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VAN YUZUNCU YIL UNIVERSITY
INSTITUTE OF NATURAL AND APPLIED SCIENCES
DEPARTMENT OF LANDSCAPE ARCHITECTURE

LANDSCAPE DESIGN AND REHABILITATION OF SPACES IN TAJEEL (ERBIL)

M.Sc. THESIS

PREPARED BY: Hawbir Omar MOHAMMED
SUPERVISOR: Prof. Dr. Şevket Alp

VAN-2018

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ACCEPTANCE and APPROVAL

This thesis entitled "**Landscape Design and Rehabilitation of Spaces in Tajeel (Erbil)**" presented by Hawbir Omar MOHAMMED under supervision of Prof. Dr. Şevket Alp. In the department of Landscape Architecture has been accepted as a M.Sc. thesis according to Legislations of Graduate Higher Education on 05/04/2018 with unanimity members of jury.

Chair: Prof. Dr. Şevket ALP Signature

Member: Dr. Öğr. Üyesi Mustafa ERGEN Signature

Member: Dr. Öğr. Üyesi Pınar BOSTAN Signature

This thesis has been approved by the committee of The Institute of Natural and Applied Science on 24.../04.../2018. with decision number 2018/20-I

Signature

Director of Institute

THESIS STATEMENT

All information presented in the thesis were obtained according to the ethical behaviour and academic rules frame. And also, all kinds of statement and source of information that does not belong to me in this work prepared in accordance with the rules of theses, were cited to the source of information absolutely.

Signature

Hawbir Omar MOHAMMED

ABSTRACT

LANDSCAPE DESIGN AND REHABILITATION OF SPACES IN TAJEEL (ERBIL)

MOHAMMED, Hawbir Omar
M.Sc. Thesis, Landscape Architecture Dpeartment
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April 2018, pages 101

This thesis concerns the subject of landscape design as a basic subject in architectural discipline. The research starts with discussing significance of landscape space as a design at historical district (Tajeel) from Erbil, and usefulness of some basic information about rehabilitation and green space, as well as doing a questionnaire poll between different personalities are living from Tajeel for understanding and implementing those demands. So, the special problem of the research is distinguished which is the absence of scientific source knowledge regarding the historical green space, framework is recognized.

After that the research found the available literature discussed separately about thermal heat, rehabilitation and green space, they are influencing and concentrating on the development of the spaces along with discussing, try to focus on the importance of Tajeel district and reanimating. Therefor we will be attempting to constructing a tourism green space, by making a general master plan of this district and installing some important function, due to reanimating a social activity and attracting travelers for the spaces. Also, this research concentrated on the subject of architectural heritage of Erbil and reflecting them from the surrounding function of spaces, also protecting cultural styles of Tajeel, by focalize on the subject of vernacular architecture about historical districts. Then the research finds a logical solution to reduce thermal heat island and regulating space location's with Tajeel orientation and master plan axis's, for creating a natural ventilation to reduce thermal heat island.

Keywords: Cultural heritage, Green space, Landscape design, Rehabilitation, Tajeel.

ÖZET

TAJEEL'DE (ERBİL) PEYZAJ TASARIMI VE ALANLARIN REHABİLİTASYONU

MOHAMMED. Hawbir Omar
Yüksek Lisans Tezi, Peyzaj Mimarlığı Ana Bilim Dalı
Danışman: Prof. Şevket Alp
Nisan 2018, 101 Sayfa

Bu tez mimarlık disiplininde temel bir konu olan peyzaj tasarımı konusu ile ilgilidir. Araştırma, Erbil'in tarihi bölgesi olan Tajeel'de, talepleri anlamak ve uygulamak için farklı kişilere anket uygulaması yapımının yanı sıra, bir tasarım olarak Tajeel'in peyzaj alanlarının önemini ve yeşil alanlarının ve rehabilitasyonunun hakkında belirli temel bilgilerin yararlılığını ele almakla başlamaktadır. Dolayısıyla, bu araştırma ile tarihi yeşil alanlarda bilimsel kaynak bilgisinin eksikliğinin önemli bir problem olduğu farkına varılmıştır.

Araştırmada daha sonra yeşil alanlar, rehabilitasyon ve termal ısı hakkında ayrı ayrı ele alınarak mevcut literatür araştırması yapılmıştır. Tajeel bölgesinin yeniden canlandırılmasının önemine odaklanarak, bunların mekanların gelişiminde etkisi üzerine yoğunlaşılarak tartışılmıştır. Bunun için bu bölgeye genel bir ana plan yapılıp, bir sosyal aktivite ve buradan geçen insanları mekanlara çeken bir işlev tasarlayarak, turizm yeşil alanı inşa edilmeye çalışılmıştır. Ayrıca bu araştırmada Erbil'in mimari dokusu ile Tajeel'in kültürel stilini de koruyup mimari konusuna odaklanılarak mekanların çevredeki işlevlerini yansıtıcı amaçlar düşünülmüştür. Bunun üzerine araştırmada, termal ısı adası etkisini azaltmak ve doğal bir havalandırma oluşturmak için Tajeel master planı ekseni ile alanın konumunun düzenlenmesinde mantıklı bir çözüm bulunmaya çalışılmıştır.

Anahtar Kelimeler: Kültürel Miras, Peyzaj Tasarımı, Rehabilitasyon, Tajeel, Yeşil Alan.

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Thanks to Allah the Almighty that, with His will, I could finally finish this thesis. Despite the tight schedule, this research is a result of support, and assistance of some person. I want to express my sincere appreciation, and special gratitude to my wonderful supervisor, Prof. Dr. Şevket Alp for their countless support, advices and suggestions. I am forever grateful for their words of encouragement, moral support and friendship.

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Last but, not the least, very special thanks to my dear family, particularly my sweet Mother and big brother Haji Dilman for being patient and they continues support and co-operation throughout the study, without their support this work would be impossible to finish.

2018

Hawbir Omar MOHAMMED

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SYMBOLS AND ABBREVIATIONS

Some symbols and abbreviations used in this study are presented below, along with descriptions.

Abbreviations	Description
HCECR	High Commission for Erbil Citadel Revitalization
UGS	Urban Green Space
POS	Public Open Space
UOS	Urban Open Space
GA	Green Area
GS	Green Space
MGS	Modern Green Space
C.S.B	Central Statistical Bureau
PET	Physiological Equivalent Temperature
UHI	Urban Heat Island
RH	Relative of Humidity
LAI	Leaf Area Index

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1. INTRODUCTION

1.1. Background

Between 65.000 BC and 35.000 BC northern Iraq was home to a Neanderthal culture, archaeological remains of which have been discovered at Shanidar Cave. This exact region is also the location of a number of pre-Neolithic cemeteries, dating from approximately 11.000 BC. Iraq mainly consists of desert, but near the two major rivers (Euphrates and Tigris) are fertile alluvial plains. The north of the country is mostly composed of mountains; the highest point being at 3.611 m point, The capital, and largest city, is Baghdad. Around 95 % of the country's 37 million citizens are Muslims, with Christianity, Yarsan, Yezidism and Mandeanism also present (Ralph et al. 2004).

Also Iraq has a coastline measuring 58 km (36 miles) on the northern Persian Gulf and encompasses the Mesopotamian Alluvial Plain, the northwestern end of the Zagros mountain range and the eastern part of the Syrian Desert. Two major rivers, the Tigris and Euphrates, run south through Iraq and into the Shatt al-Arab near the Persian Gulf. These rivers provide Iraq with significant amounts of fertile land. The region between the Tigris and Euphrates rivers, historically known as Mesopotamia, is often referred to as the cradle of civilization. This region was not always covered in desert. Ancient Mesopotamia was a green land where many plants grew due to the rich soil and occasional rain. The rich plant life allowed many animals to live in this region. People living there hunted and gathered animals and plants. Ancient Mesopotamia and the surrounding area is often called the Fertile Crescent or the Cradle of Civilization. The Tigris and Euphrates rivers supplied fresh water for humans, plants, and animals. Eventually these rivers would provide irrigation for the farms of the first civilization in human history (Crawford, 2004).

1.2. Open Space and Hanging Garden in Iraq

Since founding of Iraq it's people gave a special interest for recreational facilities, open spaces and parks, to a point where Iraq name has been accompanied with the names of paradise, garden and orchard. Tributary of the Tigris and Euphrates was flow in all districts of Iraq to promote its beauty and splendor, and the vast orchards extended along the banks of these tributary. Means of historical recreation in Iraq shared by both public and special people, Muslims, Christian and Jewish. Iraq residents during that period gave a special interest for the design of gardens and parks that due to their historical experience in Babylon hanging gardens. Legend says that the Hanging Gardens of Babylon were built in ancient Babylon around 600 BC. by King Nebuchadnezzar. It is said that the ground on which the garden was planted, by built and raising soil from the Euphrates River using pumps (Al-Samarrai, 2002).

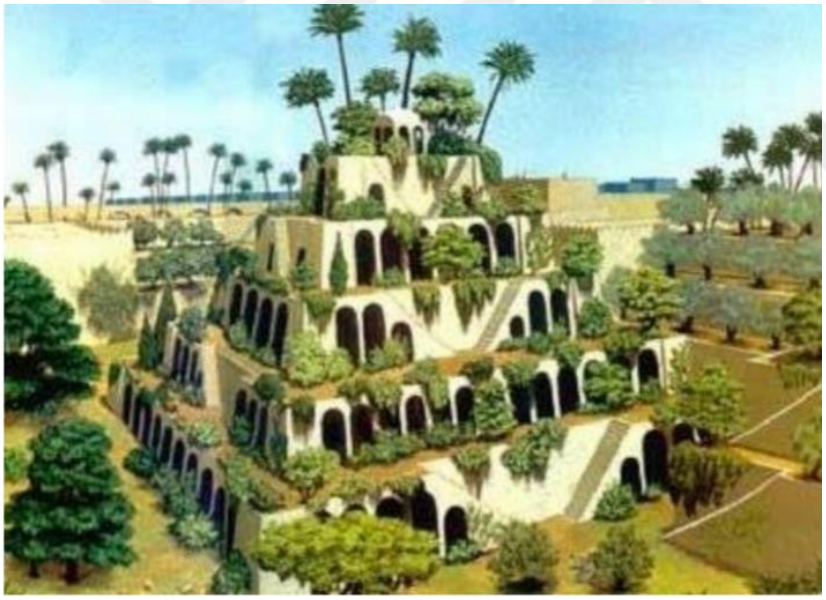


Figure 1.1. Hanging garden of Babylon, Iraq (Al-Samarrai, 2002).

Pumps also watered the plants, allowing the gardens a source of constant fresh water to keep things green and growing. If true, this was an engineering marvel for the times. But then, King Nebuchadnezzar was very clever. He built most of ancient Babylon, which was an incredibly impressive city. The Hanging Gardens of Babylon were rumored to be about 400 feet wide, 400 feet long, and over 80 feet high, and built on the palace grounds. Some historians believe the gardens were built in a series of platforms that all

together were 320 feet high. The Hanging Gardens had (paths, steps, fountains and gorgeous flowers), all build to make a homesick queen feel welcomed and loved (Salih and Ismail, 2013).

No one knows if the gardens actually existed, but the legend is a lovely one. If the gardens did exist, they would have been an incredible sight whether you approached the city by water or by land across the harsh deserts that surrounded the city to the west and south. The thought of the lush green gardens was so lovely in fact that the romantic ancient Greeks, with their enjoyment of legend and romance, selected the Hanging Gardens of Babylon as one of the 7 wonders of the ancient world. There were also many types of open space in Baghdad e.g. parks, orchards, rivers blanks, zoos and mosques courtyard. After 20th revolution public parks, open spaces and squares have been developed and increased. Green open space is very important to improve the environment and the weather of Baghdad, also it is very important to support resident's activities and interaction, So, recreation means were familiar in Baghdad, and promenade was essential activity in general cities of Iraq (Al-Rajhi, 2006).

Means of entertainment and open spaces in Iraq between 7th and 12th centuries were very variety and distinctive where first green space has been established in 797 in Harun al-Rashid rule, which was contain various types of green space functions. After 18th century Iraqi society and culture have been affected by previous policies and cultures in terms of living habits, A lot of parks, gardens and squares has been constructed in Baghdad city at that period. Also, the establishment of Parks directorate, which is an institution interested in public spaces and park establishment, in order to improve the atmosphere and for people recreation and relaxation e.g. Najebia Public Park, King Ghazi (Umma) Park and etc., most of these parks established in early 50's. Also, there were a lot of entertainment means in Baghdad, people did it in order to enjoy and social integration (Abdullah, 2003).

1.3. North of Iraq and Historical Districts of Erbil

Also, by the Iraqi constitution the northern district, is a proto region having political rights autonomous, officially called North Iraqi region, total area of this district 78.736 km², also general population number nearly (5.300.000), About the geographically of the region is largely mountainous, with the highest point being a 3.611m point known locally as Cheekha Dar ("black tent"). Mountains in North of Iraq include the Zagros, Sinjar Mountains, Hamrin Mountains, Mount Nisir and Qandil mountains.

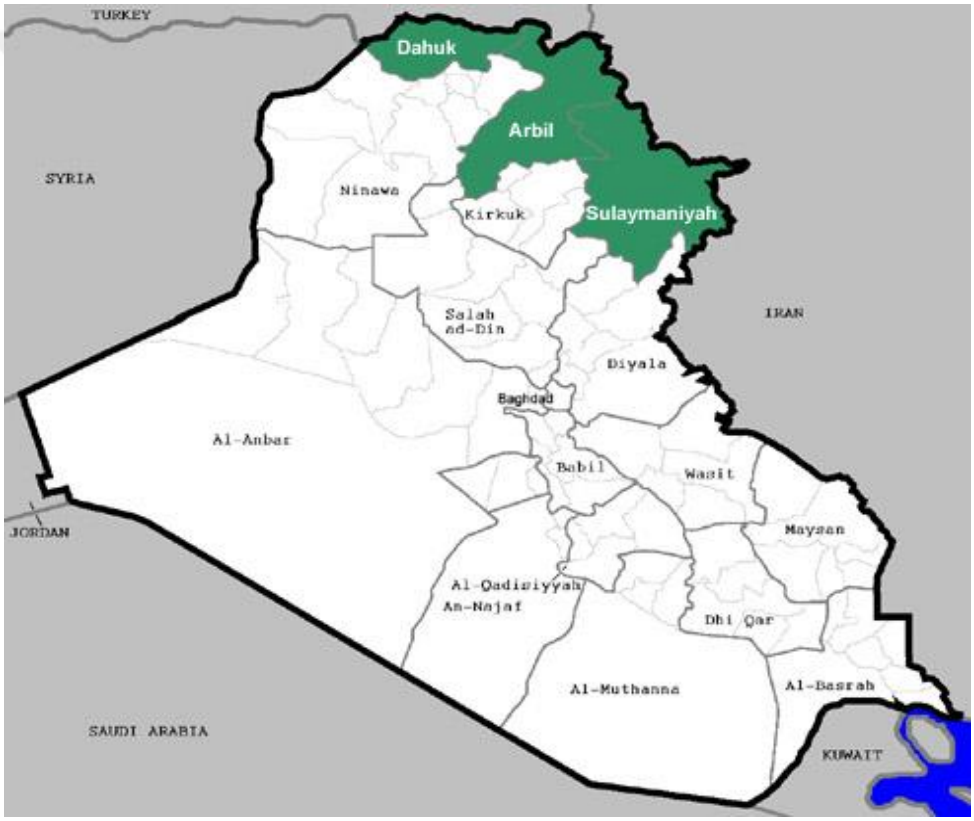


Figure 1.2. Geographically map, north of Iraq (Anonymous 2017a).

Also, the capital of this region is Erbil, with the population of approximately 1.3 million in 2009, Erbil Area = 15.074 km², it is the fourth largest city in Iraq after Baghdad, Basra and Mosul, At the heart of the city is the ancient Citadel of Erbil. The Hrrians were the first to establish Urbilum and expand their rule to the rest of northern Mesopotamia. Erbil was linked by a network of roads with Iran, Syria and Turkey and was an important trading and agricultural center.

There are many rivers running through the region, which is distinguished by its fertile lands, plentiful water, and picturesque nature. The Tigris river enters Iraqi north from south of Turkey. The mountainous nature of Iraqi North, the difference of temperatures in its various parts, and its wealth of waters make it a land of agriculture and tourism (O'Shea, 2006).

Due to its latitude and altitude, North of Iraq is cooler and much wetter than the rest of Iraq. Most areas in the region fall within the Mediterranean climate zone, with areas to the southwest being semi-arid. Due to the summers being less extreme, thousands of tourists from the hotter parts of Iraq come to visit the region in that season. Despite its reputation for having "mild" summers, they are still very hot for non-Iraqi standards though, with average temperatures ranging from 35 °C in the cooler northernmost areas to blistering 40 °C in the southwest, with lows around 21 °C to 24 °C (Culcasi, 2006).

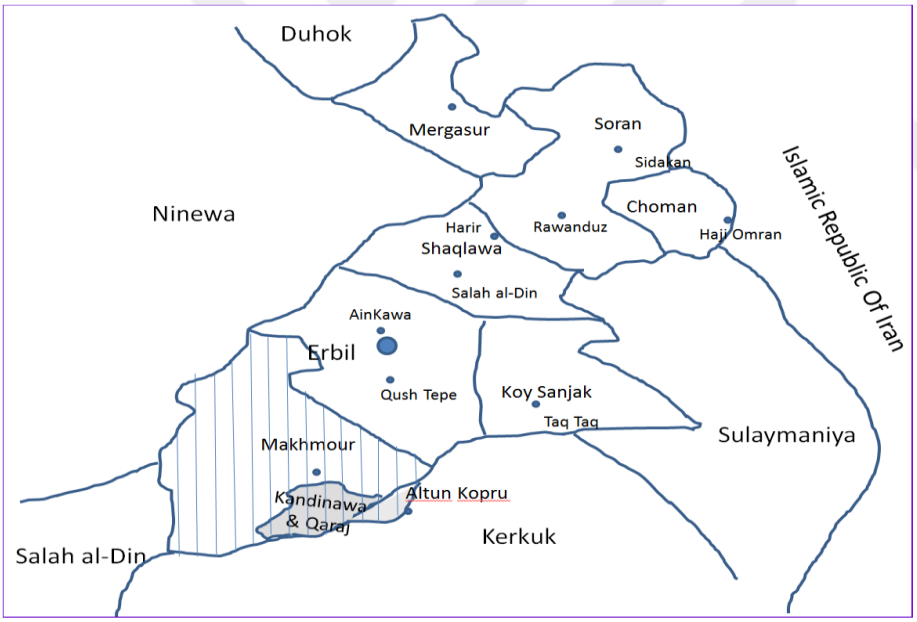


Figure 1.3. Geographically map of Erbil and surrounding districts (Anonymous 2017b).

The city is 390 meters higher than the sea level and the highest point is at the citadel which is 414 meters. It is also 320 km from the Iraqi capital Baghdad. It is located on a latitude of 36.11, longitude 42.2, Erbil is located 84 km south east of Mosul city and 90 km north of Kirkuk city. Also have Mountain of safeen distance from erbil 50 kilometers and high of this mountain from base 2000m, due to these historical

charectersitcs and regional powers cuased of constructing some traditional dsitricts like Citadel of Erbil, Minaret, Tajeel district, (Unesco Word Heritage Center. 2010).

Citadel: The citadel of Erbil is a tell or occupied mound in the historical heart of Erbil, rising between 25 and 32 meters (82 and 105 ft.) from the surrounding plain, the high of citadel protect against enemy attacks. the natural accumulation of the remains of successive, civilization and cultures over at least 6.000 years including the Ubaid culture, the Sumerian, Akkadian, Assyrian, Median, Achaemenid and Sassanian

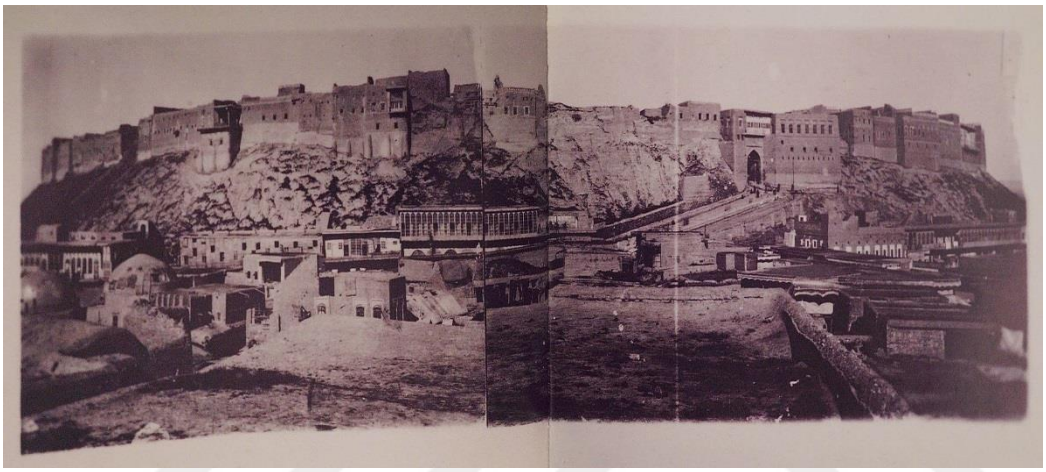


Figure 1.4. Historical view of the main entrance of citadel, Erbil (Anonymous 2017c).

Empires, the Ommayad and Abbasid caliphates, the Mongol and finally the Ottoman empires. The city was first mentioned in written documents in about 2,300 BC. During the 20th century, the urban structure was significantly modified, as a result of which a number of houses and public buildings were destroyed. In 2007, the High Commission for Erbil Citadel Revitalization (HCECR) was established to oversee the restoration of the citadel. In the same year, all inhabitants, except one family, were evicted from the citadel as part of a large restoration project (Nováček et al. 2008).

Minaret: The Mudhafaria Minaret is a minaret located at the Minara Park on the west region of Arbil. The minaret is 36 m high, was built in 1190–1232 AD (586–630 AH) by the prince of Erbil, in the reign of Saladin, Muzaffar Al-Din Abu Sa'eed Al-Kawkaboori, minaret is composed of a high octagonal base and a tall cylindrical shaft, with a balcony located between the base and the shaft. It is s built of baked bricks, the base being decorated with two tiers of niches with pointed arches, two on each of the eight faces that are inscribed in rectangular frames.

Figure 1.5. Perspective view of Erbil Minaret (Anonymous 2017d).

The balcony parapet is carved with thirty two small niches, the access door to the minaret steps is on the eastern side of the octagonal base and leads top to the balcony. From there a small door gives access to steps inside the cylindrical shaft that led to the second balcony which is now collapsed. The shaft tapers inward and is decorated with several bands of interlocking diagonal that are separated with thin bands. Examples of Kufi calligraphy can be seen, showing the names of Muhammad and Mas'oudi Muhammadi, the builders of the Minaret (Nováček et al. 2008).

Tajeel: Erbil owns some important historical areas, such as Arab district and minaret also Tajeel …etc. Tajeel is the name of an old district, the history of Tajeel dates back hundreds of years, when Jews and Muslims lived peacefully, That is located in the center of Erbil, near the famous Citadel, in to the south of the Citadel, and it is considered one of the most important areas of Erbil and, moreover the oldest settlement outside the citadel, the indweller before our day. There is no reliable information and reliability sources for the period when the Tajeel region grew, but on the basis of paintings written by a foreigner travelers and taken during their passage in Erbil, it shows that the Tajeel region has grown by more than 200 years ago, proof of this is the on-board stone found in the ancient Christian church at the Tajeel region, near Basha Mosque, dating back more than 200 years ago (Akram et al, 2016).

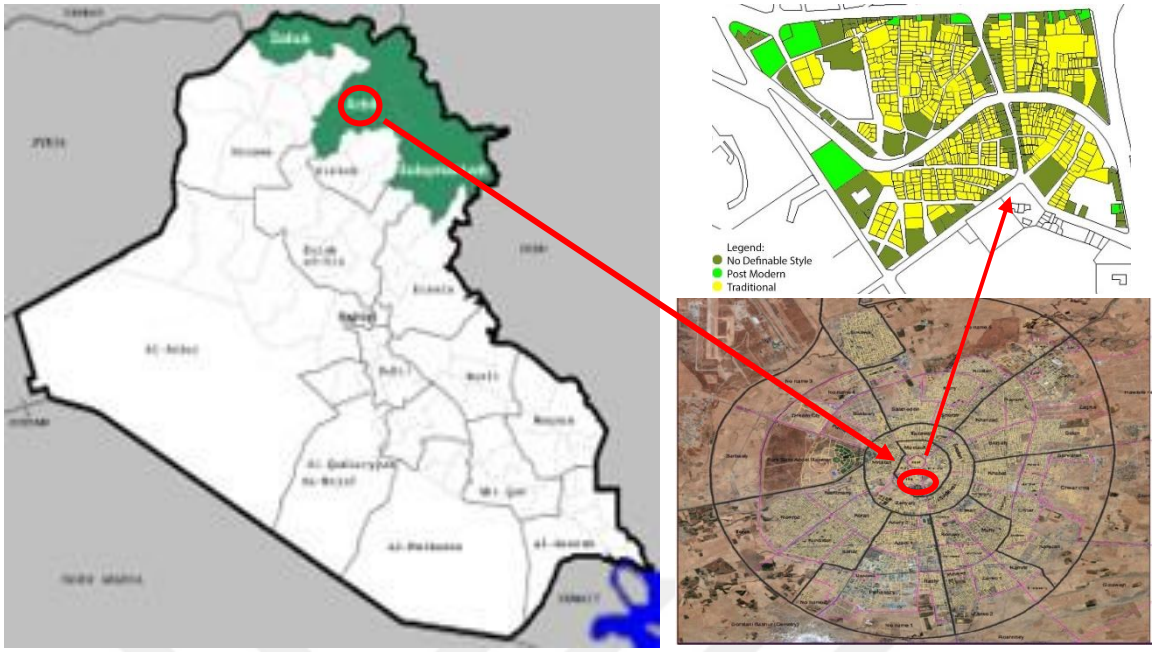


Figure 1.6. Location of Tajeel district according to Erbil map (Author).

Also the second evidence is the Assyrian emporer tombs exploring during digging and construction building at the surrounding areas of Tajeel, the tomb is consist of a big room within two graves the history of them refers to 1000 BC, while the Mitans and Assyrian were rulled at Erbil. Room dimensions is length 3m and the width 2.5m, also the height 2m, bside the graves, two human skeleton were found as well as some ceramist ans jewelery, archeology is an embodiment definition of civilazation and humanity, because discovery of cemetry was not first time doing at Tajeel and historical dsitricts of Erbil, that these evidences symbol of humanity live at the last millenary in Erbil and Tajeel District, Also about Tajeels community is formed as a texture in which Muslim Arabs were the majority, and Muslim Turkmen - in second place. Total number of people working as a jeweler and recently, also left the area to another place, It called Ankawa new modern city, where all Christians are going to live there. The windows were made of iron and wood, which were, naturally, available throughout the city (Hanish, 2017).

1.4. Aim of The Thesis

Significantly of green environment and cultural heritage sites for humanity. Is a basic aim of the study, therefor attempting for reanimate one of the important historical districts of Erbil city in Iraq, that is Tajeel by redesigning master plan of it, also creating active relation of main functions with the axis's and the site surroundings. The current situation of the area is not proper for a sustainable green center, therefore improving the quality of life and user satisfaction, we need to install some important functions in accordance with the site boundaries and constructing a new green space, by a calculating balance between masses and spaces in the term of the sustainability would be considered. In addition to the open green space and restoration of the historic buildings are important surplus of the thesis, therefore, local people and visitors of the site would be gained more relaxation than the current situation and they would probably spend more time at this district.

1.5. The Reason of Choosing This Project:

Iraq has important cultural values and they attracted tourist from every part of the world. But political and social problems in the region due to affecting many sectors and one of them is tourism and archeology. After unstable conditions now, Iraq has an uncertainty condition by many aspects. So this research will be improving the identity of city, tourism and sustainable protection of the historic districts, in addition insufficiency source of academic investigations and scientific articles about these historical districts, also lack historical implementation projects from Iraqi government in generally, Erbil's specially, in care of this thesis will try to choose one of the historical districts of Erbil, so we try to resolve these problems, by redesigning a master plan and rehabilitation for the buildings, also installation some historical and tourism functions, promotion relative of green area by designing a landscape space, these factors are a good encouragement to promote the value of this district and introducing architecture heritage for travelers.

2. LITERATURE REVIEW

In this part of thesis there would be given general information about green open space; the studies which have been done in term of this subjects and given examples from previous projects, to perform this proposal, it is necessary to understand some definitions and some theories of historic preservation and urban green spaces. It is also important to examine the efforts and effects of current measures and principles. This chapter is divide into two parts, first part: is general information and introducing about green space principles and rehabilitation process, second part: is focusing on some examples which are similar to our thesis concept, by using them like some principles for our space design, qualitative dealing with the historical district and doing suitability between surrounding of historical space and modernity of our design.

2.1. Open Space

Open spaces are one of the impressive cultural values of society. The height of society expressed by the level of progressing and conserving of their open spaces. Today's variable world, human significance and standards have been changed with urbanization. In this change, people were separated existing uses and created new districts. These changes were separate from country to country to the status of economic, geographical and cultural reasons. In addition, these areas were identified based on the same principles of human use. Culture has changed with urbanization. In this process, rural districts were converted into urban districts. These districts, are prevalent by mass of concrete. In these places there are small green spaces at the micro level. In the process of quick urbanization, was formed an unnatural environment.

At the development countries, physical and rational development of people was carried out in urban areas. This influence was unfavorable. With this change in urban districts, people entered into the desire for natural places. At the beginning, green spaces were constructed to resolve the natural distress of people. Urban space greenery has become a necessary part of environmental, beautiful and recreational value. The creation of urban green space systems has become must to have today (Thompson, 2008).

Figure 2.1. Green space design and human activity from Sovereign Street at United Kingdom (Anonymous 2017e).

2.2. What is Urban Green Space(UGS)

UGSs are urban areas have occurred, that semi-natural or natural the ecosystems were transformed into urban areas through human influences. UGSs provide the relation between nature and urban. In this context, green spaces are a reflection of the urban areas of natural or nearby natural spaces inside the city. Green areas are an extension of mostly landscapes throughout the city. as well as, urban green spaces equipping many environmental usefulness that have been constituted especially for urban residents. Increasing the free time of urban residents and working stresses and study improving their needs for green space. As a rule, the definition of the necessary working time and the increase in time is made by leisure, which attracting people to activities for self-improvement and relaxation of the soul and body. We need to give attention to two types of activities: the other one is the social relation between peoples. The inclination of people for fresh air, natural attractions and natural views, that reflect the natural comprehension of people; the latter reflects their social conduct (Ridder, 2004).

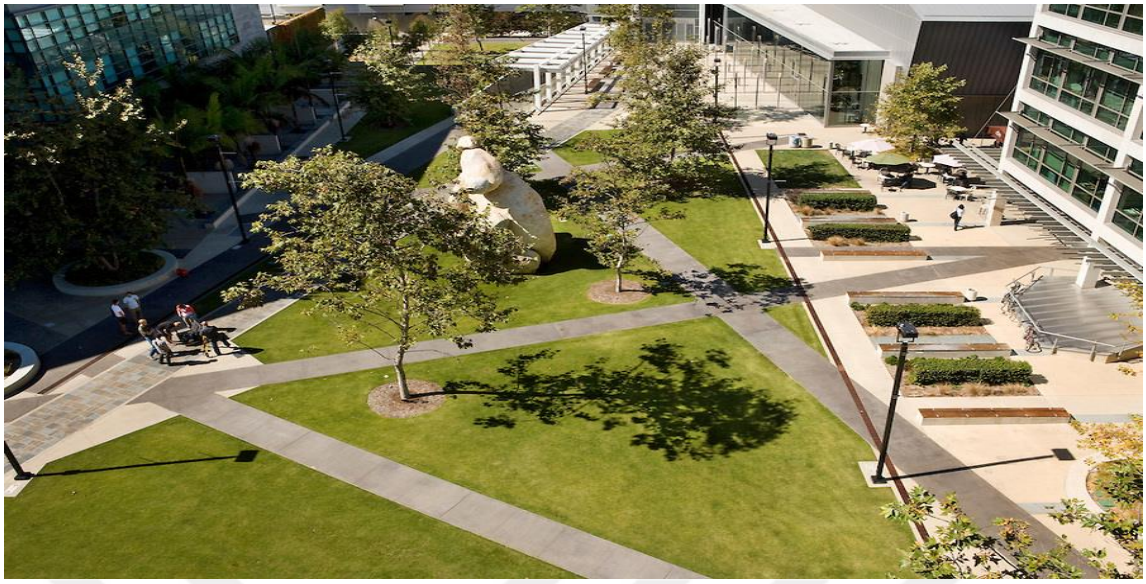


Figure 2.2. Open space and landscape design on the University of California, San Diego campus (Anonymous 2017f).

The territorial green space is based on the optimization of the natural environmental system and preservation and in fact indicate to a continuous suburban green space of large size. This will not only enhance the entire ecological ambient of the district and its neighbors, but also equip significant support for improving the environmental situation in the cities. In addition, foreword of suburban green space into the city also serves as the basis of environmental balance. In practice, the troubles of urban forests and agriculture should be given sufficient awareness (Wuqiang et al., 2012). Green space systems need an enhance in the spatial picture of UGS. The protection, design, management of UGS are at the top of the sustainability schedule and live ability. UGS play a key function in enhance the vitality of our cities and towns. The viability and quality of cities mainly refers to the design, management and green conservation as well as green and POS in demand to provide their role as a visual way and a significance of social environment, the social and the visual way. UGS are not only a significance component in housing districts, but also in business, relaxation, retail and other commercial developments (Jim, 2003).

2.2.1. Classification of urban green/open spaces types

There are various ways to classify green space and UOS, such as its size, the way people use it, its deliberate function, location, etc. various of green zones that can be used in different places throughout the city can be constructed as a result of the active organization of green space systems. In this context, GA have been classified according to different categories in accordance with spatial characteristics, state of characteristic and service purposes. Classification of green zones is shown in Figure 2.3 according to the characteristic (Byrne and Sipe, 2010).

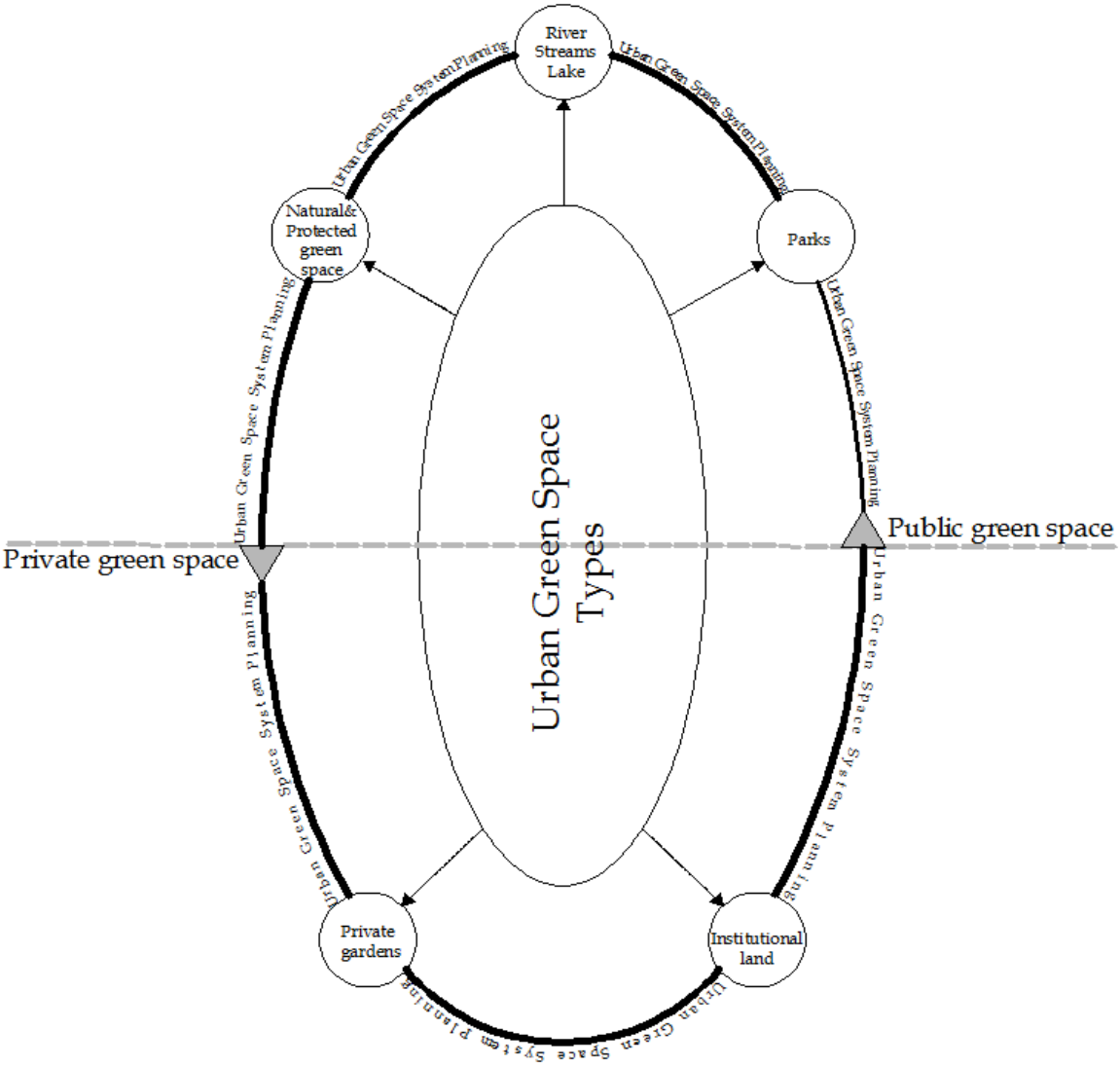


Figure 2.3. Classification of urban green spaces according to the characteristics (Byrne and Sipe, 2010).

2.2.2. Parks/public open space

Currently in the urbans there are confined green areas. Green spaces or POS are very significant in the lives of urban residents. People who live in urbans want to go outdoor (especially green spaces) when they have free time. They go to UOS or parks. Green spaces are designed for various types, functions and sizes. In parks, people can engage in a variety of activities. Geographical position and the several of objects in the green areas, and sometimes the grade of naturalness of parks. green space can be differently described as nature parks, pocket parks, city parks, district parks, public parks, parks, sports grounds, urban forests, etc. (Thompson, 2008).

Figure 2.4. Urban park space in Ankara (Thompson, 2008).

2.2.3. Benefits of urban green spaces

UGS have many roles and advantages. These roles and benefits are significance for enhance the goodness of life in urban areas. GS provide a linkage between nature and people (living in urban). Thus, these areas are very important for urban residents.
UGS are significance as functions and values for (Bilgili and Gökyer, 2012).

- Urban climate, surface water treatment, noise reasonableness and air purifying.
- As a guide of environmental variation.
- As part of the pervasion of alimentary.
-Power plant cultivations

- Biodiversity to preserve valuable urban areas, as shelters for species from rural habitats and as expanding corridors.

- Cultural and social values; for health, rehabilitation and convalescent, to provide relief and beauty, to provide opportunities for activity and negativity, as a space for citizenship, for education, as cultural heritage.

- Horticulture and specification; as a social function, as a history of urban landscapes, for the beauty and quality of life, equipping a reserve.

- Urban design; to give the city a comprehensible framework, to connect various scales and parts of the urban landscape.

2.3. Rehabilitation

The process of providing compatible use for property through repair, alternation and addition, while retaining those parts or functions that convey what has been identified as important cultural or architectural values.

2.3.1. Rehabilitation area

The process of making possible a compatible use for a property through repair, alternations and additions, while preserving those portions or features (conservation area) that convey what have been determined to be important cultural or architectural values.

Figure 2.5. Historical rehabilitation and space of buildings at Nagpur, India (Anonymous 2017g).

2.3.2. Conservation area

Is an area where maintenance is the basic planning objective but with some changes that time, space, and difficulties need to be met and resolved, depending on the size and function of the conservation area (Weeks and Grimmer, 1995).

It is important to identify and distinguish the conservation area clearly and accurately so as to identify owners of real estate or buildings within these areas, including within the conservation area

Among the most important principles of choosing buildings within the conservation area?

a. Selection (within the criteria mentioned above)

b. Renewal and expansion (the relationship of the part to the whole, modern to old, fixed and variable)

c. Efficient use and economic eligibility depends on the use that can be made of that building with concepts (Weeks and Grimmer. 1995).

2.3.3. Planning strategy in conservation areas

These areas are often ancient, with monuments of cultural significance (why use and rehabilitate old buildings?) And how?

a. These buildings are in response to the needs of the society and the individual in terms of aesthetic and artistic aspects, or to provide an urban translation of social values and comprehensive human needs in a simple and natural manner. Most of these needs are consistent with the concepts of progress and development.

b. The use of these buildings (reuse) for modern purposes in the historical line and historical nature of these buildings and these purposes include (political - cultural, museums, cultural and artistic centers.) The job should be whatever helps to reanimate the buildings and attract life for them. There are no fixed standards for rehabilitation, but each case is maintained in accordance with the requirements for restoration and reuse for each case (or building). These methods are often derived from the methods of restoration of the arts.

c. Most of these buildings require repairs not only at the architectural level, but also at the level of addition of infrastructure and services and linking them to the infrastructure of the modern parts of the city (because the deal is based on the part and its relation to all and urban interdependencies). The urban system must be integrated with the all levels considering the overall environmental level (of the rehabilitated building environment).

Figure 2.6. Renewable architecture style and building structures of Erbil, North of Iraq (Anonymous 2018a).

d. Finding satisfactory alternatives for the residents of these buildings to compensate them for the loss of their residence areas (if it is decided to use these buildings after development for purposes for reusing these buildings for them) Example: (Museum of Pioneer Artists, located in a large residence overlooking the river Sinak, dating back to 1909).

e. When determining the use of the old buildings and determining which of the modern functions can be occupied, thinking about the design characteristics of such buildings at the level of:

Provide the building and the structural condition and its responsiveness to the requirements of use?

The capacity of the internal spaces with the outside accesses of the building and the way it is organized?

The structure of the interior space and the degree of room lighting and the shape of exterior?

The presence of open spaces within the building (courtyards) (The highest organic homogeneity must be found between the characteristics of the building and the requirements of the job it will occupy)

f. Some uses, such as museums, require environmental protection (certain temperatures and humidity) to protect the antiquities and antiques offered. Some uses such as hotels, restaurants, and cafes require space specifications, ease of movement, tourism spaces for collecting different functions and service availability, Important is ease of access (In most cases the use of vehicles is prohibited near green spaces and heritage buildings)

g. When maintaining complete areas (streets or revival and shops) and re-use, it is necessary to think of dealing with the surrounding functions of the district, and strong relation with the inner spaces and accesses (Elnokaly and Elseragy, 2013).

Because the fourth dimension of architecture and urban design is the use, behaviors and human actions (for users of the urban environment), there must be homogeneity between these dimensions with the behavioral dimension Which gives the social identity appropriate to the urban space environments.

2.3.4. Urban environment

1-Behavioral environment

2-Human activity

2.3.5. Human uses

1-Physical environment

2-Design characteristics

3- Green Space

2.4. Modern Green Space Design at Athena,Greece

This project was under construction and implementing at Athens, Greece, the main idea is to construct modern green space (MGS), also join the two parks at the end of the intervention (Pedion Areos and Lotos Likavitou) with a green mass that will flow all along the intervention. By doing this, the architect designers, hope to bring back the greenery to an area that used to be a green zone in the outside of the old Athens walls and creating a green corridor that joins the old Athens with the new Athens. Also installing some important function's around the space and

Figure 2.7. Bird eye view of green space at Athena, Greece (Anonymous 2018b).

Protection heritage mass styles of the site surrounding's, analyzed very well the case in all aspects: traffic, activities, buildings, borders, accessibility, etc. From that analysis found a way to reorder using this spaces for different activities that, found necessary to introduce following different themes of classic Greek culture linked to specific spaces of the intervention: Art center, Archeology museum, Library, Restaurant, and Philosophy. Design strategy the result is an urban park-like intervention that creates a global green aspect and fills with life and activities the heart of Athens.

The green space idea is trying to create a coherence between site surrounding elements and masses, also keep the sense of green corridor that connects the ends parks. Treatment of was a major opportunity to address all these points, so it has been carefully

designed the strategy by which this pavement is responsible for resolving this double demand. The final solution is a continuous olive tree abstraction floor that tights all the intervention together and acts as a green connection and a green flow between the two parks at the ends of the actuation. To translate the olive tree light filtering effect to the floor have been chosen a hexagonal pattern that adapts to almost all geometries and situations, also using like a device shading for reducing sun light effect (Anonymous 2018b).

Figure 2.8. Surrounding function of green space at Athena, Greece (Anonymous 2018b).

Figure 2.9. Cultural heritage buildings at the modern green space at Athena, Greece (Anonymous 2018b).

2.5. Landscape and Rehablitation of Lativian Center

According to center of Latvian, we are focusing on theoretical implementation of landscaping and rehabilitations, the landscape space of Latvian rehabilitation centers was checked and analyzed in a social context. The centers were selected not only for their aesthetic quality, but also contained this functional landscape values. parks and Rehabilitation gardens are spaces, People do more than receive medical care, rest in the natural environment, engage in physical treatments and leisure without considering social status. It includes age, sex, nationality, political opinion, religion, and so on. The goal is to sum up how the Latvian rehabilitation gardens and park spaces for supporting physical activity of patients in open space and analyze the practical quality of the landscape of Latvian gardens and parks. Considering the quality of the rehabilitation environment, it is important to evaluate their availability and usability, perhaps a wider range of users, which is characterized as a ecumenical design. In Latvia, direction conceptual of the design is relatively new, it has already been actively accepted and applied by experts. open space scheme of the rehabilitation landscape center directly affects how a person feels and lives in the green space (Balode, 2014).

Figure 2.10. Latvian rehabilitation space regarding activity accesses (Balode, 2014).

They model not only the material quality of the environment, but also improve the easily communication of people and the relation to each other. it is significant for the environment of Latvian rehabilitation spaces, that they are friendly, because they are designed for using by all social groups and individuals.

Figure 2.11. Rest green space in the rehabilitation center of Brukna Manor, Bauska (Balode, 2014).

Most of these peoples visit the rehabilitation center, where they should be feeling comfortable at the garden and park spaces in the outdoor environment and precious attitudes from the rounding people. In such a case, in addition to requiring an essentially safe and uniform surface, as well as these spaces are enough to turn in the wheelchair. Such an accessible environment Not only the people with movement obstacles, old people and injuries, but also for the mothers using of pram. Quality ways of rehabilitation center and economic aspect, must be impossible to remain free in nature for every person, also using wheelchair, and for patients to communicate with everyone others. The landscape design of Lativian rehabilitation center is most directly affects how a person feels and lives in landscape. this creates not only a material quality of environment, but also modify opportunities for people to communicate (Balode, 2014).

During the recovery for any person (male & female) communication with their surrounding people and relatives is essential. based on the functional space of the environment and study of aesthetic, also rehabilitation gardens should provide a landscape space of multifunctional, that allows any person to find the most suitability and appropriate for themselves. It perhaps quiet, separate rehabilitation space of landscape centers for reflection, meditation and sitting alone, or usability other landscape spaces for

communication and relatives between them, when designing and creating a circulation of green spaces and rehabilitation gardens, observation of the equality of concepts and “discrimination" in rehabilitation gardens and parks should be understood as available for sufficient information about the environment information’s and the availability of a physical environment for all patients and visitors. Patients should be given the opportunity moving freely in wheelchairs, providing for visitors about rehabilitation gardens and parks with a road surface quality, ramps with an appropriate slope, railing, for easy movement (Balode, 2014).

2.6. Assessment Impact of Landscape Design and Urban Green Space Parameters on Thermal Comfort

Urban green spaces (UGS) can help for mitigation urban thermal island effects and thus thermal comfort due to the influence of landscape design parameters on the features of the greenery cover. The contemporary work explores the potential for changing the thermal comfort of a long belt park (about 9 km) in Beijing and the impact of its landscape parameters through numerical modeling (Morakinyo and Lam, 2016).

The results of the current work give detailed knowledge of the advantages of urban green space and give recommendations for urban landscape planners and policy makers to improve the comfort of urban conditions. quick urbanization brings not only a comfortable modern lifestyle in condition of functional centralization, but also a permanent deterioration of the urban environment, such as the influences of the urban thermal island (UHI), which can reduce urban thermal comfort. Increase the portion of urban green space (UGS) and the better parameter accommodations of the landscape, can influence alleviate this problem, as discussed by scientists over the past decade. These landscape parameters include water body, vegetation, footpath functions and open spaces and construction (shading devices and building compositions).

Vegetation components of urban green spaces, such as trees and lawn, allow cooling influences by transpiration and evaporation of water released from the leaves, in addition, trees can also give a cool shading place under a canopy by disrupting direct solar radiation, so that the feeling of thermal comfort can be improved in both the surrounding adjacent and the covered areas (Masmoudi et al. 2004).

Reported that the attendance and situation of vegetable masses are quite important parameters that affect the surrounding microclimate. Researched the cooling influences of vegetation, they also found at the research, that vegetation's having more influencing on the discrete relative of humidity (RH) values and microclimate with higher temperatures. A specific study showed that the (Masmoudi and Mazouz, 2004).

Dissemination of total and solar radiation directly through the crown of street trees can be effectively less within the foliated place. Investigated the potential for enhancing thermal comfort of 8 species trees and assessed the influence of the leaf area index (LAI), the trunk and total tree height, indicating that tall trees with a low sun shade density with higher trunks have a higher potential for slowing down the thermal comfort for shallow ravine and open areas. Ground material surfaces also having effect on the microclimate, that the grass given a cooler and more humid local climate than the surface of the asphalt material, when used as the ground material, asphalt material due to absorption of solar radiation also this reaction one of the increasing reason of temperature, evapotranspiration and grass cases are effect for yields to cooler microclimate.

The site study at Beijing, Beijing's summer is qualified by warm and humidity, converts to outdoor thermal comfort and urban microclimate. The relic park of the Yuan dynasty, located in the northern part of Beijing, it is designed to protect the relics of the city wall, the site study shape is belt green space. a retroactive Yuan dynasty, along the river of the northern moat. The total width of this park 118 m with an average length of this park is 8.68 km. The total area is 1.027.876 m², of which 78 % is covered with greenery. This study explores the impact of urban green space on thermal comfort in views both on and the entire park on (water body and building, material quality of the ground and grass, 10-meter tree,20-meter tree). Using the proven numerical simulation, the complex spatial scenario of thermal comfort in the entire belt-park was obtained.
This method can be used for cases of a long waist green space, where accurate field measurement is hardly possible to realize (S. Masmoudi.2004).

Based on this study results, for improving thermal urban comfort, must be the landscape designers implementing the following points below:

a-Increase the coverage of taller trees. While it is diffusion and coverage the great number of vegetation always benefits for urban thermal comfort, the study results also

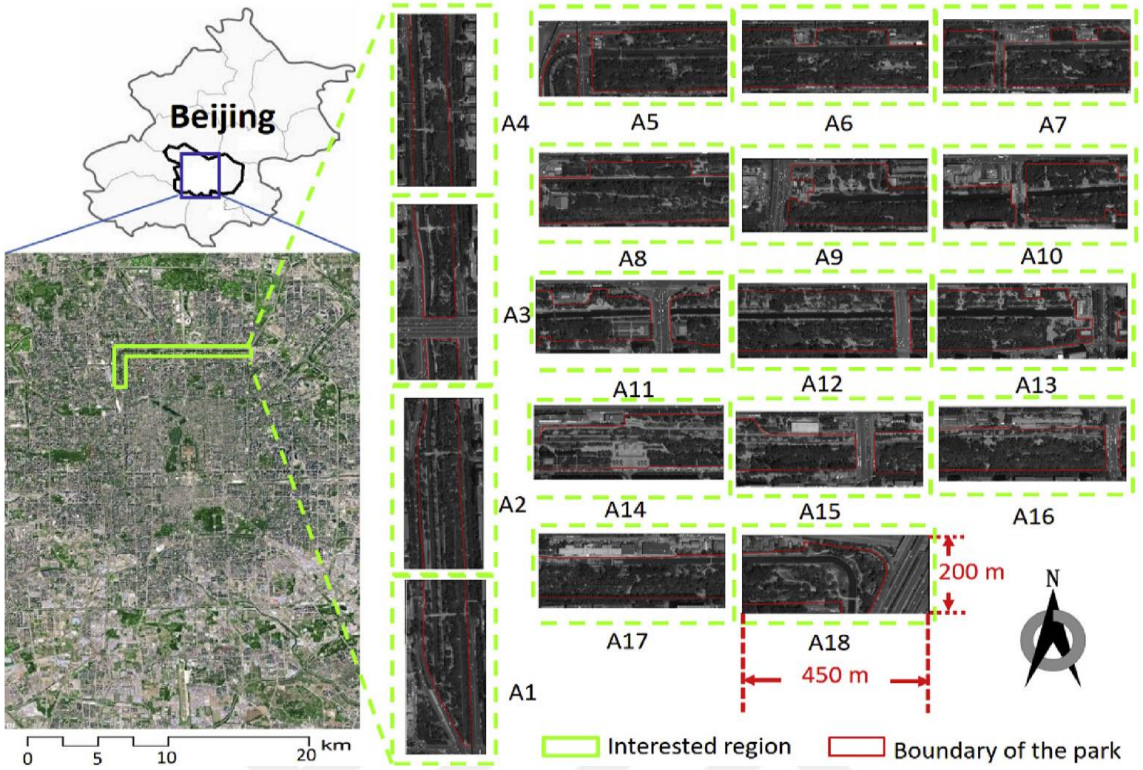


Figure 2.12. Beijing site selecting (L shape space), manifesting GOS on thermal comfort (S. Masmoudi.2004).

show a strong relation between the percentage of thermal sensitivity values and higher of trees in the field of interest.

b-Executing influence approaches to ameliorate thermal comfort of uncovered sites in urban parks. In current work, it is observed that those uncovered areas can cause deterioration of thermal comfort, even that the area is outside the park. Shading devices, such as shaded grids and pavilion, can be used in these areas during hot summer, for prevent direct sunlight to improve thermal comfort.

c-Reduce the percentage of hardened ground materials, because having a negative relation of hardened ground material with thermal comfort. Designers must be using a different type of vegetation or lawn to replace hardened ground materials.

d-It is recommended that landscape parameters be better organized taking into account not only aim of thermal comfort, but also aesthetic portions. Although in the current case there is no statistical relation between the thermal sense of comfort and the water body, it can conservative the private sensation visitors, providing beautiful scenery (S. Masmoudi.2004).

2.7. Traditional Garden and Public Spaces in Chinese

China, like many other countries, conflict in the last century with the definition of indigenous landscape design tradition. this was especially true for the design of urban open spaces, after China executed the open door policy in the late 1970s, when traditional gardening of China was largely neglected. compare the main types of traditional and modern open spaces of Chinese. the portion areas of the five landscapes are changed, also proposing some important functions like (planting, spaces, stone, architecture materials and pavement), a globalization has led to averaging in the design of public spaces, dominance of traditional western of landscape architecture used in non-Western conditions has been questioned. So it was in China. Although European societies in the past favored large open spaces, paved plaza for enjoyment purposes and

Figure 2.13. Example of China, scientific traditional garden spaces at Jiannan (Dillingham, 1991; Wu, 1999; Cheng, 2003; Zhou, 2006).

Grassed park lands, traditional Chinese society contributed to the intimate scale of the courtyard and garden spaces, In China, there are two main subcategory of traditional garden space: the first one is scientists garden space, which are commonly found in Europe and the Jiannan area in China and also the second one is a regal garden space, which have survived today mainly in Beijing and Chengde.

Figure 2.14. Example of China, regal traditional garden spaces at Beijing and Chengde.

Table 2.1. Comparison of princilpes charecteristics of Chinese and European-inspired approach in landscape design (Dillingham, 1991; Wu, 1999; Cheng, 2003; Zhou, 2006).

	Chinese style	European-inspired style
Composition	Asymmetrical	Bilateral symmetry
View	Framed by structures in garden	Lines of sight; views open at ground level
planting	In naturalistic groupings	In rectilinear arrangements: expensive lawn; geometric patterned plantings
Rock	Used as sculpture and to define water edge	Rarely used, except in carved form
Building	Integrated with garden	Dominate the view; often focal point on axis
Water	Naturalistic Shape	Rectilinear shape

As Chinese scholars investigated about approaching between green space design and inspired of western, studies were conducted to explore the differences between traditional landscape design of Chinese and that from of the west, in particular, to explore the potential use of the modern landscape design at the traditional building districts (Dillingham, 1991; Wu, 1999; Cheng, 2003; Zhou, 2006).

Some investigators argued that traditional gardens served a confidential few who enjoyed a slow, whereas modern green space must serve the general public for daily recreational purposes. other scientists contend that to restore the primacy of the traditional Chinese heritage of the garden, it is important to integrate traditional design fundamentals with modern needs. one of the most influential initial quantitative studies in this district was behavior by Wu (1999). In this study, were compared five groups of traditional green space with modern parks. Wu determined that there was vast comparative between traditional garden space and modern park space in the percentage of the five key elements of the landscape space that it considered - water, stone, pavement, construction and installation (Chen and Jim, 2010). According to the final conclude, that the modern urban landscape can integrating with the traditional models at the same design space, that it possible to include traditional models in a modern open outdoor design. based on the authors experience, Chinese gardens, both traditional surrounding models show a visual similarity with the modern model of the park. however, Plazas is a great look at traditional models. In addition, modern parks and traditional building spaces are usually decorated in a naturalistic way. these objectives are the main purpose of the thesis: there are fewer differences and increase suitability between traditional and modern designs.

This is largely due to the preferred recreational uses included and general resemblance scales, in each type of site type. In generally, according our literature finding that the fewer differences and accessible suitability between traditional building surroundings and modern space design, then previously concluded scientist Wu, recognizable clear existing at modern parks, gardens of scientists and imperial parks, Modern spaces remain a separate type that has several characteristics with traditional Chinese sites, but, apparently, this is the type of the sites most influenced by Western models. It was demonstrated, the type of data used to analyze the percentage of the landscape element, how affect the results. plans were found significance of land-surface materials, while perspective species can better represent, visible reality of human experience, must be implementing the landscape concepts, by constructing surrounding building functions at the demonstrate eye level, for clear understanding about two dimensions and three dimensions of landscape concepts. Also, in the future study, it will be necessary to include survey tools to study how people perceive different materials in different types of open space (Wong, 2001).

3. MATERIALS AND METHODS

3.1. Material

Material utilized in historical districts might arguably be the most straightforward aspect of a historical green space to identify. However, it is also necessary to understand finishes, construction techniques, composition, design, colors and textures, space proposals with surrounding site arises, making it difficult to create a comprehensive list of historic materials used for each design period and style. Consultation with professionals and different personalities are living in Tajeel, with knowledge of construction technology and local practices is essential in addressing this aspect of historic residential and landscape construction. Knowledge of historic materials and Tajeel land uses, will not only enable landscape designers to more accurately identify existing historic materials with integrity, but will also enables them to make green open space at this district, as the need arises. Also using different styles of design and various plants, closely tied to the development of botany and removing desolate symbol in Tajeel, specially at the green proposal spaces, has historically received a great deal of attention. Also, in this work plant materials are not only discussed in general terms, as one of many materials utilized in historic landscape design. Because plant materials were used so demonstrate a green face of Tajeel, it is important for travelers to get know about cultural heritage of Erbil and spending enjoyable time due to existing some important functions, it is especially important that historic landscape rehabilitation projects address historic planting materials in their proper perspective, resisting the temptation to see historic landscape design as simple historic plant selection at Erbil.

3.1.1. Historical site selection

Begins of life from Erbil was nearly refers to thousand years B.C, Also Erbil is citadel as a beginning symbol of life from those district, after expansion a number of population and development of citadel, Tajeel was the first area developed and constructed after citadel, therefore Tajeel is one of the main column due to construction of Erbil, this district is located in the south of citadel, also the general area is (195.435m^2),

having an important functionality due to closeness from the center and strong relation with the surrounding urban area. Last century is a combination and life district for different nations and religions like (Turkmen, Arab, Kurd, Muslim, Christian), The rate of population dropped to nearly % 80, if a comparative is doing between this century and last century from Tajeel, due to neglecting this district about services and low quality of structure so demolish same of the houses.

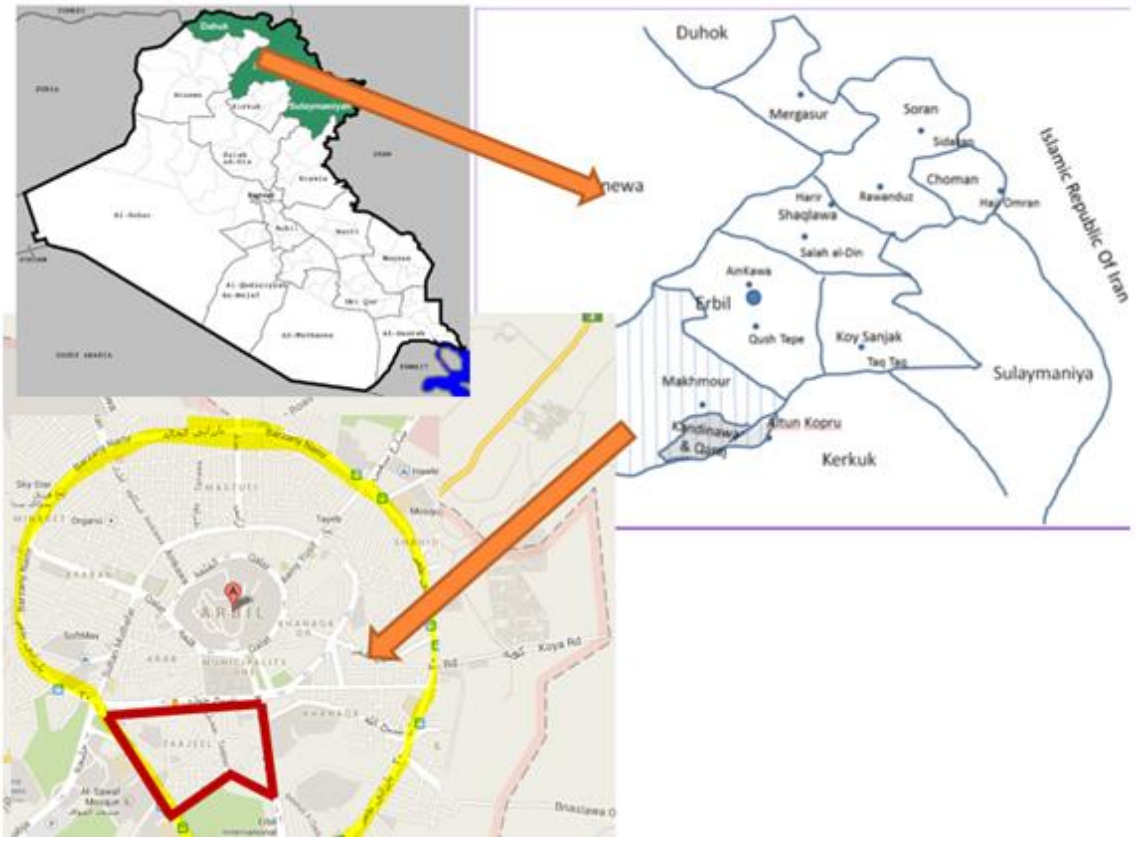


Figure 3.1. Site analysis and explanation surrounding functions (Author).

3.1.2. Erbil weather

The average temperature in summer is around 35 C in July, Also the winters are mild and snow falls rarely, however, the temperature is lower to around 0 C in January. The rain falls mainly in the last and first two months of year, heaviest is in December with precipitation of about 75 mm. Weather in Erbil city is very hot for one month only. During this period the temperature is rising more than 40C, occasionally reaching higher temperatures (Rasul and Smith, 2016).

Table 3.1. Average monthly rainfall and temperature in Erbil (Rasul and Smith, 2016).

Month	Temperature ºC				Average Rainfall (mm)		Average Snow days	Average Fog days
	Average		Absolute		Daily	Monthly		
	Max	Min	Max	Min				
January	12.9	4.5	22	-2	1.5	45	0	2
February	15.9	6.2	24.1	-2	1.3	39	0	0
March	20.3	9.9	28	1	2.4	74	0	1
April	26.8	14.4	36.2	2	0.9	29	0	0
May	34.5	20.5	43.2	11.5	0.5	15	0	0
June	38.9	24.3	46	16	0	0	0	0
July	43.3	27.9	50	21	0	0	0	0
August	40.4	26.3	46	20	0	0	0	0
September	38.1	22.8	47	15	0	0	0	0
October	30.8	18.2	39	9	0.4	12	0	0
November	21.8	9.9	30	0	1.1	33	0	0
December	14.9	6.6	25.3	-2.3	2.4	72	0	5

3.1.3. Erbil topography

Erbil region has a many hill with plentiful water supply. The height of the undulations increases gradually towards the northeast; where they become mountainous. There are many plains in the south and west of the region. The geological structure of the Erbil plain is suitable for artesian water. Due to the heavy rainfall (Gengec et al. 2014).

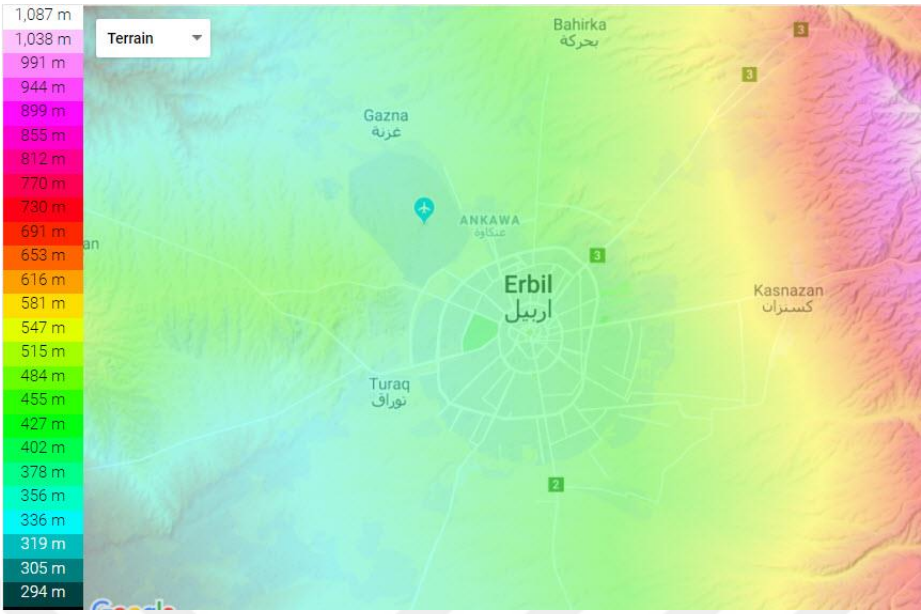


Figure 3.2. Elevation map of Erbil and Tajeel District (Anonymous 2018c).

3.1.4. Description of housing and topography in tajeel district

The houses of Tajeel district were built with a dimension between 80m to 110m, and the materials used for their construction are dried clay consisting of neighboring houses, the explicit architecture of arched doors and windows, most of the houses built in the traditional architectural style are old and in need of reconstruction. Also, there are in the neighborhood of Sheikh Noureddine Brenkana Mosque and the Mosque of Mufti Syed and hospice Mr. Jalal Necmettin, having old school and know the first historical school of Erbil. The lane is very close to the Erbil Citadel, which is the oldest incessantly place around the world. In the houses there was a central courtyard for natural light and air, while providing much needed security and protection from the weather. Also, about Erbil governor decisions chose almost 400 houses, they compensate landlords (they received a land plot of 250 m²), and the tenant received compensation for land with an area of 800 m2 or more, depending on the value of each house.

The new Tajeel region, called (Al-Manara district), expanded to the slaughterhouse of Erbil and the old Tajeel region and north to Al-Street of the site (Shisti). It consists of about 300 houses, and the area is associated with the old area of the district. Closeness the Shekh Choli minaret there was a cemetery, but on the enlargement of the Tajeel region it was removed instead of there were a new house built. Also having a

number of Takiaa (religious functions) (Shekh Muhi Al Din and Shekh Salih Al Barzanji) constructed by Mohammed Pasha, in Tajeel region there is a church dating back to 100 years ago, but it was closed because there are no Christians living there. It was also a place called (Qushla Srai), constructed by the British during their profession at Iraq in the First World War, as well as a place for the polices and their horses to patrol from there to the district. They used a hand torch for lighting at night. There is also a resident who does not want to leave their houses, although the government offered to compensate them.

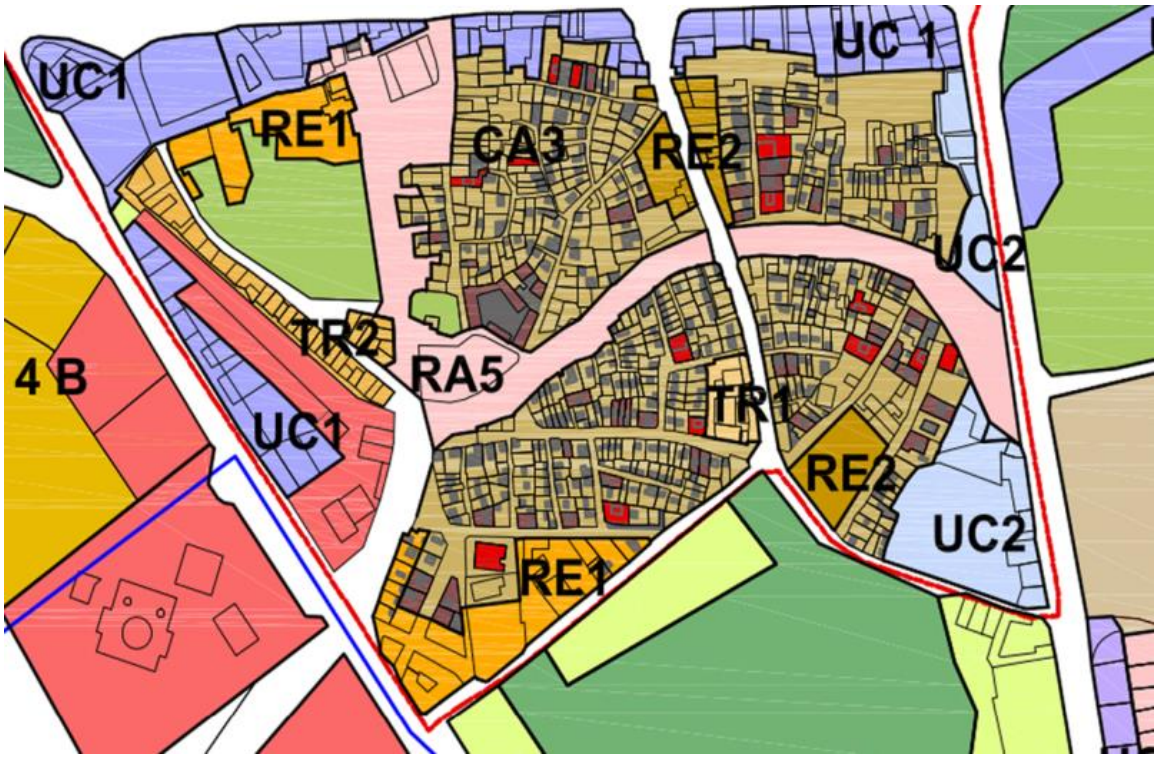


Figure 3.3. Land use map and master plan of Tajeel district (Author).

CA3…Conservation zone

RE1… Residential zone 100-199msq

RE2… Residential zone 200-299msq

RA5… Residential.

UC1…Urban commercial. Small shop

UC2…Urban commercial. Medium shop

TR ... Transfer residential

Table 3.2. Master plan and explanation of zones (Author).

Planning Area			Building form parameter		
		Maximum Building Height	Building Typology	Maximum Plot Height	Building Set Back
Conservation Area	Heritage and vernacular building	Increase of the original building height is not allowed	Original typology shall be preserved.	Original typology shall be preserved.	As original typology
	Modern and new building (no heritage)	2 stories (8 meters) No underground floors permitted	Courtyard house typology	%80 of plot area the plot coverage can be increased to %100	Not permitted
Transfer Areas	TR1 Heritage & Vernacular building	The increase or alteration of the original building Hight is not allowed	Original typology shall be preserved	Original typology shall be preserved	As original typology
	Modern & new building (No heritage)	2 stories (8 meters) no underground floors permitted	Courtyard house typology or attached villa	%80 of plot area	According to typology
	TR2 Heritage & Vernacular building	The increase or alteration of the original building Hight is not allowed	Original typology shall be preserved	Original typology shall be preserved	As original typology
	Modern & new building (No heritage)	2 stories (8 meters) one underground floors permitted	Courtyard house typology or attached villa	%80 of plot area	According to typology
Remodeling Areas	RE1	3 story (12 meters) one Underground floors permitted	Attached units	%80 of plot area, the plot coverage can be increased to %100	Not permitted
	RE2	2 story (8 meters) one Underground floors permitted		%80 of plot area, the plot coverage can be increased to %100	
Urban Corridor	UC1	4 Story (15 meters) 2 undergrounds	Attached	%80 of plot area the plot coverage can be increased to %100	Not permitted
	UC2	3 Story (12 meters) 2 undergrounds			
	UC5	5 Story (18 meters) 2 undergrounds	Free standing volumes	%25	Front 15 meters
New Court Yard Houses	Heritage and vernacular buildings	The increase or alteration of the original building Hight is not allowed	Original typology shall be preserved	Original typology shall be preserved	As original typology
	Modern and new building (no heritage)	2 stories (18 meters) 1 underground	Courtyard house typology	%80 of plot area the plot coverage can be increased to %100	Not permitted

3.1.5. Land use map existing of Tajeel district

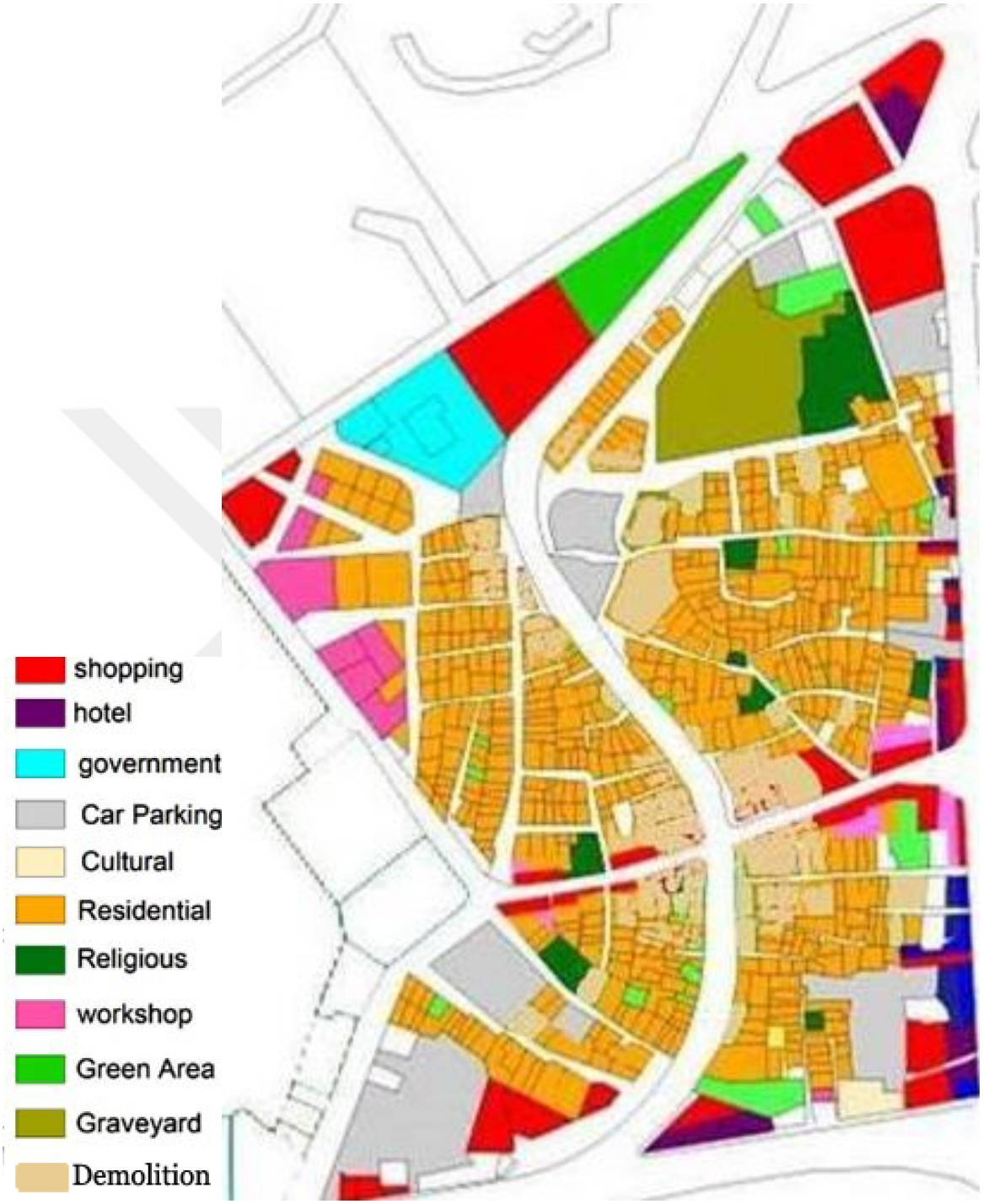


Figure 3.4. Land use map existing of Tajeel district (Author).

3.1.6. House typology in Tajeel district

Type 1: Dwellings consist of one floor:

Majority of the houses consist of one floor (brick) and are built in traditional conditions, where it contains an inner courtyard (Al-Hosh) in the center of the building, which is surrounded by rooms from all sides. The geometrical shape of a square or rectangular, with one entrance and more than one windows, depending on the span of the house.

Figure 3.5. Shows the house level made of two (Author).

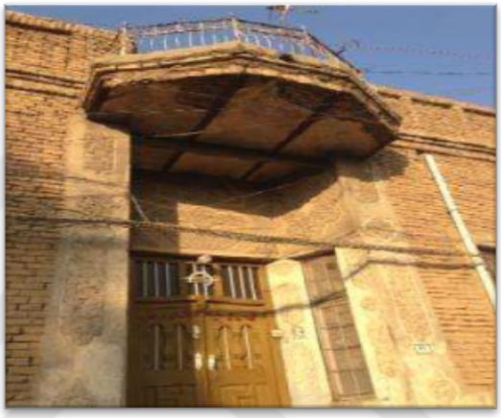


Figure 3.6. Shows the house level made of one floor (Author).

Type 2: Dwellings consist of two floors:

There is also another type of housing, which is larger and consists of two floors with lots of rooms and opens. All units are articulated in compact blocks with narrow organic lanes, which provide significant ecological and social protection (Akram and Franco, 2016).

Narrow lanes in the old folklore Tajeel district are covered with houses of red brick and mud, mixed with yellow shiny straw. As described by some visitors, it has a distinctive architecture styles as well as windows and doors with decorative wooden round and linear forms with straight and twisted forms. The need to evaluate the rebuild and rehabilitation of it is necessary, as well as the need to restore its original glory, through active actions of the maintenance, to protection the historical value of Tajeel and authenticity and then re-use the function for attracting different activities from various levels: cultural, social, tourist, residential, recreational, and not to destroy or remove

them. On the one hand, the main goal is to attracting tourists and coming from all over the world, visit these archaeological places and historical district that provide imports and profits that bring to the region and start working on the development of the economy of the district in particular. On the other hand, the development of tourist and archaeological places of various scientific and humanitarian purposes. International organizations that are important for the creation and development of human life studies. The buildings in the Tajeel region are indeed a huge treasure of traditional brick, decorative of windows, wooden doors, soil and others, who smelt his true historical periods and from different eras, such as the Sumerian, Babylonian, Assyrian, Islamic and Sassanid era. Open spaces and walkways in the city combined form, like any conventional city, since the main components are articulated urban fabric in clusters, which avoids loss of space in all urban networks (Khasro and friends, 2016).

3.1.7. Population density of the Tajeel district

Based on an ancient map, dated 1916, which describes the old city of Arbil, the density of population in Tajeel district was greater than another historical district like Arab and Khanka district. According to the statistical population of the city of Erbil in 1947, the population of the Tajeel district was 5,644. As the 1957 census showed, the population of the Tajeel District increased to 6,850. The number of Muslims in the previous census was 6,544 Muslims and 294 Christians, the population of the Tajeel region in the 1977 census was 21290 people, and in 1984 there were 26,399 people. The last census of Tajeel district shows about 1975 residents in 2015 (the old Tajeel district), numbering about 500 houses. A census of population density showed a lessening in the population number due to moving to the modern areas (Khasro et al. 2016).

Table 3.3. pepulation density of Tajeel by years (Khasro et al. 2016).

Year	People	Muslim	Christian
1947	5644	5531	113
1957	6850	6544	294
1977	21290	20651	639
1984	26399	25510	890
2015	1975	1865	110

3.2. Methods

This study is based on qualitative research methodology. The document analysis is adopted in the study, in order to have a better understanding about Erbil, also neglecting these historical regions specially Tajeel, one of the oldest districts are requirement resurvey and live restore. This work consists of three phases. In the first phase of the study, literature review was made on the subject. In the second phase of the work, will be meeting and speaking face to face with three different groups, for understanding about their suffering and problems, also what are their needs, for improving quality life of in Tajeel's resident, and implementing their needs. In the third step doing a visual analyzes (photographs, maps and personal observations), which determines the main method of work, a survey was conducted. In Figure 3.7.

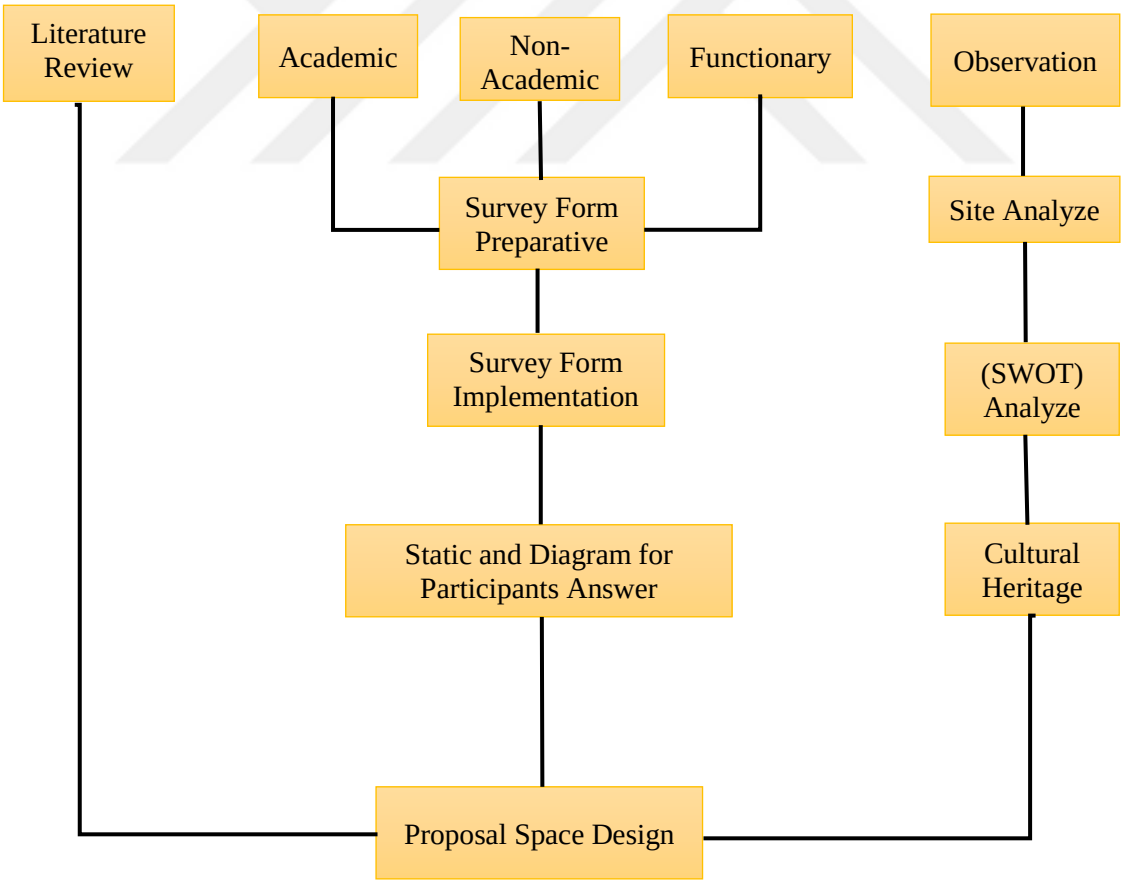


Figure 3.7. Methodology diagram.

4. RESULTS AND DISCUSSION

4.1. Assessment of The Survey Work

A questionnaire survey was conducted with a total of 50 people taking into account the demographic structure of the Tajeel district to ensure the participation of users. The social, cultural, physical and economic aspirations and preferences of the users participating in the survey were questioned. In this way, profiles of the users participating in the survey were determined and frequency analyzes were made and the results obtained are given in percentage.

4.1.1. Age

Users participating in the survey, 32 % were in the 31-40 age group, 26 % were in the 25-30 age group, 22 % in the 18-24 age group, and 20 % above the 40-age group. As can be seen from the results in Figure 4.1, the majority of the respondents are from the age group of 31-40 years.

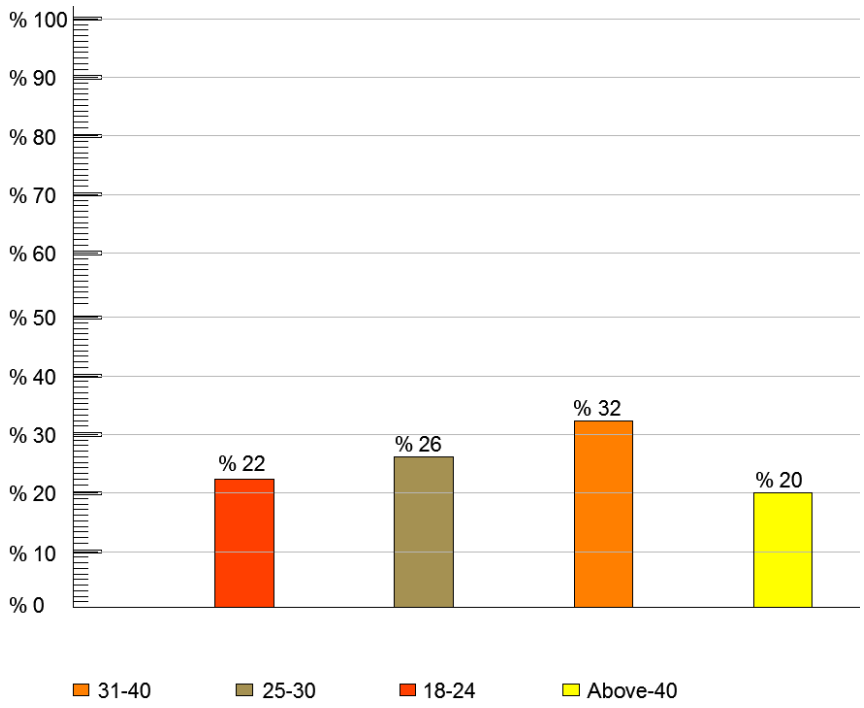


Figure 4.1. Age distributions of respondents (Author).

4.1.2. Gender

Users participating in the survey, 62 % is a male and 32 % from the participants is female. As seen in Figure 4.2. the majority of respondents are male individuals.

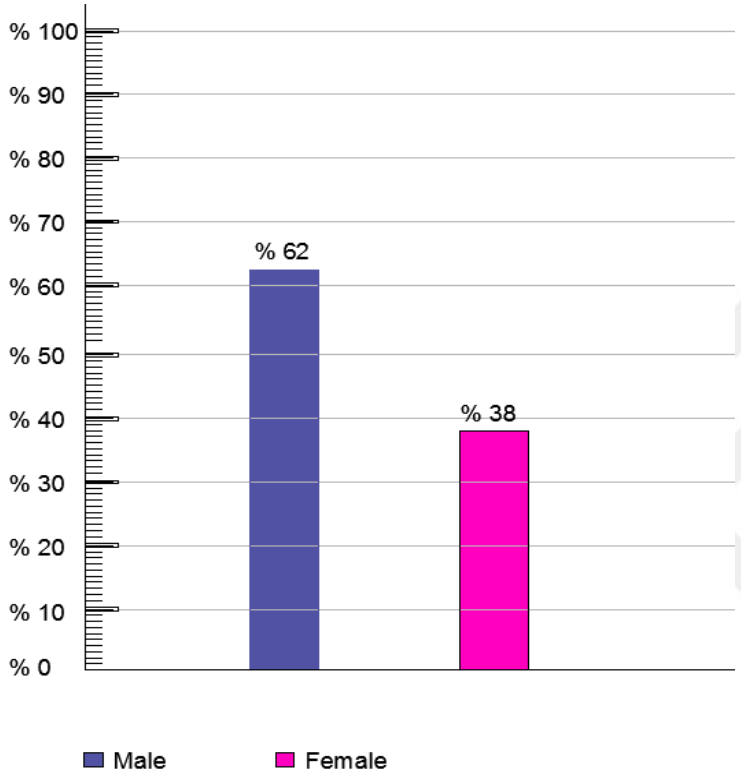


Figure 4.2. Gender distributions of respondents (Author).

4.1.3. Education status

The participants in the survey are divided into three groups, 60 % had a nonacademic, 20 % had an academic, 20 % had a functionary, also between academic and functionary participants, it was found 42 % of them are a graduate, 14 % of them are above graduate,17 % had a high school, also had 27 % of them are a functionary. As can be seen from the results in Figure 4.3, it was determined that the majority of the respondents were graduates.

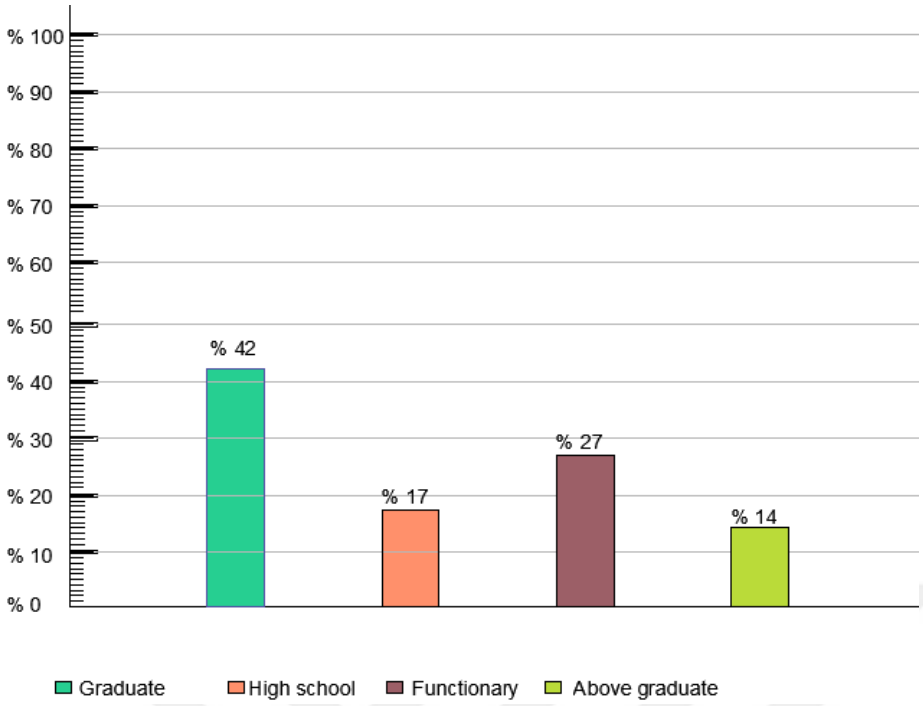


Figure 4.3. Educational situation distributions of respondents, between Academic and Functionary group (Author).

4.1.4. Homeland

Users participating in the survey, 22 % of them come from the outside of Tajeel district, and 78 % are from Tajeel. As can be seen from the results in Figure 4.4, it was determined that the majority of the respondents were from Tajeel.

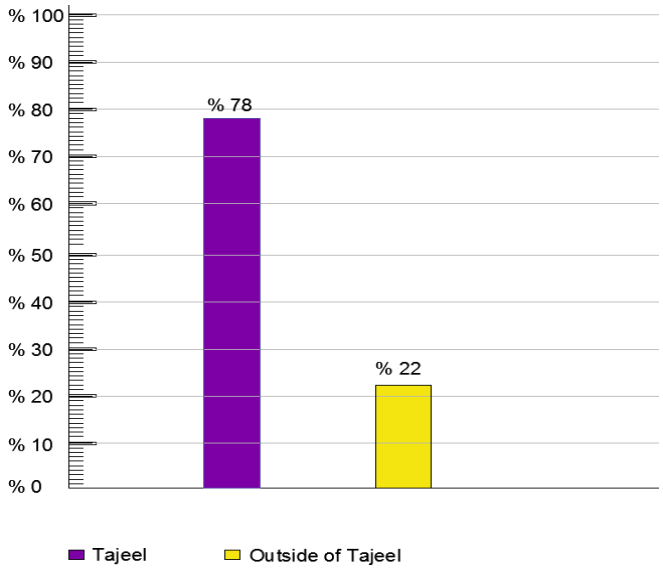


Figure 4.4. Country distributions of respondents (Author).

4.1.5. Participants' district views other than Tajeel

The first question that was asked after questioning the demographic structures of the users participating in the survey, is that you have seen a district outside of Tajeel? 99 % of the people said they saw another historical district. However, 1 % of those who participated in the survey indicated that they did not see any historical district other than Tajeel district. According to the result shown in Figure 4.5, the majority of the respondents saw another historical district than Tajeel.

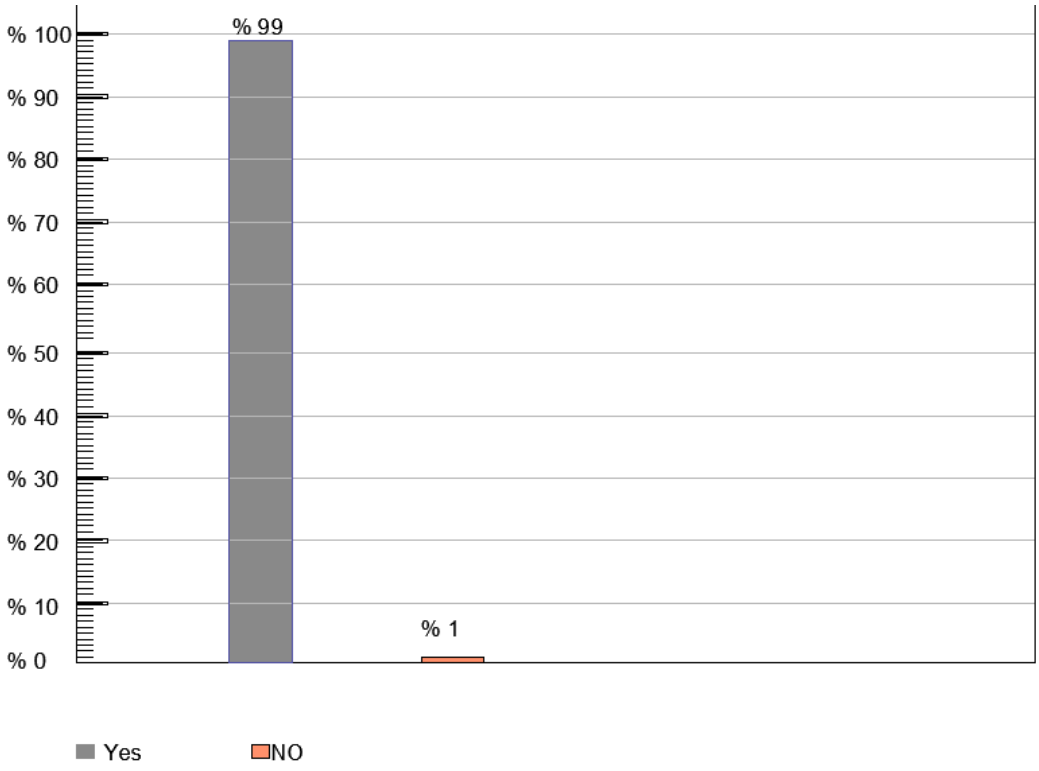


Figure 4.5. Participants' distribution of historical district visibility except Tajeel (Author).

4.1.6. Evaluation of Tajeel's situation for green space requirement

Users who participated in the survey " Do you need a green space in Tajeel? "Users who are asked the question 93.4 % answered yes, 6.6 % responded no. As can be seen in Figure 4.6 below, the majority of respondents indicated that Tajeel needed a green space.

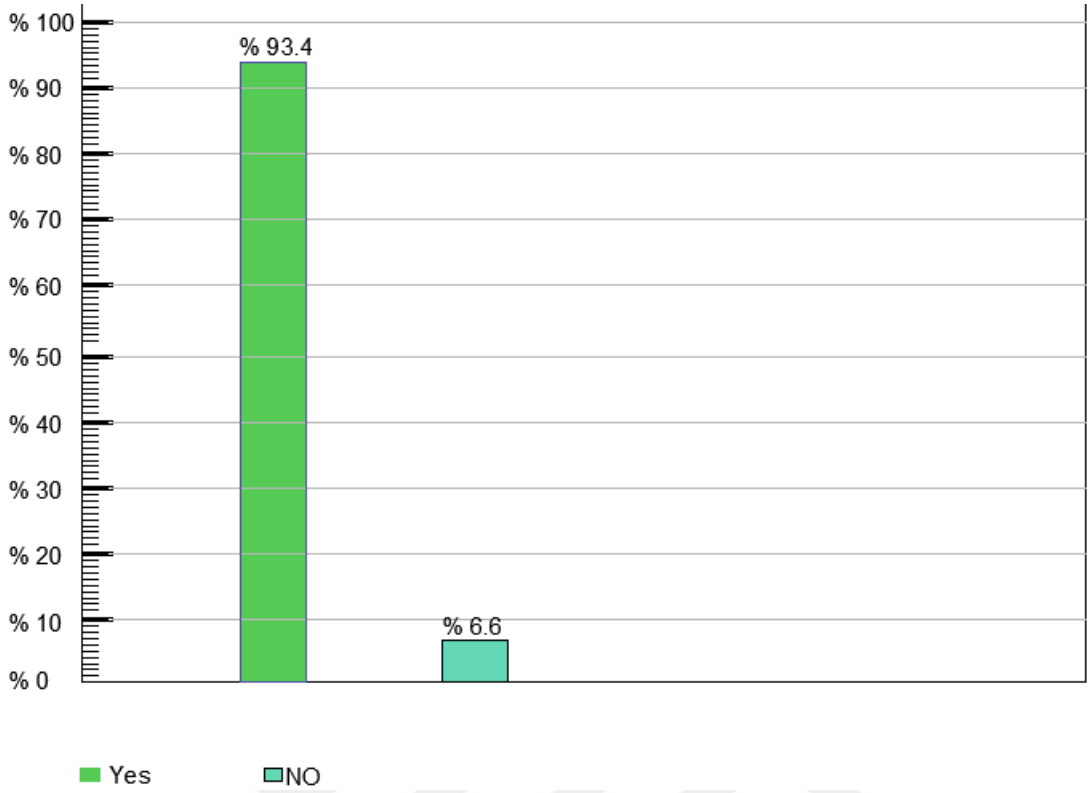


Figure 4.6 Tajeel's need assessment of the green space (Author).

4.2. Frequency and Analysis of Responses for Suggestion Questions

A total of 28 questions were presented for survey participants, where users are divided for three groups (Academic, Non-Academic, Functionary), and question were asked for academic group, first and second questions were answered by choose, and at the third question evaluated a proposal questions on a five-point. The frequency analysis was applied to the answers given by the users. In this way, it has been tried to show in which way the users participate in the proposals. In Table 4.1, survey participation levels are given as a percentage. In these questions, 1 point indicates that the user strongly disagrees in the proposal, 2 points disagree in the proposal, 3 points are undecided, 4 points are agreeing to the suggestion and 5 points are strongly agree to the suggestion.

Table 4.1. Academic's group recommendation about urban heat island (Author).

1) Which one is most important landscape design action for you, to prevent Tajeel from urban heat island effect?		
Options	Participants Answer	Percentage (%)
a Landscape design with grass	X X X	30
a Landscape design with perennials		0
a Landscape design with bushes		0
a landscape design with trees	X X X X	40
a landscape design with succulents	X X	20
mix of all of the landscape designs given above		0
Other than all of them (please type your opinion (…… ……))	X Landscape+ Grass + Tree + Shading device	10
I have no idea		0

Table 4.2. Academic's group recommendation about Future functions (Author).

2) What is the most important type of function for you, which would be installed in Tajeel district in future?		
Options	Participants Answer	Percentage (%)
dwelling		0
Commercial (Touristic)	X X X X	40
Commercial (Industrial)	X	10
Hotels Hostels touristic accommodation	X X X	30
Public building	X	10
park/play area		0
I have no idea	X	10
Other (Please type……)		

Table 4.3. Academic's group recommendation about qualitative of the space (Author).

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Total
1) The Modern concept design can be implemented at this historical district.			30 %	50 %	20 %	4.13
2) Surrounding building of the spaces are suitable for commercial functions.			20 %	60 %	20 %	4.42
3) An open space in a historical site should be Circle in shape.			50 %	50 %		3.48
4) An open space in a historical site should be informal in shape.		60 %	30 %	10 %		2.60
5) An open space in a historical site should be natural in shape.		70 %	20 %	10 %		2.48
6) An open space in a historical site should be geometrical in shape.			20 %	80 %		3.8
7) An open space in a historical site should be in shape according to suitability.		10 %	10 %	50 %	30 %	4.4

In the second part of the questionnaire for Non-academic group, it is desirable to evaluate the users who define the general meaning of the questionnaire. According to the result shown in Table 4.4, the concept of the answers for evaluating the questions, by two squares for the users (Yes and No), according to different purpose of the question's, (yes) has been realized at a high rate from the first, second and forth question by 80 %, 70 % and 60 %, because the users want to be solving a society problems, constructing a space center and reflecting one of the historical symbol of Erbil, (No) has been realized at a high rate from third and fifth question, by 70 %, 80 % and 70 %.

Table 4.4. Non-academic group's recommendations about qualitative of the spaces (Author).

Questions	Yes	No
Do you want to construct a space centers for Tajeel?	80 %	20 %
Space center can be solving a society problem at this district?	70 %	30 %
Are you want to Installing a statue at the space centers?	20 %	80 %
Do you think about, reflecting one of the historical symbols of Erbil at the spaces?	60 %	40 %
If Implementing these conceptual points, are your evacuation this district?	30 %	70 %

In the third part of the questions for functionary, the users were asked to evaluate the qualitative and quantitative of the spaces and surrounding functions. According to the result shown in Table 4.5, the concept of the answers for evaluating the questions, by two squares for the users (Yes and No), according to different concept of the question's, (yes) has been realized at a high rate from the first, second and third question by 80 %, 70 % and 60 %, because the users want to be constructing a tourism space center by remaking a master plan of Tajeel and regulating with the orientation of the district for achieving natural ventilation, (No) has been realized at a high rate from the fifth question by 70 %, and from the forth question have been three option, a high rate of second and third option is % 40 for each one.

Table 4.5. Functionary group's recommendations about qualitative of the spaces (Author).

Questions	Yes	No	
Integrating tourism functions with the historical green spaces is possible?	80 %		20 %
Natural ventilation's concept is suitable for resolving thermal heat of Tajeel?	70 %		30 %
Open space design, do it need renewable and reconstruction master plan of Tajeel?	80 %		20 %
Constructing high building is let to, at the:	Space surrounding 20 %	Site surrounding 40 %	Both of them 40 %
After construction green space, Back and forth of car, is possible at this district?	30 %		70 %

In the last part of the questions for the participants, the users were asked to evaluate the qualitative and quantitative of the spaces, the frequency analysis was applied to the answers given by the users. In this way, it has been tried to show in which way the users participate in the proposals. the concept of the answers for evaluating the questions, in these questions, 1 point indicates that the user strongly disagrees in the proposal, 2 points disagree in the proposal, 3 points are undecided, 4 points are agreeing to the suggestion and 5 points are strongly agree to the suggestion. also the participants generally at the first question is disagree has been realized at a high rate by 46 %, do not be constructing for a competition and entertainment, also in the third, fourth, fifth, seventh and nine question's is agree has been realized at a high rate, due to participant's want to be constructing a tourism space center and reanimate a cultural heritage of Erbil, also implementing another factors due to demonstrate spaces as a relaxation symbol and attracting symbol for travelers.

Table 4.6. Participant's recommendations about qualitative of the spaces (Author).

	strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	strongly Agree (5)	
1) Place, competition, entertainment and meeting place	22 %	52 %	16 %	10 %	0 %	2.22
2) The space is a spending place that allows a variety of activities.	20 %	36 %	28 %	14 %	2 %	2.34
3) I would like to see the square as a quiet, relaxing area	0 %	16 %	14 %	46 %	24 %	4.36
4) I would like to see places that make me feel safe in the square	0 %	2 %	10 %	54 %	34 %	4.56
5) I would like to see the space as a place for Tajeel's residence and travelers.	4 %	4 %	22 %	50 %	20 %	4.12
6) I would like to see it as an area that emphasizes feelings of cooperation like space, traditional functions.	6 %	10 %	18 %	36 %	30 %	4.48
7) I would like to see the space as a promotion Erbil's culture.	0 %	0 %	14 %	46 %	40 %	4.82
8) I would like to see it as a place that serves multiple purposes.	4 %	20 %	24 %	36 %	16 %	4.4
9) I would like to see it as a place with architectural and cultural attractions.	2 %	14 %	14 %	46 %	24 %	4.32

4.3. Analysis The Answer of Participants According to Public Questions

After doing analyses for the answer of participants about public question, in generally the answers were not too different, but answer of the second question were different at the level of education group, also about answer of the fifth question were different at the level of gender, at the below following the answer of public questions were presented for different groups:

1. In generally the concept of question one was refused by participants, at the rate of 74 % were chosen disagree, they don't want constructing this spaces for competition and entertainment. According them answers will be the term of meeting is one of the basic concept for construction Tajeel's space.
2. Educational group's answer was different about the concept of question two, whenever graduate group were disagreed at the rate of 75.0 %, also high school's answer were agree and neutral at the rate of 66.6 %, as well as functionary group at the rate of 63.7 % was disagree about this concept, and above graduate are agreed with this concept at the rate of 74.9 %, non-academic's answer at the rate of 76.4 % were refused a space concept for spending a variety of activity. From the below table are explain the final data of the groups answer:

Table 4.7. Analysis Participant's answer about question two and their opinion's (Author).

Q:2		Strongly disagree	Dis agree	Natural	Agree	Strongly agree
Educational	Graduate	75 %	0 %	0 %	25 %	0 %
	High school	0 %	33.3 %	33.3 %	33.3 %	0 %
	Functionary	18.2 %	45.5 %	9.1 %	27.3 %	0 %
	Above graduate	8.3 %	16.7 %	58.3 %	8.3 %	8.3 %
	Non-Academic	23.5 %	52.9 %	23.5 %	0 %	0 %
Total		20.0 %	36.0 %	28.0 %	14.0 %	2 %

3. Participants answer about question three, generally were accepted at the rate of 70 %, also this rate are between agree and strongly agree for constructing a space center as a relaxing area.
4. Constructing a space center for inhabitants and travelers, for feeling safe at there, is a concept of question four, whenever, the participants answer was accepted at the rate of 88 %.
5. Constructing a space center for Tajeel residence and travelers is possible? it is a basic concept of question five, while the answer was different between genders, whenever males are agreed by using this space for both different personalities at the rate of 100 %, also about the rate of females is not too different with males, but 19 % of them are disagree. Therefor this space centers will be constructing at this district due to attracting and combination different personalities. From the below table are explain the final data of the groups answer:

Table 4.8. Analysis Participant's answer about question five and their opinion's (Author).

Sex * Q5		Totally disagree	Disagree	Neutral	Agree	Totally agree
female	21	9.5 %	9.5 %	23.8 %	52.4 %	4.8 %
male	29	0.0 %	0.0 %	20.7 %	48.3 %	31.0 %
Total	50	4.0 %	4.0 %	22.0 %	50.0 %	20.0 %

6. According to the answer of participants about question six, at the rate of 60 % want to construction a traditional space surrounding at Tajeel due to combination different peoples from the spaces.
7. Reanimate Erbil's culture from the spaces one of the basic concept of question seven, whenever the participants agree at the rate 88 %, for implementing this concept.
8. Participants answer about question eight are agree, at the rate of 52 %, they want to constructing a space center usable for a variety purposes, while 24 % of them they don't want to be using these spaces for different purposes and 24 % of them are neutral, therefor will be trying to constructing a lost privacy space center.

9. Most of the participants at the rate of 70 % want to be constructing a space center, due to symbol of architecture activities and reanimating culture of Erbil, for attracting travelers and foreign people.

4.4. Characteristic of Tajeel District

this district close from the south section of citadel, have a strategic important location, due to correlate some important function like (Arab district, Qaisary, Nishtiman market …etc.) and this district, have five different entrance while three of them are main entrance from south, north and east side of Tajeel. Also, wind direction is coming from north of west at summer, and wind direction from winter is coming from north of east, also storm wind is come from north exactly but high elevation and near of citadel due to reducing the influence of it. Sunset is doing beside from the university side and sun is

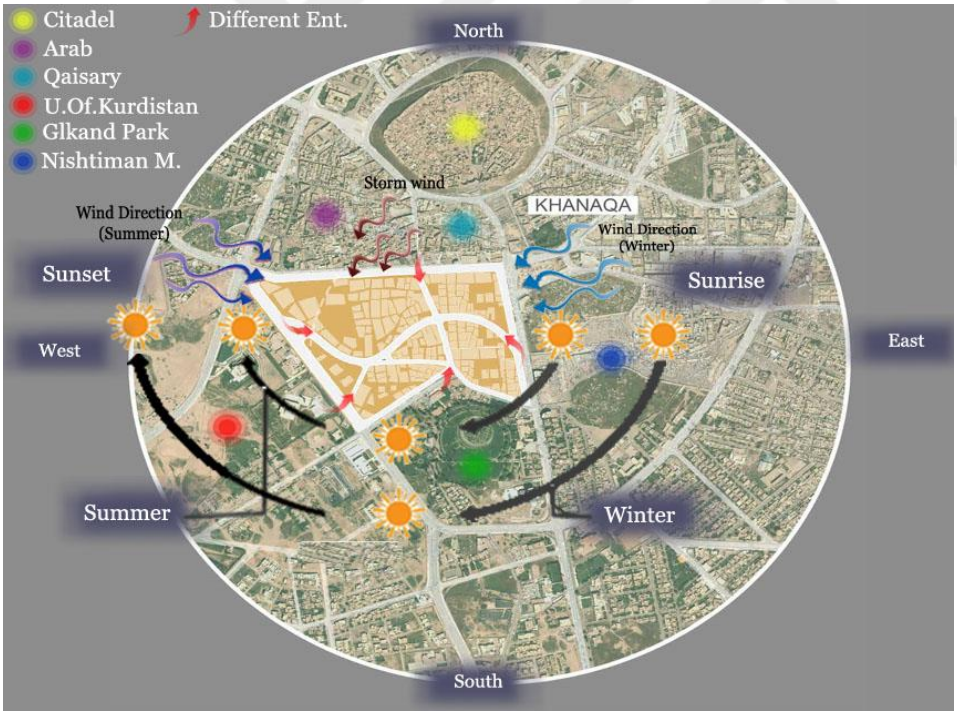


Figure 4.7. Surrounding functions and orientation of Tajeel district (Author).

Rising beside Nishtiman market. So, according to the figure (4.7) sun angle is different between summer and winter season. Open spaces and walkways in the city have

a combined form, like any conventional city, since the main components are articulated urban fabric in clusters, which avoids loss of space in all urban networks.

Figure 4.8. Shows the access dimensions of Tajeel District (Author).

4.4.1. Analysis of the district (SWOT)

- Strength:

1. A rich cultural heritage and architecture in most existing buildings.
2. Maintain the principles of ancient architecture and keep the history of society from past and present values.
3. Ensure a balance between the rational development of the world of architecture and the technological globally, the development of environmental processors that meet local conditions in socio-economic conditions and retain ownership in accordance with the building standards and scientific standards of the country.
4. Can use the successful experience of our ancestors and developing and creating a balance with modern models. This is an important functions and responsibilities of nationalism and humanity and in accordance with appeals and decisions UNESCO as the preservation of historical sites in the Iraqi city, it is an integral part of the World Heritage for all human beings and which country is contributing to the effort to preserve this heritage.

5. The street connects with parking spaces.
6. The neighborhood (the main axis of the Bazaar) offers a panoramic view of the citadel.

Figure 4.9. Shows a strength illustration of this district (Khasro et al. 2016).

- Weakness:

1. Most of the buildings are obsolete, lack housing.
2. Inadequate transportation.
3. Traffic crowded.
4. A road with poor urban quality as a back district.
5. Lack of necessary public services like green area, commercial buildings and educational functions.
6. Less of infrastructure services, like a social and technical system for wastewater and waste treatment.
7. In accordance with the environment (the main axis of the bazaar), low urban quality and the availability of many buildings in contrast to historical sites.

Figure 4.10. Indicates the lack of services at Tajeel region (Author)

Figure 4.11. Shows the location of the sewage collection in Tajeel region (Khasro et al. 2016).

- Opportunities:

1. Empty parts can be used like an attractive moment.
2. Tourism as an attractive destination.
3. Becoming a new historical space center to the district.
4. Evolution a number of residential housing.
5. Opportunities for the development of urban quality spaces, movement the facilities to the historical areas.
6. In accordance with the surrounding district (the main axes of the bazaar), to evolution an axis to the citadel with a panoramic view.

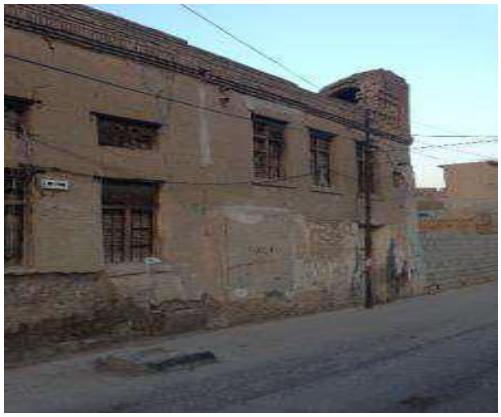


Figure 4.12. Analysis of the place (opportunity Examples) (Khasro et al. 2016).

- Threat:

1. This Historical district is exposed for a long time to negligence.
2. Demolition of some buildings that causes loss to our heritage district, they may not compensate.
3. Overcrowded and polluted areas.
4. Work on urban renewal is sometimes incompatible with the existence of some new style important government buildings.
5. Families with low income will leave the area because of outdated, scarce housing
6. Lack of social consciousness and educated community in the preservation of its heritage area, and it is the responsibility of the educated class.
7. The predominance of high-rise buildings on low buildings in the area, which led to the fact that the integrity of urban fabric has not been preserved.

4.4.2. Axis's and quality of road

In generally axis's and quality of roads are bad, so the axis dimensions are difference and have a randomly width. sometime axis ends are closed must be returning back for find another road, and don't have any function relations with the inside and outside of the district, these axis problems due to irregularity master plan of Tajeel. As well as regarding qualitative and quantitative of ground material is too bad, while most of the alleys material were soil or asphalt, therefor it's not suitable with the historical value of this district and converting ground material for historical material.

Figure 4.13. Ground material is asphalt (Author).

Figure 4.14. Axis ends are closed (Author).

4.4.3. Electric system

İrregularity of electric system is one of the demonstrate facies of this district, in generally Tajeel region is require to remaking a new electric system, specially at the proposal concept space, by putting the cables under the level ground of pedestrian way, due to two reason, firstly, this cable layers has a disadvantage influence on the root of the trees and landscape characteristic, secondly, cable form visibility due to deformation value of architecture heritage of the surrounding building space.

Figure 4.15 Irregularity of cables and elelctric system (Khasro et al. 2016).

4.4.4. Cultural heriatge of building

During reconstruction and rehabilitation of the surrounding building spaces, must be care about cultural heritage of Erbil, in species reflecting these styles are clear visible from compositions and element details of buildings. These elements were most used from the elevation of houses at Tajeel district:

Figure 4.16. These elevation elements are used from traditional houses.

Component elements of the houses:

-Entrance -Window -Shading components that are included:

Canopy 2. Balcony 3. Shanashil 4. Parapet 5. Patterns and ornaments

4.4.5. Sewage system and rain water

Most rate of the rain from winter and irregularity sewage system, also the equality level ground of Erbil's topography, due to happening of mini floods at some districts of Erbil specially Tajeel, in generally Tajeel region is needs for remaking a new sewage system and waste water treatment, specially at the proposal concept space, the landscape space design must be suitable with survey level of Tajeel, for protecting axis's and tourism spaces from collection of rain water and flood.

Figure 4.17. Erbil's flood and irregularity sewage system.

5. CONCLUSION

After researching and infrastructure analysis about Tajeel region. Also, doing a questionnaire between different personalities were living in this district and investigation from the previous literatures and scientific articles. This district needs constructing some modern green spaces, for resolving lack of green area and psychology also society relations of inhabitant. Installing some commercial function and tourism functions (hotel, museum, restaurant, …etc.) at the surrounding of the spaces and site boundary, due to attracting travelers and staying more time at this district, to get to know about architecture heritage of Erbil & Tajeel. As well as due to high temperature of summer nearly (50º) and achieving natural ventilation, green space locations are must be suitable with the wind directions and Tajeel's main axis's. Also, trees and device shading are one of the main landscape principles during implementing green space concept, for achieving thermal comfort for this district. Execution of these steps, by doing integrating unsymmetrical site spaces with demolishing buildings, for attaining a suitable site space and implementing a landscape concept.

This district needs reanimate of human activity, by redesign a master plan, whenever the functionary group were preferred about renewable of masterplan in the rate of 80 %, because construction open green space and surrounding tourism function needs regulating a master plan. Regulating axis duration's and expanding by converting axis dimension's from (3-4 m) to (5-6 m).

Also constructing a mini space at these areas when more than two axes are intersecting at the same point, for simplification back and forth and removing these stresses on the pedestrians, when passing through in to the alley ways, while end of some alley were close and splice in to another axis's. Also, Determination and remaking surrounding function of Tajeel regarding distribution of area and suitability with the surrounding orientation.

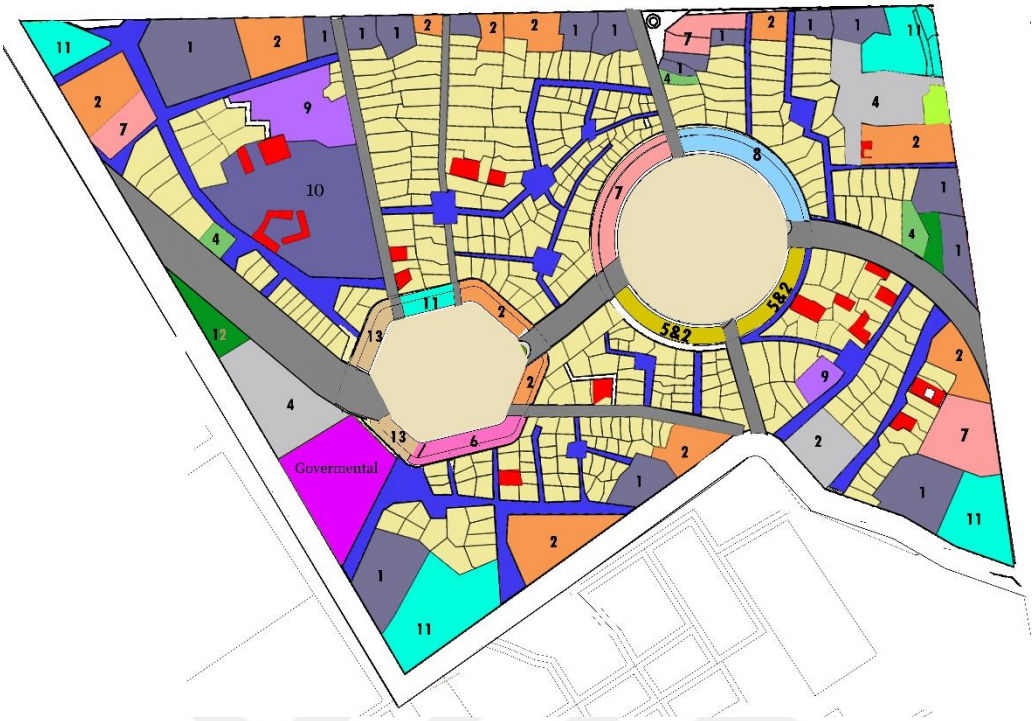


Figure 5.1. Regulating and expanding axis durations (Author).

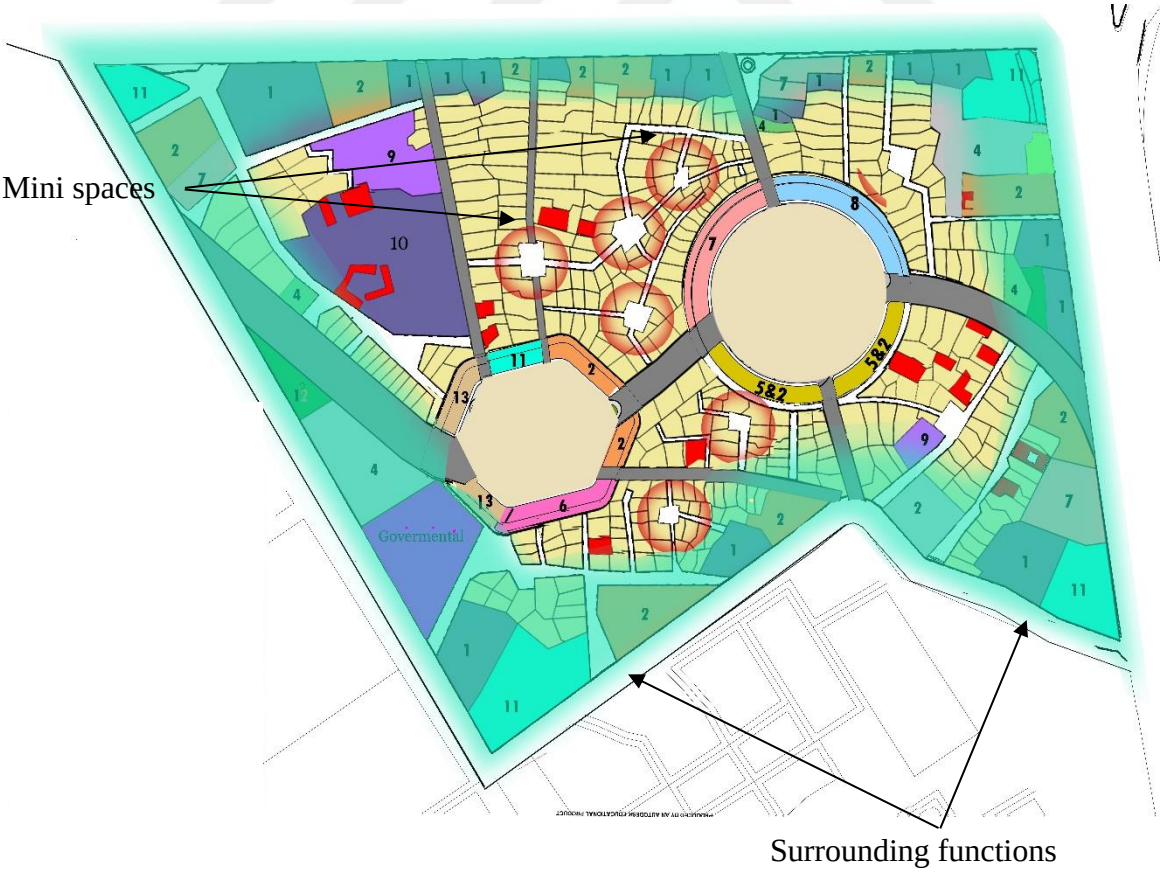
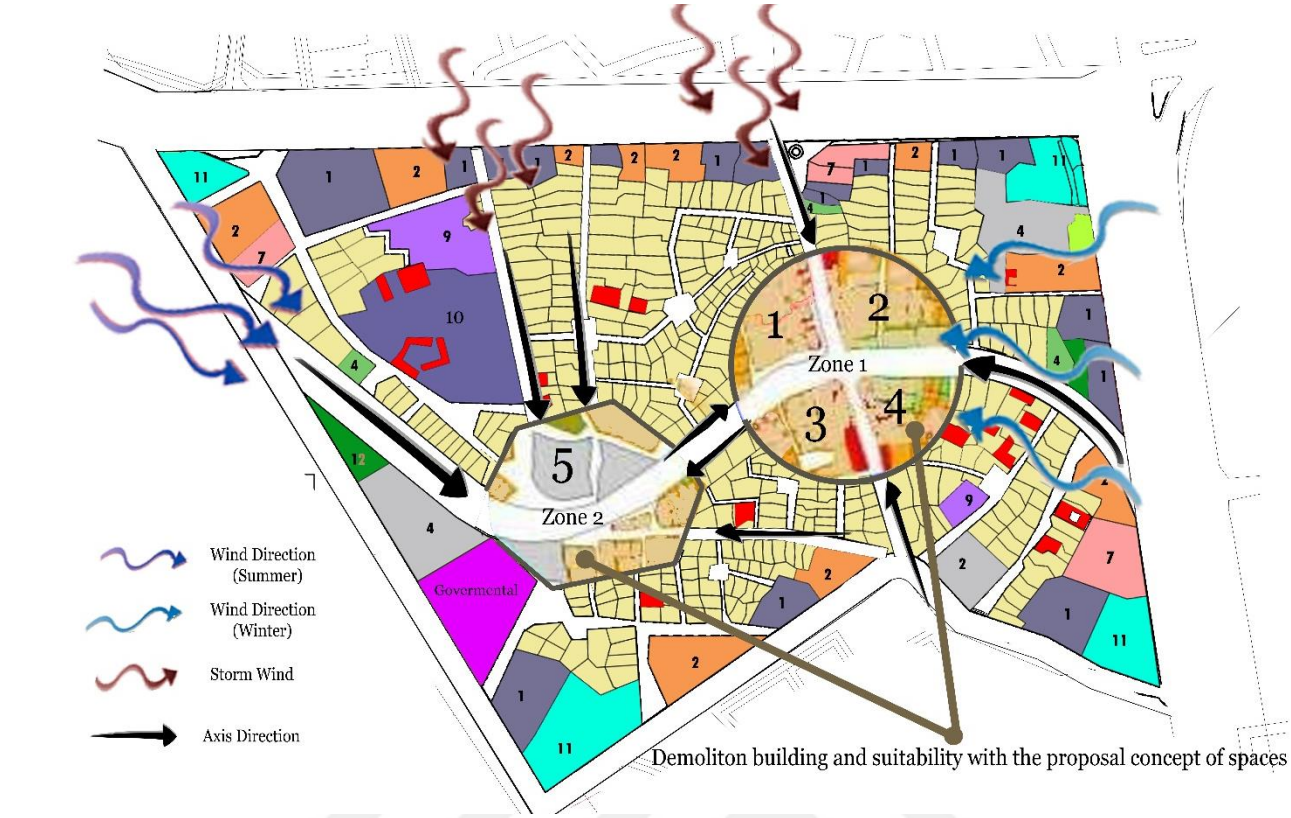


Figure 5.2. Construction mini space and distribution surrounding functions (Author).

5.1. Suitability of Space Concepts and Location's According to Site Orientation's

Open space is one of the roundly factors conductive renewable master plan of this district, whenever 80 % of Tajeel's inhabitant want to constructing open space, for protecting these area from evacuation and resolving a weakness of social relations. Also, high temperature at summer is another factor, whenever the functionary group's demand at the rate of 70 % want to construct a space center for achieving natural ventilation and reducing influence of temperature at summer, in proportion suitable with axis and orientation's, about number and location of the spaces are refers to inhabitant demand's and participants answer, whenever (4.12/5) of the participants want these spaces as a service for travelers and inhabitants. Therefor according to the participants answer and empty areas so demolition buildings, Tajeel needs to construct two open space on the main axis of the district, one of them is circular shape from the west and another one is geometrical shape from the east of Tajeel. Also, space locations are suitable with the wind direction whenever comes in from the west side at summer and at winter is coming from the east side, both wind directions are parallel with the main street axis (S shape), as well as storm wind is parallel with these axis's, also the axis's are perpendicular with the spaces because perfectly coming from the north side. These factors are well assistance for achieving and doing a natural ventilation at Tajeel.

About shape of the spaces, refers to the participants opinion, while they want a circular shape in the rate (3.48/5) and from another question they want a geometrical shape in the rate (3.8/5), therefor according to the participants answer and calculating for demolition buildings so empty areas, circular shape concept is suitable for the first zone, also a geometrical shape is enough for the second zone by calculating for parking space area and demolition buildings for the second zone. Also, without these factors, shape of the first zone is reflecting of Erbil's Citadel and geometrical shape of the second zone is reflecting from the Erbil's Minaret.



1

2

3

4

5

Figure 5.3. Suitability of the space concepts and location's according to the site orientation (Author).

5.2. Surrounding Function of The Spaces

Surrounding function is one of the main principles of open space at historical district, there have been two fundamental concept of space function design, firstly is a qualitative and quantitative of function secondly cultural heritage protection, again decisions about these basics must be calculated for participants opinion, whenever nonacademic and academic group's want to implement a touristic and commercial concept, about space center suitability with commercial function, Tajeel's inhabitant are prefer in the rate (4.42/5), therefor at the first zone will be installing some significant function like (Hotel, Restaurant, Traditional cafe and shop). As well as from other parts of the opinion poll, participants want to convert these areas to a relaxation space at the rate (4.82/5 & 4.32/5), therefor at the second zone will be installing traditional and cooperation functions.

Also, about cultural heritage protection must be calculating for architecture style of Erbil and reanimating by reflecting these elements at the surrounding form of spaces like (Door, Window, Arch, Parapet…etc.). Also, protection historical brick materials from exterior form of functions.

Number	function
1	Shops
2	Traditional Shops
3	Residential
4	Car parking
5	Traditional Cafe
6	Gallery
7	Restaurants
8	Hotel
9	Religious
10	Play ground + Sport
11	Commercial
12	green
13	Museum

Figure 5.4. distribution functions at the surrounding of district and spaces (Author).

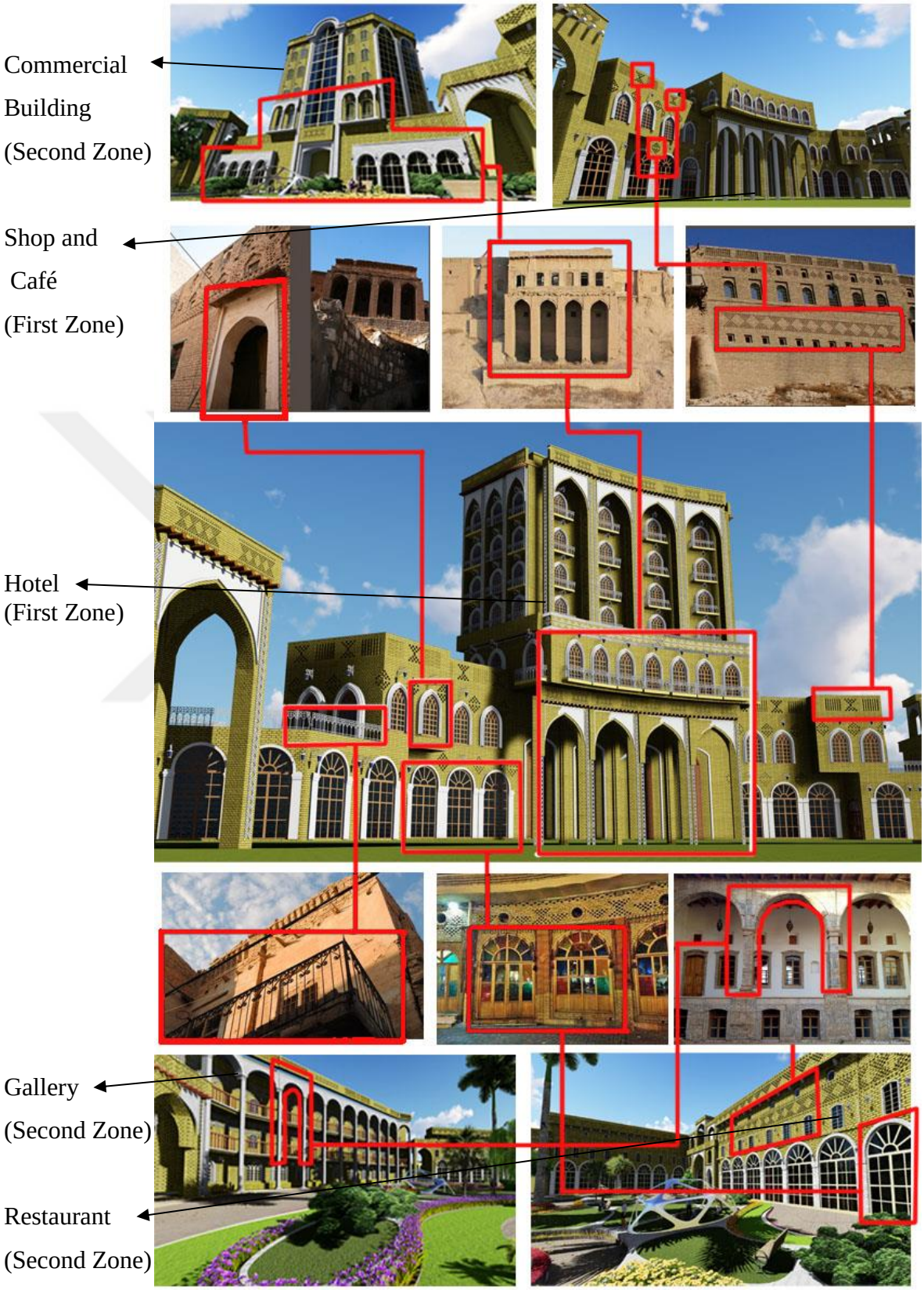


Figure 5.5. Cultural heritage protection from surrounding space functions (Author).

5.3. Main Space Concept

Landscape space design is a main basic of open green space, characteristic of this concept refers to evaluation of general master plan and surrounding functions of the space, therefor must be appertain and analyzing for participants answer, by consideration for opinion poll and experience persons:

1- While this district under the impact afew axises are irregular and hard in movement, therefor doing these organic and free axises due to making a free walker movement and assisting them for ambulating in spaces.
2- In the rate of 70 %, participants they dont want to use inside space axises for back and forth of car, therefor this landscape concept are a randomly in axises, so that is a good assistant for traveler's and forbidden car movement's.
3- About organic style of the landscape, again refers to the participants answer while in the rate of (4.32/5) want to designing a modernization landscape style, in a manner sutiable with the architecture developments.
4- Also this idea was supported by professor doctor Yusef Hama Saleh, one of the Tajeel's resident (experienced about psychology), said, for reducing people stresses due to continuing deal with the historical compositions. Also our question for him: how are your understanding about implementing modern concept design at historical district?, him answer: boredom case in conventional usage, while surrounding environment of residents is repetition and have not spectacular objects, therefore the inhabitants were feeling a dull or tedious in that period, therfore implementing a modern idea is acceptable suggestion at historical space centers.
5- Academic group's while inhabitsnt at Tajeel district, in the rate of (4.13/5) want to be implemntating and doing a modern design at the space centers.

Will do an organic landscape design for the spaces, it consists of three different part's and a mini portion from the centers at the both spaces, also general area of the first zone is (12,900 m²) so nearest dimension from the building surrounding is (4.5 m) and furthest dimension from the surrounding is (19 m).

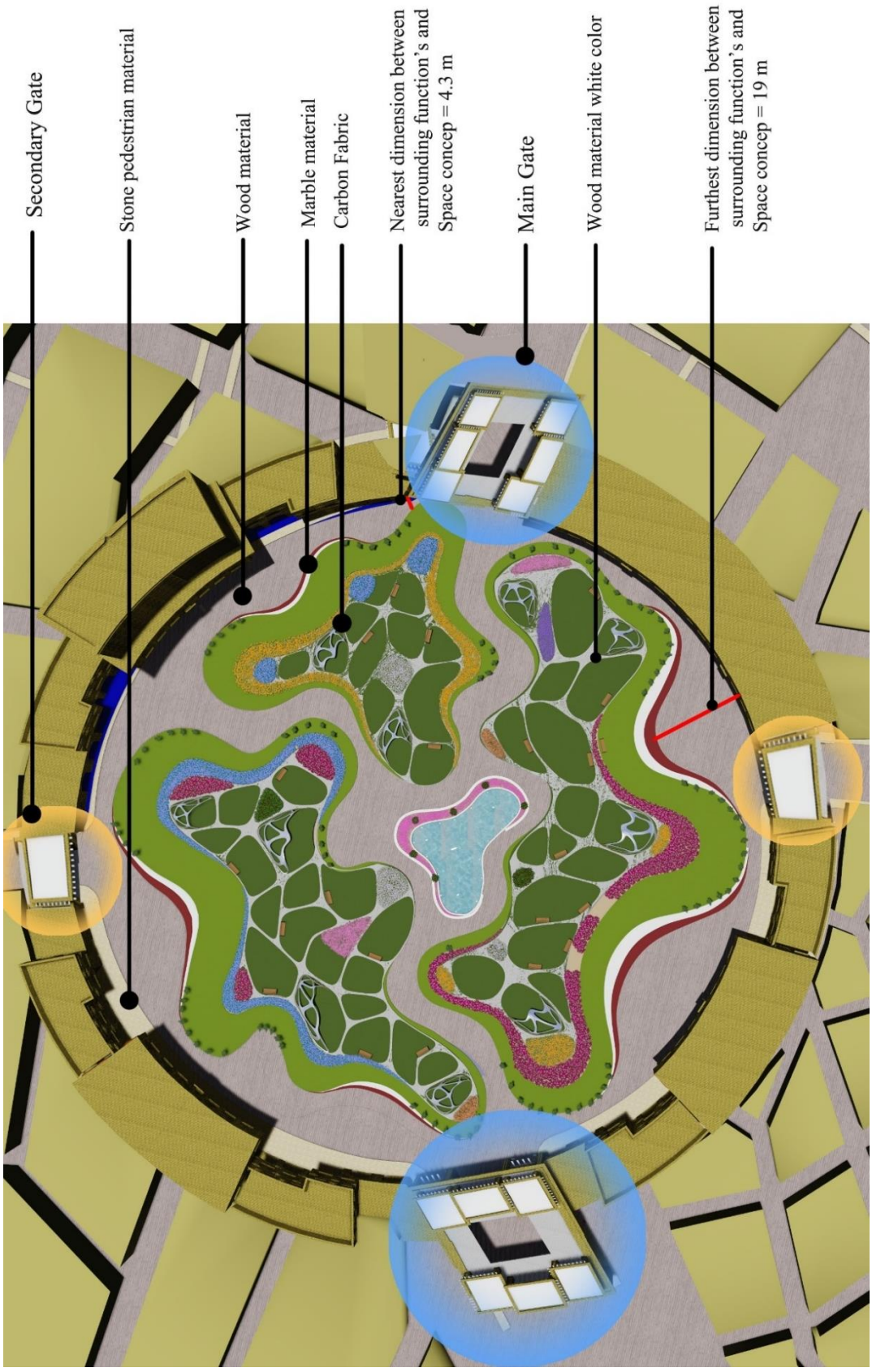


Figure 5.6. Landscape design and top view of first zone (Author).

Also, general area of second zone is (8240 m²) so nearest dimension from the building surrounding is (3.5 m) and furthest dimension from the surrounding is (22 m),

Figure 5.7. Landscape design and top view of Second zone (Author).

As well as at the center of this zone were reflecting minaret of Erbil is a heritage symbol of this province, while octagonal composition of it, is integrating with open space boundary's, also installing concept of Erbil's minaret it refers to participants answer, whenever participants at the rate of 60 % want to reflecting one of the cultural heritage of Erbil, also this heritage symbol due to making a spiritual between this historical district and cultural heritages of Erbil.

Figure 5.8. Erbil's cultural heritage symbol at second zone (Author).

Also, distribution main characteristic of the landscape, refers to different layers of the spaces, while first layer was used as an entrance for the landscape concept, which second and third layer were using for variety flowers and forth layer having an expansion area were used for grass and tree. Will connects this spaces to general master plan of the district by some gates whenever consist of a secondary and main gate, while the main gates as a link between space centers and main axis's and secondary gates as a link between space center and secondary axis's.

5.4. Trees and Flowers Selection Accourding to Adaptability With The Spaces

After implementation previous steps, trees and flowers selection is an essential and significant section of landscape space design. Doing evaluation for participant's answer about (most important action to prevent Tajeel from urban heat island) in the rate of:

- 40 % want a landscape with tree and flower.
- 30 % want a landscape with grass.
- 10 % want a landscape with (grass+ Tree+ Shading device).
- 20 % want a landscape with succulent.

Therefore, we'll be choosing (Tree, Flower, Grass, Shading device) as a fundamental characteristic of the landscape space design, selection these characteristics about specifications refers to the orientation and weather suitability of Tajeel district. Explanation formulate of this space refers to dividing space concept for six organic components, three organic component and concept center at the first zone and other components at the second zone.

Figure 5.9. Classification organic components of first zone (Author).

Figure 5.10. Classification organic components of second zone (Author).

5.4.1. First and fourth organic component

Table 5.1. Explanation of First and fourth organic component (Author).

Organic component	Zone	Component Location	Surrounding Function	Type of tree	Type of flower
First	First	North West	Hotel & Restaurant	Melia	Blue Pency
Four	Second	North East	Traditional Coffee & Commercial	Melia	Blue Pency

At these components were choosing (*Melia Tree*), it is a vernal tree so the height between (4m-8m) contain a single trunk due to widening human eye level, so will be using as a shading device du to have a good shadow density, deciduous of leaves be a good assistance to penetration sun light for surrounding function's at winter season, also this component have a full sun light that is a well support for staying and growing this tree. About selection of flower, were choosing (*Blue pency*) at the both of spaces, name of this flower is a French expression (*Pensêe*) meaning love and using as a symbol of

(remembrance), this factor is important for reanimating and returning soul of love for this district, the height between (5cm-8cm) and having three different petals (Yellow, White, Blue), also suitable with Erbil's weather because they can survive light freezes and short period of snow cover.

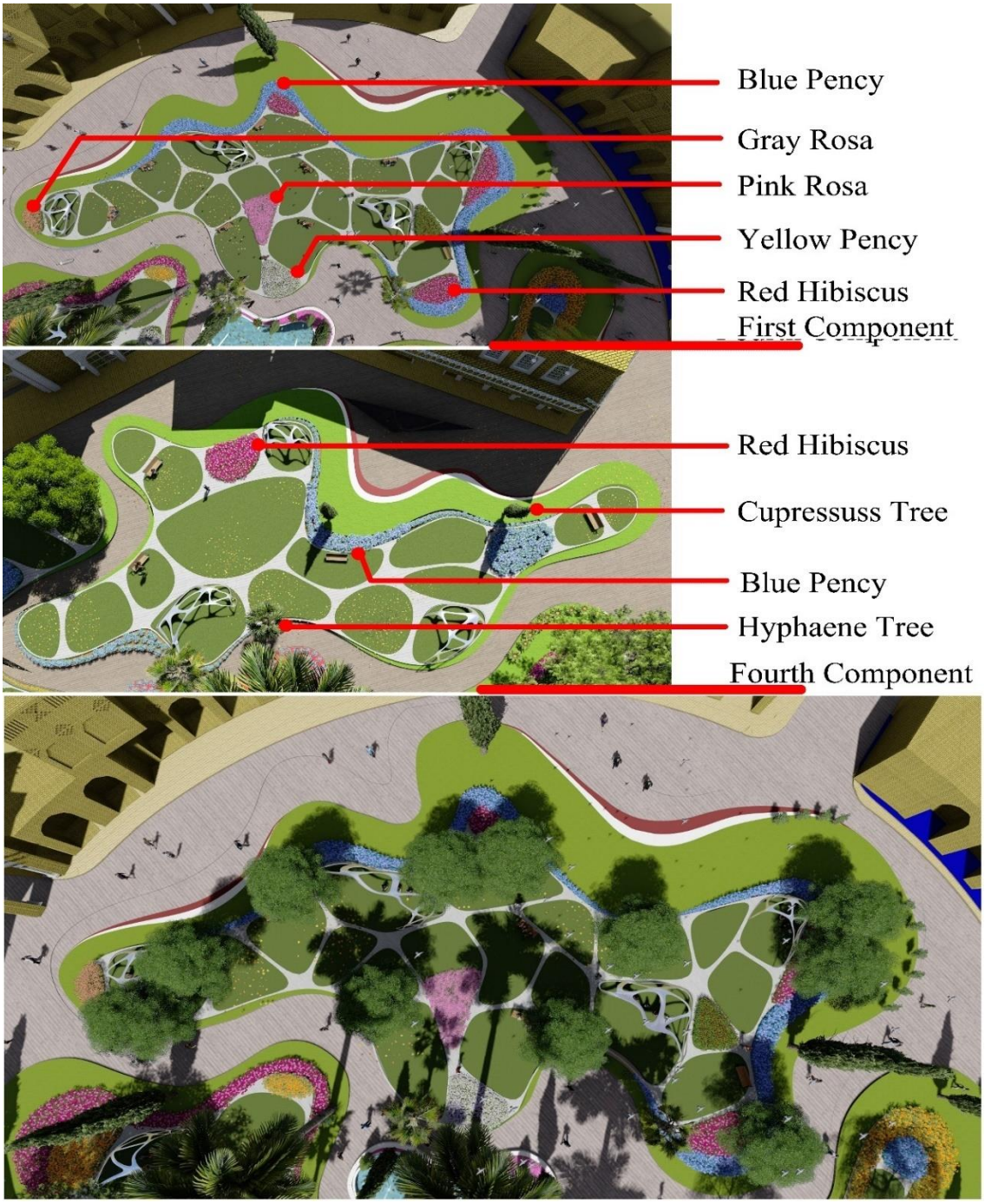


Figure 5.11. Flower and tree selection at first and fourth component (Author).

Second C.

Perspective View of First C.

Perspective View of Second C.

Figure 5.12. Perspective view of the first and fourth component (Author).

5.4.2. Fifth and third organic component

Table 5.2. Explanation of Third and Fifth organic component (Author).

Organic component	Zone	Component Location	Surrounding Function	Type of tree	Type of flower
Fifth	Second	South	Gallery & Museum	Tamarix Aphylla	Red Hibiscus
Third	First	South West	Traditional Coffee & Shop	Tamarix Aphylla	Red Hibiscus

Haigh temperature of summer season nearly (50º) at Erbil and participant's demand for shading device area, are a main reason for selection (*Tamarix aphylla*) for this space because an evergreen tree at the different seasons and have a good shadow density, surrounding shadow dimension's between (3m-6m) and the height is (2m-5m), also thickness of the truck between (20cm-40cm), these factors due to widening human eye level and demonstrating an evergreen space.

One of these factors due to installing these trees at this component refers to nearness surrounding function's, because the number of visitors too much for these functions, while at winter season can useful as a wind protector and at summer season can using as a shading device, also installing this tree is impossible at the other components because it does not has a deciduous season and sun direction is sidelong at winter due to not penetration sun light for surrounding buildings.

Flower selection refers to specification of it, while Red Hibiscus flower (*Rosa-sinensis*), does not tolerate temperature below than (10º) and above than (40º), thus it is green at (spring, autumn, mid-winter and mid-summer), grown as an ornamental plant at tropics and subtropics country, also history of this flower refers to the 12th century, while using this flower as a symbol of (celebratory).

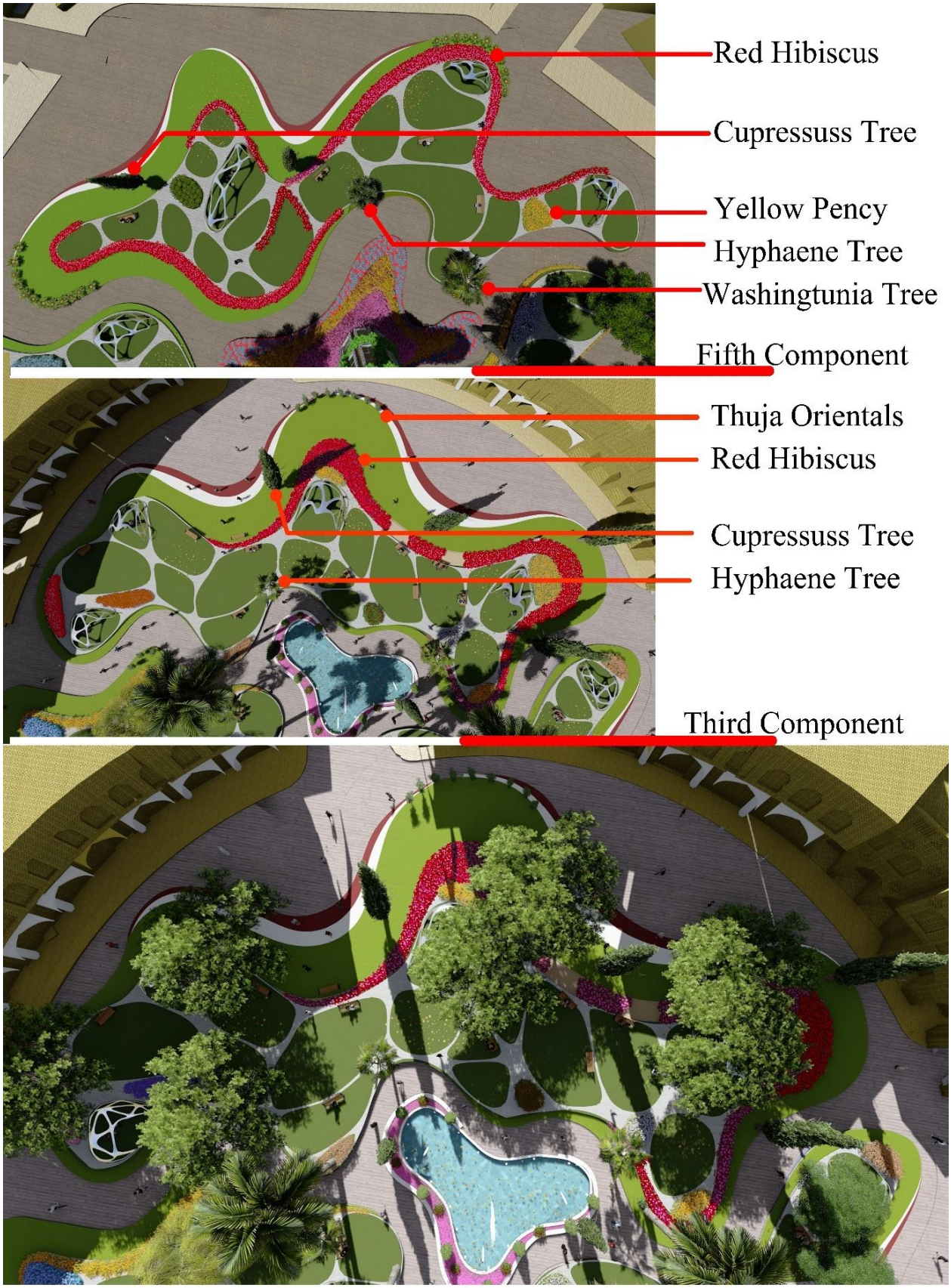


Figure 5.13. Flower and tree selection at the fifth and third component (Author).

Fifth C.

Perspective View of Fifth C.

Perspective View of Third C.

Figure 5.14. Perspective view of the fifth and third component (Author).

5.4.3. Second and sixth organic component

Table 5.3. Explanation of Second and Sixth organic component (Author).

Organic component	Zone	Component Location	Surrounding Function	Type of tree	Type of flower
Second	first	East	Hotel	Schinus Mole	Yellow Dahilia
Sixth	Second	North West	Commercial & Gallery	Caesalpinia	Yellow Dahilia

Schinus Mole (*Schinus mole*)tree is a second component selection, it is a seasonable green tree at (summer, spring, mid-autumn) the height between (3m-15m), foliage long between (20cm-30cm), deciduous of leaves be a good assistance for penetration sun light to surrounding function's at winter season, resistant to frost until (-10^{o}), lives at these areas while rate of rainfall between (300mm-600mm), that is a suitable specification with Erbil's rainfall ratio, annually the rate of rainfall minimum is (320mm).

Also, Caesalpinia (*Caesalpinia pulcherrima*) tree is a sixth component selection, it is a semi evergreen, so too sensitive for cold climate widely grown in domestic and public garden in warm climate with mild winter but will rebound in mid-to late of spring. Reanimate this district hereof human activity and nature spiritual, is a priority of this space because of Casalpinia tree due to attracting hummingbirds and demonstrating a nice vision of soul activity.

Yellow Dahilia (*Chrysanthemum*) is a main layer from second and sixth components, the height is (30cm) and diameter is (5cm), related species include (sunflower, daisy, Zinnia, Chrysanthemum) so Chrysanthemum represent dignity, sunny location is suitable for it, at least need 8 hours daily sunlight. Main factor for selection this flower is a religion reason because Tajeel has been two parts: Muslim and Jewish parts that mean that both followers of the both faiths cohabited peacefully in the same locality, also Chrysanthemum flower is a religion name (Dawdyia) that is a name of Jewish profit at the same time from Muslim's book (Quran) was describe as a Jewish profit (Dawd), therefore we can use this flower as a peaceful symbol from the spaces.

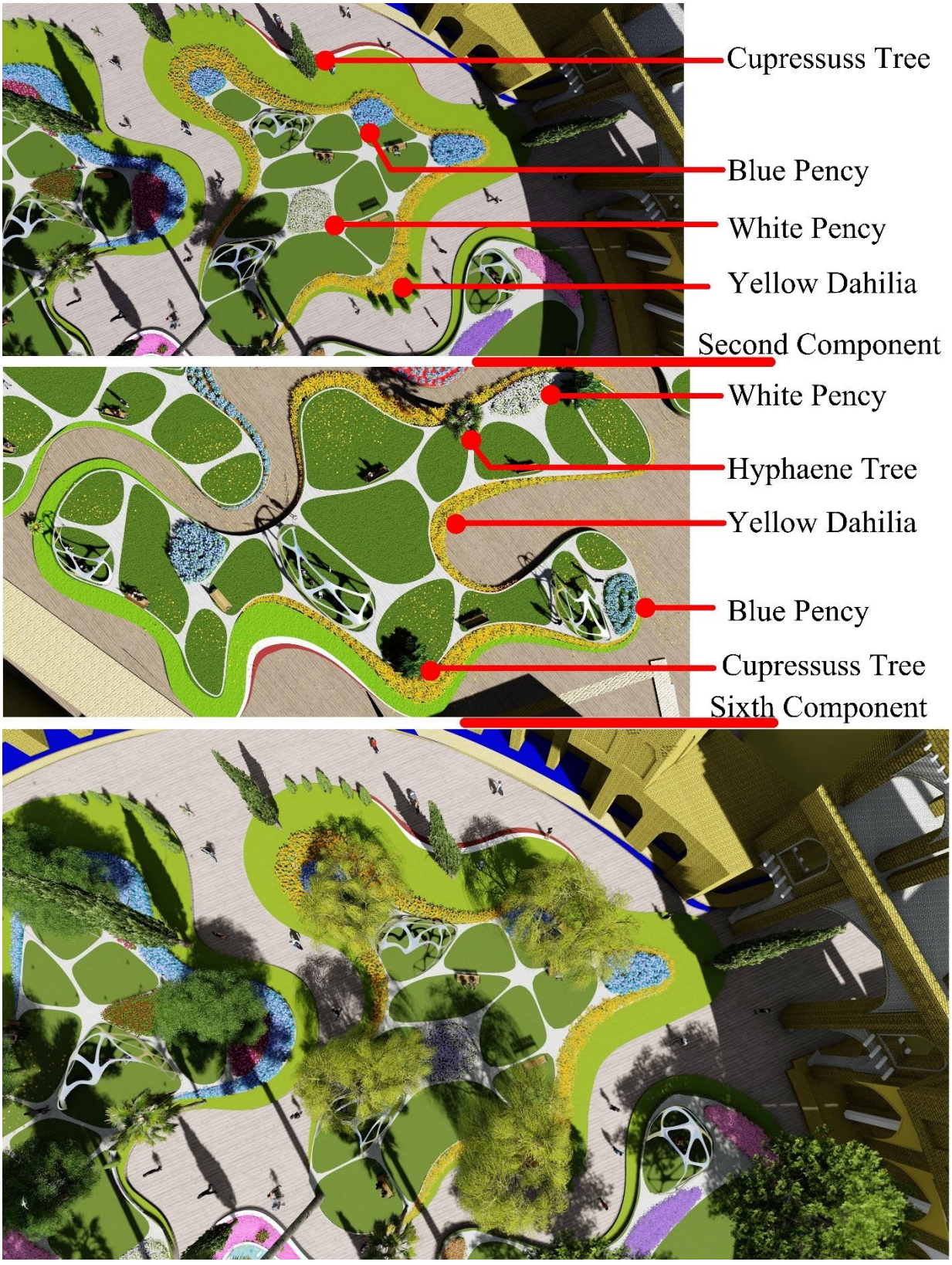


Figure 5.15. Flower and tree selection at the second and sixth component (Author).

Sixth C.

Perspective View of Second C.

Perspective View of Sixth C.

Figure 5.16. Perspective view of the second and sixth component (Author).

5.4.4. Organic component centers of first zone and second zone

These centers are a complementary location for other organic components, due to attracting and collecting visitors for acquaintanceship with installation idea of the centers. Washingtunia (*Washingtonia robusta*) and Hyphaene (*Hyphaene thebaica*) tree were installing at the surrounding centers, height of Washingtunia tree between (15m-20m) and Hyphaene tree between (8m-15m), diameter of each them is (15cm-25cm) also found in tropical and subtropical districts, lives at these area's while the rate of temperature more than (28^{o}) for three month minimum, also they need full sun light and they are not suitable with temperature lower than (-5^{o}), they grow in areas while the rate of rain between (100mm-600mm). Installation these trees at the first zone for roundly and demonstrating of organic centers, and protecting foundation of surrounding building from root effects, as well as making a natural dominance at the green space, because elevation of other trees was generally between (4m-8m). Also, installation these trees at the second zone as a respondence for composition of Minaret and achieve a semi shadow for Hedra plant.

5.4.5. Minaret plant's and surrounding flowers

Hedra plant go around of the minaret, growing from the mid to above and lower part of it, that is utilize as a symbol for reanimating and intermix cultural heritage of Erbil with spiritual of landscape, commonly called (IVY) it is an evergreen climbing tree, also the height is (15cm-20cm) suitable on straight surfaces for climbing like (stone, quarry rock, masonry brick), they can climb at least (30m) above ground, used in tall or wide wall for attracting wildlife and aesthetic addition.

About base layers of minaret were consist of three different layers, upper layer is Lavandulla Officinails, this flower has another name is (Nard), it need a good air circulation and humidity, also the humidity rate of Erbil is high at (winter, autumn, spring).

Mid layer is Yellow Euonymus, a deciduous season loves full sun, they are mostly native flower at Asia, the height is (2cm-15cm). Has excellent color contrast with leaves and changing color in winter using for decorative.

Third layer is Rose flower, often using this flower as a cultural history symbol, because history of this flower refers to 500 B.C, used for perfumery and commercial flower crop, sometimes used as a landscape plants.

Figure 5.17. Organic component center of First zone (Author).

Figure 5.18. Organic component center of Second zone (Author).

Note:

Cupressuss tree and *Thuja orientals*, they do not have a particular component from the spaces, imbalance and space location of the components is a priority distribution of that trees, also composition irregularity other typical trees are the main reason for selecting these trees, for achieving human balance visibility.

Cupressuss tree: is an evergreen tree the height between (5m-40m) and surrounding spread is (1m-3m), also have a symmetrical canopy with a regular or smooth outline.

Thuja Orientals: is an evergreen tree the height between (2m-4m) and surrounding spread is (80cm-150cm), also need full sun will not be tolerate in shady sites.

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APPENDIX

APPENDIX 1.

This study is based on qualitative research methodology. The document analysis is adopted in the study, in order to have a better understanding about Erbil, also neglecting these historical regions specially Tajeel, one of the oldest districts are requirement resurvey and live restore. This work consists of three phases. In the first phase of the study, literature review was made on the subject. In the second phase of the work, will be meeting and speaking face to face with three different groups, for understanding about their suffering and problems, also what are their needs, for improving quality life of in Tajeel's resident, and implementing their needs. In the third step doing a visual analyzes (photographs, maps and personal observations), which determines the main method of work, a survey was conducted.

SURVEY FORM

This questionnaire is carried out within the scope of Master Thesis of Van Yüzüncü Yıl University, Institute of Science, and Department of Landscape Architecture. Survey, space design for Tajeel's district at Erbil: Assessing the current situation and the participation of users in order to determine the urban green space needs in terms of social, cultural and functional. Please read the questions thoroughly and then answer the questions according your educational level.

age:

Sex: ( ) Female ( ) Male

Educational Status: 1- Academic ( ), 2- Non Academic ( ), 3- Functionary ( )

district: ( ) Tajeel ( ) Outside

1) Academic person:

a) Which one is most important landscape design action for you to prevent Tajeel from urban heat island effect?

1- (….) a Landscape design with grass

2- (….) a Landscape design with perennials

3- (….) a Landscape design with bushes

4- (….) a landscape design with trees

5- (….) a landscape design with succulents

6- (….) mix of all of the landscape designs given above

7-(….) other than all of them (please type your opinion (……)

8- (….) I have no idea

b) What is the most important type of function for you, which would be installed in Tajeel district in future?

1- (…) dwelling 2- (…) Commercial (Touristic) 3- (…) Commercial (Industrial) 4- (….) Hotels Hostels touristic accommodation

5- (…) Public buildings 6- (…) park/play area 7- (...) I have no idea

8- (….) other (Please type……

c) Please indicate your agreement level the propositions sentences that are given under:

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1) Modern concept design can be implemented at this historical district.	1	2	3	4	5
2) Surrounding building of the spaces are suitable for commercial functions.	1	2	3	4	5
3) An open space in a historical site should be Circle in shape.	1	2	3	4	5
4) An open space in a historical site should be informal in shape.	1	2	3	4	5
5) An open space in a historical site should be natural in shape.	1	2	3	4	5
6) An open space in a historical site should be geometrical in shape.	1	2	3	4	5
7) An open space in a historical site should be in shape according to suitability.	1	2	3	4	5

2) Non-Academic person:
   a) Do you want to construct a space centers for Tajeel?
      -Yes ( ), No ( )
   b) Space center can be solving a society problem at this district?
      -Yes ( ), No ( )
   c) Are you want to Installing a statue at the space centers?
      -Yes ( ), No ( )
   d) Do you think about, reflecting one of the historical symbols of Erbil at the spaces?
      -Yes ( ), No ( )
   e) If implementing these conceptual points, are your evacuation this district?
      -Yes ( ), No ( )

3) Functionary person:
   a) Integrating tourism functions with the historical green spaces is possible?
      -Yes ( ), No ( )
   b) Natural ventilation's concept is suitable for resolving thermal heat of Tajeel?
      -Yes ( ), No ( )
   c) Open space design, do it need renewable and reconstruction master plan of Tajeel?
      -Yes ( ), No ( )
   d) Constructing high building is let to, at the space surrounding's or site boundary?
   A) Space surrounding ( ), B) Site boundary ( ), C) Both of them ( )
   e) After construction green space, Back and forth of car, is possible at this district?
      -Yes ( ), No ( )

4) Please indicate your agreement level the propositions sentences that are given under:

	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1) Place, competition, entertainment and meeting place	1	2	3	4	5
2) The space is a spending place that allows a variety of activities.	1	2	3	4	5
3) I would like to see the square as a quiet, relaxing area	1	2	3	4	5
4) I would like to see places that make me feel safe in the square	1	2	3	4	5
5) I would like to see the space as a place for Tajeel's residence and travelers.	1	2	3	4	5
6) I would like to see it as an area that emphasizes feelings of cooperation like space, traditional functions.	1	2	3	4	5
7) I would like to see the space as a promotion Erbil's culture.	1	2	3	4	5
8) I would like to see it as a place that serves multiple purposes.	1	2	3	4	5
9) I would like to see it as a place with architectural and cultural attractions.	1	2	3	4	5

APPENDIX

APPENDIX 2.

EXTENDED TURKISH SUMMARY
(GENİŞLETİLMİŞ TURKÇE ÖZET)

TAJEEL'DE (ERBİL) PEYZAJ TASARIMI VE ALANLARIN REHABİLİTASYONU

MOHAMMED. Hawbir Omar
Yüksek Lisans Tezi, Peyzaj Mimarlığı Bölümü
Danışman: Pro. Şevket Alp
April 2018, Sayfalar 101

1. ÖZET

Bu tez mimarlık disiplininde temel bir konu olan peyzaj tasarımı konusu ile ilgilidir. Araştırma, Erbil'in tarihi bölgesi olan Tajeel'de, talepleri anlamak ve uygulamak için farklı kişilere anket uygulaması yapımının yanı sıra, bir tasarım olarak Tajeel'in peyzaj alanlarının önemini ve yeşil alanlarının ve rehabilitasyonunun hakkında belirli temel bilgilerin yararlılığını ele almakla başlamaktadır. Dolayısıyla, bu araştırma ile tarihi yeşil alanlarda bilimsel kaynak bilgisinin eksikliğinin önemli bir problem olduğu farkına varılmıştır.

Araştırmada daha sonra yeşil alanlar, rehabilitasyon ve termal ısı hakkında ayrı ayrı ele alınarak mevcut literatür araştırması yapılmıştır. Tajeel bölgesinin yeniden canlandırılmasının önemine odaklanarak, bunların mekanların gelişiminde etkisi üzerine yoğunlaşılarak tartışılmıştır. Bunun için bu bölgeye genel bir ana plan yapılıp, bir sosyal aktivite ve buradan geçen insanları mekanlara çeken bir işlev tasarlayarak, turizm yeşil alanı inşa edilmeye çalışılmıştır. Ayrıca bu araştırmada Erbil'in mimari dokusu ile

Tajeel'in kültürel stilini de koruyup mimari konusuna odaklanılarak mekanların çevredeki işlevlerini yansıtıcı amaçlar düşünülmüştür. Bunun üzerine araştırmada, termal ısı adası etkisini azaltmak ve doğal bir havalandırma oluşturmak için Tajeel master planı ekseni ile alanın konumunun düzenlenmesinde mantıklı bir çözüm bulunmaya çalışılmıştır.

Anahtarlar: Tajeel, Yeşil Alan, Peyzaj Tasarımı, Kültürel Miras, Rehabilitasyon

2. GİRİŞ

Bu bölümün bilgileri iki kısımdan oluşmaktadır; birinci kısım; Irak'ın(Erbil) açık alanları coğrafi dağılımları hakkında genel bilgi, ikinci bölüm; Erbil'in tarihi bölgelerinin tanıtımıdır.(Citadel, Minaret, Tajeel).

İsmine cennet, bahçe ve meyve bahçesi eşlik eden Irak'ın kuruluşundan bu yana insanları, eğlence tesislerine açık alanlara ve parklara özel bir ilgi duymaktadır. Dicle ve Fırat'ın kolu, güzelliğini ve ihtişamını tanıtmak için Irak'ın tüm ilçelerinde akmakta ve devasa bahçeler bu kolların kıyıları boyunca uzanmaktadır.

Irak'ta tarihi reakreasyon anlamı Müslümanlar, Hıristiyanlar ve Yahudiler tarafından paylaşılmıştır. Bu dönemlerde Iraklılar, Babil asma bahçelerindeki deneyimleri nedeniyle bahçelerin ve parkların tasarımına özel bir ilgi göstermişlerdir.

Şehir deniz seviyesinde 390 metre yüksektedir ve en yüksek nokta 414 metre olan kalede yer almaktadır. Erbil Irak'ın başkenti Bağdat'tan 320 km uzaktadır. Ayrıca 36,11 enleminde 42,2 boylamında yer alan Erbil Musul şehrinin 84 km doğusunda ve Kerkük'ün 90 km kuzeyinde yer almaktadır. Ayrıca Erbil'den 50 km uzaklıkta 2000m yükseklikte olan Safeen dağında, bölgesel güçleri ve tarihsel karakteri yüzünden Erbil Kalesi, Minareti Tajeel ilçesi gibi bazı geleneksel bölgeler inşa edilmiştir. (Unesco Word Heritage Center. 2010)

3. KAYNAK BİLDİRİŞLERİ

Tezin bu bölümünde yeşil açık alan hakkında bilgi verilmektedir. Bu konularla ilgili yapılmış olan ve bu projeyi yürütmek için önceki projelerden örnekler verilen çalışmaları, tarihi tanım ve kentsel yeşil alanların bazı tanımlarını ve bazı teorilerini anlamak gerekmektedir. Mevcut çalışmaların ve prensiplerin irdelediklerini ve etkilerini incelemek de önemlidir. Bu bölüm iki kısma ayrılmaktadır. Birinci kısımda; yeşil alan ilkeleri ve rehabilitasyon süreci hakkında genel bilgi verilmektedir. İkinci kısımda ise; tasarımın modernliği ve tarihsel alanların çevresi arasındaki uygunluğu sağlanıp, alan tasarımında kullanılan belirli prensipler dahilinde tezin konusuna benzer çalışmalara odaklanarak çalışma yapılmaktadır.

Açık Alan: Açık alanlar, toplumun etkileyici kültürel değerlerinden biridir. Toplumun yükselmesi açık alanların gelişimi ve korunması ile ifade edilmektedir. Günümüzün değişken dünyasında, kentleşme ile insani önem ve standartlar değişmiştir. Bu değişimde, insanlar mevcut kullanımları ayırmış ve yeni bölgeler oluşturmuşlardır. Bu değişiklikler, ülkeden ülkeye ekonomik duruma göre ayrılmıştır.

Rehabilitasyon: Rehabilitasyon, koruma alanının büyüklüğü ve işlevine bağlı olarak, zaman, mekan ve zorlukların karşılanması gereken bazı değişiklikler dahilinde bakımın temel planlama amacı olduğu bir alandır. (Weeks and Grimmer, 1995)

Koruma alanı dahil olmak üzere, bu alandaki gayrimenkul veya bina sahiplerini belirlemenin yanı sıra koruma alanının açık ve net bir şekilde belirlenmesi ve ayırt edilmesi önemlidir.

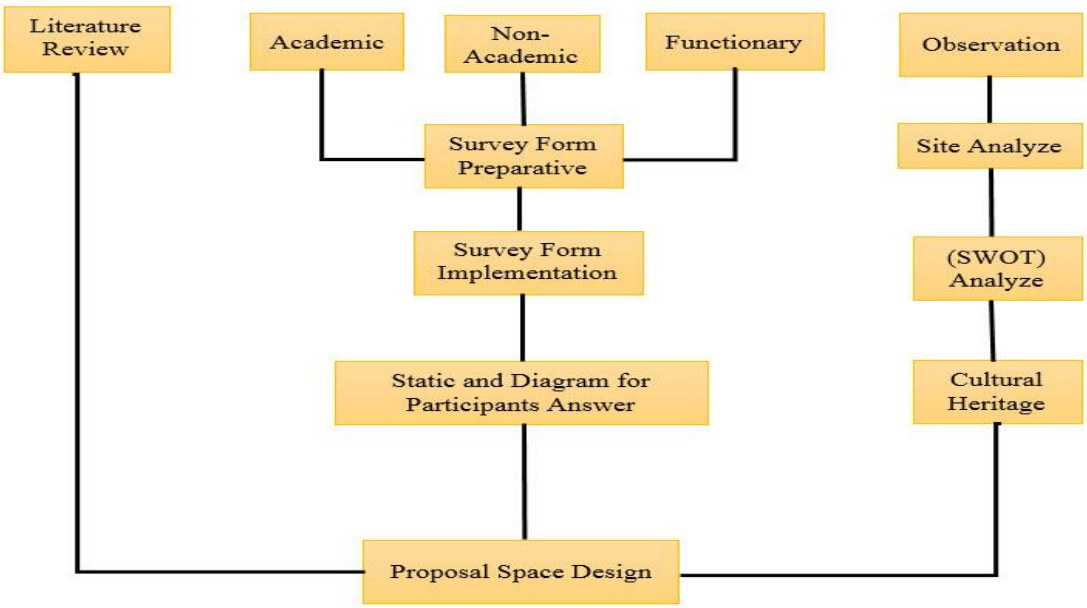
Koruma alanı içerisinde bulunan binaları seçmenin en önemli prensipleri arasında?

1. Seçim (Yukarıda belirtilen kriterler dahilinde)
2. Yenileme ve İlerletme (parça bütün, modern eski, sabit ve değişken arasındaki ilişki)
3. Verimli kullanım ve ekonomik uygunluk, söz konusu bina ile ilgili kavramların kullanılması ile elde edilen kullanıma dayanmaktadır. (Weeks and Grimmer. 1995)

4. MATERYAL VE YÖNTEM

Yeşil alanda tarihi materyal çok önemlidir çünkü o tarihi bölgelerde savunmayı belirlemektedir. Bununla birlikte, yapım tekniklerinin, kompozisyonun, tasarımın, renklerin ve dokuların, her tasarımın dönemi ve stili için kullanılan tarihi malzemelerin kapsamlı bir listesini oluşturup anlamak gerekmektedir. Peyzaj yapımı ve tarihi yerleşimlerin yönüne hitap edip, Tajeel'de yaşayan prefosyoneller ve farklı kullanıcılarla görüşülerek, yapım teknolojisi bilgileri ve yerel uygulamaların prensipleri doğrultusunda çalışma yapmak esastır. Tarihi materyallerin ve Tajeel'in arazi kullanım bilgisi ile peyzaj tasarımcılarının mevcut tarihi materyalleri düzgün bir şekilde tespit etmeleri ile kalmayacak, aynı zamanda ihtiyaç duyulduğu için bu bölgede yeşil açık alanlar oluşturulmaya çalışılacaktır. Ayrıca özellikle yeşil öneri alanlarla farklı tasarım stilleri ve çeşitli bitkiler kullanılarak,Tajeel'deki ıssızlık hissiyatı kaldırılacak ve botanik gelişim sağlanacaktır.

YÖNTEM: Bu çalışma nitel araştırma metodolojisine dayanmaktadır. Çalışmada Erbil'i daha iyi anlamak için özellikle en eski bölgelerden biri olan ihmal edilmiş tarihi bölgesi Tajeel'in yeniden yapılanması ve canlandırılması için döküman analizi benimsenmiştir. Bu çalışma üç aşamadan oluşmaktadır. Çalışmanın ilk aşamasında konuyla ilgili literatür taraması yapılmıştır. Çalışmanın ikinci aşamasında 3 farklı grupla görüşülmüş, Tajeel'de yaşamın niteliklerini geliştirmek ve onların ihtiyaçlarını uygulamak için, onların ihtiyaçlarının ve sorunlarının neler olduğu belirlenmeye çalışılmıştır. Üçüncü aşamada ise, ana çalışma yöntemini belirleyen görsel analizler(fotoğraflar, haritalar ve kişisel gözlemler) yapılarak bir anket çalışması yapılmıştır. Şekil 4.1



Şekil 3.7 Yöntem Diyagramı

5. BULGULAR VE TARTIŞMA

Kamusal sorular hakkında katılımcıların cevapları analiz edilmiş ve genel olarak cevaplar çok farklı olmamıştır, ancak ikinci sorunun cevaplarında eğitim grubu düzeyinde farklılıklar ile, beşinci soruda cinsiyet farklılıkları olmuştur. Farklı gruplar için kamusal soruların cevapları aşağıda sunulmuştur:

1. Genel olarak katılımcılar tarafından birinci soru konsepti reddedilmiştir, % 74 oranında katılmama durumu seçilmiştir,onlar yarışma ve eğlence için bu alanların inşasını istememişlerdir,onların cevaplarına göre Tajeel'in alanının inşasında temel bir konsept olmasıdır.
2. Eğitim gruplarına göre cevaplarda ikinci soru hakkında farklı cevaplar olmuştur, mezun olan grup % 75 oranında aynı fikirde olmamış, liselilerin % 66,6 oranında cevapları hem fikir ve tarafsız olmuş, memur grubunda % 63,7 oranında bu konsept hakkında aynı fikirde olunmamış, lisansüstü grupta % 74,9 oranında aynı fikirde olunmuş, okumayan grupta ise % 76,4 oranında çeşitli aktiviteleri geçirmek için bir alan oluşturma konsepti reddedilmiştir.

Tablo 4.7. Analize katılanların ikinci soru hakkında cevapları ve görüşleri(Yazar)

Q:2		Şiddetle Katılmıyorum	Katılmıyorum	Nötr	Katılıyorum	Şiddetle Katılıyorum
	Mezun	% 75	% 00	% 0	% 25	% 0
	Lise	% 0	% 33.3	% 33.3	% 33.3	% 0
	Memur	% 18.2	% 45.5	% 9.1	% 27.3	% 0
	Lisansüstü	% 8.3	% 16.7	% 58.3	% 8.3	% 8.3
Eğitim	Okumamış	% 23.5	% 52.9	% 23.5	% 0	% 00
Toplam		% 20.0	% 36.0	% 28.0	% 14.0	% 2

3. Katılımcıların üçüncü soru hakkında cevapları genellikle % 70 oranında kabul görmüştür, bir rahatlama alanı olarak yeşil bir alanın yapımı için oranlar güçlü şekilde katılma ve katılma şeklinde olmuştur.
4. Dördüncü soruda, ziyaretçilerin ve sakinlerin güvende hissedebilecekleri yeşil bir merkezi alan yapımına cevap % 88 oranında yapılması gerektiği olmuştur.
5. Tajeel'deki yerleşimciler ve ziyaretçiler için yeşil merkezi bir alan yapımı mümkün müdür? Bu beşinci sorunun temel konseptidir. Cinsiyetlere göre cevaplar değişmiş, erkeklerde her farklı kullanıcılar için % 100 oranında bu alan kullanımı kabul edilebilir olmuşken, kadınlarda da erkeklerden çok farklı olmamış, onların % 19 oranında bu fikre katılmama durumu olmuştur.

Tablo 4.8. Analize katılanların ikinci soru hakkında cevapları ve görüşleri(Yazar)

Cinsiyet * Q5		Tamamen Katılıyorum	Katılmıyorum	Nötr	Katılıyorum	Kesinlikle Katılmıyorum
kadın	21	% 9,5	% 9,5	% 23,8	% 52,4	% 4,8
erkek	29	% 0,0	% 0,0	% 20,7	% 48,3	% 31,0
Toplam	50	% 4,0	% 4,0	% 22,0	% 50,0	% 20,0

6. Altıncı sorunun cevaplarına göre, % 60 oranında, farklı insan kombinasyonları yüzünden Tajeel'de geleneksel bir alanın yapımı istenmiştir.

7. Yedinci soruda Erbil'in kültürünün yeniden canlandırılması fikrine, % 88 oranında yapılması gerektiği cevabı verilmiştir.
8. Sekizinci soruya,çeşitli amaçlar için kullanılan bir merkez alanın yapımına % 52 oranında katılıyorum cevabı verilmiş, % 24 oranında farklı amaçlı kullanımlar istenmemiş, % 24 oranında da nötr cevabı verilmiştir. Bu yüzden yeşil merkezin gizliliği korunmaya çalışılmıştır.
9. Yabancı insanları ve ziyaretçileri çekmesi için, Erbil'in yeniden canlandırılması ve mimari aktivitelerin sembolü olması nedeniyle, katılımcıların % 70 oranında yeşil merkezi bir alan yapımı istemiştir.

6. SONUÇ

Tajeel bölgesi altyapı ve araştırma analizinden sonra, önceki literatür ve bilimsel makaleler incelenmiş farklı kullanıcılarla anket yapılmıştır. Bu bölgenin yerleşimcilerinin toplumla ilişkilerinin ve yeşil alan eksikliğinin çözülmesi için, ayrıca Erbil&Tajeel'in mimarlık mirasını tanımak ve bölgeye daha fazla zaman ayırıp ziyaretçileri buraya çekmek için bazı modern yeşil alanların yapımına ve mekanların ve saha sınırlarının çevresinde ticari ve turizm işlevlerinin(otel, müze, restoran vb...) kurulmasına ihtiyacı vardır. Yaz mevsiminin yüksek sıcaklığı(50º) dolayısıyla doğal havalandırmanın sağlanmasının yanı sıra, yeşil alanların rüzgar yönüne ve Tajeel'in ana eksenine uygunluğu olması gerekmektedir. Ayrıca bu bölge için termal konfor elde etmek için, ağaçlar ve tedbirlerin gölgelendirmesi temel peyzaj ilkelerinden birisidir. Bu basamakların yürütülmesi, yıkık binaların asimetrik alanlarla entegresi, peyzaj konseptinin uygulanması ve uygun bir alanın elde edilmesi ile yapılabilir.

% 80 memur grup arasında master planın yenilenmesi tercih edilmiştir. Bu bölgede master planın yeniden dizayn edilerek, insan aktivitelerinin tekrar canlandırılması ihtiyacı vardır, çünkü bir master plan düzenlemesi ile açık yeşil alan ve

turizm işlevlerinin yapımı gerekmektedir. Eksenlerin düzenlenmesi ve (3-6)m ve (5-6) m arasındaki boyutların değiştirilmesi gerekmektedir.

Aynı noktada ikiden fazla eksen kesiştiğinde bu alanlarda mini bir alan oluşmaktadır, bunlar yayaların yürüyüşlerini kolaylaştırıcı alanlar olarak kullanılabilir, çünkü bazı yaya alanların sonları kullanılamayacak şekilde bulunmaktadır. Ayrıca Tajeel'in alanının dağılımı ve çevredeki oryantasyonu ile uygunluğu ile ilgili çevredeki fonksiyonların belirlenmesi ve yeniden yapılması gerekmektedir.

CURRICULUM VITAE

Hawbir Omar MOHAMMED was born in Sulaymaniyah North of Iraq in 1992. He completed primary and secondary school in Erbil City. and undergraduate study in Architecture Department, Faculty of Engineering, at University of Cihan in 2015. He was registered to Master of Science program in Landscape Architecture Department, Van Yüzüncü Yıl University, Van-Turkey in 2016.

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