one room first floor at top of the entrance hall (“b”). That one room is named as “h” on the figures. It has directly connected to the entrance hall by the staircases. (Fig. V- 11)

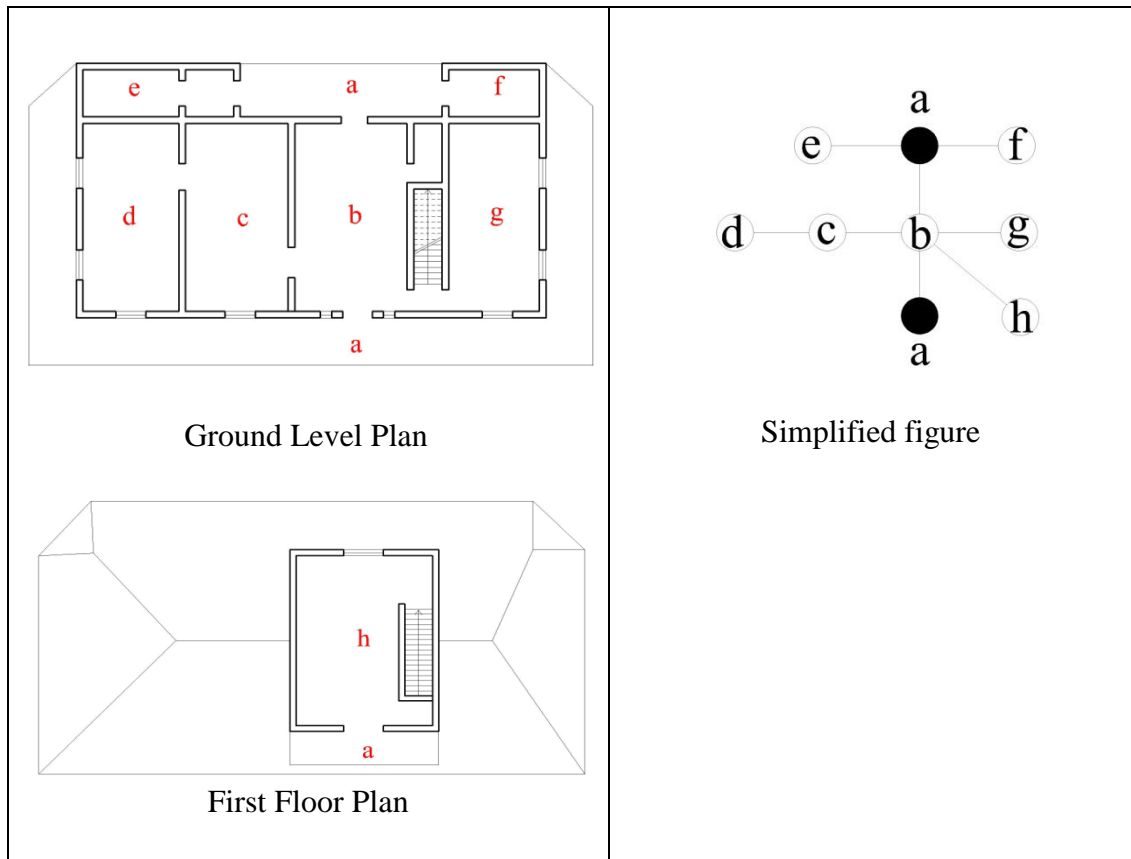


Figure V- 11: Cell relation and connection analysis of House 5

As it is mentioned before, this building is used as a Famagusta District Law Office, nowadays. For example, some rooms were divided into two by partition walls to increase the number of the rooms. Additionally, one office room and one service room were added at the back side of the building. In order to access to the lately added office room, service space of the building should be passed. In addition, other additional room is located at front façade. A waiting room was created there and by this way, entrance hall, which is “b”, is used as an office room as well. (Fig. V- 12)

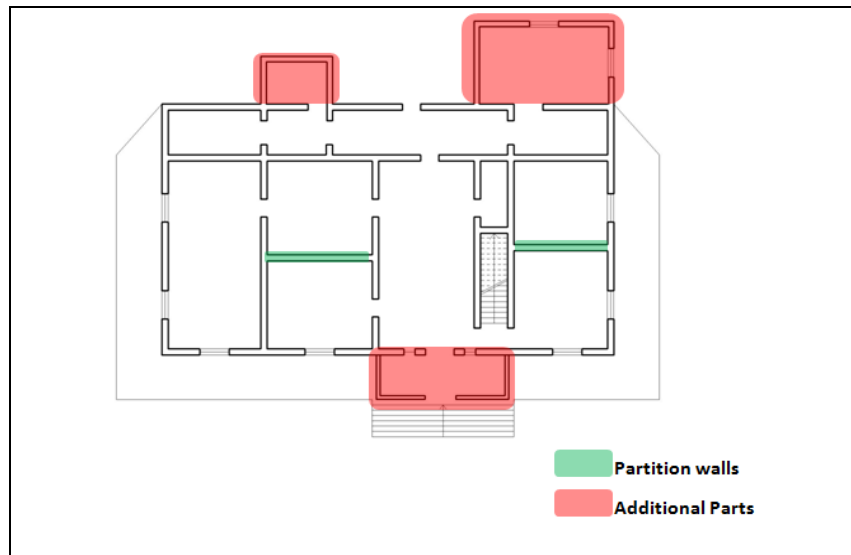


Figure V- 12: Additional parts and partition walls of House 5



Figure V- 13: View of additional parts of House 5  
(Author, 2012)

### House 6

Reliable information about the original situation of last case is limited. In the interviews with the locals, it is mentioned that, the building was constructed during the 1920s, and it was used as a house. According to the given information, there was a veranda all around the house; however in the later period it collapsed. In addition, the level of ground was elevated up around 1.5 m from the ground. According to the given information, the owner of the house was feeding livestock under the house.

Spatial organization analysis of House 6 was carried out according to the current situation of the building. Due to, only ground level plan was examined below.

As it is seen from the simplified figure in figure V- 14, the space “b” (entrance hall) is again acting as a heart in this house. It is an entrance hall and all the other spaces “c”, “d”, “e”, “f”, “h” and “i” are connected to the “b”. That central space converted to corridor at the middle part but, still it is acting as a connector between the spaces. Semi-open veranda surrounded all sides of the building except the upper left corner. There is a direct connection between the veranda and the spaces “c”, “f”, “g” and “h”.

Most likely, the space, which is named “f” on the ground level plan, was not that much big space in the original form of the building. Partition walls were demolished during the renovation process to achieve larger space for the new function of the building, which is used as a bar section of the restaurant.

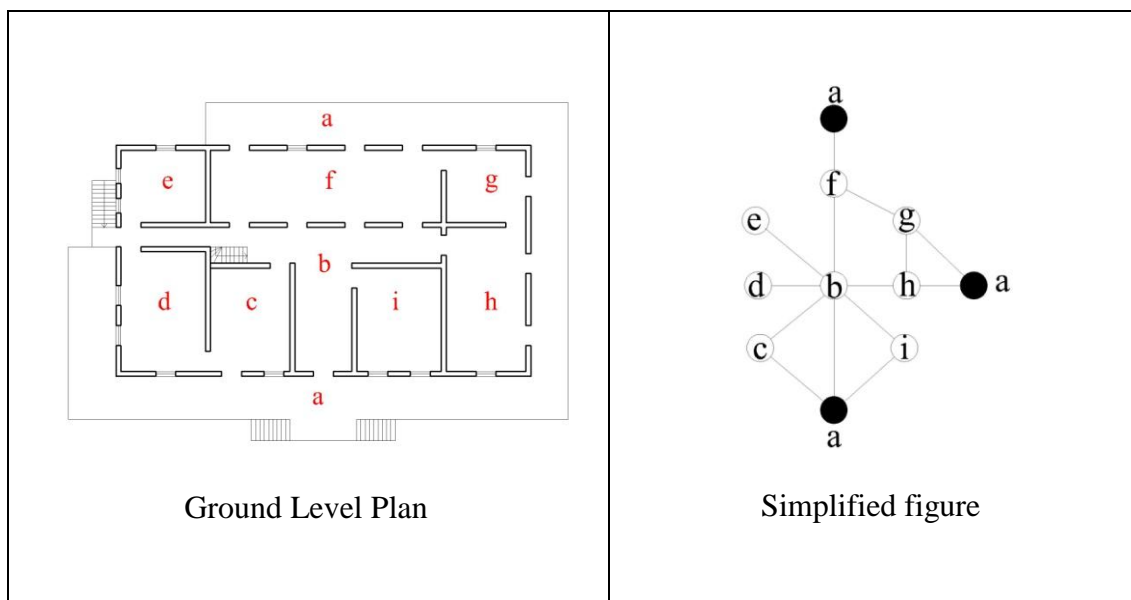


Figure V- 14: Cell relation and connection analysis of House 6

According to the result of spatial analysis of the selected cases, there is a one spatial feature, which is common for each of them. It is very clear that the central plan organization is the basic spatial organization system in each of the investigated Bungalow Houses. (Fig. V- 15)

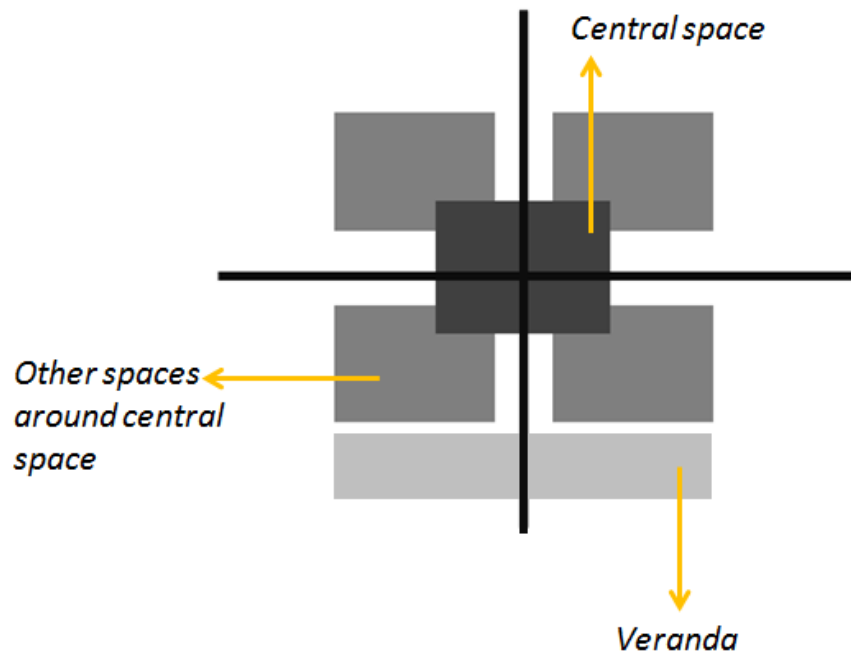


Figure V- 15: More simplified figure of spatial organization system of selected cases

## 5.2 Formal Configuration

Formulation and solution of spatial organization has developed by limitation of their forms. In that organization, all they must have a logic, meaning and order. To achieve the logical space organization, design principles should be considered, which are inspired from the nature in the vernacular architecture world. Selected Bungalow Houses in North Cyprus for this study will examine in terms of formal configuration in the following.

House 2, which is in Kouklia (Köprülü), has simplest formal configuration. Simple three dimensional form of this house was drawn. (Fig. V- 16) It can be said that, it

has basic parts as a form like its original form (Indian Bungalow). As it is seen from the plan of the house, the main living part is in the form of square and it is surrounded by veranda from all sides. This is also reflected to the form of house. The main living part is square form. In addition, it has pitched roof with pure form as well. From all the sides, it looks like triangle.

It is known that, this house has another part, which is for service rooms, at the back side. As it is observed from the View 2, there is not any physical formal relation between the main building and service part.

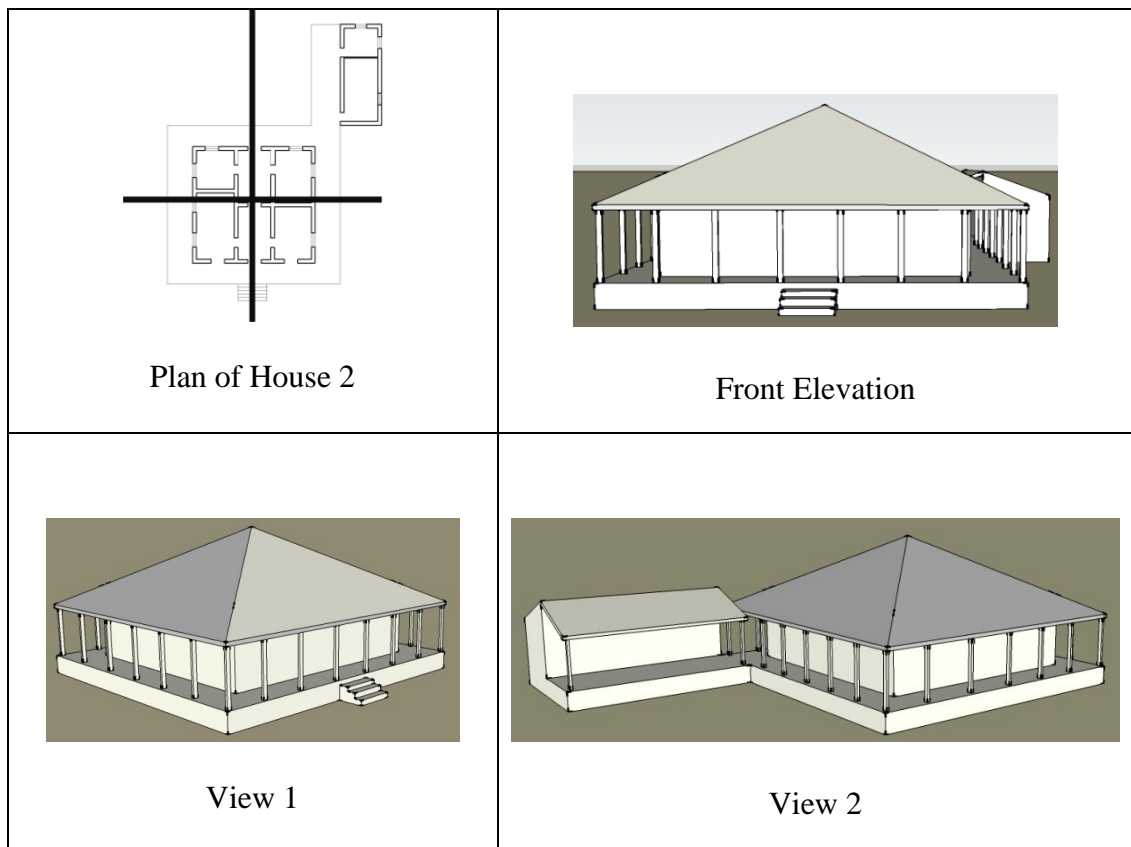


Figure V- 16: More simplified form of House 2  
(Author, 2012)

The formal configuration analysis of House 2 can be applicable for House 3 and House 4. As it is mentioned before, House 3 and 4 have exactly same form with each other. The formal front façade organization of them is totally the same with the

House 2. (Fig. V- 17) Unlike from the House 2, those two houses have basement floor. Due to there is a different formal impression especially from the sides and rear of the houses. However, the building part is still protecting its form at the basement floor, which is square. However, there is a difference in terms of height. The height of the ground floor is approximately 3.90 meter and the height of basement floor is almost half size of ground floor.

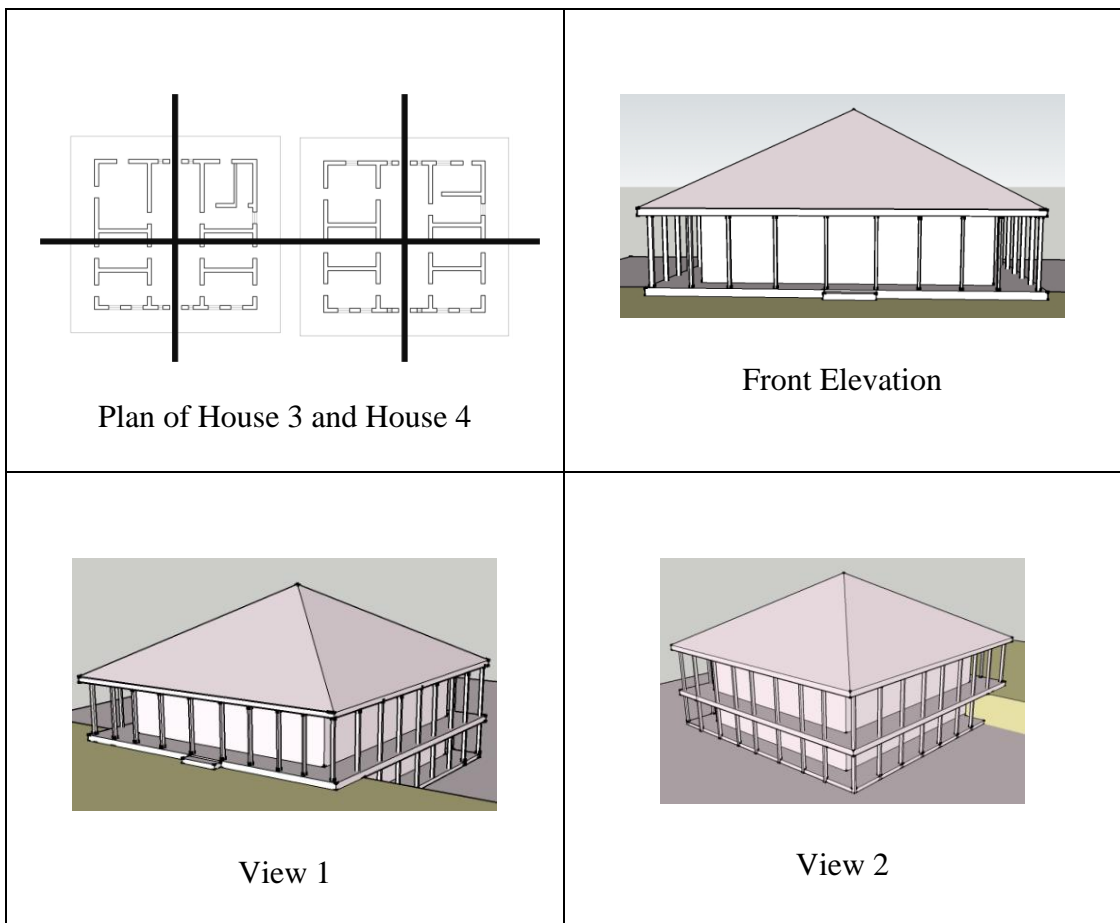


Figure V- 17: More simplified form of House 3 and House 4  
(Author, 2012)

House 1 can be defined as a variation of House 2, House 3 and House 4 in terms of formal configuration. As it is seen from the plan drawing of this house, the type of veranda is different in this case. (Fig. V- 18) It does not enclose the all sides of house because of the changes in the form of main building. Those changes are mentioned



with red color on the plan drawing. The small one shows the entrance part. It was pushed back. The others show the other rooms, which caused changes on form of the building. Those changes affected the form the pitched roof as well. The changes on form of roof are seen in the View 1 and View 2.

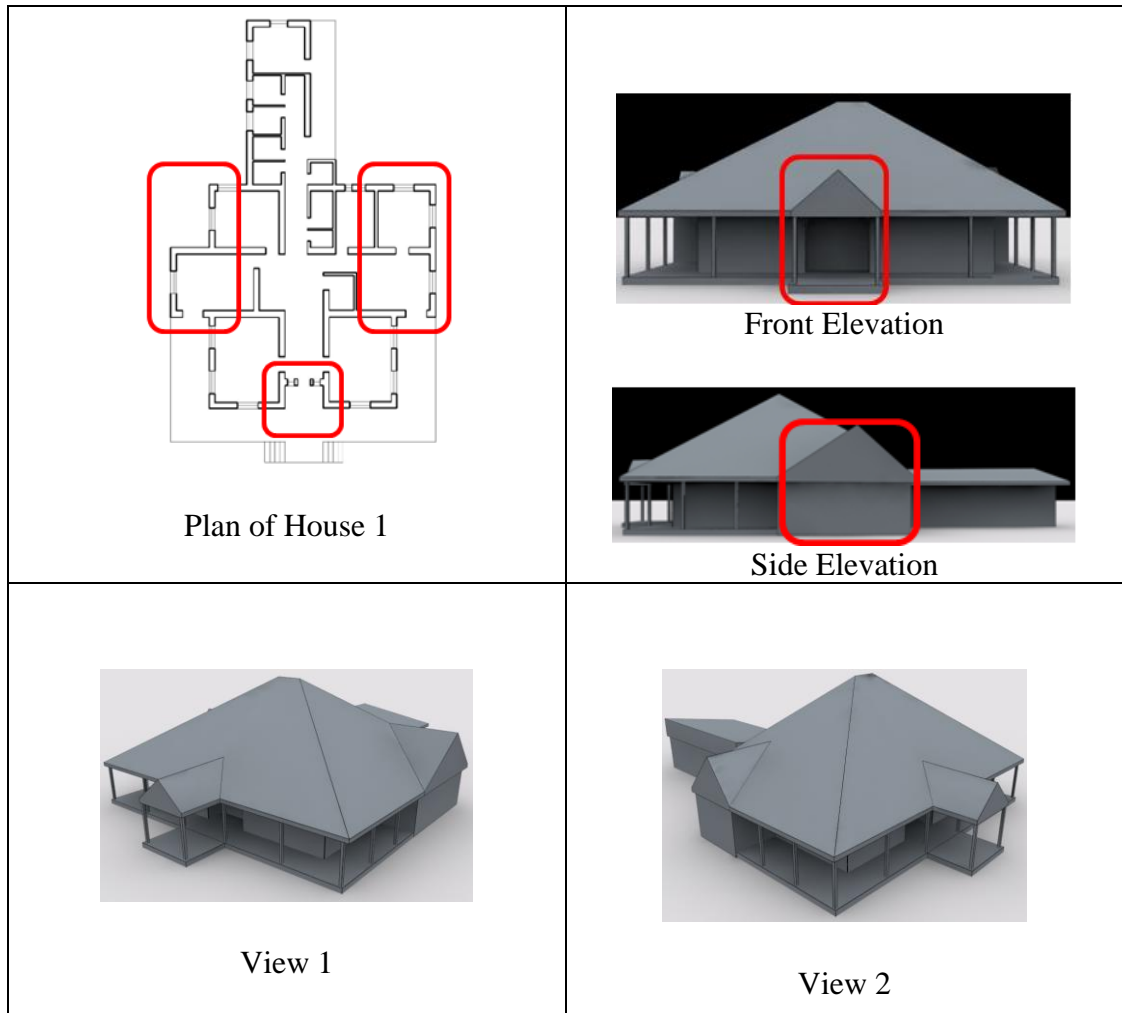


Figure V- 18: More simplified form of House 1  
(Author, 2012)

House 5 and House 6 can be classifying in a same group under the title of formal configuration. Unlike the previous cases, it is known that, both houses have linear spatial organization. Due to this linearity was reflected to the form of both houses. (Fig. V- 19) (Fig. V- 20) In those two cases, the form of building block is a rectangular.

There are also differences between them. For example, House 5 has a one room first floor, which is shown with red color on the plan drawing. In addition, the middle part of the rear side of this house was pushed back and veranda was created there. This was effected the pure rectangular form of building at the rear side. Also, there is a variation of type of veranda in both cases. In House 5, it is a U-shape. In House 6, it surrounds all side of the house. (Fig. V- 19) (Fig. V- 20)

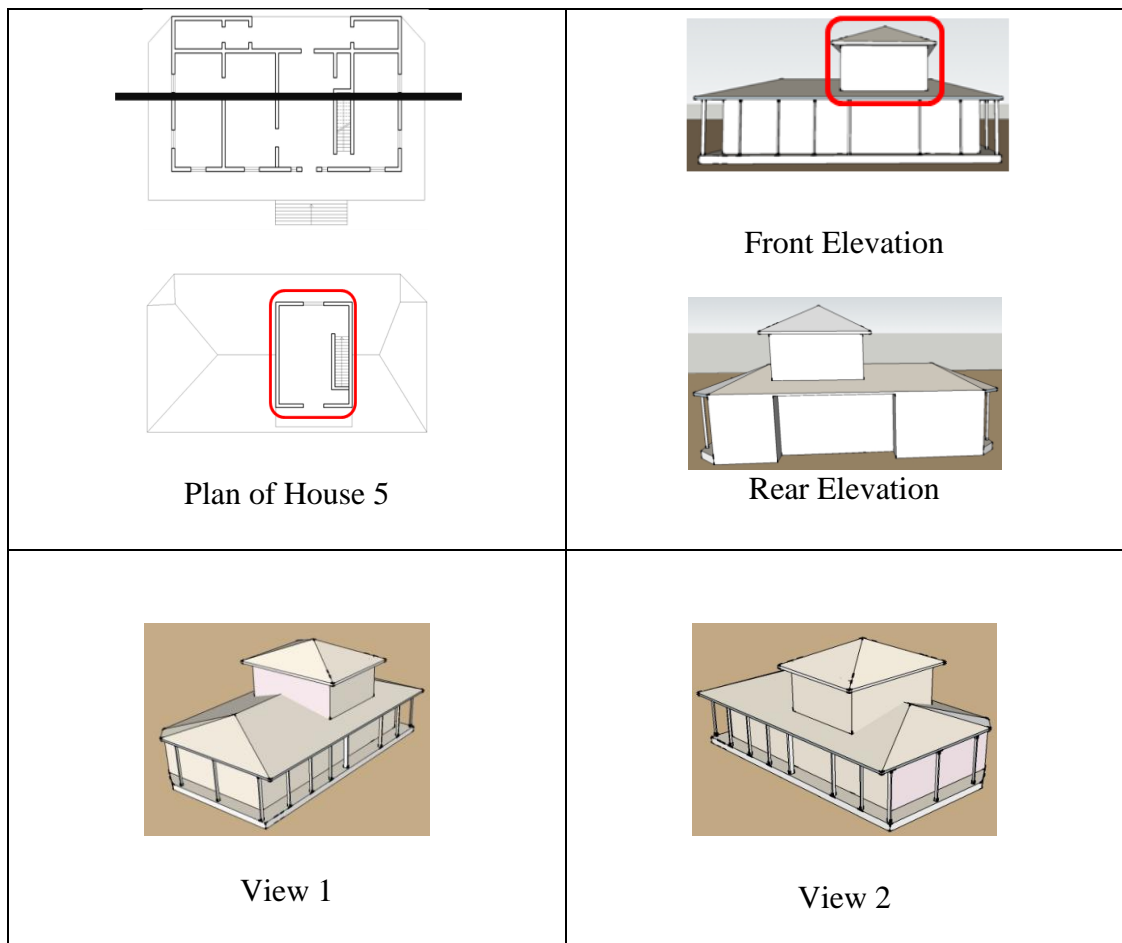


Figure V- 19: More simplified form of House 5  
(Author, 2012)

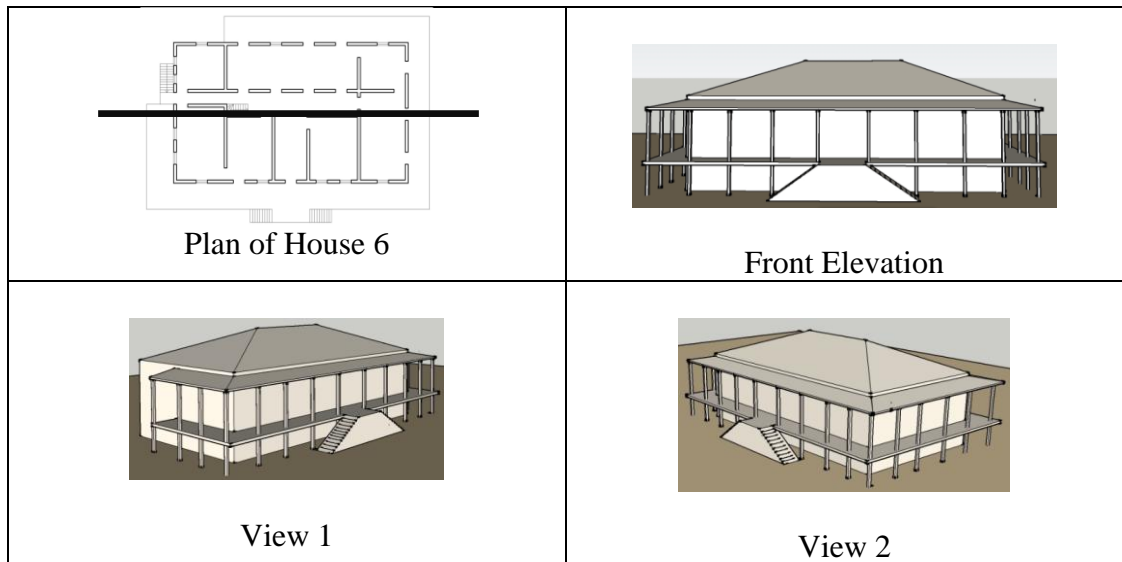


Figure V- 20: More simplified form of House 6  
(Author, 2012)

### 5.3 Uses of Spaces and Functional Analysis

In determination of the spatial formation and functional organization of houses, some daily activities such as sleeping, hosting, eating, cooking habits, playing, praying, sitting, washing, furniture arrangements doing hand crafts and socializing and spaces used for each kind of activities play an important role. Beside, some basic needs, family type, position of women, privacy, and also social intercourse affect built form as well. How those mentioned activities are carried out within the border of house and how the spatial layout of house arranged according to the requirements of that activities are the basic questions related with the use of spaces (Rapoport, 1973 in Sonaiya, 2008).

As previously mentioned, the spatial organization of Bungalow Houses can be defined as central space (entrance hall) and the other spaces, which are located around it. Uses of spaces and functional analysis of selected cases are presented in the following part of this section.

The activities in those types of houses are mainly taking place in semi-open and indoor spaces. Based on the findings; the basic components of the Bungalow Houses of North Cyprus are defined. These are mainly:

- Veranda,
- Entrance Hall,
- Studying and drawing rooms,
- Bedrooms,
- Service rooms - kitchen, bathroom and toilet.

### **Veranda**

Semi open space, which is called veranda in Bungalow House model, is one of the characteristics features. According to the analysis of six Bungalow Houses in North Cyprus, it is seen that, there are two types of veranda. (Fig. V- 21) First of them, which is named as Type A, surrounded the building from the all sides. This type of veranda is seen in House 2, House 3, House 4 and House 6. In this situation, veranda is used by the all rooms. However, in House 2, which is located in Kouklia (Köprülü) village, although the veranda surrounded all sides the building, it gives service to only entrance hall. Type B is seen in the House 1 and House 5. It is a U-shape veranda and it does not surround the building from all sides.

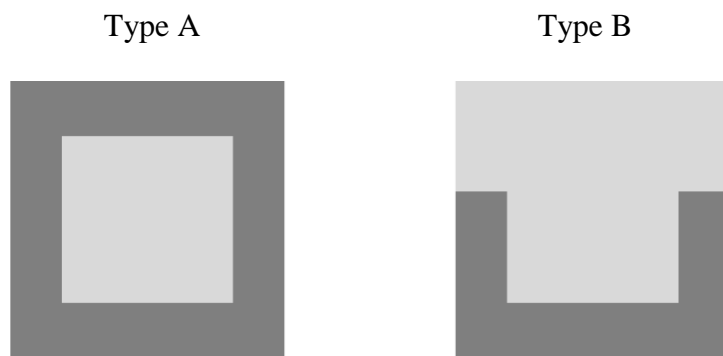


Figure V- 21: Two types of veranda  
(Author, 2012)

The level of veranda is elevated from the earth level in all cases. Also columns, which are structural elements and timber material, create an invisible wall. Due to these physical characters, this semi open space (veranda) is acting as a buffer zone in general between the indoor spaces and outside.

Especially in the summer season conditions of the island, it is very useful for the users and that is why, it is used as an actively. (Fig. V- 22) It provides a comfortable atmosphere during the day and night time. Also, it provides a comfortable space even in the rainy periods and sunny winter season. It is thought that, this type of usage of semi open space is not available in House 2, because as it is mentioned before, indoor rooms do not have direct access to veranda.



Figure V- 22: Sitting elements at different corners of veranda in House 4  
(Author, 2012)

In addition, balustrade is used to define the veranda. Even in the one floor Bungalow Houses, balustrade was used as well. The material of it is timber in general and they are connected diagonally, which is seen frequently in British Period. (Fig. V- 23) Beside this, it is observed that, red brick material was used for balustrade in House 1. (Fig. V- 24)



Figure V- 23: Timber balustrade

Figure V- 24: Red brick balustrade

### Entrance Hall

The entrance hall is almost the heart of the Bungalow House in North Cyprus and in general. It can be argued that, the non-existence of the entrance hall is impossible in this type of houses. It is a one of the major determinants of Bungalow Houses.

Entrance hall is found in the central parts of the houses. (Fig. V- 25)

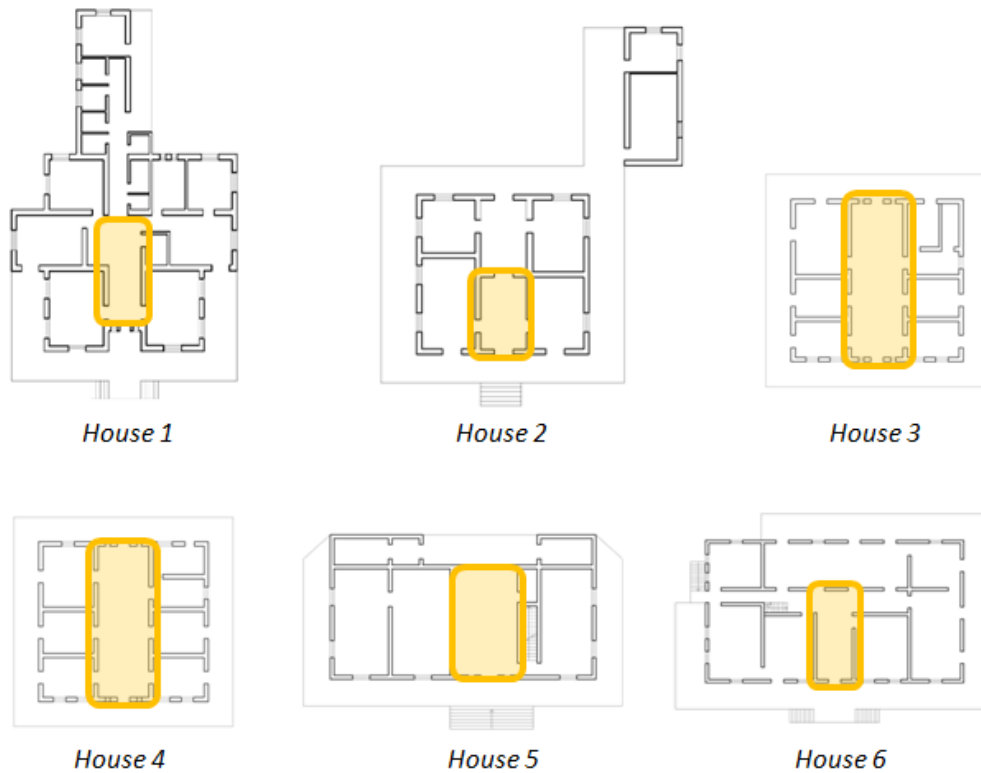


Figure V- 25: Entrance hall in each house

Entrance halls do not have standard size. As it is seen from the Fig. V- 25, they are different from each other in terms of sizes but, they have same function. Halls are circulation spines for each of the houses. It is also mentioned in the analysis of spatial organization that, entrance halls connect all the other spaces (acting as a heart). Entrance halls have limited openings. There is only door and small windows next to it in House 1, House 3, House 4 and House 5. (Fig. V- 26) They do not have large windows. Therefore, it can be said that, entrance halls are darker than other spaces. It is though that, those small windows were used to control the outside and person standing in front of the entrance door. Due to those small windows, the place of entrance hall becomes easily understandable on the front façade of the buildings.



Figure V- 26: Entrance door and small windows in House 1, 3 and 4  
(Author, 2012)

Furthermore, halls have different formation in House 3 and House 4. They are longer and bigger than the other examples. It is seen from the plans in Fig. V- 25 that, entrance halls start from the front part of the buildings and continued until the back side. (Fig. V- 27)



Figure V- 27: Entrance hall provides a direct access from the front part of the veranda to the back side of the veranda in House 3 and House 4  
(Author, 2012)

### **Studying and Drawing Rooms**

It is known that, these types of houses were constructed for the British Officials during the British Period in Cyprus in general. Due to the users profile, in some cases study room is available in houses, which are located in urban area.

As it is understand from the name of the rooms, public functions are located in those rooms. Guests from the outside were hosting one of those rooms.

Studying and drawing rooms are located at the front part of the buildings. They are positioned at the left and right side of the entrance hall in general. They are reached from the entrance hall. It is observed that, in some cases those rooms have direct access to the veranda. For example, in House 2, House 3, House 4 and House 6 studying and drawing rooms have direct access to the semi-open spaces. In other cases (House 1 and House 5), there is no that kind of relation between the rooms and veranda. (Fig. V- 28) It is seen that, apart from the houses in urban area, dining room



is located instead of studying room in the House 2 (in rural area). Change of user profile can be the reason of it.

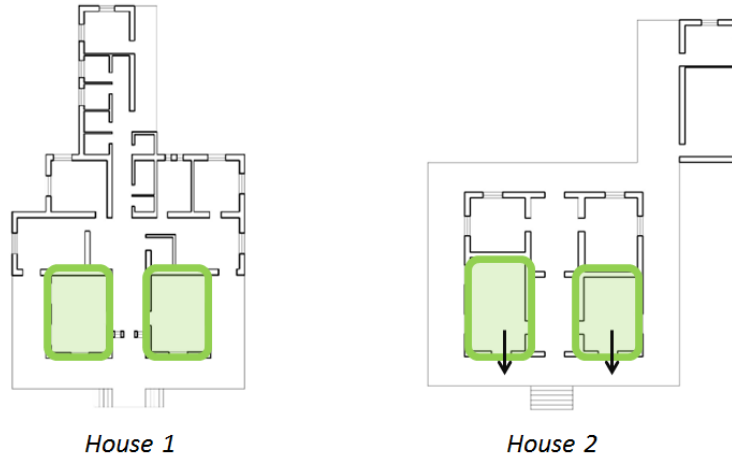


Figure V- 28: Studying and drawing rooms in House 1 and House 2  
(Author, 2012)

Those rooms have one door opening to semi open veranda and windows or more than two windows only in general. Due to, it can be said that, those rooms are getting enough day light and they are the brightest rooms in the houses. Windows are approximately 2 meters high and 1 meter width. They also have shutters. (Fig. V- 29)



Figure V- 29: View of windows in House 1 and House 4  
(Author, 2012)

Differences observed in House 5 in terms of size of window on the front façade. The height of the windows is smaller in this case. (Approximately 1.5 meters)

Fireplace is another feature of these rooms. There is fireplace in those functions in all houses except House 2. As it is seen from the pictures in Fig. V- 30, the construction and place of fireplace was not hidden in the wall. It was pushed forward. (Fig. V-31)



Figure V- 30: View of fireplaces in House 1 and House 4  
(Author, 2012)

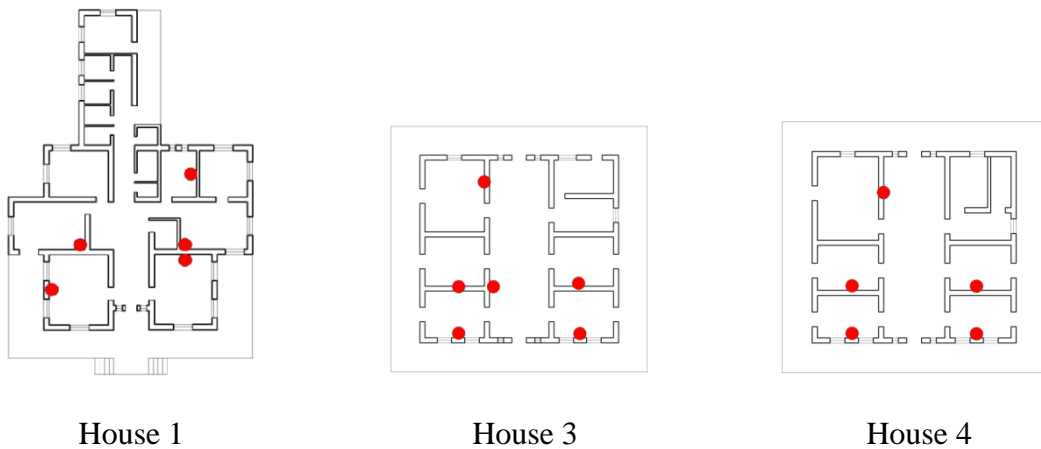


Figure V- 31: Location of fireplaces in House 1, 3 and 4

### Bedrooms

All houses have at least two bedrooms. It is known that, this kind of function needs more privacy and bedrooms in Bungalow Houses in North Cyprus were located and positioned according to the privacy concern.

Bedrooms are located at the back part of the house and they do not have direct relation with the front part of the house as a visually and physically. (Fig. V- 32)

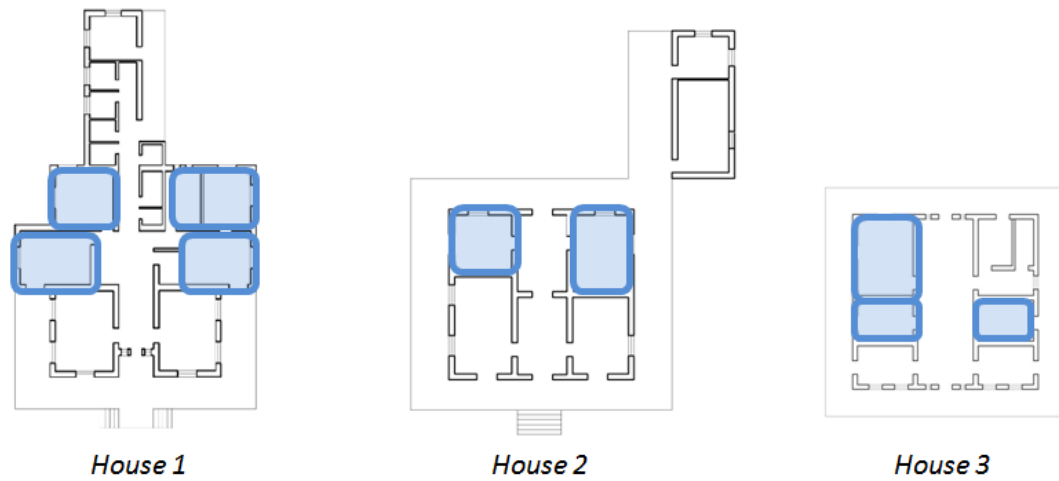


Figure V- 32: Bedrooms in House 1, 2 and 3

This is not applicable for the House 1 because, bedrooms, which are located left and right at the middle part of the house, have openings through the semi open veranda. (Fig. V- 33)

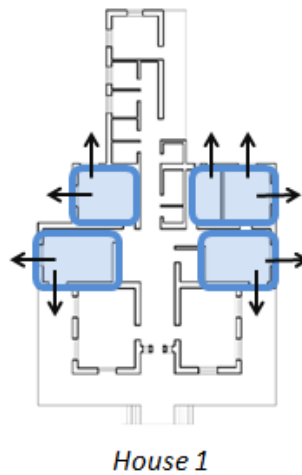


Figure V- 33: Bedrooms have visual and physical relation with veranda in House 1 (Author, 2012)

Openings (windows or door) are faced through the left, right and rear side in general but, there are not any changes in terms of sizes (approximately 2 meter high and 1

meter width). They are in a same size with the openings of study & drawing rooms. Similar with the others, they have shutters.

### **Service Rooms - kitchen, bathroom and toilet**

Those three functions are always located at the back side of the building in Bungalow Houses in North Cyprus. They are also located next to each other in the functional organization.

They can evaluate in two categories; separated from the main building block, and located in the main building block. House 1 and House 2 are the examples for the first category. Service rooms are physically separated from the main building block. (Fig. V- 34) Rooms are located in a linear organization manner next to each other. There is another semi open veranda in front of them and rooms are faced through these veranda. Rooms have smaller windows in terms of sizes compared with the other windows. (Fig. V- 35) Furthermore, these services blocks can easily observed from the outside because, their floor height is less (approximately 3 meter) than the main block's.

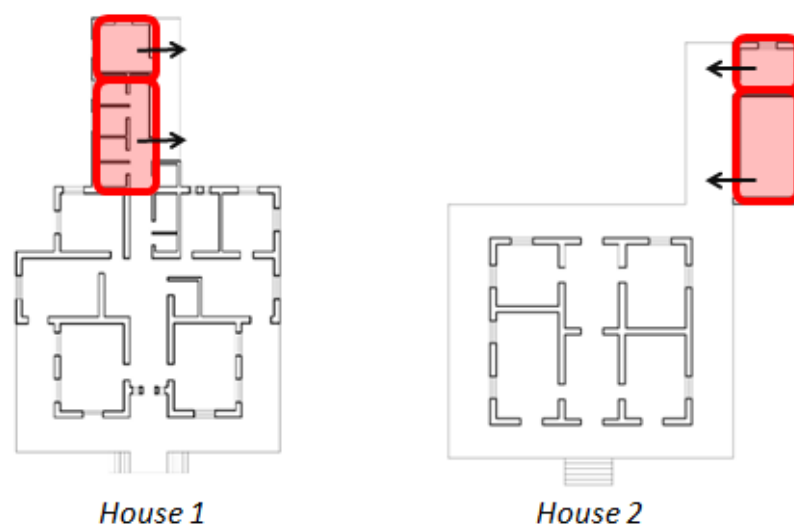


Figure V- 34: Service rooms and theirs relation with outside in House 1 and House 2



Figure V- 35: View of small windows of service rooms in House 1

House 3, House 4 and House 5 can be put in the second category, where the service rooms are located in the main building block. (Fig. V- 36) Like the bedrooms, they are located at the back part and they do not have any direct visual and physical relation with the entrance part. Also, they have very small size (approximately 50 cm height and width) windows and the place of them can easily understand from the façade. (Fig. V- 37)

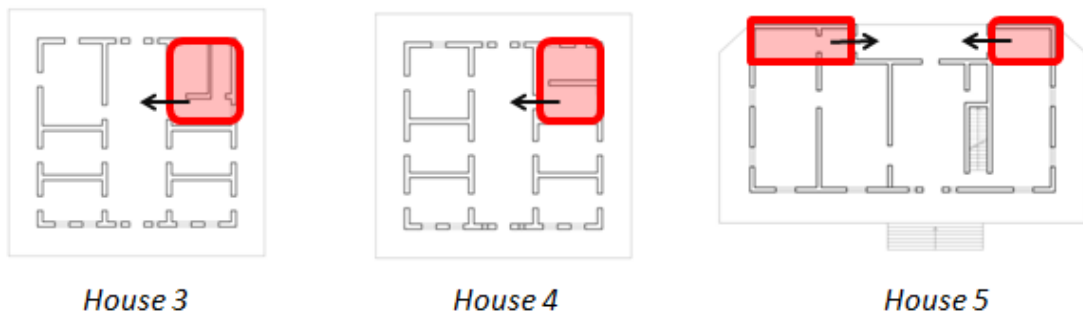


Figure V- 36: Service rooms and its relation with inside and outside in House 3, House 4 and House 5



Figure V- 37: View of windows of service rooms in House 3, House 4 and House 5

House 6 has difference from the other In terms of location of service rooms. As it is seen from the Figure V- 38 one of the service rooms, which is kitchen, is located left corner at the front part of the building. The other one, which is bathroom and toilet, is located left corner at the back part. Kitchen has same size (approximately 2 meter height and 1 meter width) windows with other but, bathroom and toilet has smaller (approximately 1.5 meter height and 1 meter width) windows. (Fig. V- 39)

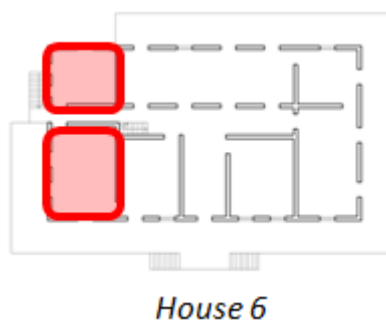


Figure V- 38: Service rooms in House 6



Figure V- 39: View of windows and toilet in House 6

According to the findings, the use of spaces & functional organization of analyzed houses divided into three basic layers according to the characteristics of located functions. These are (Fig. V- 40):

- **Layer 1** – More public functions are located there.
- **Layer 2** – More private functions are located there.
- **Layer 3** – Service rooms are located there.

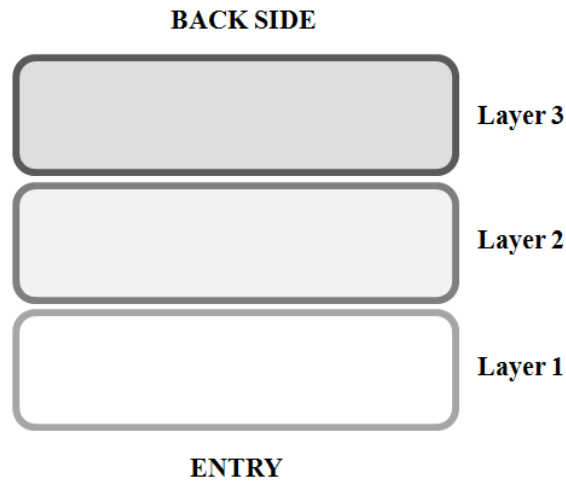


Figure V- 40: Three basic layers of located functions in general

## 5.4 Building Materials

Physical aspects of the region and the availability of the construction materials are very important in this issue. The availability and choice of construction materials and techniques in an architectural situation greatly influence, define and modify the form of the building. However, this does not mean that, each stone or earth house has same form in different regions of the world. Beside the accessibility to the material, the easy transportability to the site is another issue to be considered.

Stone and earth construction have a long history in the Cyprus Traditional Architecture. They are the most used traditional building materials because of its easy availability on the island (Ateşin *et all*, 2005).

When the buildings, which were constructed during the British Period, are examined in terms of the building materials, it seems that traditional building materials used to be selected. Yellow stone, which is unique to Cyprus, and the earth were common

construction materials in that time. In addition to those materials, marble and timber were used for the flooring (Özay, 2005).

Yellow stone, which is identified with the residential architecture of British Period, was commonly used in Famagusta during the British Period both government buildings and houses. Because of that, yellow stone is the common building material for the wall of Bungalow Houses in Famagusta and Kyrenia (House 1, House 3, House 4, House 5 and House 6). It was used to construct the both exterior and interior walls. It is not clearly understandable from the exterior or interior of houses because, all the walls were plastered and painted. In some parts of the exterior walls have been damaged. Beside this, the House 3 was burned and all the building materials are visible. Due to, used yellow stones in the construction of walls of House 1, House 3, House 4, House 5 and House 6 can be observed easily from the pictures. (Fig. V- 41)



Figure V- 41: Visible yellow stone in the construction of walls  
(Author, 2012)



The usage of concrete was observed in the construction of veranda floor in the House 3 and House 4. (Fig. V- 42) As it is known that, concrete was started to be used after the first quarter of twentieth century in Cyprus in the British Period (Tozan, 2008).



Figure V- 42: Visible concrete and steel in the construction of veranda in House 3 (Author, 2012)

Apart from the mentioned houses before, House 2, which is located in the plain of Mesaoria Region, has different kind of building materials. As it is known, earth is the most plentiful resource in the plain of Mesaoria Region of Cyprus. That is why, as in all villages in that region, most common building material was adobe (sun-dried mud-brick), which is made of earth, gravel, clay and water mixed with straw, grass or hairs of livestock and then made into blocks and dried in the sun. Also, it was used to construct the load bearing walls (Numan *et all*, 2003). Adobe is an easy to product and it gives a homogeneous and plastic expression to the house (Georgiades and Clerides in Oliver, 1997).

The other common building material in the Mesaorian Region is stones. The base (foundation) of mud-brick wall was constructed by small round fieldstones to protect adobe from the risk of ground humidity. Those stones were collected from the land surrounding the village or from the riverbeds (Ateşin *et all*, 2005). Also, that

collected stones were used as a base course, arch, floor and pavement, and sometimes as frames for the openings as well (Numan *et all*, 2003).

It is possible to observe those two mentioned general characters of Mesaorian Houses on the Bungalow House in Kouklia (House 2). In the figure V- 43, it is clear to see that, the wall was constructed by adobe. Also, pieces of round fieldstones were used under them because of mentioned reasons before.



Figure V- 43: Visible adobe (mud-brick) and small round fieldstones under it  
(Author, 2012)

When the roof construction of selected houses is examined in terms of used material, it is seen that, timber was the common building material for the roof construction.

(Fig. V- 44)



House 1



House 2



House 3



House 6

Figure V- 44: Roof view of House 1, 2, 3 and 6  
(Author, 2012)

It was probably, timbers were obtained for the houses, which are located in Famagusta, from the forest next to the city or from the Forestry Office Department during the British Period. Also, timber material was used for the balustrade in the House 4 and House 5. (Fig. V- 45) In addition to those issues, it is seen in the House 3 that, timber was used as a lintel on the openings (windows and doors). (Fig. V- 46)



House 4

House 5

Figure V- 45: Balustrade view of House 4 and 5  
(Author, 2012)



Figure V- 46: Tiber lintel on the openings of House 3  
(Author, 2012)

## 5.5 Construction and Structure Techniques

The analogy ‘Construction’ was defined in the book which, titled ‘A tale of two villages’, as; “As distinct from ‘structure’. How different parts are brought together to generate an integrated whole, standing up safely and resisting forces that work upon it.” (Ateşin *et all*, 2005)

There is a strong relationship between the material use and the construction techniques. Both of them can be explained under a common title. The way of construction techniques in some cases totally depend on the selected construction materials. Each material requires a specific construction way or technique.

Also, it is possible to mention about that relation between the construction materials and structural system. The characters of selected materials define the structural system. In addition to this, infill materials can be considered as a part of the structure as well.

Construction and structure techniques of the foundation & base course, floor, wall and roof of selected cases are thoroughly examined for all of the cases in the following.

### **Foundation & Base course**

In the House 1 and House 5, yellow stone pieces were used to constructing the foundation part of building. As it is seen in the Figure V- 47, walls are not started exactly at the same level with earth. The foundation level of building was raised above the natural ground level by around 3.50 – 4.00 meter. Houses are not sit on a flat land. Due to this, the height of base course is not standard all around the both houses. It can change depends on the slope of the land. Like the walls, foundation part of the house was plastered and colored as well.



Figure V- 47: View of foundation level of House 1 and House 5  
(Author, 2012)

It is observed from the House 1 that, the construction technique, which yellow cut-stones were connected in an order for strong bonding, is continued until where the foundation was finished in every corner of the foundation of the house. By this method, foundation was become more stable and durable.

It possible to classify the House 3, House 4 and House 6 in a different group under this title because, as it is mentioned before, those buildings have basement floor under the ground floor level. Like with the previous cases, foundations of those mentioned buildings were constructed by yellow stone but, the foundation parts are not visible in that three cases. Pictures, which are shown below, were taken from the back side of the buildings. As it is observed from the pictures, there is a not level difference between the level of basement floor and ground level. They are almost at the same level. (Fig. V- 48) Although, they are at the same level, there is not risk of flooding for the basement floor because, the slope of the land continuous. (see Fig. V- 57)



House 3

House 4

Figure V- 48: View of basement floor level  
(Author, 2012)

When the construction of foundation of Bungalow House in Kouklia (House 2) is examined, all the traditional methods belonging to the Cyprus Traditional

Architecture can be observed. The foundation was constructed by pieces of round fieldstones. (Fig. V- 49) The ground was excavated to construct the foundation. In fact, there is not any mountainous area, where they could have those stones, around the village, those fieldstones were probably collected from the river beds. In the same way, which is applied in Famagusta case, the foundation was not finished at the same level with the earth. Those rocks at the foundation level were left without applying plaster. It was finished above the ground level. In some part, this height can be around 100 – 200 mm and 1000 – 1200 mm depending on the amount of stone found for construction and the slope of the land.

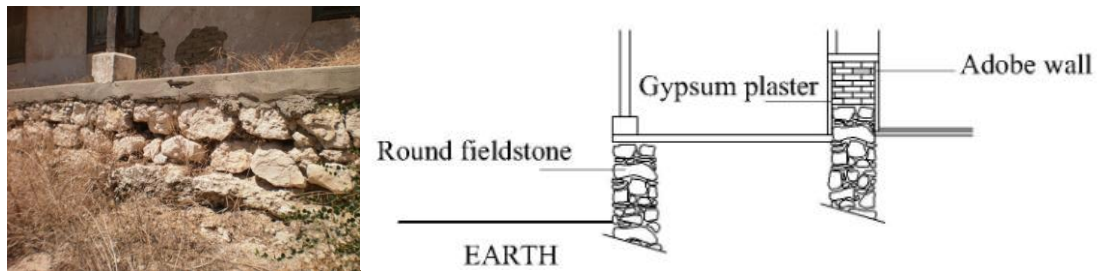


Figure V- 49: Foundation & Base course in House 2 (Rural area)  
(Author, 2012)

### **Floor**

Houses (House 3, 4 and 6), which has basement floor under the ground floor, have timber constructed floor system between the ground and basement floors. As is it seen from the pictures in figure V- 50 and 51, bigger timbers were put parallel to each other and the smaller ones were put on them. Those timber materials were covered with wood material again.



Figure V- 50: Timber floor views of House 3, 4 and 6 (Author, 2012)

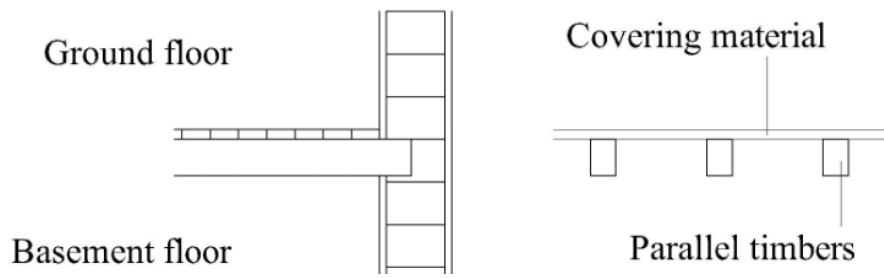


Figure V- 51: Floor in House 3, House 4 and House 6  
(Author, 2012)

### Wall

In the House 1, House 3, House 4, House 5 and House 6, yellow stones were used to construct the both exterior and interior walls. They are around 300 mm in height. In terms of structural technique, it is clearly said that, load bearing structure method was used for this building because of the advantage of used material (yellow stone). Mortar was used as bonding material between the yellow stones. As it is shown before, the way of construction of corners is clearly observed. Yellow cut-stones (approximately 30 cm height) were connected in an order at each corner of building for strong bonding in House 1, 3, 4 and 5. (Fig. V- 52)

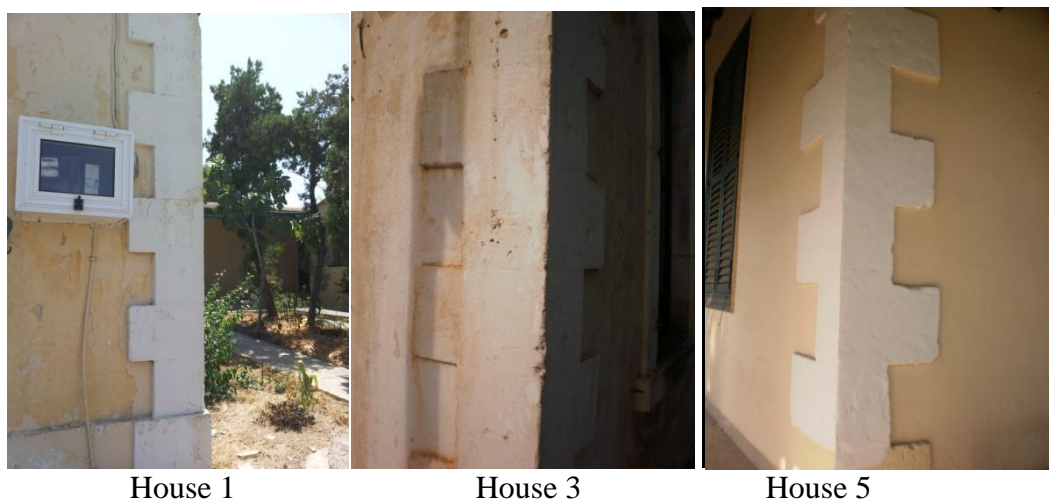


Figure V- 52: View of building corners in House 1, 3 and 5  
(Author, 2012)



Also, it is possible to mention about that, the door and window openings on the walls were define with the frame, which is constructed with pieces of yellow stones again, in the House 1, 3 and 4. (Fig. V- 53) Beside this structural importance of this method, it provides an ornamentation and aesthetic for the façade organization.



House 1

House 3



House 4

Figure V- 53: The frame of openings in House 1, 3 and 4  
(Author, 2012)

As it known, adobe (mud-brick) is the main construction technique for the wall construction in the region of Mesaoria. This issue was applied in the Plan 2 as well. Foundation, which was stone constructed, was carrying the load bearing adobe walls above. It is obvious in the Fig. V- 54 that, the height of the stone foundation is more than the height of the foundation of veranda. It is around 3 meter higher in comparing with outer foundation. Also, these stone foundations protect and isolate the adobe walls from the rising damp from ground. All the walls were finished with white gypsum after constructed the house.

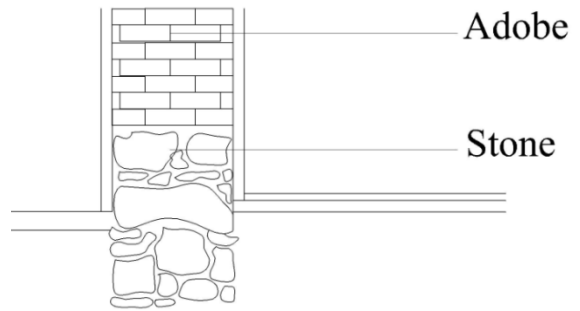


Figure V- 54: Adobe and stones in construction of wall in House 2  
(Author, 2012)

The door and window openings on the walls were define with the frame, which is constructed with timber. Although it is not visible, timber was used as a lintel on top of the opening. This timber frame, compared to House 1, 3 and 4, is simpler; there is not concern of decoration or aesthetic. (Fig. V- 55)

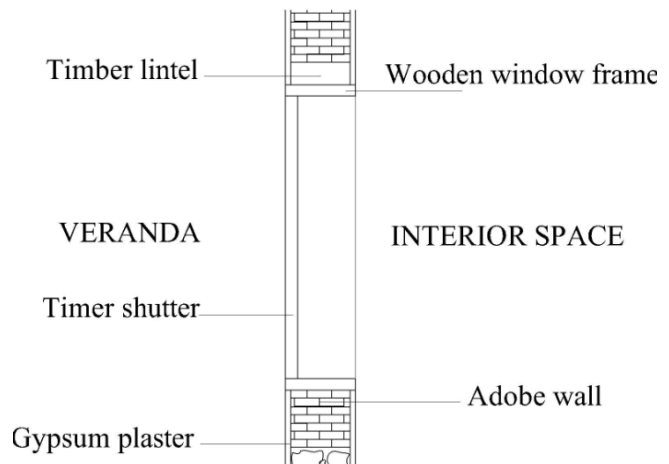


Figure V- 55: View of window in House 2  
(Author, 2012)

### Roof

Roof construction technique is very similar in all of the cases. All of them have hipped roof type with an extension over the veranda. The common material is timber. The parallel timbers were put next to each other and the smaller ones on top of them (same logic with the floor system of House 3, 4 and 6).

In the original form of Bungalow Houses, roofs are steeply pitched in order to facilitate easy run-off rain water through the ground. In all cases in N. Cyprus, this originality of roof character was kept. As it is seen in the figure V- 56, Plan 1 has more complicated roof shape because of its plan organization. The other cases have very simple roof shape.

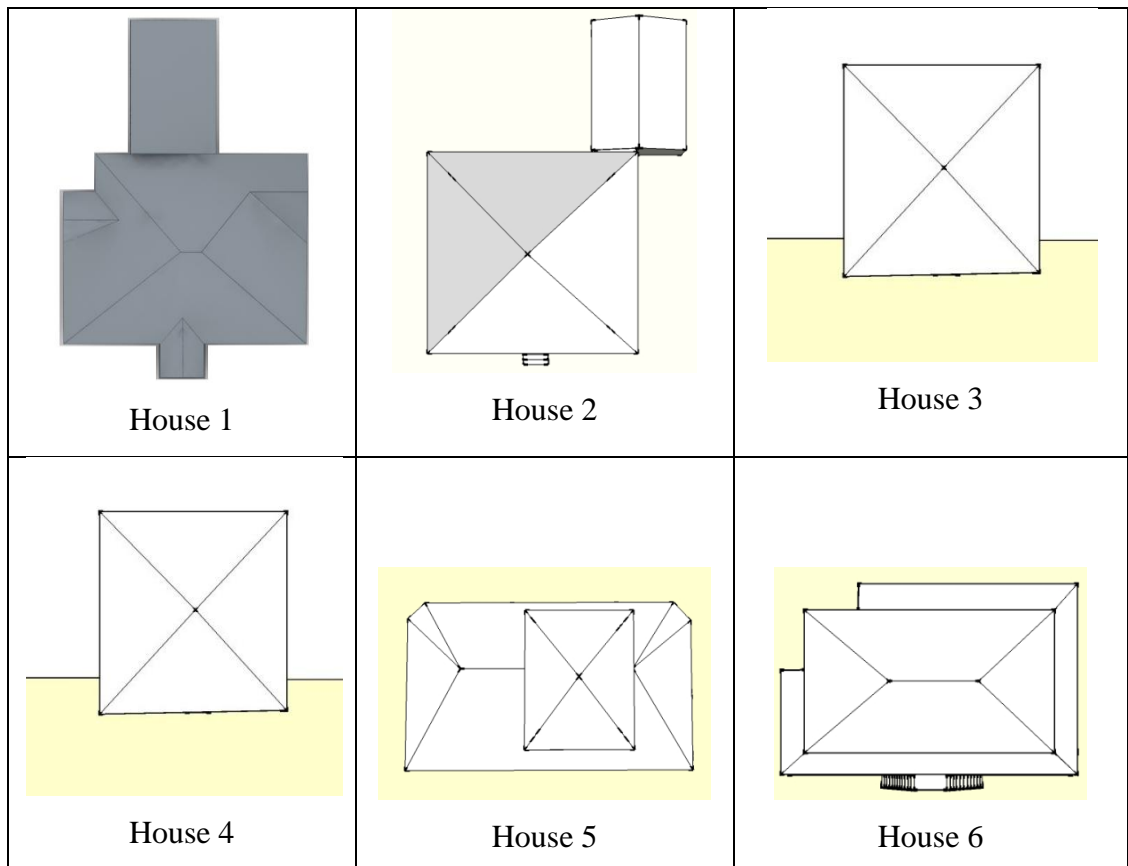


Figure V- 56: Top view of roofs  
(Author, 2012)

## 5.6 Environmental Considerations

Several important factors such as; climatic context of region, environment modifying features, orientation are some of the environmental issues which must be considered during the designing and constructing the houses. Also, the consideration of wind and sun direction, cross ventilation, place of fire places, ventilation hole, arrangement of functions and variation of rooms are all important factors that can be mentioned under this title. In the following, all cases will examine according to the environmental concerns which are mentioned above. Before starting the analysis of Bungalow Houses in terms of environmental issues, it will be helpful to give brief information about the physical and climatic characters of each region (Famagusta City, Kouklia Village and Kyrenia City), where the cases are located.

City of Famagusta is located at the eastern part of the Island. This kind of regions is called as Coastal strips, where is the most typical Mediterranean area in Cyprus with wide and flat around, alluvial and fertile soils, extensive beaches, backed by sand dunes or salt flats (Dinçyürek, 2002). There is a high humidity level in the city because of its closeness to the sea. According to the statistics of Department of Meteorology of TRNC, the annual average of humidity is around %70 – 71 and the annual average of temperature is 19, 3 – 20, 2 centigrade.

The village Kouklia is located at the central part of the Island. This region is called as Central Lowlands (or Mesaoria) which is the largest and driest region of the Cyprus. It has hummocky topographical character, long hot summers, moderately cold winters with little cloud cover and high summer aridity and 350 mm and less rainfall

(Dinçyürek, 2002). The annual average of temperature is 18, 3 – 19, 2 centigrade of this region.

The city of Kyrenia is located at the north part of the Island. This region is called as Coastal Highlands, where there are vertical slope, thin or absent soil, plentiful water. Also, it has a humid atmosphere (Dinçyürek, 2002).

Houses are investigated according to the determined factors such as; position, orientation, used material, ventilation techniques, etc. in the following part of this section.

It is seen that, Bungalow Houses in North Cyprus are positioned in two ways. One of them is on a flat topography and the other one is on a sloped topography. House 5 and House 6 can put in a first category (positioned on a flat topography). Although both of them are located on a flat land, House 5 has one room first floor and House 6 has basement floor for sheltering the livestock. It does not mean that, there is a not level difference between the earth level and ground floor level. As it is state before, base courses of all cases are elevated up from the earth level.

House 1 and House 2 are contained within the other category. Although the environmental context of those two houses is different from each other, they are positioned in a similar way. House 1, which is located in Famagusta, is positioned on a hill. The land, where the house stand is flat but, there is a level difference between it and the road level (Fig. V- 57)

Although the House 2 is located in a Central Lowland (Mesaoria), similar with the House 1, it is located on a hill as well. As it is observed from the Figure V- 57, house was constructed away from the road.

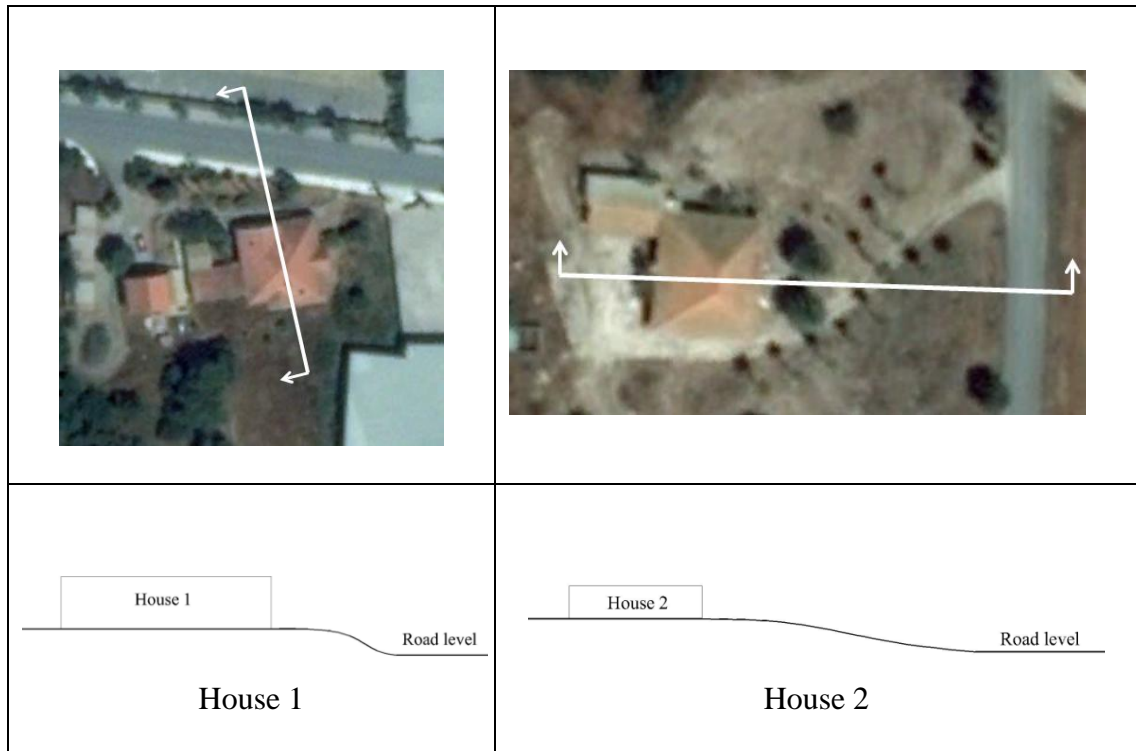


Figure V- 57: Position of House 1 and House 2 on sloped topography  
(Author, 2012)

Beside the House 1 and House 2, House 3 and House 4 also can be put in the second category however; there is a difference between them. House 3 and House 4 are positioned on a sloped topography but, not exactly on the land, they are located on the slope of the land. (Fig. V- 58)

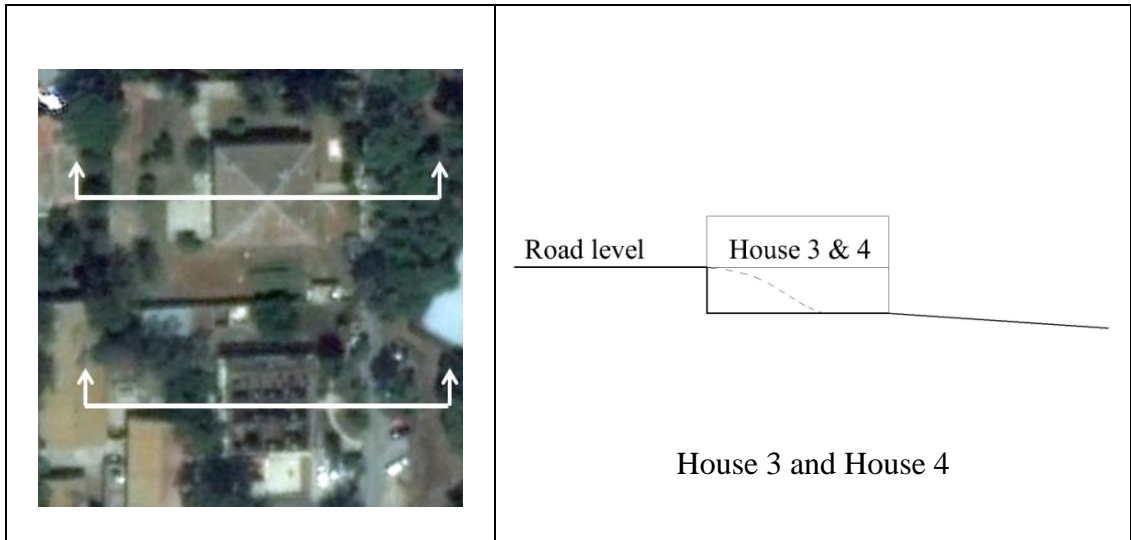


Figure V- 58: Position of House 3 and House 4 on sloped topography (Author, 2012)

There is also variation in terms of orientation way of Bungalow Houses in N. Cyprus. For example, House 1 and House 2 are oriented through the east direction, House 3, House 4 and House 5 are oriented through the north east direction and the House 6 is oriented through the west direction.

It must be said that, the street relation of house plays a determinant role on orientation. Except the House 1, all the houses, which are located in an urban area, are oriented according to the street (road), which passes in front of the houses. They are directly oriented through the road. (Fig. V- 59)

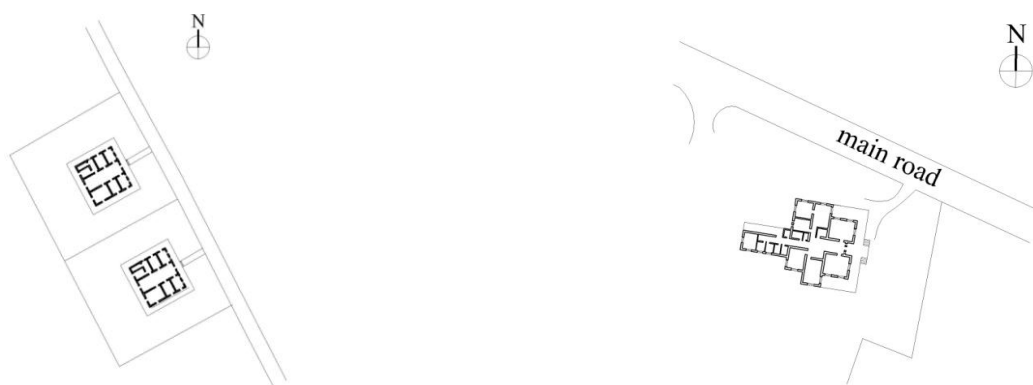


Fig. V- 59: Orientation of House 3 & 4 and House 1

It is though that, the existence of sea view could be effective on the orientation of the House 1. From the front part of the building, which is veranda, it is possible to see the sea view directly. Also, this east way orientation provides natural ventilation for the interior spaces for the summer. The breeze wind, which comes from the sea during the summer time, directly enters to the building from the front part. This natural ventilation becomes a cross ventilation at the interior spaces because of the access from the central hall of building to the back side, where the service parts are located.

As a result, it can be mention that, there is not any concern about the house orientation in urban context in general. As it is known, south direction is very important in the Traditional Cyprus Vernacular Architecture to get benefit from the sun lights during the winter season. It can be said that, there is not that kind of concern for all of the cases. In this situation, rooms, which are located on the north side part of each building, are not getting any sun light during the winter because of the orientation.

It is mentioned before that, traditional building materials, which are yellow stone, earth and timber, were used during the construction of Bungalow Houses. Those materials have climatically advantages. Earth material, which is used in House 2 in rural area, is acting as an insulation material. It keeps the indoor temperature warm during the winter and cool during the summer season. Other houses were constructed with yellow stone. Like the earth material, this material also has good performance in terms of climatic. Timber material was used for the construction of intermediate floor in House 3, House 4, House 5 and House 6. It is known that, when the air becomes



hot, it increases. Due to this situation, timber material also starts to warm up and provides heat for interior spaces.

Another important character is having a semi-open veranda in front or all around of the building for the Bungalow Houses in general. This feature had a great importance in initial form of Bungalow Houses because; it provided privacy, shade, taking cooled air and available breeze to the indoor spaces. In addition, it provided an opportunity to sit under it during the rainy day and night. All the examined cases have veranda either only at front part or at all sides of the building. That veranda (in two cases) provides a cool and comfortable outdoor and indoor space during the summer season in all houses. It protects the walls and windows from the direct sun light, and provides the possibility of continuing the ventilation of the house.

Existence of shutters is common in all cases. Each type of openings has shutter in front of it and they are in a green color in general. These shutters create privacy for the indoor spaces. Furthermore, they provide a shadow. They prevent the direct sun lights. In addition, they prevent the wind to enter towards the indoor spaces as well.

It is mentioned before that, there is a high humidity level in the Famagusta region and this humidity affects the construction materials of this building in a bad way. A specific way produced in House 1 to prevent and protect the yellow stones, which were used to construct the walls and foundations, and ground floor from the humidity. Small ventilation holes were put regularly all around the building at the level of floor. (Fig. V- 60) Due to those small holes, walls and foundations get fresh air. Fresh air helps to decrease the level of humidity.



Figure V- 60: Ventilation hole for the wall and foundation in House 1  
(Author, 2012)

In addition, there is a ventilation hole on the roof level. It provides natural ventilation for the roof part. (Fig. V- 61)



Figure V- 61: Ventilation hole for the roof in House 1  
(Author, 2012)

## Chapter 6

### DISCUSSION AND CONCLUSION

In Chapter 3, the history of Bungalow House model was discussed in detailed. As it is mentioned in that chapter, Bungalow House model became a colonial product during the British Colonization Period in India (1818-1947). This house model became a basic model of all the Bungalow type houses on the world as well. Although all Bungalow Houses on the world are not same, it is possible to indicate about general common features for each of them. The general characters of Bungalow Houses are listed below:

- **Free standing single-storey structure,**
- **Existence of a central hall,**
- **Symmetrical plan layout,**
- **Semi open space - veranda,**
- **Raised base platform,**
- **Pitched roof.**

As it mentioned previous chapters, it is possible to meet the Bungalow Type Houses in the different countries, continents of the world. Although it is originally based on Indian Bungalow House, there are particular differentiations between them due to the changing determinant factors of the region, where they were constructed, such as economical, social, climatic, cultural, and environmental conditions.

The identity of the Bungalow Houses in North Cyprus is thoroughly examined in the previous chapters by considering several factors such as: spatial organization, formal configuration, uses of spaces / functional analysis, building materials, construction and structure techniques and environmental issues. Based on the findings and discussions of all houses, it has been obtained that some of characters, which are listed before, have been kept and some of them have been changed.

One of the Bungalow Houses was constructed in rural settlement (Kouklia Village) and the other Bungalow Houses were constructed in urban area (Famagusta City and Kyrenia City) in North Cyprus. This situation gives more opportunities to examined cases in analysis part in a different scale in terms of local conditions.

Native form of Bungalow House is a single-storey. As it is stated before, this feature is a one of the characters of this type of houses. Contrary to this issue, two of the selected cases (House 3 and House 4) in Famagusta City in North Cyprus have basement floor under the ground floor because of the steeply topography . In addition to them, although the building (House 6), which is in Kyrenia City, is located on the flat land, it has a basement floor as well for the housing the livestock. The main housing floor is elevated and it is reached by a staircases. The other case (House 5) in Famagusta City has one room first floor. It is clear to mention that, land conditions are not the reason to explain, why it has first floor for this case. It is though that, there is a reason related with functional organization behind it. To sum up this issue, it can be possible to observe basement floor or first floor depending on the land conditions and functional organization system.

Based on the thorough analysis, it is possible to classify the plan schema of all houses into three basic components according to the characteristics of located functions. These are mainly:

- **Layer 1** – More public functions are located,
- **Layer 2** – More private functions are located,
- **Layer 3** – Services rooms are located. (see Fig. V- 34)

Having a central hall is a one of the common feature of those Bungalow Houses. As it is argued in the analysis chapter, all those components listed above are located around the central hall (entrance hall) in all cases. Due to, functions, which are located in those layers especially layer 1 and 2, have direct relation with the central hall. In brief, central hall is acting as a heart in all of the cases as it happens in the other examples.

Beside this, having a square or linear formal configuration is another important character that was kept in Bungalow Houses in North Cyprus. As it is shown in the figures in Chapter 3, Bungalow Houses in general have square and linear plan layout and also symmetrical front façade organization. As it done before, when the plan layouts of House 1, House 2, House 3 and House 4 divided into four pieces by drawing vertical and horizontal lines from the center, it is seen that same size pieces are obtained.. Also, this situation is true for the façade organization. If the front façades of them are divided into two parts from the center, obtained pieces are exactly the same. It is not possible to mention about symmetrical organization for rear and side façades. In the other Bungalow House, which is in rural area, all the

façades of main block have symmetrical façade organization. It is possible to mention about linear organization for the House 5 and House 6.

It is known that, semi open veranda was one of the important spaces in the Bungalow Houses in general. (Fig. V- 1) According to the results of analysis, it is obvious that, the importance of semi-open veranda lost its functional importance in Bungalow Houses in North Cyprus. Especially in House 2, semi-open veranda did not use as it was. The owner of house (Zühre Öztürk) said that, veranda and its roof just provided a shadow for the walls and that is why, indoor space would be very cool during the summer. For the winter season, it does not work quite well as in the summer. It prevents the sunshine to directly go through the indoor spaces during the day time. Also, when the current usage of House 1 examined, it is clearly seen that, semi-open veranda is not using for any activities as well. According to the explanations of workers, it just provides a cool air for the indoor spaces during the summer season.



Figure VI- 1: Original usage of veranda  
(King, 1984)

It is known that, the base platform of traditionally Bengali House and improved Bungalow House by British in India was raised up from the ground level because of the climatic reasons. India is located in a region, where there is heavy rainfall. Due to this situation, there is a risk of flooding. The level of base platform of Bungalow

Houses was raised up to decrease the level of potential damage that could be seen. Although the flooding risk is not common in Cyprus, this application was applied in all of the selected Bungalow Houses as well.

Another climatic consideration of Bungalow Houses in India was having a pitched roof. (Fig. VI- 2) As it is stated above, India has heavy rainfall. Due to this climatic situation, Bungalow Houses had pitched roof to provide an easy, quick transport of rain water from the roof to the ground. Like the previous feature, although there is not heavy rainfall, this application was also applied in Cyprus; all cases have pitched roof style. It is possible mention about an advantage of those sloping roofs. It is known that, pitched roof with roof cavity is one of the roof types, which exhibits the best performance in terms of thermal comfort for indoor spaces during the winter and summer seasons.

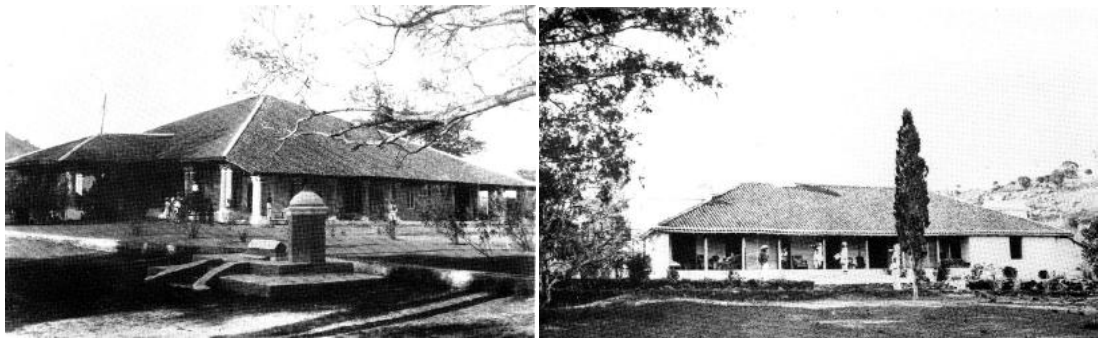


Figure VI- 2: Pitched roof  
(King, 1984)

The main aim of this study was to trace and evidence the evolution of Bungalow Houses in North Cyprus, which can also be found in the other British colonial countries.

In brief, it is possible to mention that, all the general characters of Bungalow Houses are also seen on the Bungalow Houses in North Cyprus. Although all of the features are available in all of them, some of the features lost their initial purposes such as single-storey, semi-open veranda, raised base platform and pitched roof. Those important characteristic features were applied for different purposes in the original model of Bungalow House but, they do not give service as they were. However, they provide other opportunities for the houses.

In this study, the British Colonial Period, which hold a prominent place in the late history of Cyprus, and the Bungalow House model constructed during this period are examined. Thus, this research will provide guidance for other follow up studies on developing housing culture.



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## **APPENDIX**

## **Appendix A: Samples of Catalogue**