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Özbek, M. (Ed.) (2005). *Kamusal Alan*. İstanbul: Hil.

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Makale Referansları

Barr, S., & Gilg, A. W. (2006). Sustainable lifestyles: Framing environmental action in and around the home. *Geoforum*, 37 (6), 906–920

Song, Y., & Knaap, G. J. (2003). New urbanism and housing values: A disaggregate assessment. *Journal of Urban Economics*, 54, 218–238.

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Any part of an article published in the journal cannot be printed in another journal conference or event.

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EDİTÖRDEN

Mimarlık Fakültesi Dergisinin bu sayısı Mayıs ayında düzenlenmiş olan "Future Cities" kongresinde sunulan bildilerden hakem sürecini tamamlayan makalelerden oluşuyor.

Bu özel sayı, kentlerin geleceği, sürdürülebilirliği, toplum yaşamına katkıları bağlamında tartışılacak farklı konuları barındırıyor. Bu çerçevede yeni sayımız, uzak geleceğe yönelik olarak, mevcut varsayımları sorgulayan, geleceğe yönelik mevcut eğilimler ile geleceğin farklı bir istikamette ilerlemesi bakımından onu değişim için zorlayan faktörleri bir arada ele alan, yeni düşünceler üretme, farklı senaryolar geliştirme arayışında olan, yere özgülüğü dikkate alan bir yaklaşımla yürütüten araştırma makalelerinden üretilmiştir.

Çilen Erçin, Shaymaa Jalil Ibrahim, Carol Kamil Toma Kharbosh'ın Kkanaga bölgesinde gelecekteki yenileme fikirleri için eski kentsel alanların belgelenmesi, **Mukhtar Sabiu Yahuza, Huriye Gürdallı**'nın gelenekten öğrendiklerimiz ile geleceğe taşınabilecek olanların tartışlıdığı Nijerya'daki Kano Eyaltindeki yeşil yapılar, **Serkad Hasan Işıkören, Derin Şirvan Işıkören'in** görsel teknolojiler ile biçimlenen geleceğin kentleri, **Ismaeel Ghazaleheniya, Ayten Özsavaş Akçay'ın** tarihsel kent alanlarındaki yüksek yapıların etkisini tartışan makaleleri kongrenin kör hakem aşamalarını geçerek bu özel sayıda yer aldılar.

Bu sayıdaki makalelerin kör hakem sürecinde katkılarını esirgemeyen, Yrd. Doç. Dr. Havva Arslangazi Uzunahmet, Yrd. Doç. Dr. M. Selen Abbasoğlu Ermiyagil, Yrd. Doç. Dr. Burçin Kutsal, Yrd. Doç. Dr. Kemal Ferit Çetintaş, Dr. Özge İslamoğlu, Prof. Dr. Fevzi Kasap, Prof. Dr. Cemil Atakara, Dr. Gizem Caner, Doç. Dr. Ayhan Dolunay ve Doç. Dr. Aminreza Iranmanesh'e çok teşekkür ediyoruz.

Kentlerimizin gelecekte teknolojik gelişmeler doğrultusunda biçimlenirken insanı gözardı etmemesi dileği ile...

Prof. Dr. Zeynep Onur

FROM THE EDITOR

This issue of the Journal of the Faculty of Architecture consists of the papers presented in the "Future Cities" congress, the ones that has completed review process.

This special issue contains different topics to be discussed in the context of the future of cities, their sustainability and their contribution to social life. In this context, our new issue is about the distant future, questioning the current assumptions, considering the current trends towards the future and the factors that force it to change in terms of the future moving in a different direction. It is produced from research articles that seek to generate new ideas, develop different scenarios, and conduct them with an approach that takes into account the local specificity.

Documentation of old urban areas for future regeneration ideas in the Kkanaga region by **Çilen Erçin, Shaymaa Jalil Ibrahim, Carol Kamil Toma Toma Kharbosh,** Green buildings in Kano State in Nigeria where **Mukhtar Sabiu Yahuza, Huriye Gürdallı** discusses what we have learned from tradition and what can be carried into the future, the article of **Serkad Hasan Işıkören, Derin Şirvan Işıkören** about the cities of the future shaped by visual technologies and **Ismaeel Ghazaleheniya, Ayten Özsavaş Akçay** discussing the impact of tall buildings in historical urban areas. They all passed the blind refereeing stages of the congress and were included in this special issue.

Many thanks to who contributed to the blind referee process of the articles in this issue, Assist. Prof. Dr. Havva Arslangazi Uzunahmet, Assist. Prof. Dr. M. Selen Abbasoğlu Ermiyagil, Assist. Prof. Dr. Burçin Kutsal, Assist. Prof. Dr. Kemal Ferit Çetintaş, Dr. Özge İslamoğlu, Prof. Dr. Fevzi Kasap, Prof. Dr. Cemil Atakara, Dr. Gizem Caner, Assoc. Prof. Dr. Ayhan Dolunay and Assoc. Prof. Dr. Aminreza Iranmanesh.

With the wish that our cities will not ignore people while they are being shaped in line with technological developments in the future...

Prof. Dr. Zeynep Onur

Documentation of Old Urban Areas for Regeneration Ideas in the Future, Khanaqa Neighborhood as Case Study

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Abstract
Globally, as the inhabitants of urban areas continue to grow, considerable pressure is placed on resources, necessitating the immediate need for effective improvements to the infrastructure in the area, particularly in terms of shelter, clean water, and waste. The built environment is a significant component of urban life. Controlling urban zones is thus one of the 21st century's important challenges in urban development, Erbil city is not far from this challenge. Erbil is one of the old cities in Iraq that consists of many old urban areas which in years they will lose the ability to maintain their physical structure. Accordingly documenting old neighborhoods of Erbil city could play a staminal role in helping future regeneration works. The study conducts a documentation process that prepares a set of layered maps of the existing situation of the Khanaqah neighborhood that help in regeneration works within the area in the future. Khanaqa neighborhood is one of the oldest bad-conditioned areas in Erbil city. This area did not receive any maintenance or renovation works besides its obvious problems such as Crowding problems because it's inside the central business district, traffic problems because of the development of the city, lack of car parking, there is no consideration for pedestrian, the lake of greenery, and the exhausted situation of the neighborhood are main problems. The aim of the study is to describe all the problems that faced the neighborhood to be a ready document for oncoming renovation works. The research demonstrates a descriptive methodology to explain the weak and strong points of the area through observation of the condition of the buildings, streets, and facilities in the neighborhood and comparing them with the standards. The research finds that the area needs to have a comprehensive renovation process to retain its cultural and historical values from deterioration and on the other hand to enrich the quality of commercial activities and social interactions in the area.

Keywords: Urban regeneration, old urban areas, documentation, Khanaqa neighborhood, Erbil city.

Gelecekte Yenileme Fikirleri için Eski Kentsel Alanların Belgelenmesi, Khanaqa Mahallesi Örnek Alan İncelemesi

Özet
Küresel olarak, kentsel alanların sakinleri artmaya devam ettikçe, kaynaklar ve ilgili kaynaklar üzerinde önemli bir baskı oluşmakta ve bu da, özellikle barınma, temiz su ve atık açısından bölgedeki altyapıda etkin iyileştirmelere acil ihtiyaç duyulmasını zorunlu kılmaktadır. İnşa edilmiş çevre, kentsel yaşamın önemli bir bileşenidir. Kentsel bölgeleri kontrol etmek kentsel gelişimde 21. yüzyılın önemli sorunların biridir, Erbil şehri bu meydan okumadan uzak değildir. Erbil, yıllar içinde fiziksel yapılarını koruma yeteneğini kaybedecekleri birçok eski kentsel alandan oluşan Irak'ın eski şehirlerinden biridir. Buna göre, Erbil şehrinin eski mahallelerini belgelemek, gelecekteki yenileme çalışmalarına yardımcı olmada önemli bir rol oynayabilir. Çalışma, Khanaqah mahallesinin mevcut durumuna ilişkin bir dizi katmanlı harita hazırlayan ve gelecekte bölgedeki yenileme çalışmalarına yardımcı olan bir belgeleme süreci yürütmektedir. Khanaqah mahallesi, Erbil şehrinin en eski kötü durumdaki bölgelerinden biridir, bölge merkezi iş bölgesi içinde olduğu için kalabalık sorunları, şehrin gelişmesi nedeniyle trafik sorunları gibi bariz sorunlarının yanı sıra herhangi bir bakım veya yenileme çalışması yapılmaması, otopark eksikliği, yayalara önem verilmemesi, yeşillikler içinde göl olması ve mahallenin bitkin durumu başlıca sorunlardır. Çalışmanın amacı, mahallenin

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karşılaştığı tüm sorunları, yaklaşan yenileme çalışmaları için hazır bir belge haline getirmektir. Araştırma, mahalledeki binaların, sokakların ve tesislerin durumunu gözlemleyerek ve bunları standartlarla karşılaştırarak alanın zayıf ve güçlü noktalarını açıklamaya yönelik betimsel bir metodoloji ortaya koymaktadır.

Anahtar Kelimeler: Kentsel dönüşüm, eski kentsel alanlar, dokümantasyon, Khanaqa mahallesi, Erbil şehri.

1. INTRODUCTION

The replacement of collapsed and abandoned old neighborhoods with a revitalized district in a matter of life quality is being discussed through underlined subject along with suggestive solutions to each problem analyzed and pointed, in addition, the advantages of regeneration of old urban areas have been unfolded in this research in order to encourage the startup of the regeneration process. Later on, the publishing of the research will show its openness to encouraging and support to start the revitalizing process. When Sustainable regeneration is the objective, its achievement will be sustainable development, which is directly related to the physical, social, economic, and environmental objectives of the community. Even though the result can be seen with time but the benefits and advantages can continue for generations. Urban regeneration study not only aims in revitalizing the urban area but also contributes to stopping the place from more deterioration. The research subject is addressed to the current situation of urban areas that need immediate response to regeneration in order to save one of the oldest areas in Erbil city and data collection is the root support for urban regeneration. Weak and strong points have been explained by monitoring the condition of the streets, buildings, and facilities of the district. The main point of this article is to indicate the location state of past and present and collect data that exist currently in the location along with historical background data of the location by then being analyzed, in addition, connecting the analysis and urban regeneration ideas with future researches.

1.1 Aim and Importance of the Study

The aim of the study is to describe all the problems that the neighborhood is facing, to be a ready document for oncoming renovation works and research related to the area regeneration works. The research will be ready data for the next study that is related to regeneration ideas and strategies for the case study area. Also, it will be an available document of the area that can be used for renewable works in the future.

1.2 Methodology

The study conducts a documentation process that prepares a set of layered maps of the existing situation of the Khanaqa neighborhood that help in regeneration works within the area in the future. The research demonstrates a descriptive methodology to explain the weak and strong points of the area through observation of the condition of the buildings, streets, and facilities in the neighborhood.

2. HISTORICAL BACKGROUND

2.1 Erbil City

Erbil is one of the oldest cities in the world, its history goes back to 6000 years ago when it started from an ancient settlement that later became the central citadel of the city (Morris 1994). The city

is situated in the northern part of Iraq; it has a distance of about 350 km with Baghdad city as the capital of Iraq (Rebaz, 2018). With the population growth in the citadel, the first urban expansion of the city started where small neighborhoods on the lower lands surrounding the citadel were formed such as (Mustawfi, Khanaqa, Taajil, and Arab). The Master plan of the city starts to grow from the Ancient Citadel in the center of the city in a circular rhythm, each circle represents a main street in the city and these circles are connected by straight roads which start from the center and intersect with all the circular roads. These roads named with their width size start from 30m Road and then 40m, 60m, 100m, 120m, and currently 150m road is under construction. (Almukhtar, 2016). Farming, tourism, and self-developed businesses are the mainstays of the city's economy. In addition, the peace and safety of the city have attracted investors to invest more than in other places in Iraq (Rebaz, 2018). Furthermore, the establishment of (The Erbil-International-Airport) in 2010 provided Erbil city with a great chance through connecting it to the majority of Middle-Eastern and European towns (Rebaz, 2018).

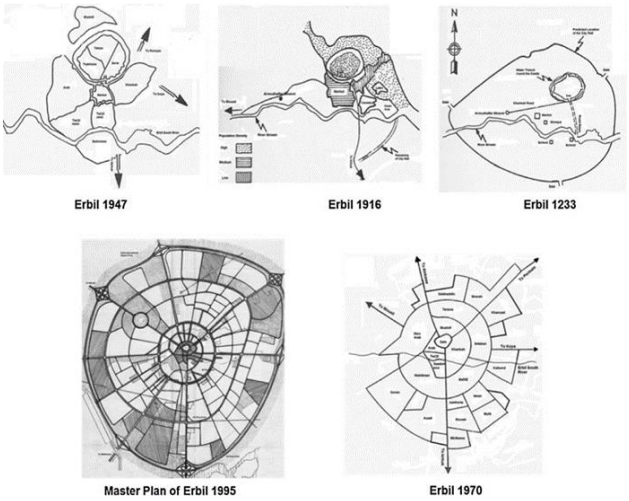

Figure 1: Urban Expansion of Erbil city along the History. (KRG, 2009)

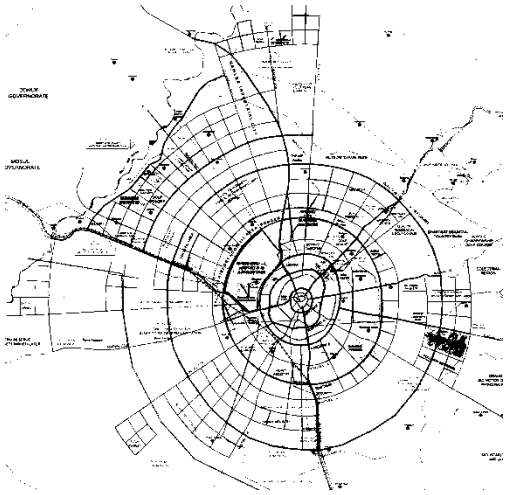

Figure 2: Master Plan of Erbil city 2030. (Al-handasah, 2007)

2.2 Khanaqa Neighborhood

The Khanaqa Quarter is one of the oldest areas in the city of Erbil. It was considered one of the most populated neighborhoods beside Arab and Taajil districts in the city (Ranja, 2020). Initially, Khanaqa is a Persian word that means “House” because of the existence of the (Khanaqa building) for widows and orphans inside the neighborhood. The establishment of the area and renovation of the (Khanaqa building) depended on the period of visitation of the well-known Islamic mystic (Mawlana Khalidy Naqshbandy 1779–1827) to the area. It was a residential neighborhood but recently with the changes and developments in urban areas in the city, it became part of the central business district for small and light businesses (Manicipality, 1985).

3. URBAN REGENERATION (U.R.)

3.1 Concept of Urban Regeneration

Urban regeneration refers to the domain of public policy that deals with the restoration of economic and social activity or social function and re-building environmental quality in areas where those aspects have deteriorated (Chris Couch, 2003). The need for urban regeneration in urban areas arrived from the appearance of problems in the reduction of economic and social activities in urban centers, and the absence of governmental reactions to those problems. This approach of understanding is based on the idea of a community's downturn in economic activity, including the social functions and environmental difficulties, may be handled successfully as community matters more as commercial-social-environmental issues which occurred exist within this area. This idea received attention in governmental programs specifically serving socioeconomic hardship in urban areas at the end of the 1960s (McCarthy 2007).

3.2 Why Urban Regeneration is Important

Since we require to provide a convenient environment to the urban areas, working places, and living places for our generations and facilitate inhabitants to have and maintain a sustainable approach to life that is the reason urban regeneration is important. Besides of that urban regeneration is considered one of our community's most pressing issues, but at the same time, it presents a chance that we can keep increasing and reproducing the experience learned from several trial projects throughout the globe, to develop strong, inexpensive, yet sustainable structures (Agnes Schuurmans, 2018).

3.3 Aim of Urban Regeneration

The main objective is to build a realistic space that responds to society's desires (Tony, 2017). As every action that takes its place in urban has aims behind it, so diverse sorts of urban regeneration have diverse aims (Natra Tex, 2022). These might include:

1. Removing obstacles to grow properly and expanding job opportunities.
2. Increasing the appeal of locations for both inhabitants and investment parties.
3. Unleashing the capabilities of underserved communities.
4. Improving resident comfort with their departure location.
5. Providing opportunities for underserved populations.

3.4 Approaches to Urban Regeneration

The cities are considered the center of political strength also they are places of stimulating physical, social, environmental, and economic changes (Peter, 2017). Urban regeneration can be approached by solving the three problems in a locality which are economic problems, environmental problems also social and cultural problems.

3.4.1 Economic regeneration

Is concerned with building locations where people desire to make their livings and workings there, and is linked to social advancements, cultural advancements, environmental advancements, and also community restoration initiatives (NatraTex, 2022).

3.4.2 Social/Cultural regeneration

Refers to social treatments and techniques that concentrate on wellness, schooling and talent management, unique social environments, cultural events, family relationships, childcare, and children's health (Natra Tex, 2022).

3.4.3 Environmental regeneration

Focusing on land restoration and enhancement of the environment through the reclaiming of abandoned plots. It could be accomplished by developing urban greenery places, effectively managing green bands, redeveloping abandoned areas, and implementing environmentally responsible programs such as promoting pedestrians, riding, public transit, and recycling (Natra Tex, 2022).

The identity or character of the area and invention will be the primary aspects considered essential in innovative urban modification. While they appear to be totally separate very first appearance, when properly blended, they form the most important aspect in achieving successful accomplishment. (Helsinki and Hamburg) as an example study indicates, realizing the importance of local identity as a basic element in achieving urban transformation helps as a starting frame both in aspects of demands by society also in developing a maintainable view of the urban area (Carter et al. 1993; Castells 1997).

3.5 Liverpool as an Example of Urban Regeneration

Since the 1970s, Liverpool had passed through many different experiments of urban regeneration as a response to the reduction of population and losing half of the manufacturing industry. According to the Government program, the urban regeneration started with supporting local community development projects with a small amount of funding, which was including nursery classes, sports and community facilities, legal and housing advice centers, and language classes for immigrants. (Couch, 2003)

By the end of the 1980s and after going through many political changes, the government introduced a new program called "City Challenge" which allowed local authorities to lead local partnerships in bidding for central government money to support regeneration projects, which included a huge fund for regenerating the City Center East. (Couch, 2003).

In 1993, City Challenge and 20 other funding streams were replaced by a Single Regeneration Budget (SRB), and the work of several agencies was consolidated within one organization: English Partnerships. The SRB challenge continued in the same manner as the City Challenge with greater flexibility in the bidding process. So, with the help of a number of the local community and commercial organizations, the City Council made many bids for SRB funding, which included the North Liverpool Partnership. (Couch, 2003)

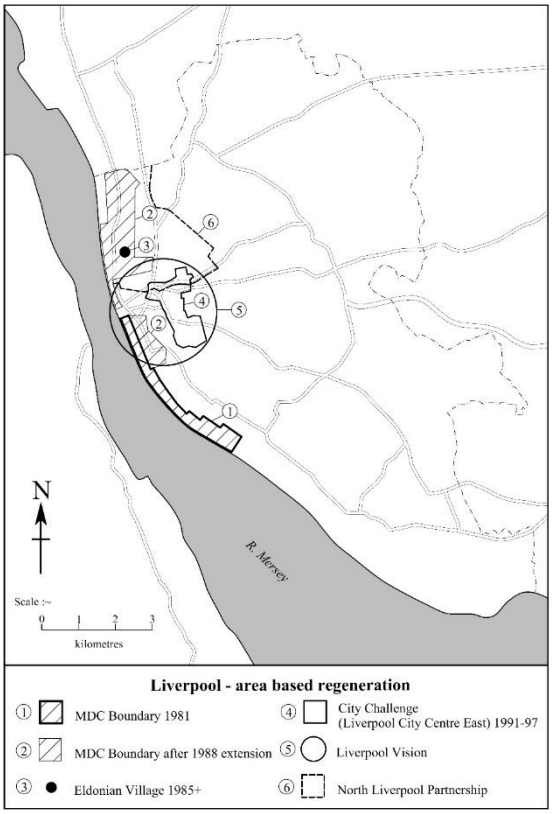

Figure 3: Liverpool: area-based regeneration. (Couch, 2003)

Currently, an innovative regeneration has converted Liverpool into one of the UK's premier attractive business destinations (Council, Regenerating Liverpool, 2022). This program is including the regeneration of four important parts and regions of the city which are:

1. The Knowledge Quarter
2. Ten Streets
3. Liverpool Science Park
4. Liverpool City Region Local Enterprise Partnership (Council, Regenerating Liverpool, 2022)

This part of the research will focus on one of those regions which are “Ten Streets” as an example of Urban Regeneration. Ten Streets Spatial Regeneration Framework (SRF) is a collaborative program with Liverpool City Council and its partners to regenerate the ten-street zone and its surrounding. The Ten Street framework area is a strategic historic area and an important part of Liverpool’s North Dock which was considered as one of UNESCO’s world heritage sites and includes buildings that reflect the industrial history of the area. (Council, TENSTREETS, 2017).

Figure 4: Ten Street Area and Buildings. (Council, TENSTREETS, 2017).

The Ten Street area has an important strategic location connecting the city center and Liverpool-superport. So, it has to be rehabilitated to create a business area and provide jobs for many people. The Development context plan was to reuse the existing buildings by renovating them or converting them to be used for different functions. (Council, TENSTREETS, 2017).

ref no.	site	proposal
ten streets framework area		
TS1	143-145 Great Howard Street	Convert public house to form hotel (13 bedrooms) with restaurant/cafe at ground floor.
TS2	50-52 Waterloo Road	5 storey building for business, general industrial and/or storage and distribution use within Use Classes B1, B2 and B8.
TS3	56-62 Waterloo Road	6 Storey Office Building.
TS4	Land at Chadwick Street, Little Howard Street and Great Howard Street	2 storey retail warehouse (Use Class A1) for storage and sale of engineering supplies.
TS5	Southern Warehouse	128 bed apart-hotel, restaurants and assembly/ leisure plus car parking.
TS6	Tobacco Warehouse	538 residential apartments, 1750 sqm public exhibition space, 4,175sqm offices; and car parking.

Figure 5: Development Context (proposals). (Council, TENSTREETS, 2017).

Figure 6: Development Context (plan). (Council, TENSTREETS, 2017).

The development plan of the Ten Street area started with creating ten development principles which became the design code for the renovation process. (Council, TENSTREETS, 2017). Finally, after collecting the required information about the site and having the Development principles, the new proposal for the master plan can be formed by applying the development principles to the existing area and its buildings which includes retaining many heritage characteristics and creating new paths and squares. (Council, TENSTREETS, 2017).

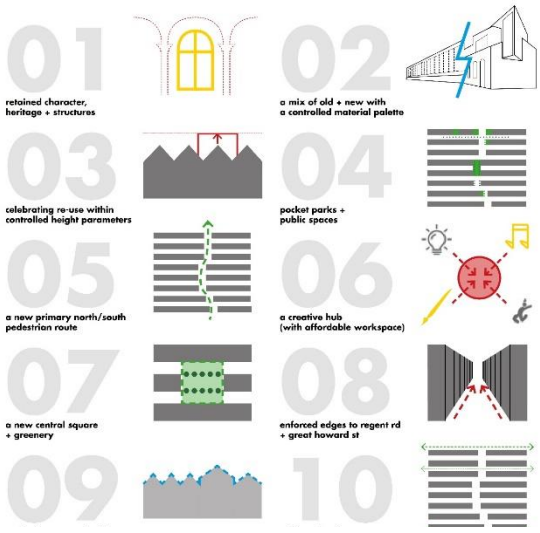

Figure 7: Development principles (ten-point design code). (Council, TENSTREETS, 2017).

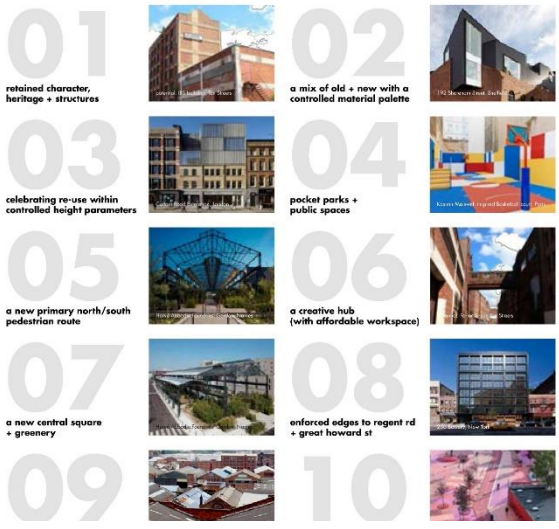

Figure 8: Application of Development principles on the existing area. (Council, TENSTREETS, 2017).

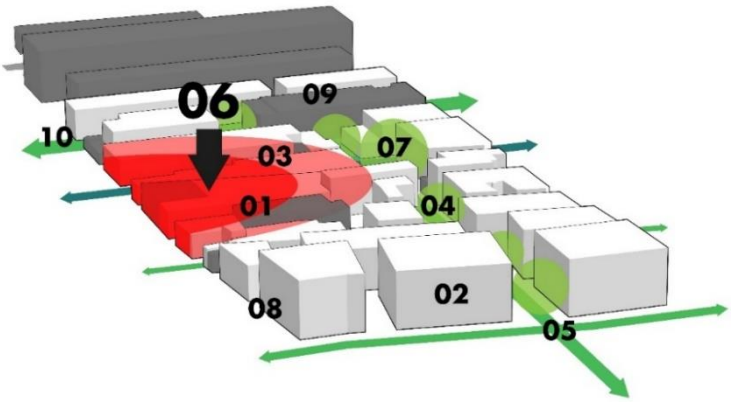

Figure 9: Illustrative Masterplan. (Council, TENSTREETS, 2017).

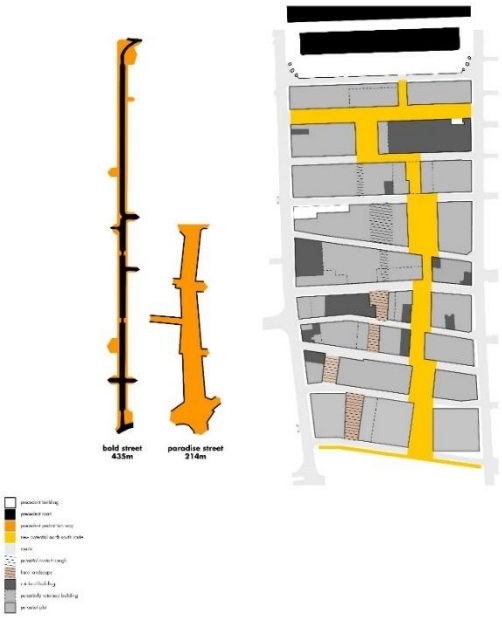

Figure 10: New primary north/south pedestrian route. (Council, TENSTREETS, 2017).

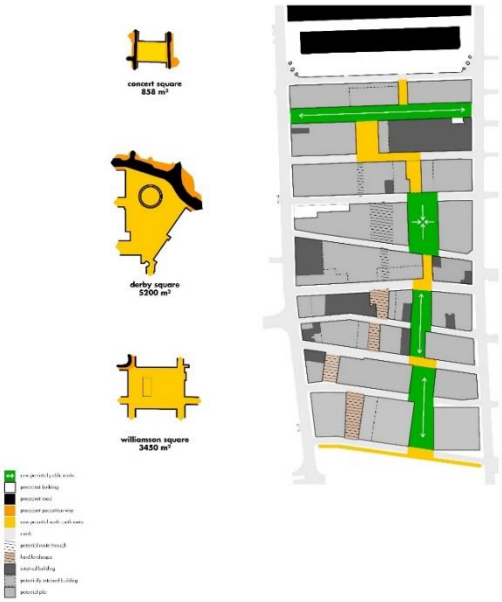

Figure 11: A new central square + greenery. (Council, TENSTREETS, 2017).

4. CASE STUDY: KHANAQA AS A HISTORICAL NEIGHBORHOOD OF ERBIL CITY

The process of data collection started by getting the general map of the area from the municipality and then by site observation process all the buildings, streets, and minor roads were checked in terms of land use, areas, building heights, building orientation, building condition, finishing materials of façades, built-up areas, number of floors, street widths, and intersections (nodes). Moreover, the traffic density of pedestrians and vehicles in the site was measured by counting the number of vehicles and people passing through the corners of the main intersections (nodes) of the site during rush hours of the day.

4.1 Land Uses of Khanaqa Street

Various types of land use in the area are presented (figure 12) including residential, preserved, commercial, mixed-use, open space, social, streets, grave yard, and governmental lands within a total of 24-hectare area. The chart illustrates a high percentage of land use in streets 26% and commercial 22.6% parts and the lowest percentage of 1.3% in the residential part.

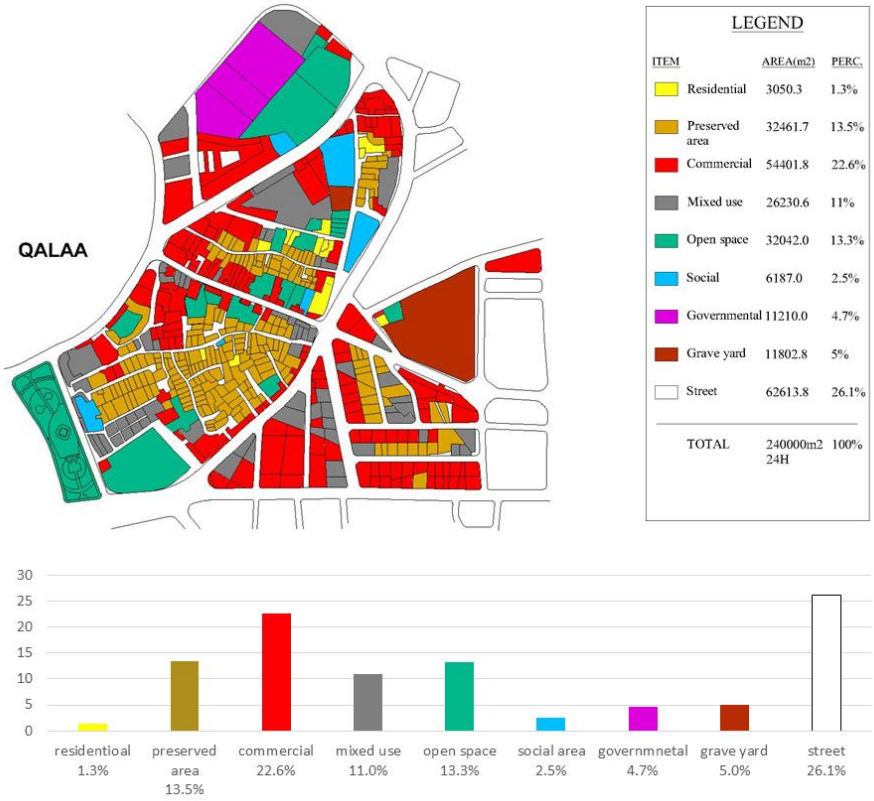

Figure 12: Land use map of Khanaqa neighborhood.

The map in (figure 13) determines two types of land, residential land, and preserved residential lands. The chart shows a high percentage of preserved lands about 91.4% in the area compared to the residential lands which still there are inhabitants inside the buildings.

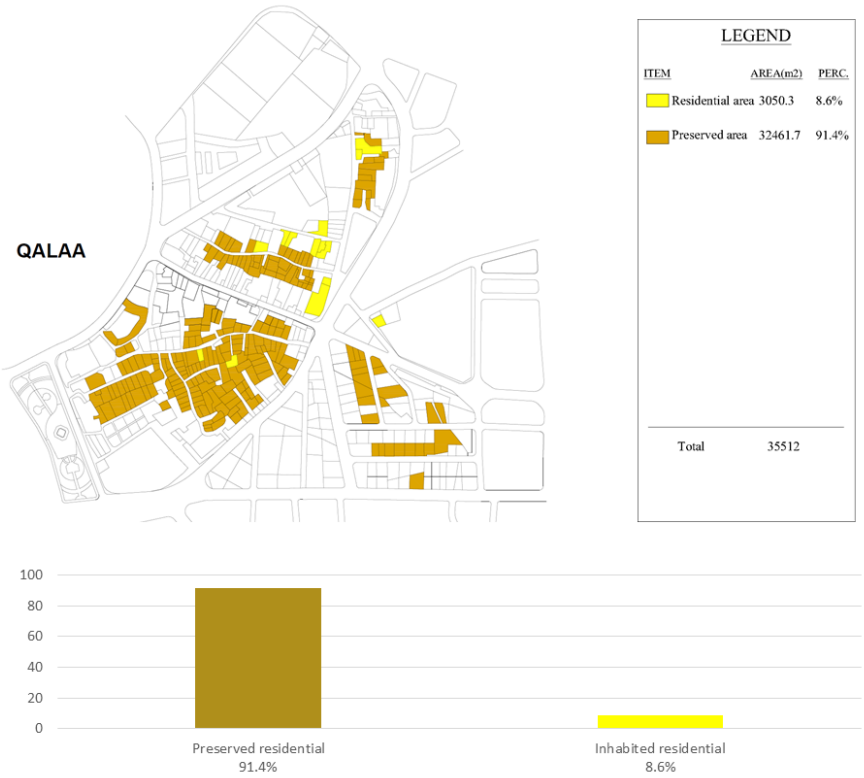

Figure 13: Residential land use map of Khanaqa neighborhood.

The commercial lands include shops, mixed uses, storage, hotels, and restaurants as shown in (figure 14) and the chart point out the highest percentage of lands in which they are shops and mixed uses about 63.9% and 33.8%.

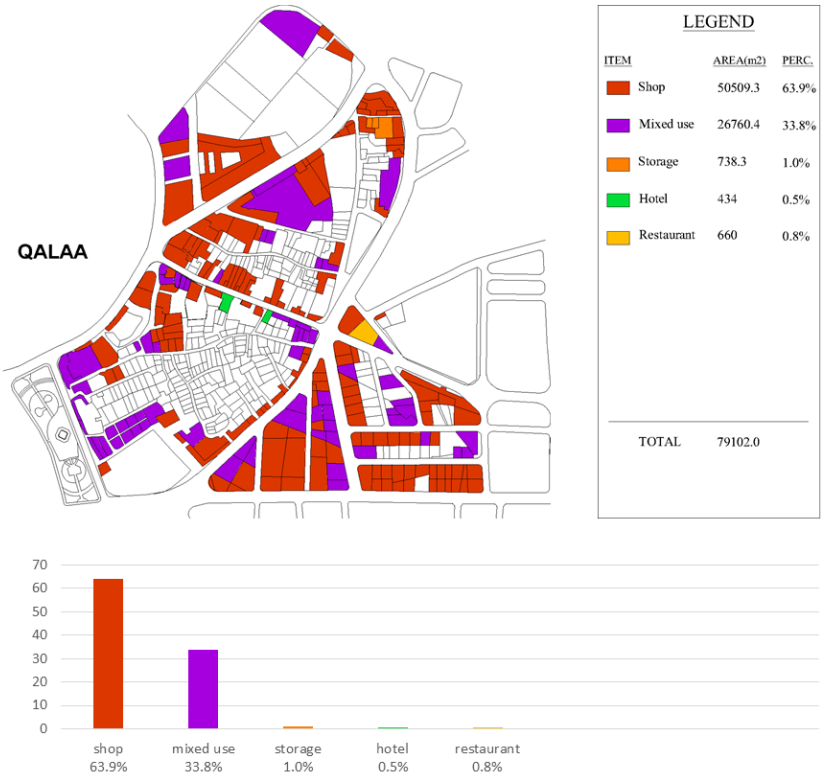

Figure 14: Commercial land use map of Khanaqa neighborhood.

The mixed-use buildings (figure 15) have different functions such as shop & storage, residential & storage, residential & shop, and hotel & shop. The mixed-use between shop & storage shows maximum level among other mixed-use buildings with a 78% percentage.

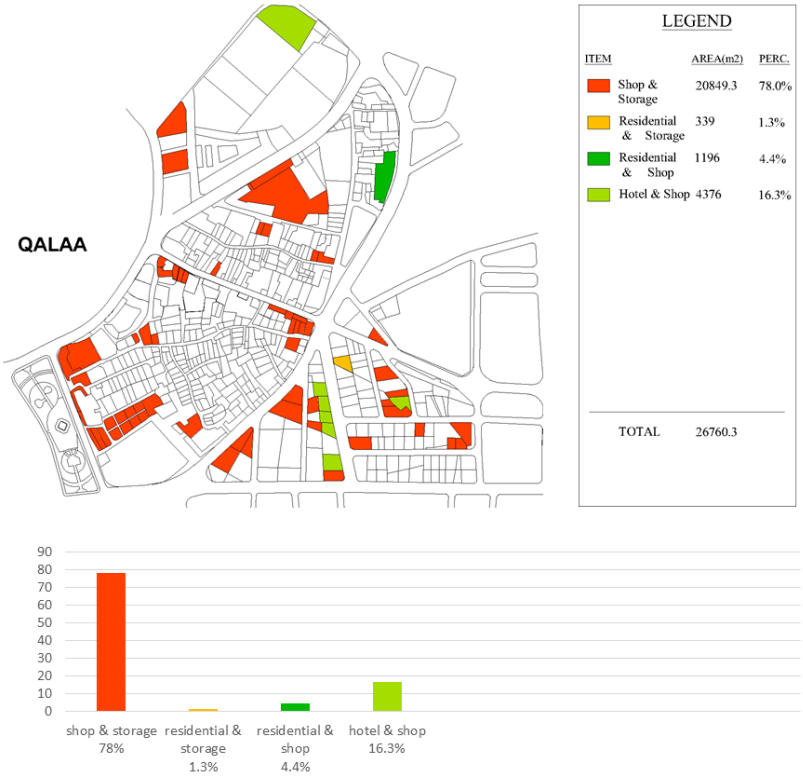

Figure 15: Functions of mixed-use buildings map of Khanaqa neighborhood.

Orientation is important to maintain comfortability in living spaces for inhabitants throughout the year. Erbil city has a hot-dry climate in summer, considering the high temperature that starts from the month of June and continues to September (Weatherspark, 2022), it's better to face longer facades of buildings to the South and North in this way the buildings receive solar exposure in a minimum level (Ayeb, 2016). Figure 16 indicates the orientation of each land in the area, also the chart shows that buildings are mostly oriented to North-East 24.2% and South-West 21.9% percent.

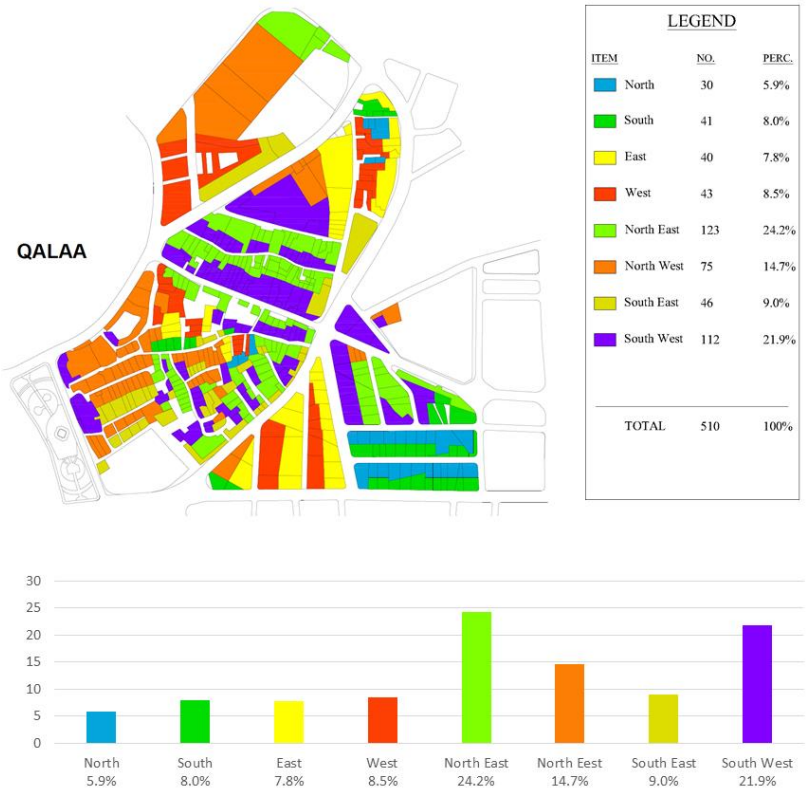

Figure 16: Building orientation map of Khanaqa neighborhood.

The physical situation of buildings in (figure 17), defines the building condition according to the statutes like bad, medium, and good conditions. Bad-conditioned buildings are partially ruined, physically in a weak condition that cannot be used. While medium conditioned once are physically in a weak condition yet can be used with little maintenance. But well-conditioned buildings are physically in a good condition that can be used for many years. Also, the chart shows that there is a high percentage of bad 43% and medium 39.8% conditioned buildings.

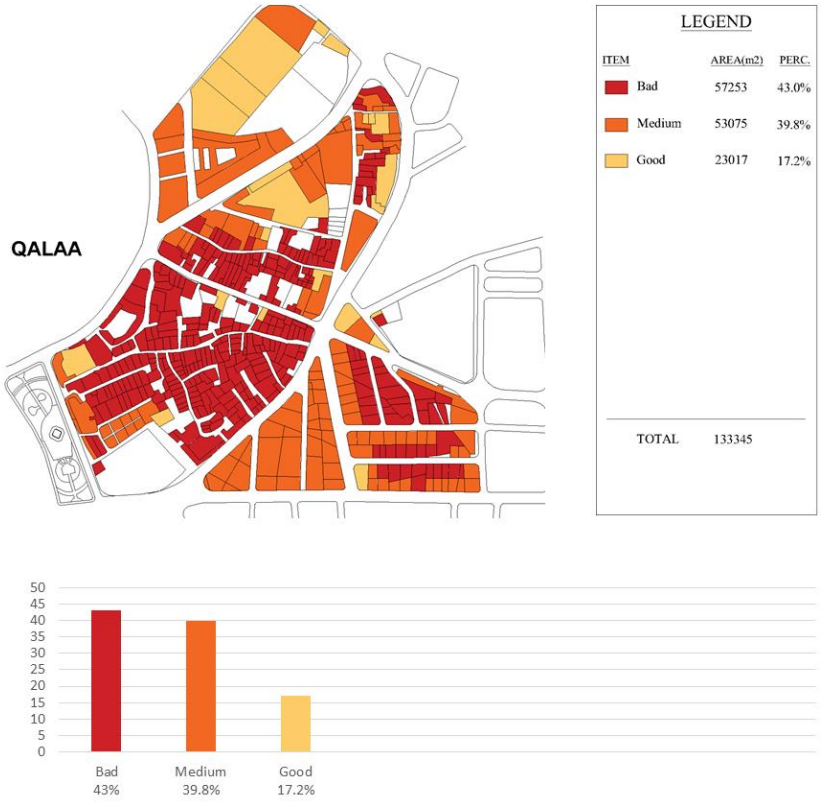

Figure 17: Building condition map of Khanaqa neighborhood.

Various types of materials are used in the buildings of the Khanaqa neighborhood which contain concrete, brick, alucobond, glass, concrete block, human stone, alabaster, ceramic, and corrugate. The chart in (figure 18) illustrates a high percentage in the usage of concrete 46.3% and brick 40.8% materials in the area. They used bricks materials from decades ago but still. They remained as the main materials of the buildings.

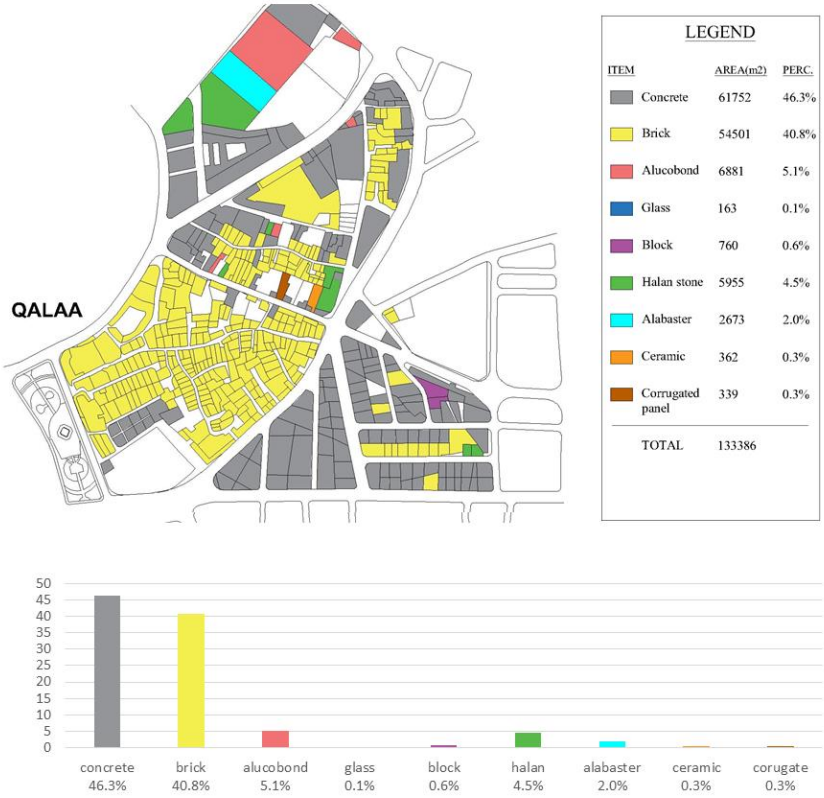

Figure 18: Building material map of Khanaqa neighborhood.

The built-up area was calculated for each building in the neighborhood and percentages according to the average built-up area. The chart in (figure 19) shows a minimum percentage of 0.77% from the areas between 1-49 sqm, and a maximum percentage of 17.43% from the areas between 100-199 sqm.

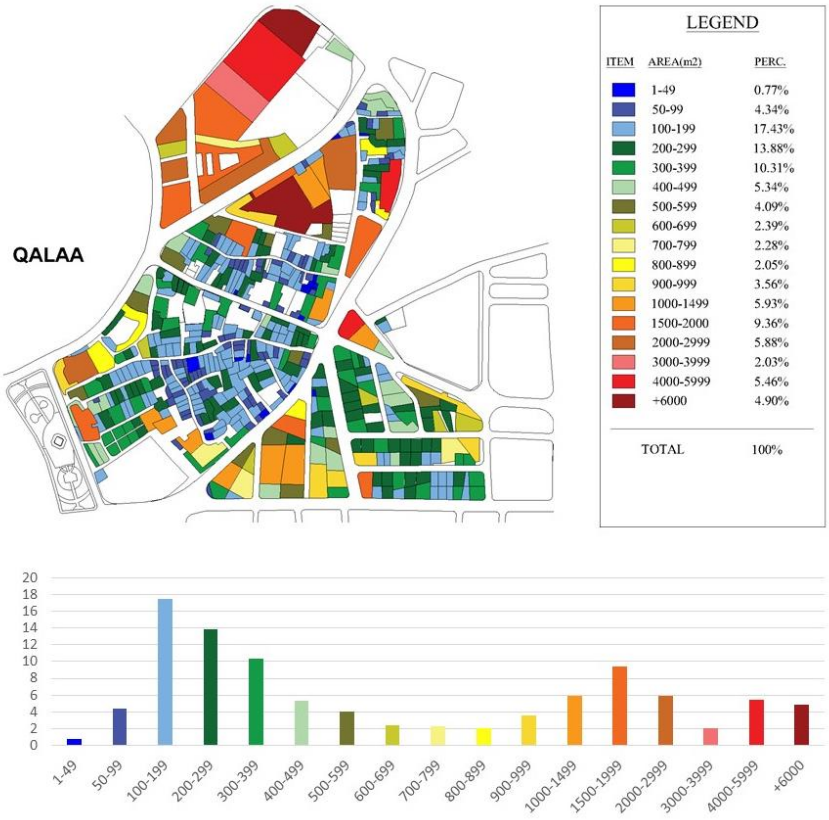

Figure 19: Built up area map of Khanaqa neighborhood.

The building heights start from 1 story to 6 stories in the Khanaqa neighborhood with different percentages that are shown in (figure 20), and the chart illustrates a high percentage of 61.4% in one-story buildings and a low percentage of 1.1% in five stories building in the area.

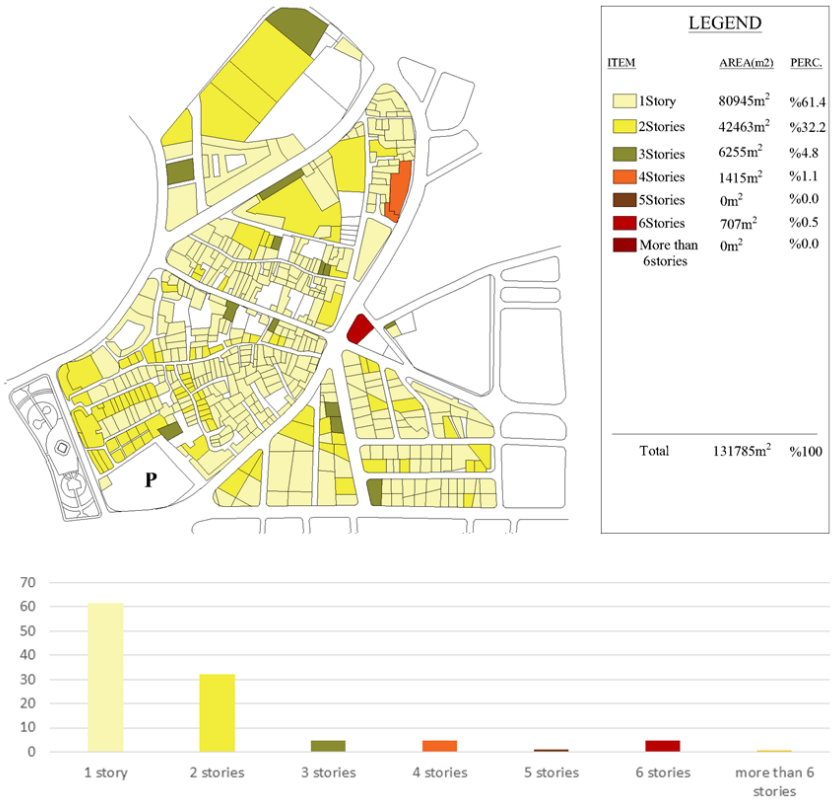

Figure 20: Building heights map of Khanaqa neighborhood.

4.2 Streets in Khanaqa Neighborhood

The (figure 21) shows dead-end streets that are defined with red color and (figure 22) shows dead spaces which are defined with black color. Both figures indicate waist accumulation through determined spaces by the users of the area.

Figure 21: Dead end streets map of Khanaqa neighborhood.

Figure 22: Dead spaces map of Khanaqa neighborhood.

The area owns streets with different width that starts from 3 meters to 21 meters. Figure 23 illustrates a range of street widths with their area and percentage, at the same time the neighborhood has the highest percentage in the street's width between (6-8.9m) and the lowest percentage in the street's width between (3-5.9m).

Figure 23: Street width map of Khanaqa neighborhood.

The streets in Khanaqah are divided into two types of functions whether they are residential or commercial roads recently. The chart shows that most of the streets become commercial streets in the neighborhood with a percentage of 86.6% which is higher than the residential streets with 13.4%. Also, the map in (figure 24) determines that wider streets are the one that shows commercial activities and functions.

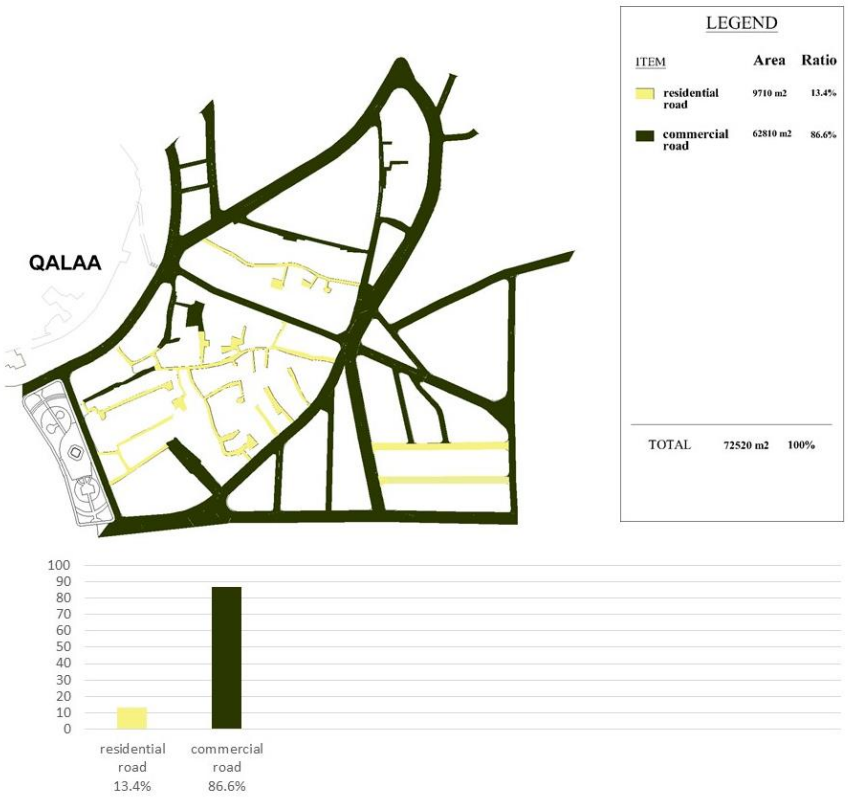

Figure 24: Function of street map of Khanaqa neighborhood.

The detailed top view and sections of the determined intersections are shown in (figure 25 and 26). The drawn sections of the first and second intersection in the figures illustrates vehicle and pedestrian movements, street width, various setbacks and building heights in different sections. For instants in the (figure 25), the building heights in section C is much higher in section D. also the sections A and B show a wider street width with more street lane than the sections C and D.

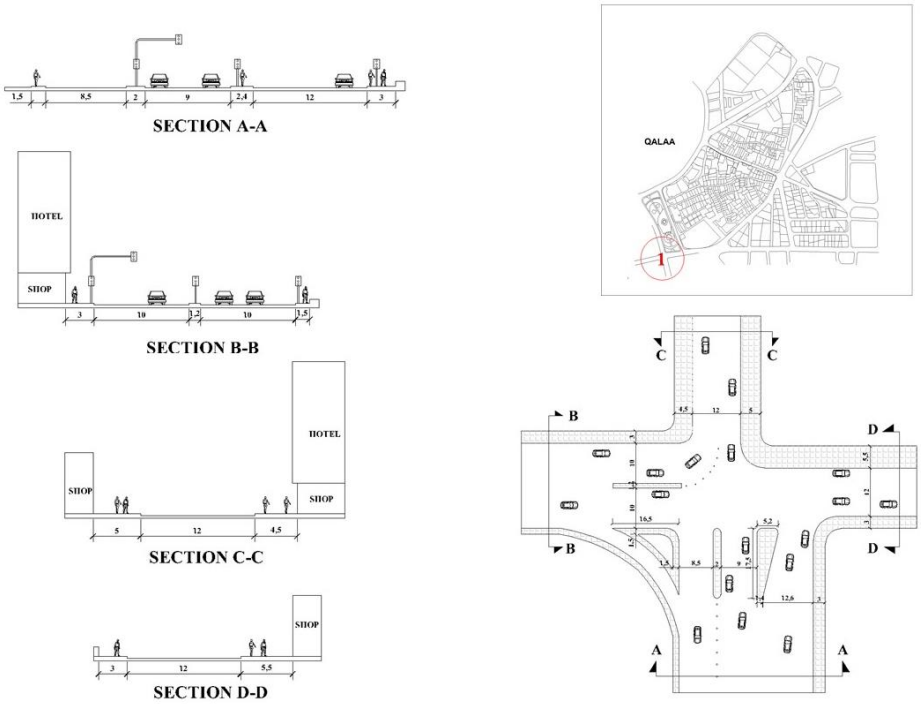

Figure 25: Street intersection details map1 of Khanaqa neighborhood.

The second intersection in (figure 26) illustrates a star shape in the top view. The streets of the intersection show approximately the same building heights in sections A, B, C, and D, but there is a wide difference when they are compared to section E. Section C and D show the same street width, while sections A and B illustrate different setback, pavement and street width.

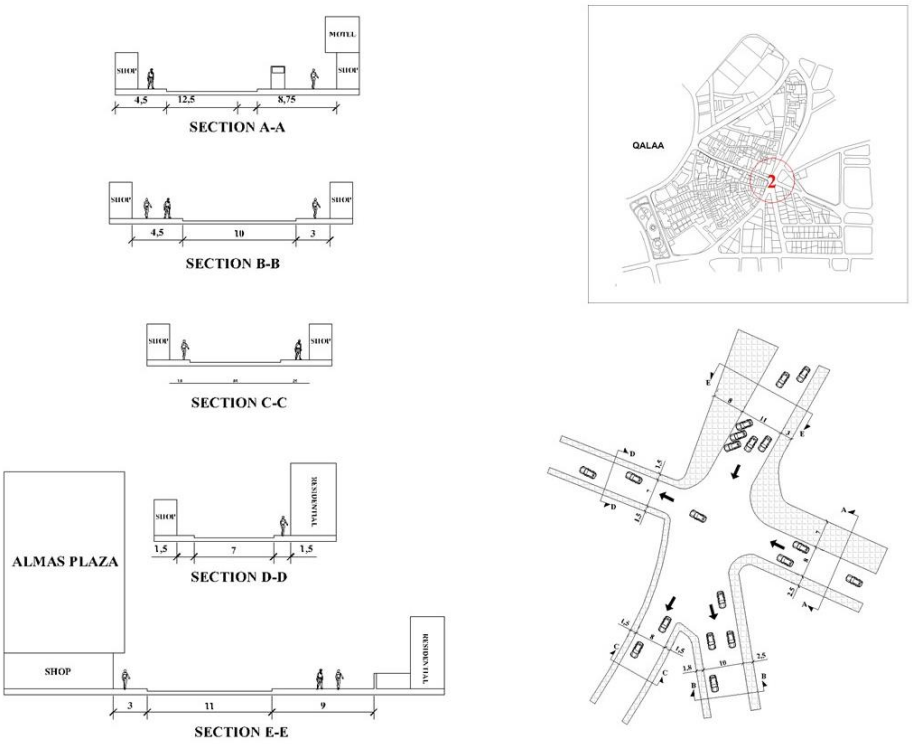

Figure 26: Street intersection details map2 of Khanaqa neighborhood.

4.3 Traffic in Khanaqa Neighborhood

During the observation works, two different intersections were chosen in the (figure 27) to track the crowding level of streets by vehicles and two points to track the crowding level of streets by pedestrians in the (figure 28) at various times of the day.

The first intersection in (figure 27) illustrates a maximum number of vehicles in street B about 2052 vehicles, and the minimum number of 264 vehicles in street A from 8:30 am to 9:30 am. While the number of vehicles changes in the same intersection with the change in tracking time, it shows a maximum number of vehicles about 765 vehicles in street D and a minimum number of about 167 vehicles in street E from 4:30 pm to 5:30 pm. The second intersection in (figure 27), displays a maximum number of vehicles about 729 cars in street D and the minimum number of vehicles about 143 cars. In street E from 8:30 am to 9:30 am and it shows a little change in the number of vehicles with the change in tracking time from 4:30 pm to 5:30 pm, it displays the maximum number of vehicles in street D about 765 cars and the minimum number of vehicles in street E about 167 cars.

Saturday		
Roads	Tracking time	
	8:30-9:30 am	3:30-4:30 pm
A	264	273
B	2052	2154
C	1240	1302
D	392	412

Saturday		
Roads	Tracking time	
	8:30-9:30 am	4:30-5:30 pm
A	658	691
B	688	723
C	471	494
D	729	765
E	143	167

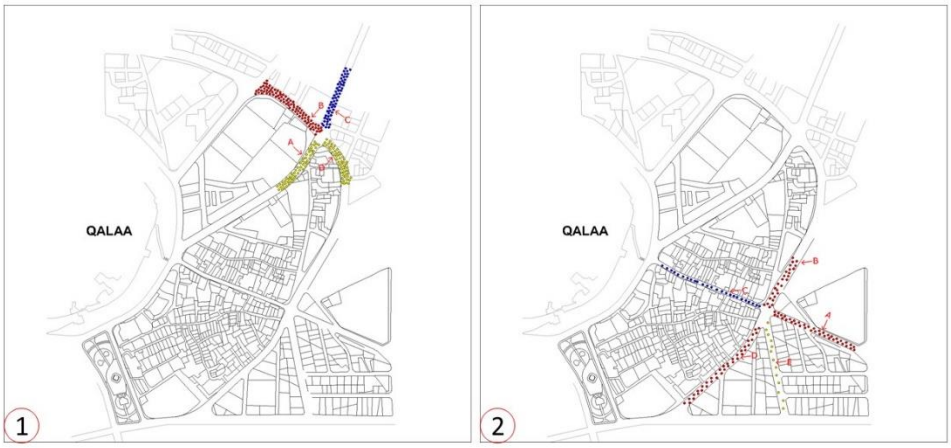

Figure 27: Car crowded joints map of Khanaqa neighborhood.

The first point in the (figure 28) shows the maximum number of pedestrians in the observed street, at the first point is 2368 people passing by the street from 10:00 am to 11:00am and the number changed to 2604 people from 4:30 pm to 5:30 pm. The second point of (figure 28) shows the maximum number of pedestrians about 1708 in street A and the minimum number of pedestrians about 312 in street B from 8:30 am to 9:30 am, while from 3:30 pm to 4:30 pm the numbers changed to 1879 person in the street A and 344 persons in street B.

Saturday		
	Tracking time	
	10:00-11:00 am	4:30-5:30 pm
NO. of people	2368	2604

Saturday		
Roads	Tracking time	
	8:30-9:30 am	3:30-4:30 pm
A	1708	1879
B	312	344
C	344	379
D	908	998

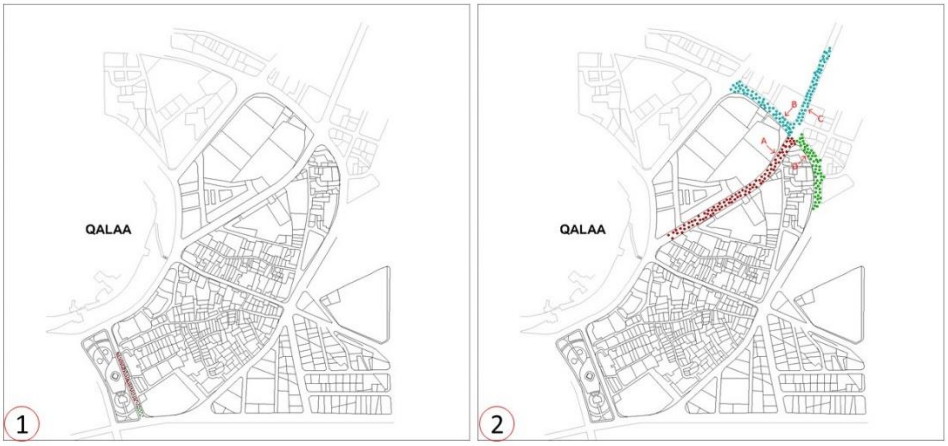

Figure 28: Pedestrian crowded joints map of Khanaqa neighborhood.

4.4 Urban studies of Khanaqa Neighborhood

4.4.1 Urban structure

The study portrays land use in the area that is mostly consumed for street and commercial uses with percentages of about 26.1% street and 22.6% commercial. Also, 13.5% percentage of the land is preserved by the government. The buildings in the neighborhood are mostly found in a poor condition which indicates the lack of concern for maintenance. As for materials, the buildings mostly used concrete blocks without concern for the historical character and values of the neighborhood.

4.4.2 Visual composition

The shape of the neighborhood: Khanaqa neighborhood has an irregular shape, defined by streets, buildings, and social spaces. There are many street intersections inside and surrounding the neighborhood. The organic pattern and narrow and human-scaled streets represent the historical character of the place. It conforms with, Atash's portrayed pattern as the following explanation: "The motif of the urban context of historic towns in the Gulf Region and North of Africa has evolved dramatically throughout the ages." The area's historical Islamic civilizations of buildings and roads possessed an organic fabric in urban areas that reflected a significant level in cultural identity and cohesiveness."(Atash, 1993). The neighborhood has various street widths, the residential street width is between 3-9 meters, which helps in creating full or partial shades on the streets that it supports to be protected from direct sun rays.

- Space pattern: the area has an organic and dynamic context through its old building arrangement and random streets that support walking and many other activities which connect people to the area.
- Furniture elements: it's difficult to find sitting and waiting for places. At the night the streets turn into a dark and scary places that become hard to visit. There are no greenery elements such as trees and shrubs, only a few trees can be seen planted in the Baghi Shar Park located on the edge of the neighborhood.

4.4.3 Strengths and Weaknesses

Khanaqa neighborhood as an old area has some weak and strong points according to the observations that did along with the study.

- *The weak points include;* Low quality of facades and used materials as shown in the 1st image starting from top-left of (figure 29) that each unit of building used different elevation elements and signage boards in various sizes and types, that all this effect on the visual quality in the area. As appears in the 2nd & 3rd image quite narrow dead-end streets in residential alleys and dead spaces in the area help in the accumulation of waste that comes to be viewed as visual and air pollution in the place. Another weak point that is noticed in the area is physically and structurally bad conditioned buildings as represented in the 4th image and unused buildings in the 5th image left in the area without maintenance or renovating and reusing.

Figure 29: Shows the weak points of Khanaqa neighborhood.

- *The strength points include;* the Erbil citadel which appears in the (image 1) starting from top-left of (figure 30) known as the main and old structure of the city that is situated in the center of the city, as well as very close to the Khanaqa neighborhood. Besides its heritage and cultural values, it's an important landmark for surrounding areas. The (image 2) represents Sheikh Mustafa Mosque, it's an old masjid but still, it serves the visitors and in recent days it receives maintenance. The Almas and Istanbul hotels shown in (Figure 3 and 6), the hotels are serving the guests until now. The only difference between them is that structurally Istanbul hotel is older than the Almas hotel, but what is noticed is that both

physically not appealing to the eyes aesthetically and they are far from representing the historical and cultural values of the neighborhood. Khanaqa neighborhood owns many historical buildings that give value to the area especially if they are treated well and receive maintenance and renovation works. The only green space in the area is Bakhi Shar Park which is situated in the South part of the neighborhood and hosts people especially the elders during the daytime. In front of Bakhi Shar Park the municipality designed open space with foundations to attract more people at the same time to be a place for sitting, resting, gathering, and meetings. There is also a place for furniture stores and home electronics stores called Bazari Surchian located in the North part of the neighborhood, and as noticed it's quite active place for commercial purposes.

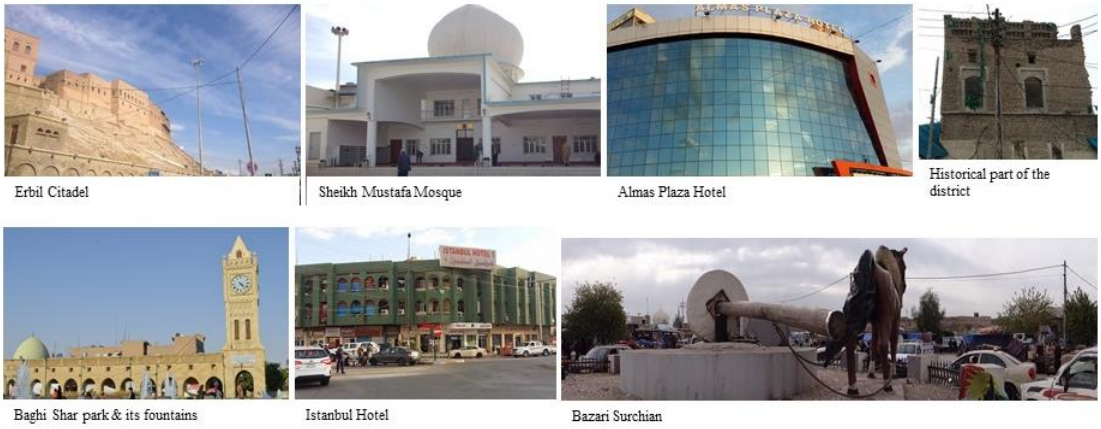

Figure 30: Shows the strength points of Khanaqa neighborhood.

Weaknesses	Strengths
Low quality of facades and finishing materials.	The location of the site as it is near to Erbil's ancient citadel and main Bazar.
Narrow dead-end spaces which became waste containers.	Heritage and cultural values of the site.
Visually and structurally bad conditioned buildings.	The site contains the main open plaza of the city (Bakhi Shar Park).
Abandoned (unused) buildings.	

Figure 31: Weaknesses and Strengths of Khanaqa neighborhood.

4.4.4 Problems of Khanaqa Neighborhood

Like other research, also, this study was done because there is a problem that attracts attention and needs to be observed and studied, the problem is that there is no such wide documentation about the situation and problems in the Khanaqa neighborhood that can be used for future regeneration works. The area until now didn't receive any maintenance or renovation works besides its obvious problems such as crowding problems because it's inside the CBD. Traffic problems because of the development of the city, Pollution, and noise due to high level of traffic. Visual and air Pollution due to accumulation of waists inside dead-end streets and dead spaces, also as noticed till now there is no one to clean these waists or preventing from accumulating them without cleaning. There is no consideration for pedestrians, the streets are mixed between vehicles and pedestrians and it carries accident risks. Lack of car parking, most of the cars are parked on the sidewalks or streets which prevents pedestrians from walking or passing the area. Lake of social spaces, green areas, and streetscapes, the only green space is Bakhi Shar Park and its fountains as social space, the negligence of streetscape is continuing till recent days. During the observations noticed that there

is a weak or it can be said there are no utility services, also the exhausted situation of the neighborhood is another problem, the neighborhood looks so tired physically and structurally.

5. CONCLUSION

The aim of the study is to show the current condition of the site, side by side with its historical value by having data collected from the site observation process to have a reference for future urban regeneration ideas.

Every old and ancient city that undergo many civilizations has parts of neglected land or urban neighborhoods that are damaged and decayed. Erbil city is among Iraq's historic cities, with numerous old urban zones. The city's appearance, its livability, also productivity are all affected by these neglected areas, which seem to be the consequence of transformations in urban efficiency and rising population.

The regeneration works display a significant role in rehabilitating, renovating, and reviving the old yet neglected urban areas like the Khanaqa neighborhood. It could draw attention to the connection of physical-economical-social components of urban issues in the region, as Peter Robert said: “Comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the economic, physical, social and environmental condition of an area that has been subject to change”.

Khanaqa neighborhood is one of the oldest bad-conditioned areas in Erbil city, the area didn’t receive any maintenance or renovation works besides its obvious problems that are explained and documented in the previous sections of the study. Accordingly documenting this old neighborhood and others of Erbil city could play a staminal role in helping future regeneration works. The study tried to collect and present the existed data and information gained during observation of the neighborhood, in this case, the research is considered a ready document for future regeneration works in the area because it helps in making the steps easier to start urban regeneration in the area. Also, the research works as the main source for the next studies and topics. Khanaqa neighborhood has many unsolved problems and neglected issues, the important thing is that most of these problems, issues, weaknesses, and strengths are documented. If we couldn’t document these data, the next steps for explaining the strategies and ideas of urban regeneration for the Khanaqa district and its potency to accept these regeneration ideas in the future paper will be easier to discuss.

During the observation of the Khanaqa neighborhood what noticed and thought is the area needs urgent support to renovate the area to keep the historical and cultural values of the place and at the same time to supply a clean environment, high-quality social interaction, and commercial display to Khanaqa neighborhood. It can be done through some steps, the first step is that collecting and documenting data on the area. That was the reason for starting this study by documenting the area. So the next steps in future studies can focus on some opinions by authors, including:

1. Transforming the neighborhood from its exhausting situation to a strong and clean place that makes people work there easily and eagerly, also the visitors could be attracted by the environment there.
2. Taking advantage of the commercial and cultural value of the area.
3. Taking advantage of unused buildings and vacant lands in the area.

4. Introducing new commercial and social activities that encourage the area to be more attracted by people during daytime and night times.
5. Installation of streetscape and furniture especially lighting bulbs on the streets to make people walk easily, and safely and prevent them from crime and abuse risks.
6. Maintaining and renovating hotels in the area because with regenerating the area the tourists can be attracted easily in this case, they want to stay close to the area.

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Learning from Tradition for Future: Green Building in Kano State, Nigeria

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Abstract

Green building can be considered as a building design through a method that is environmentally friendly in both construction, usage and energy consumption. Culture is yet to be included into the sustainable development pillars making it the fourth pillar of sustainability after social, economic and environmental aspects. Traditional Architecture can be regarded as beliefs, customs, or ways of life (culture) in building construction that have existed for a long period and involve the art of designing, planning, and traditional building style. These traditional buildings were copied and used in contemporary buildings in Kano state, Nigeria. Therefore, most of the contemporary building design and structure has their roots in a traditional building. Nigeria's traditional buildings across the country were affected by climate and landform all over the geographical zones, which were recognised to demonstrate a detailed solution to the building's culture, socio-economic, local technology and climatic condition of the environment. This study compares the past and the current building style based on the façade or floor-plan pictures, and green or sustainable building using relevant kinds of literature of Hausa traditional building around Kano state. It is concluded that Hausa traditional architecture should not be forgotten, rather it should be encouraged and improved based on green sustainable features, traditions and enhance the durability of the building materials. It is recommended that culture should be include into the pillars of sustainability so as to make sustainability complete especially in the field of building construction. Lastly, further research is recommended in order to explore ways of improving the quality of the local building materials and the methods used during the construction process.

Keywords: Hausa traditional architecture; sustainability; green building; culture; traditional housing; vernacular; Kano state, Northern Nigeria.

Gelecek için Gelenekten Öğrenme: Nijerya, Kano'da Yeşil Bina

Özet

Yeşil bina, hem yapımında hem kullanımında hem de enerji tüketiminde çevreye duyarlı bir yöntemle yapılan bir bina tasarımı olarak değerlendirilebilir. Kültür, sosyal, ekonomik ve çevresel yönlerden sonra onu sürdürülebilirliğin dördüncü ayağı haline getiren sürdürülebilir kalkınma sütunlarına henüz dahil edilmemiştir. Geleneksel mimari, uzun süredir var olan ve tasarım, planlama ve geleneksel yapı tarzı sanatını içeren yapı inşasında inançlar, gelenekler veya yaşam biçimleri (kültür) olarak kabul edilebilir. Bu geleneksel binalar kopyalandı ve Nijerya'nın Kano eyaletindeki çağdaş binalarda kullanıldı. Bu nedenle, çağdaş bina tasarımı ve yapısının çoğunun kökleri geleneksel bir binadadır. Nijerya'nın ülke genelindeki geleneksel binaları, binanın kültürü, sosyo-ekonomik, yerel teknolojisi ve çevrenin iklim durumuna ayrıntılı bir çözüm gösterdiği kabul edilen tüm coğrafi bölgelerdeki iklim ve yer şekillerinden etkilenmiştir. Bu çalışma, Kano eyaleti çevresindeki Hausa geleneksel binasının ilgili literatür türlerini kullanarak, cephe veya kat planı resimlerine dayalı olarak geçmiş ve mevcut bina stilini ve yeşil veya sürdürülebilir binayı karşılaştırmaktadır. Hausa geleneksel mimarisinin unutulmaması, bunun yerine yeşil sürdürülebilir özelliklere, geleneklere dayalı olarak teşvik edilmesi ve geliştirilmesi ve yapı malzemelerinin dayanıklılığını artırması gerektiği sonucuna varılmıştır. Özellikle bina inşaatı alanında sürdürülebilirliğin tam olabilmesi için kültürün sürdürülebilirlik sütunları arasına alınması önerilmektedir. Son olarak, yerel inşaat malzemelerinin kalitesini iyileştirmenin yollarını ve inşaat sürecinde kullanılan yöntemleri araştırmak için daha fazla araştırma yapılması önerilir.

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Anahtar Kelimeler: Hausa geleneksel mimarisi; sürdürülebilirlik; yeşil bina; kültür; geleneksel konut; yerel; Kano, Kuzey Nijerya

1. INTRODUCTION

Green building can be considered as a building design through a method that is environmentally friendly through resource-efficient construction process and less consumption of public resources and waste generation in the entire life-cycle of the building. Green building might begin from site analysis to architectural design, construction processes, to operating or maintaining the house, and renovating and demolishing of the building (Li et al., 2015). An Italian-American architect called Paolo Soleri created the concept of "arcology" around 1960s, he combines "architecture" with "ecology" which he express it as "green building" (Zhang, 2011). Over the past decade, researchers discusses on green building to expresses their interest in resolving economic, social and environmental challenges. It was found that societal behaviours and opinions regarding green building can affect its demand and usability in the community, though research on consumers' cognition were hardly conducted. The social and cultural issues are connected to green building through public attitudes, social and basic shelter needs, consumers' basic comprehension, purchase intention, acceptance and behaviours; which all of them might be affected by the landform and climate condition of an area (Zhao, He, Johnson, & Mou, 2015). This show clear relationship linking green building and traditional building.

The Hausa Kingdoms was said to have existed long before the 7th to around 11th century (Encyclopedia-Britannica, 2021). Hausa as a tribe and a language was the biggest African ethnic group having about 78,000,000 persons. African Facts Zone reported that Hausa language was the 2nd greatest indigenous spoken language having 120,000,000 speakers (Tunde Ososanya, 2020). Kano is one of the Hausa speaking states in Nigeria, in which the Hausa language is spoken in Northern Nigeria and even outside the country; this is referred to as the Hausaland, for example Nigeria, Chad, Cameroon, Benin Republic, Central African Republic, Togo, Equatorial Guinea, The Gambia, Eritrea, Senegal, Gabon, Sudan, Ghana and Niger republic, etc. were among the countries have has Hausa speaking regions; while Nigerian northern states that speaks the language include states like Kano, Katsina, Sokoto Kebbi, Zamfara, Kaduna, Jigawa, Bauchi, Yobe, Niger states etc. All these northern Nigerian states shares similar cultures and similar building style. This captures the interest of the researcher to explore more on the ancient traditional building in comparison with the contemporary building style.

Nigeria's traditional buildings across the country were affected by climate and landform all over the geographical zones, which were recognised to demonstrate a detailed solution to the building's culture, socio-economic, local technology and climatic condition in the environment which they exists upon. The different traditional building body origin is associated with the availability of natural materials and its accessibility by the local builders to utilize it in addition to cultural and taboos, along with religious beliefs. The beginning of Nigerian colonialism (which lasted from 1900 to 1960) has transformed the traditional and cultural lifestyle of Nigerians which brings about the existence of contemporary architecture in the country. Majority of the contemporary designs of buildings across Hausa lands along with their construction techniques nowadays were constructed with imported foreign materials (like bricks, glass fittings, furniture, machineries etc.) and contemporary construction process in the country. The traditional architecture should not be forgotten and abandoned, rather; experts' attention should be drawn towards the comprehension

of its purpose and origin (Paul & Zango, 2014). Though, the traditional building materials and methods are very weak, leading to poor quality of the ancient traditional buildings, and therefore the traditional buildings are easily destroyed by natural forces such as rainwater washout, wind and sun heat.

Hausa culture at initial stage rejects the contemporary conventional buildings, but because of so many advanced reasons, western knowledge and awareness the contemporary building were accepted gradually. The elements found in the Hausa cultural building were usually Zaure (first entrance room, usually for receiving male guests), tsakar gida (courtyard), ciki da falo (bedroom and sitting room) while toilet and kitchen were called bandaki da dakin girki respectively, which were built closer to each other. The house usually has room for boys which has an access door at either at the Zaure or even at the outside façade of the house along with their toilet. These traditional houses were usually attached to the neighbouring houses with one wall separating them. The contemporary buildings nowadays does not have most of these parts of the traditional building, example of these missing parts might include zaure, soro (2nd entrance room, just like Zaure), tsakar gida and many other parts of traditional building. This might lead to loss of privacy, religious beliefs among many other religious, culture and traditions activies and life style. Courtyard is traditionally a prominent portion of a residential houses in Nigeria and reflects a cultural lifestyle (Adegun, Adedeji, & Adedeji, 2019). It serves a series of purposes starting from the sociocultural to climatic functions. Currently, newly constructed residential buildings were built without courtyard; also houses with availability of courtyards were transformed from traditional form to conventional structures.

The aim of this research is to compare between green traditional and contemporary conventional building architecture based on sustainability, culture and social interactions in Kano State, Nigeria. Kano was chosen because of its historical nature, strict cultural and religious practices. It is also considered as the commercial centre in Northern part of Nigeria because of its gigantic commercial activities and mega-markets in Nigeria. Kano also accommodates ancient houses, relic, strict culture and religion since the past 7 centuries. However, the ancient city-wall of Kano state that protects the city round from neighbouring horse-riding armies in the history. The city-wall was built around 14th century to provide security to the city against attacks, this beautiful architecture provides significance archaeology and attract tourism market (OKPECHI, 2018). Therefore Kano were well known in traditional building construction. However, the population of Kano makes it unique being it the Nigerian states with the highest population (10,401,288 people in Census, 2006) in Nigeria followed by Lagos state (7,113,605 people in Census, 2006).

2. LITERATURE REVIEW

Traditional Architecture can be regarded as beliefs, customs, or way of life (culture) which have existed for a long period and may not change in the art of designing, planning, and buildings construction. The notion "cultural or social architecture" is not a simplemindedly linked to contemporary architecture (Eneh & Friday, 2010). Though, culture might slightly change and adopt other neighbouring cultures, but in most cases those adopted cultures will be regarded as borrowed traditions of a specific group of people, which might later become part of a culture after being practiced for very long period of time. Porphyrios, (2006) stated that 'ideas and technologies' is related to the certain cultural construction process of housing guided by the scarcity conditions of materials and effective construction methods: an Adhoc approach to

Architecture. Cultural architecture is usually developing as well as adopting novel methods and materials used in construction (Fatty, 2006). The use of novel techniques and materials in safeguarding the traditional construction of a cultural building should not be regarded as a taboo, if it displays a regular reasoning, comfort, durability, efficiency and approach to the society. The contemporary vernacular architecture of an area may be affected by the climatic conditions, cognitive cultural thinking and beliefs, uncountable experiences, accidents and experiments. This is frequently taking perseverance and efforts of the current generation engineers, constructors and contractors who utilizes anything that is good for their piece of career, whereas disposing what fails them. While in the tropical scientific assessment of innovation alone can recover traditional architecture (Fatty, 2006). All the styles and methods to re-establish traditional architecture must be investigated and use concepts which may increase meaning and significance to a sustainable environment (Eneh & Friday, 2010). These styles and methods may include vault, dome and round arch. Round Arch creates a tunnel form that is called a "barrel vault". While a Vault is regarded as a roof-structure or curved-ceiling, made with stone blocks, or bricks, a roof in the shape of an arch or multiple arches, common example are mosques, churches, bigger governmental buildings etc. Dome is a structure of a building making a rounded arch vault of the roof, normally the base is circular in shape and the vertical axis makes 180o (Don P. & Gabriel Connor Salter, 2010).

When culture is incorporated into sustainable development (SD) has remained a continuous research focus, nonetheless it were yet to be of the green building community's concern. Current programs of green building, including auditing, standards and certification schemes, emphasises on technical assessment. Building is assumed to be a cultural entity, it represents the past, the current and directs the future of a given society, cultural sustainability were added to green buildings by identifying the 3 roles of cultural sustainable development proposing COST Action (Cooperation in Science and Technology; funding society in Europe) Cultural Sustainability involves:

Culture in sustainable development – a four-dimension to be protected, these 4 dimensions are cultural, social, economic and environmental;

Culture for sustainable development – dimensions to a balancing and mediating elements; and

Culture as sustainable development – an important background to attain sustainable development (Wu, Fan, & Chen, 2015).

Indicators and criteria of cultural sustainability were suggested as an adopted structure approved by green building communities with the use of an in-depth review by the various ecosystem services, indicator systems, existing green building programs, sustainable urban, and regional planning bodies.

2.1 Concept of Cultural Sustainability and Overview of Relevant Indicators Instead

The concept of territory, place, and region were entirely terminologies that underpin critical concepts in the procedures of cultural development. These concepts had been engaged on precise consequences concerning varied general, scientific and disciplinary models that have prospered each other over the sequence of period (Dessein, Battaglini, & Horlings, 2016). The multifaceted uses of related words inside diverse languages and cultures, having strongly or slightly dissimilar meanings, shows the problems that were faced in trying to discuss cultural development.

The appeal for culture has become stronger aim towards the attainment of sustainability together with the growing social, ecological, and economic problems. The United Nation's Sustainable Development Goals (SDG), that substituted the Millennium Development Goals (MDG) around 2015, culture were included in four out of the seventeen goals in the zero draft of this approach (UN, 2014). Soini et al., (2015), in his summary on sustainability and culture, he explained 7 dissimilar theory based on cultural sustainability. These theories differs from conservative opinions concentrating on preservation of cultural heritage towards further progress, deep-seated visualisations towards eco-cultural cultural evolution and resilience (Dessein et al., 2016). In an effort to define cultural sustainability, Dessein et al., (2016) divide culture along with its link to sustainable development (SD) into 3 thematic clusters. Culture needs to;

Involve a self-promoting and supportive part (i.e. culture in SD), which increases conventional sustainable development treatise by including culture the 4th pillar of SD. In this case culture is seen more closer to the natural wealth which must be distributed and preserved equally intra/inter-generationally (Throsby, 2003). Considering culture as the 4th element of SD leads to taking culture as a functional and concrete orientation of sustainability (Baumgartner, 2009). At this stage of observable cultural level– conveyed by technology, language, products, and architecture, fashion, design and emotional display.

Contextualize, mediate, balance, and frame the 3 pillars further (that is 'culture for SD'), this suggests culture as an enhanced significant force which may operate above itself. The comprehending is to view culture among its invisible and visible levels – the standards at practical level that assist in interpreting the artefact levels (Baumgartner, 2009). Culture is a mediator connecting the numerous sustainability dimensions (Dessein et al., 2016).

Coordinate, guide and integrate entire features of sustainable actions (that is 'culture as SD), considers culture as the vital grassroot and element for achieving the SD goals. This resembles to initial thinking of scholars, that views culture as a pre-condition for sustainable development (Hardoy, Mitlin, & Satterwaite, 1995). Culture in this context denotes to its less visible, deeper level that is the basic levels of assumptions, those taken-for-granted, unconscious beliefs.

It has been stated by Soini et al., in 2015 that all the three grassroots of sustainable models – economic, environmental and social directions of Sustainable Development (SD) – is essentially defective if culture is missing and not considered. Perhaps, the 4 important factors of Gross National Happiness GNP were 'promotion and conservation of an original culture in a society'. Certainly, culture is experiencing gradual changes and assimilation of western cultures, which has remained an unambiguous matter in many international policies and frameworks in previous decades, like the Florence Declaration' and the 'Hangzhou Declaration'–'Position culture at the core policies of sustainable development', 'this provides commendations on exploiting the roles of culture in the process of attaining Sustainable Development achievements (Soini et al., 2015). Recently, the new initiatives is a 4 year European Union-based project COST Action Cultural Sustainability directed to fit in culture as a major factor in Sustainable Development.

2.2 Relationship between Traditional and Green building

Traditional building can be seen as a green building in so many ways. These may include cost saving in the construction process and construction materials used in traditional building, through the use of local technology and materials available. This cost saving in construction is seen as the major achievement of green building. Also the behaviour of the people in using the house in the society in terms energy saving through the use of local gadgets in cooling drinking water with

mud-pot (known as Randa in Hausa, see fig. 1), cooling the room with water spray on the walls and the surrounding floor among many other social behaviours of traditional green buildings usage (Rohracher & Ornetzeder, 2002).

Fig.1: Mud-pot (Known as Randa in Hausa) used in cooling drinking water in traditional building.

However, water sources in most of these traditional buildings were usually fetched from the well, which is sustainable for a while, because the well water dries-up around January to march in northern Nigeria. This is because most of the well were hand-dug and shallow, when the water table level is below the well-depth the water cannot be found (Egboka, Mbanugoh, Nwogute, Uma, & Okpoko, 1988). Though, a deep borehole is more sustainable in terms of water supply in northern Nigerian region.

The necessity to decrease the problems of powerful segregation along with severe harmattan breeze penetrating through indoors, joined with light requirements for visual and privacy makes the traditional Hausa building window sizes reduced greatly, so also other opening and window usage in Hausa traditional buildings. Sustainable issues regarding indoor temperature and wall insulations is not mainly depending on thick walls made up of mud and air exchange through openings, but not depending on the cross-ventilation within the rooms (Umar, Yusuf, Ahmed, & Usman, 2019).

3. MATERIAL AND METHOD

The materials required for this research were past published literatures related to the various parts of the aim and objectives of this research. The search was majorly conducted electronically using computer that was well equipped with internet and typesetting software i.e. Microsoft word. However, Mendeley Desktop was used as the reference and citation software which has its plugin installed in the Microsoft word software to ease citation and manage reference. The research begun around October, 2021 to February, 2022; throughout this period the researcher was trying to figure

out the problems of the research and how to minimise them. Though, the pandemic situations makes the research difficult, because of the recent coronavirus omicron-variant wave.

The keywords used in this research were almost all the relevant words (sentence, phrases and clauses) related with the topic and aim of the research. Some of these keywords may include culture and space, green building and culture, Hausa traditional architecture, Northern Nigerian architecture, green building and traditional architecture, influence of climate to traditional architecture and so many other keywords.

However, the books, articles and websites used in the research were all presented in the reference sections of this paper. Similarly, some published materials used in the research were summarized in the table below:

Table 1: Reviewed Literature

S/N	Publication Title	Authors	Publisher
1.	Whither the courtyards? Understanding disappearance and transformation of courtyards in residential buildings in Akure, Nigeria	Adegun, O. B., Adedeji, J. M., & Adedeji, Y. M. D. (2019)	IOP Conference Series
2.	Certificate Physical and Human Geography.	Areola, O., Ahmed, K., Iruegbe, O. I., Adeleke, B. O., & G.C. Leong. (2005).	University Press Plc., Ibadan
3.	Organizational culture and leadership: Preconditions for the development of sustainable corporation	Baumgartner, R. J. (2009)	Sustainable Development
4.	Cultural Sustainability and Regional Development Meeting	Dessein, Joost., Battaglini, Elena & Horlings, Lummina (2016)	Routledge: Taylor & Francis Group
5.	The Influence of Rainfall on Hausa Traditional Architecture	Eneh, Anselm E. O., & Friday, Ati Ojonigu (2010)	Maxwell Scientific Organization
6.	Research on social and humanistic needs in planning and construction of green buildings	Li, Fen., Yan, Tao., Liu, Junyue., Lai, Yupei., Uthes, Sandra., Lu, Yuanyuan., Long, Yingqian (2015)	Elsevier B.V.
7.	A Lesson from Vernacular Architecture in Nigeria.	Lodson, J., Ogbeba, J. E., & Elinwa, U. K. (2018).	Journal of Contemporary Urban Affairs
8.	The practice of Hausa traditional architecture: Towards conservation and restoration of spatial morphology and techniques.	Umar, G. K., Yusuf, D. A., Ahmed, A., & Usman, A. M. (2019).	Elsevier
9.	Incorporating Culture Into Sustainable Development.	Wu, Susie Ruqun., Fan, Peilei., Chen, Jiquan (2015)	John Wiley & Sons, Ltd and ERP Environment

10.	Social problems of green buildings: From the humanistic needs to social acceptance.	Zhao, D., He, B., Johnson, C., & Mou, B. (2015).	Elsevier
11.	Development of traditional architecture in nigeria: a case study of hausa house form	Paul, A. O., & Zango, M. S. (2014)	International Journal of African Society Cultures and Traditions

3.1 Location

Nigeria is comprised of 6 zones of different climates (Webby, 2002); The Swamp Forest, Mangrove Swamp, Guinea Savannah, Sudan Savannah Sahel Savannah, and Rain Forest. Latitude 8º North to Latitude 12º North of the Equator, includes the Sudan Savannah approximately in Nigeria (Anuforom & Okpara, 2004). Kano is included in this region, which was situated on Latitude 12.000000 (DMS Lat = 12° 0' 0.0000" N) and Longitude 8.516667 (DMS Long = 8° 31' 0.0012" E), though some part of Kano state falls under guinea savannah (Ragatoa, Ogunjobi, Okhimamhe, Browne Klutse, & Lamptey, 2018). All kinds of architectural designs must consider climate and culture of the people in that region as a significant elements that determines the building construction.

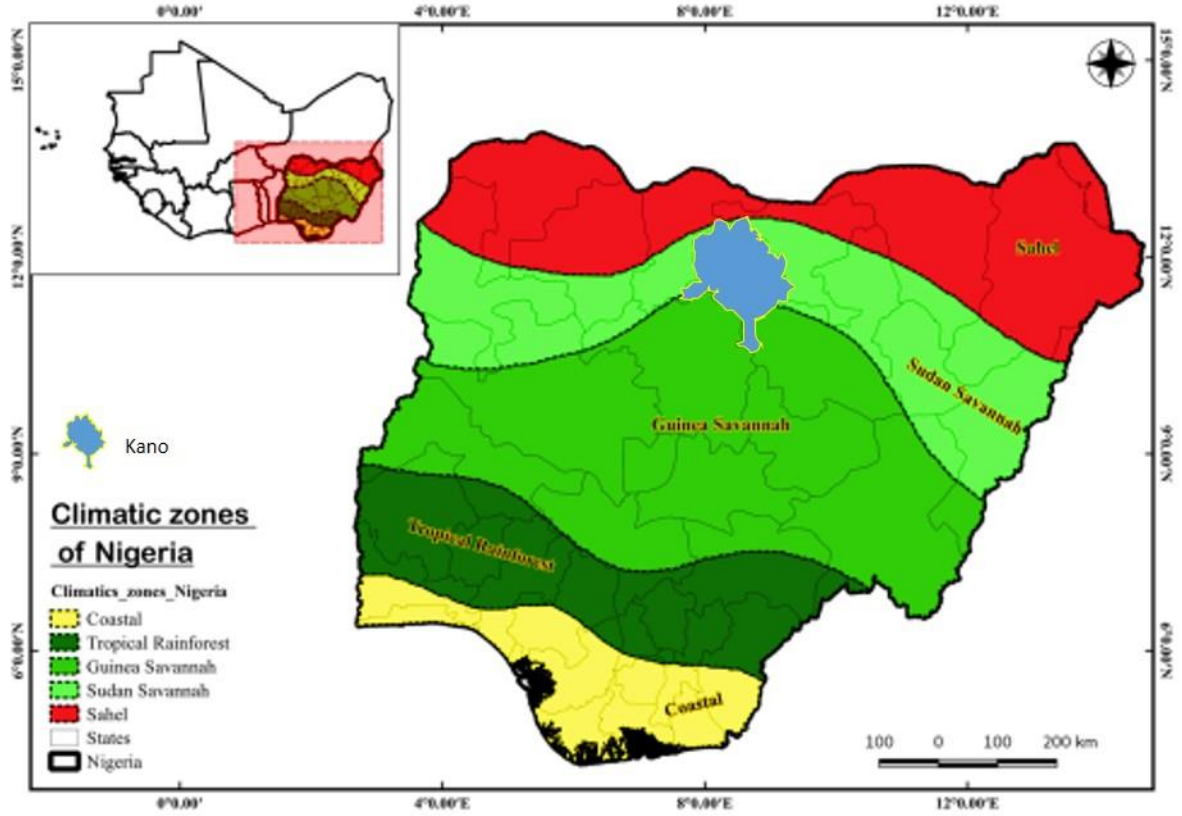


Fig. 2: Climatic Zones in Nigeria (Ragatoa et al., 2018)

The Hausa society is located in northern Nigeria also situated in northern Savannah climate type (Cliff Moughtin, 1985). There is less than 1000 mm annual rainfall that last for about 5-6 months in this region, usually between May and October. The intensity of rainfall in Kano is at peak during the month of July to August. During the dry season, Harmattan (which is a certain season where Wet and Hot weather occurs). Rainfall hardly occurs during Harmattan season, while the daily temperature is between 16oC to 35ºC in October to February, usually clear sky. Around December to January in Kano the weather comes with the suspension of whitish fine particles or dust in the surrounds all over the state, this happens because of Harmattan breeze which brings surface turbulence. During this harmattan the overall unclear visibility, distorting the air aviation and navigation whereas the sun-rays hardly surface the ground. This condition leads to low temperature at night up to 14ºC or below, and hours of sunshine is during 8.7 to 9.5 hours a day. Maximum daily temperature during harmattan season is 31ºC, resulting to 17ºC variation. This high diurnal range of temperature is the major characteristic of the Savannah climate type (Areola, Ahmed, Iruegbe, Adeleke, & G.C. Leong, 2005). Relative Humidity, ranges from 68%, 36% to 35% in October, November and January respectively. Regular building repair, new construction and maintenance is usually done during this season in Kano. February has about 20% Relative Humidity, and may rise to about 31% around the month of April, which was regarded as the hottest annually, and when measured with dry-bulb thermometer the surrounding temperature ranges between 36-41ºC (Areola et al., 2005). The wind storms comes with very high speed at the beginning of rainy season which in most cases rips-off sagging or poorly-hinged roofs from the top of buildings. Therefore it becomes regular each year to repair roofs of buildings in this region before the wind begins to strike (Eneh & Friday, 2010). The repair of the roofing sheets are carried out by properly securing or alternating arrangement of sandcrete blocks or granite boulders placed at edges of roof gables, to serve the relative weight required to repel the speedy wind.

4. RESULT AND DISCUSSION

4.1 Comparison between Cultural and Contemporary Building

In this section cultural and contemporary buildings were presented and explained using selected pictures from both parts, while the comparison will be shown also in summary. Starting with the cultural buildings, about 11 buildings were paired (i.e. A & B) based on their function and structures, however similar pattern was adopted in paring and selecting pictures presented in the contemporary buildings. Also, floor plan elevations of each building was shown with clear difference between them as shown below in this research.

a. Cultural Buildings

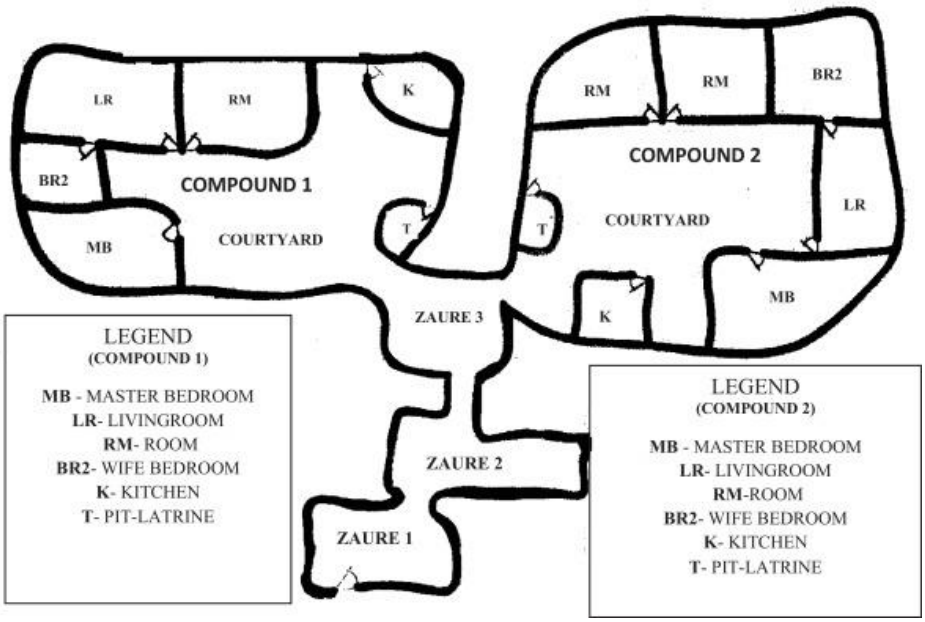


Fig. 2: Sample traditional Floor-plan 1 (Typical Hausa Traditional Compound at Dan-Dago, Kano Municipal, Nigeria) (Umar et al., 2019)

Figure 1 (sample floor plan 1) were sample floor plan of the ancient building structures in Hausa Land, which shows 3 passage rooms, known as Zaure in hausa. This Zaure is a room that provides privacy to the main building compound. It reduces the visibility from pedestrians passing by the building. However, kitchen and toilet were constructed separately, even though some ancient buildings do not even has a toilet neither kitchen as room, but as open place for cooking and the bush or farmland as the toilet. Likewise, it is common character of Hausa building style to have a courtyard, living room and bedroom (ciki da falo) of the wives linked together using only one entrance door, other features may include female children bedroom and a master bedroom for the husband. Also the toilet pattern is usually a pit-latrine type, where both bathing and excretion can be done.

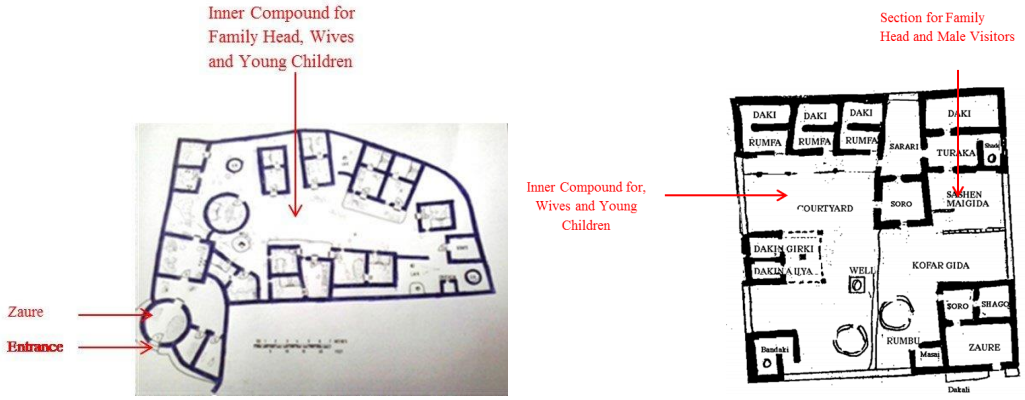
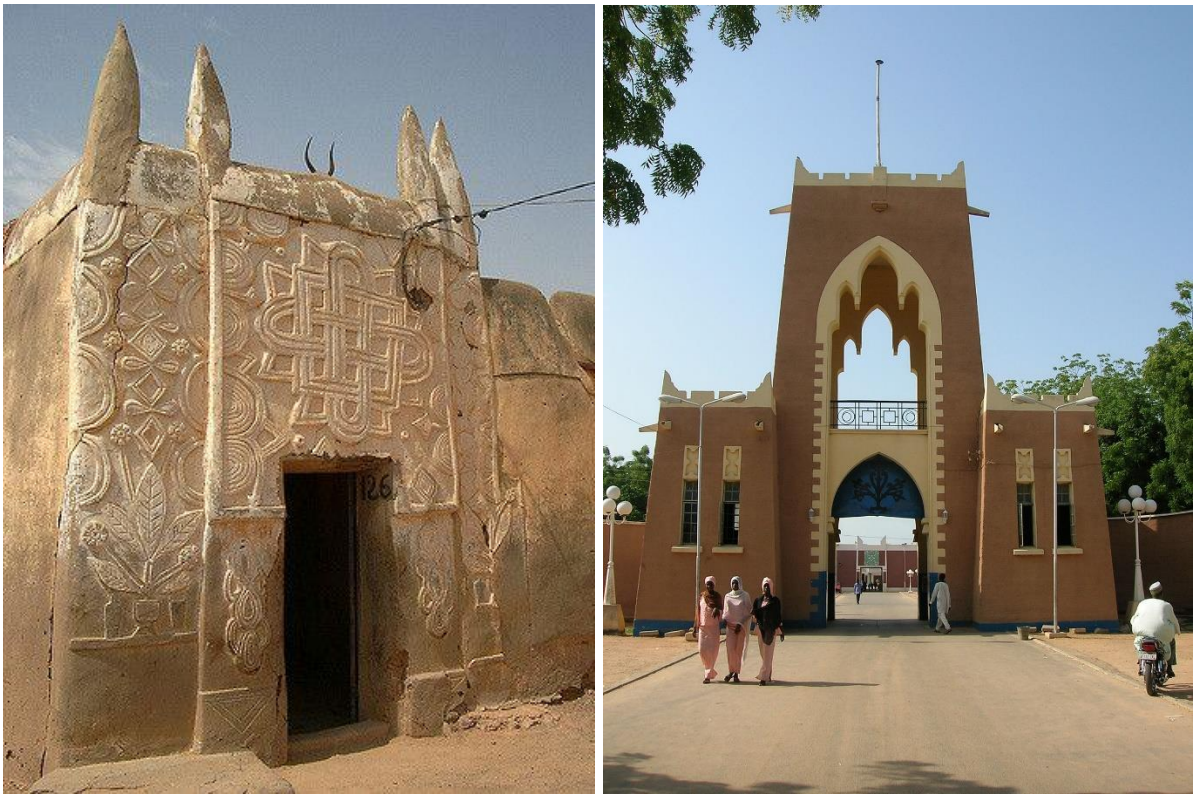


Fig. 3: Sample Traditional Floor-plan 2 (Lodson, Ogbeba, & Elinwa, 2018)

Similarly, Fig.3A is an old traditional building pattern like Fig.1, they both has an irregular shape. The only addition to it is that most of the room that were merged with both living room and bedroom signifies that it is owned by a housewife, when there are more than 1 rooms like that means there are more than one wife in the house. In Fig.3B has lots of science we can derive from it, 1st and fore most the layout of the land, which was almost square in shape, this may indicate a newer version of traditional building compared with the other two types of floor-plan (i.e. Fig.2 & 3A). Daki da Rumfa means Ciki da Falo in other words bedroom and living room, which were about 3 of them. This signifies three (3) wives living in this building along with husband's quarters (Sashen Maigida, Turaka and Daki) (Umar et al., 2019). The term Turaka according a Hausa dictionary called Kamus, it means a husband's personal room separated from rooms of his family. Soro and Zaure means same thing in traditional buildings which indicates a passage room through the entrance of a house, which provides privacy as explained before. Bandaki means toilet, Rumbu means silo and Dakin Ajiya means store room according to the floor-plan (i.e. Fig.3B).

A B

Fig.4: Hausa traditional Facade Decorations – Pinnacles (Zankwaye) & Engraving (Umar et al., 2019)



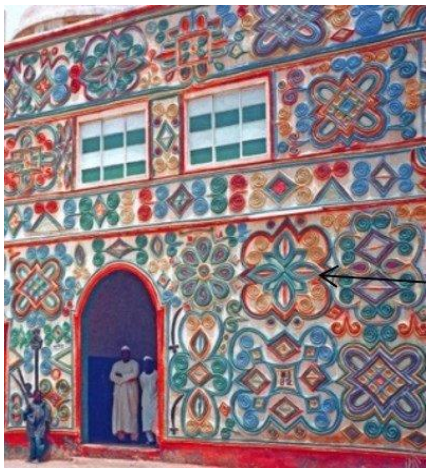
A. Beautiful traditional Hausa relief work on the facade of a house in Kano (Scott Ewart, 2003)

B. Kano state Emir's palace (main entrance gate called Kofar Kudu) (Source: Author)

Fig. 5: Sample building 3

Fig.4-6 both shows a different pattern of traditional building façade in Hausa land, except fig.4B which was the Kano state emirate house main entrance door formerly known as "Kofar Kudu" which means the southern door. Most of the façade of a traditional Hausa building were characterized with flat roof and the horn-like structures on top of the roof or the façade of the building is known as "Zanko" in Hausa language (Lodson et al., 2018; Umar et al., 2019). These buildings were usually constructed with mud bricks locally made with dried-grass, mud, sand and Dorawa powder in Hausa (Parkia Biglobosa also known as Locust Bean), which were mixed together to create firm and strong mud-bricks for construction (Lodson et al., 2018). As the technology improves in the traditional construction the building might later be plastered with cement mixture to prevent erosion, cracks, wear and tear. Theses traditional building were well known in terms of temperature comfort within the rooms (Due to the insulation level of the sand and wall thickness), as the outside temperature varies, inside the room is comfortable and vice versa. The windows were usually tiny and usually one window per room, which brings the absent of cross-ventilation within the rooms. The courtyard is very significant in traditional buildings, trees were planted to provide cool air circulation and provide the space the family needed to play, chat and carryout all the house chores (Umar et al., 2019). The designs in the traditional building were unique in its nature along with the Hausa empire symbol, different shape-drawings and colourful nature.

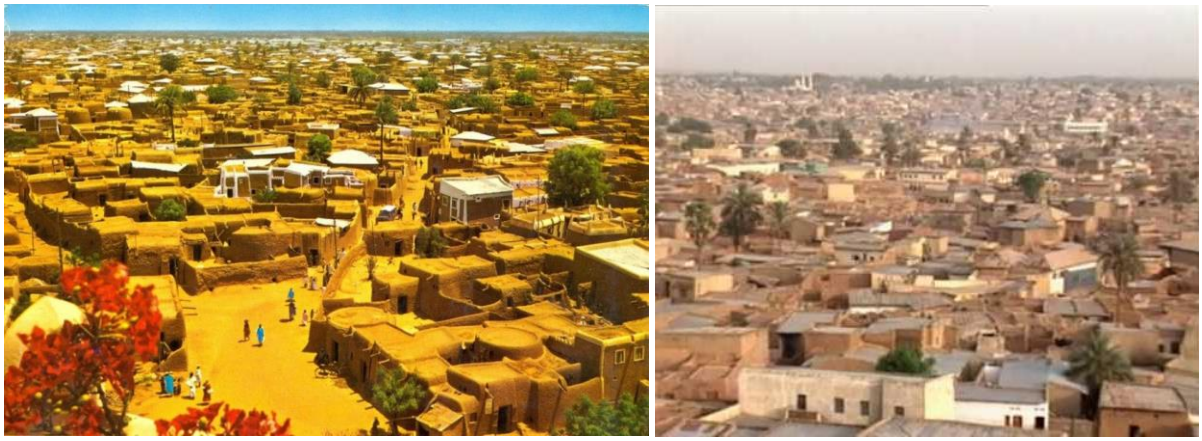
A. Kano History Museum
(Constructed at the beginning of 19th century)
(Blogspot, 2020)



B. Emir of Zazzau Palace in Zaria, Nigeria
(built 1995[2] Mural Facade Design)
(Lodson et al., 2018)

Fig. 6: Sample building 4

Fig.7: Sample buildings 5 (ABU Zaria Theatre) (Messynessy, 2020).

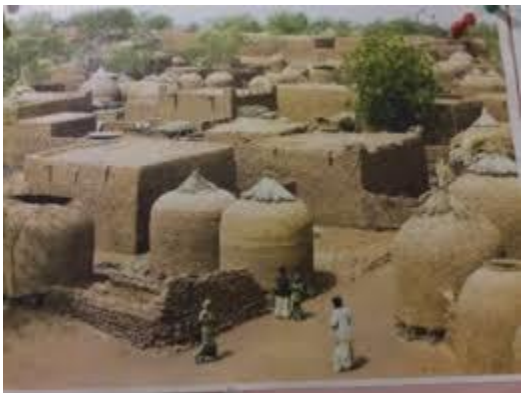


A. Historic Kano City, Northern Nigeria (Messynessy, 2020)

B. Hausa Architecture in Northern Nigeria (Tubali, 2009)

Fig. 8: Sample building 6

In these figures (fig. 7-8) the sample images shows an overview of a typical Hausa city, showing mainly solid buildings along with scattered palm and other type of trees that are few in number when compared with the overall landmass and number of buildings in the picture. The streets in the ancient settlement were very narrow without considering the size of a car passing through the streets. During those days cattle carriage and bicycle were the only vehicles considered when planning the streets in a typical Hausa neighbourhood. The building mostly has one or no suspended floor, but some building from richer family can have 3 storey building. However, irregular pattern of roads and drainages were related with the characteristics of an ancient Hausa community settlement. Fig. 7 both A & B were urban settlement while fig. 8 (A & B) were rural building; these two can be differentiated by the quality of the walls and the materials used in the finishing of the overall building. The flat roof structure here were designed to allow water passage through the allowed metallic gutter channels called Indararo in Hausa (refer to fig.9 & 10B) to avoid high water run-off eroding the walls of the building and rainwater harvest. This is because the rainy season in this region only last for few months, mainly 5 months. Another reason was that the majority the wells dry out during January to March, which were the beginning of rainy season. Being the only source of water during dry season people harvest rainwater especially at the beginning of the rainy season. After the rain becomes in abundance as time goes on, the well water begins to accumulate in it. Also there is belief that rainwater cures so many ailments, so the water has holy attributes in Hausa land.



B. Hausa Rural Settlement (Haruna, 2016)

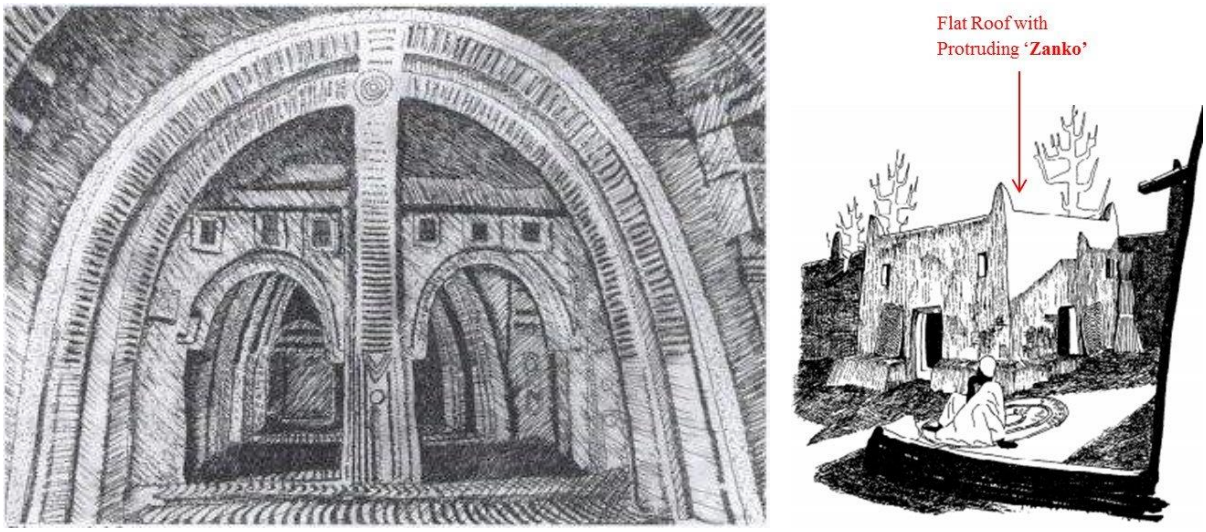
B. A colourful Decorated Hausa Building (author)

Fig.9: Sample 7

Hausa Traditional Architecture (WordPress, 2021)

Fig.10: Sample 8

The society of Hausa socialises and chat with each other while seated on a place called dakali in Hausa language. Dakali (as shown in fig. 9) is just a block-like structured piece placed in frontage of buildings in Hausa society. It culturally provide an enabling environment to sit and interact with friends and neighbours around.



A. Indoor Arches B. Outdoor Space for Relaxation

Fig. 11: Sample 9 (Lodson et al., 2018)

Although, Hausa construction may be olden version having poor quality, but there are amazing arches and round roof shapes, especially in royal traditional buildings. Fig. 10A shows and example of such building with reinforcements supporting it. This building is also similar to mosque structure which were constructed to contain many people inside.

b. Contemporary Building (years)

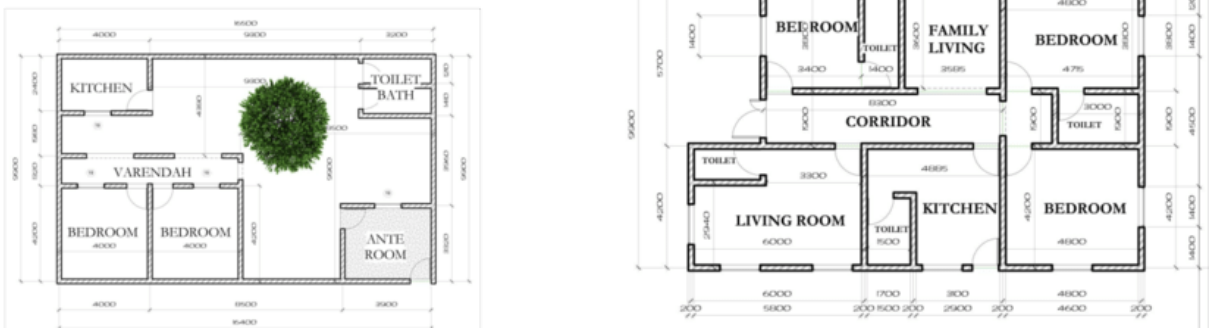
A. 4 Bedroom Floor plan B. Modern House Plan In 45X30 ft. Plot (2019)

Fig. 12: Sample contemporary building floor plan 1 (DK3Homes, 2022)

Contemporary architecture is simply referring to the present architectural style, such as buildings constructed based on the latest trending shapes, styles and forms were referred to as contemporary architecture (Kristin Hohenadel, 2020). The contemporary architecture era is largely said that it had begun the period later than the modern period, which was approximately the first-half of 20th century and the postmodern period which was began around the 1960s and proceed towards the

90s. Consequently, new houses built in the late 20th century to the current moment can be referred as contemporary architectural buildings (Charles Moffat, 2007). This a clear demarcation of period that contemporary building began in past.

In relation to the contemporary architecture in Hausa land was very similar with other country's contemporary building styles to large extent or parts of the house; though, there can be slight differences as well. Examples of these contemporary building were shown here in this research, showing only floor plans and façade of the buildings.



A. Floor plan of a 2 bedroom flat (2016) B. Floor plan of a 3 bedroom flat (2016)

Fig. 13: Sample contemporary building floor plan 2 (Maina, Abba, & Abba, 2016)

In this fig. 13 (A and B) an example of 2 and 3 bedrooms were shown, which shows how straight lines and curves were used to represent walls, windows and windows in the building's floor plan, for easy interpretation and understanding of the building's shape or structure. In fig.13A the building is among the old building of contemporary building which was similar to the traditional building in terms of the floor plan structure; the two bedrooms were isolated from the kitchen, the toilet and bathroom with no sitting room. Also the "ante room" is similar to "zaure" in traditional building. While on the other hand fig.13B which was 3 bedrooms was a self-contained flat having about 4 toilets, a kitchen and a sitting room. This house has no similarity with traditional building unlike fig.13A, because the Hausa culture was not given any consideration while planning the building.

Family Housing estate at Darmanawa Kano B. Private 1 Bedroom Studio ("Kano Vacation Rentals & Homes - Kano, Nigeria | Airbnb," 2021), (NPMB, 2021; FHF, 2019)

Fig. 14: Sample contemporary building 2.

These two pictures above fig.14 (A & B) shows the façade of the contemporary building in Kano, northern Nigeria. Though, the flat buildings in Kano can have both flat and pitched roof style (as it will be shown later in fig.16). fig.14A only has flat room as the similarity with the Hausa traditional building, while Fig.14B has indararo (roof drain) and Zanko (pinnacle) in the roof of the building, which was also similar to the Hausa traditional building style, but the building has windows and doors that were contemporary style in nature. So also the construction materials used in these building were majorly imported materials or copied from the western building pattern. The exclusion of so many traditional building parts here in these buildings will affect the culture (way of life) of the people that lives in the house.

A Duplex in Kano B. A Duplex in Kano

Fig. 15: Sample contemporary building 3 (MitulaHomes, 2021).

The 1 storey building above (fig. A & B) were among the example of contemporary building used in this research. The high-pitched roofing style were known as "Chinese roof" by local builders in northern Nigeria. The ownership of a contemporary building like this in Hausaland signifies the

wealthy status of an individual within the society. Similarly, in this type of building; most of the Hausa traditional architecture that can be identified from the exterior part, cannot be seen in the façade of the building.

Semi-Detached Modern Building in Sheikh Jaafar Adam city (formerly Bandirawo), Kano

Fig. 16: Sample contemporary building 4 (BHK, 2021).

This building (fig.16) was similar to the 2 buildings analysed before being it as a flat house without a suspended floor, though the high-pitched roof style differentiates it them. This building was built also without consideration of any Hausa traditions from what is seen in exterior part of it.

5. Conclusion

Culture is the way of life (tradition) of certain group of people whether large or small, in which one cannot talk about traditional building without talking about culture. Likewise, green building and social acceptance is linked with culture and tradition of the people living in an area. This because green building elements were found in traditional buildings, like well, courtyard, possibility of rain harvest from the flat roof gutters, and so many others. Traditional architecture was becoming a history now around the globe, as it is fading away as time goes on. People tends to demolish traditional building and replace it with contemporary buildings. However, new constructions were majorly building contemporary building instead of traditional type (Mehta, 2020). Similar scenario is occurring in northern Nigeria where both the stakeholders, architects and clients were building contemporary building, thereby neglecting the traditional architecture in the Hausa traditional region. Though, some few architects were trying to copy few traditional style, but it is still not enough to promote the culture. This research focusses on Kano state because almost all the people in the state speaks Hausa language and share majorly one culture. Hausa traditional architecture ought not to be forgotten, the purpose and meaning the building tradition should be given the attention it requires to improve in both the standards and quality of the material used. Most of the local construction materials has low quality in terms of standards and durability, therefore, they tends to deform easily. The construction method were green and sustainable because it causes low carbon effects. However, further research is recommended to explore ways of improving the quality of the local building materials and the methods used during the construction process and afterwards, so that the building will last longer and became safer. This is

because of so many incidences of traditional building collapse and killing people, many will think it is not safe to live in the traditional building. It is also recommended to include culture into the pillars of sustainability so as to minimize this problems the Hausa traditional building has, through improving the quality of the building structure, less maintenance efforts, cost saving, local readily available material provisions, incorporating green features into the building (like solar, rain harvest, well or borehole water provision etc.) and so on.

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The Future Cities that Were Shaped by Visual Culture of 1980's SCI-FI Movies

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Abstract
At the turn of the 20th century modernism was it's own way. Futurism has its manifesto by expressing of the celebration of the new era. It was underlining the fact that new era should destroy all previous ties of traditionalism and one should turn its head to the developments of industrial revolution. Architecture created its own dynamics by examining the tradition, later combining it with revolution and at the end creating the vocabulary of its own language. As Pioneer architect Le Corbusier illustrated the appearance of feature cities in his sketches some other new art forms were on its way. Meanwhile; cinema as the new art form, visualised and rather prophecisied future cities as architects of the new world foreseen the facts of the future appearance of the cities. The aim of this paper is to investigate the effects of the cinema industry of 1980's on future cities and the reflections of three dimensional graphics on architectural facades of the future cities by examining the movie based sci-fi hallucinations that come to be true in today's cities.

Key words: Architecture, 3D graphics, Façades, Futurism, Sci- Fi, Cinema

1980ler Bilim kurgu filmlerindeki görsel kültürün şekillendirdiği geleceğin Şehirleri

Özet
20. yüzyılın başında modernizm tüm uygulamalı sanat alanlarında etkisini göstermiştir. Fütürizm, bu yeniçağı manifestosu ile karşılamıştır. Modern dönem, gelenekçiliğin tüm eski bağlarını yıkması ve yönünü sanayi devriminin gelişmelerine çevirmesi gerektiğinin altını çizmiştir. Mimarlık geleneği inceleyerek ve onu endüstriyel devrimle birleştirerek kendi dilinin söz varlığını oluşturarak kendi dinamiklerini oluşturmuştur. Öncü mimar Le Corbusier, eskizlerinde özellikli şehirlerin görünümünü resmederken, bazı yeni sanat formlarının da önünü açmıştır. Bu sırada; yeni sanat formu olarak sinema, yenidünyanın mimarları olarak geleceğin şehirlerini görselleştirmiş ve sanal bir potansiyel ve öngörü ortaya koyarak şehirlerin gelecekteki olası görünümünü gözler önüne sermiştir. Bu araştırmanın amacı, günümüz kentlerinde gerçeğe dönüşen film temelli bilimkurgu varsayımlarını inceleyerek, 1980'li yılların sinema endüstrisinin geleceğin şehirleri üzerindeki etkilerini ve üç boyutlu grafiklerin geleceğin şehirlerinin mimari cephelerine yansımalarını araştırmaktır.

Anahtar Kelimeler: Mimarlık, 3D Grafikler, Cephe, Gelecekçilik, Bilim- Kurgu, Sinema

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1. INTRODUCTION

Mid-19th century was a turning point of human history as culturally for its drastic and dramatic changes in the previously known life style. It was a total change for the traditional lifestyle of humanity since so-called the Neolithic Revolution. The Neolithic revolution was well known as a transition period from consuming way of life of hunter gatherer societies to productive way of life of settled villager's life of Neolithic period. As all previous changes of lifestyle demand some changes in daily routine of Neolithic Revolution, this new revolution would have its own changes, dynamics and related demands for this upcoming industrial way of life (WEISDORF, Jacob L. 2005). Architectural re-organisation was a certain need for growing industrial cities. Migration, from rural areas to the industrial city centres, multiplied the population within a very short time period, at the end of the century. Consequently to the migration wave, housing facility and facilities related to social needs has increased. In order to solve these needs, new elements and materials has adopted to modernist architecture as mass production factory goods (Roth, L. M. 2018). Moreover at the beginning of 20th century, architecture faculties were already established to educate architects who would shape the modern architecture and related ideas in the near future.

Futurist manifesto underlines this clear distinctive change by getting rid of all traditional ties in between traditional understanding of art and architecture and modern/ technological developments after industrialisation. As a result, architects like Le Courbusier would define future cities in their sketches according to the contemporary needs of the era (Figure 1). Almost at the same time newly developed art form which is science fiction and fantastic literature, cinema foreseen and criticized future cities as human life started become machine based.

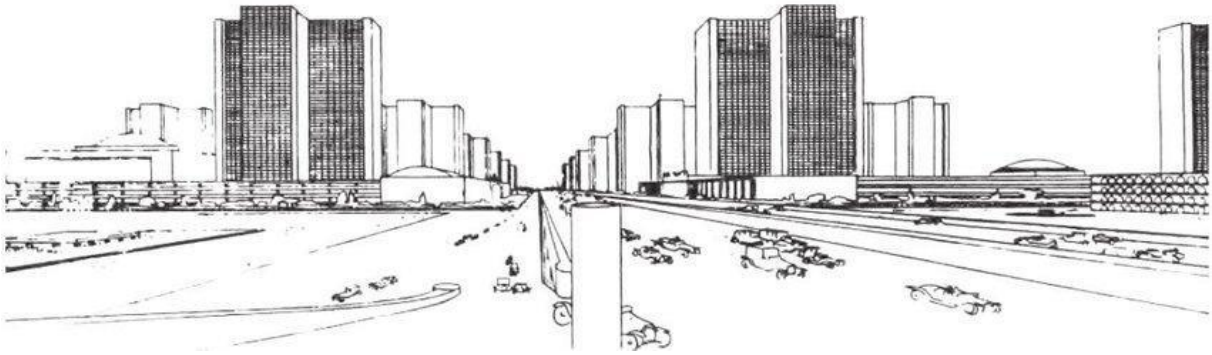

Figure 1: Drawing of Le Corbusier's proposal for a modern city of three million inhabitants

Jules Verne as a pioneer of science fiction novelists was prophesizing the trip to the moon in 1885 as related movie did the same in 1990. German director Fritz Lang criticized over populated future cities and class difference between poor and rich (symbolic signifier to signify high and low of city scape) in his 1926 movie titled as Metropolis and Modern Times starring Charlie Chaplin was focused on human as a part of factory as being a part of its machines (Graham, S. 2016). Hence for first phase of science fiction cinema, Abohela suggests;

"*It can be argued that pre1950s cinema's 'poetic' image of the city is dominated by three images: the vertical, lofty and aerial quality of the city as seen in Just Imagine (1930); the Emerald City of The Wizard of Oz (1939)"* (Abohela, I. 2015).

Therefore, examples that were mentioned above from pre 1950's can be seen as "poetic" representations of future city image as it appears in Charles Dickens poetic description of the industrial city of Coketown in his 1845 novel that is known as "Hard Times". (Roth, L. M. 2018). On contrary sci-fi movies after 1950's, create "dystopic" and "utopic" representations of future cities rather than poetic descriptions.

With the developing technology in Cinema industry, 1970's and 1980 was prophesizing the future cities and related technology of today's contemporary life.

2. CINEMATOGRAPHIC EXAMPLES

Blade Runner that was directed by Ridley Scott can be seen as the first example of this prediction. The movie depicts the future city of 2019 and the director created a city full of flying cars, monumental and high buildings with hologram surfaces. The architectural façades were covered by three dimensional graphic advertisements. Most important example beside others is called "geisha eating cotton candy" (Figure 2)

Figure 2: Geisha eating cotton candy, Blade Runner, 1982

Second example in the chronological order is Akira by Katsuhiro Otomo in 1988. As Blade Runner depicted the futuristic cites, Akira depicted a dystopic city that is called as Neo-Tokyo in the year of 2019 after a mysterious atomic explosion (Figure 3). There is also a clean separation between the old city and modern city which are separated by a bridge. The new city is full of skyscrapers and almost beyond its capacity (De La Iglesıa, M. 2018). The exaggerated reflection of technology in these movies is explained by Abouhela, I. M., Dewidar, K. M., & El-Gohary as:

"*Architecture in cyberspace is confronted with the abstraction of virtual space, as well as the intangibility of networks and the ramifications of these invisible connections upon architectural form. There may be a formal side to cyberspace, but it is more ethereal than the industrial language of early science fiction*" (Abouhela, I. M., Dewidar, K. M., & El-Gohary, A.F.2007).

Unlike earlier science-fiction stories that were focused mostly on criticizing the effects of the industrial revolution, later generation science fiction movies were mostly focused on postmodern philosophy and trying shed of light to design future. Abohela argues that;

"In this film Ridley Scott's approach was bound and influenced by his own critique of the Post-modern paradigmatic shift which offered a complete vision of a postmodernist Bleak and demanding dystopic future. Although disliked by the audience at the time of its release, contemporary film critics described it as prophetic" (Abohela, I. 2015).

Figure 3: Akira, Katsuhiro Otomo, depiction of future city of Neo Tokyo, 1988

The last example of the decade is actually a triology by director Robert Zemeckis. Back to the future movies were reflecting changes of same spot that was used in movie. The movie analyses the comparison of urbanisation or urban development of the same spot "Green Hill Valley" in the years of 1885, 1955, 1985 and 2015. By the way it also fulfils the curiosity of the audience on the idea of time travelling. The second movie "BttF II" depicts the future city of 2015 in the production year of 1989. Same futuristic graphics can be seen in the movie beside flying cars, flying boards and self-wearing clothes that reflects the idea of future technology of the future. 3D Advertisement of another famous horror movie of 1980's reflected as hologram (Figure 4) as one can experience the idea in daily routine.

Figure 4: Back to the future II, Robert Zemeckis, Jaws Advertisement as 3D hologram

3. METHODOLOGY

In this article, the methodological basis has been built upon qualitative nature and structured as an analytical comparative image articulation with the documentation of a series of different movie sequences that depicts 3D advertisings on building facades in between 1980-90 and contemporary 3D commercials that takes place in different Asian cities in building facades after 2000's. First group of visuals as being totally imaginary and the second group as being realized and used, has been compared within the theoretical basis of Swiss psychologist and constructivist Jean Piaget "People actively construct their knowledge of the world based on the interactions between their ideas and experiences" (MCLEOD, Saul. 2007).

Within that scope, the contemporary graphical motives that affects the appearance of future cities will be discussed with the comparison: of similarities between past fiction adversary motives versus contemporary adversary reality. This idea of cultural articulation being built one upon another as reality based on imagination will be displayed in this article under the framing of graphic advertisings that affects the facades of buildings in modern cities. The below listed examples will be compared in order to support and prove this idea.

Table 1. Visuals of content analyses listed according to comparison groups and date.

	Fictional	**Reality**
Example1	Blade Runner, 1982	A biennial of Creative Videos
Example2	Akira, 1988	Taikoo Li shopping mall
Example3	Back to the Future, 1989	Final Fantasy Billboard

4. REAL FUTURE CITES OF TODAY'S WORLD

It is observable that once was imagination in science fiction movies and books became the practice of life in the cities that people live in. One generation has raised by watching these sci-fi movies and now they live it as practical motive and as a part of their lives. As mentioned by Swiss psychologist and constructivist Jean Piaget "People actively construct their knowledge of the world based on the interactions between their ideas and experiences" (MCLEOD, Saul. 2007). There are other approaches to the notion of the interaction of different areas of idea production. For example, Saussure mentioned the idea of value in a similar way. According to him the value of any unit can only be attributed by the position of the other units that surrounds that particular unit (De Saussure, F. 2011). Hence, in the notion of Derrida's "Undecidable" points to this dynamic as cultural productions foster and affects each other, they structure each other and carry motives of past and different structures which gives them the ambiguity of originality. It is not possible to mention a strict pure peculiarity of any kind of production (GORMAN, Clare. 2015).

Accordingly, in the cities, new architectural motives take their inspiration and design from previous cultural production and interpret them in different mediums. The contemporary architectural surfaces that people are surrounded by are examples of that interpretation. and

especially in crowded cities these surfaces can be visible to every inhabitant of the location as 3D moving graphics.

There are some examples from mostly Asian countries such as China and Japan as being production market of improved technology.

The early example of using façades for video production can be seen in an event called as “A biennial of Creative Videos” (Figure 5) out of cooperation of You Tube and Google play with technological supporters of some firms such as “HP” and “İntel” on the date of 21 October 2010. All videos were projected on the façade of Guggenheim museum for audience. The idea actually remind of the concept of “future cities” of 80’s sci-fi movies.

Figure 5: A biennial of Creative Videos, façade of Gugenheim museum, 2010

Later on with the support of developed technology more three dimentional graphics replaced the Gugenheim example such as the facade of the Taikoo Li shopping mall in the Chinese city of Chengdu. On the outer façade of the building people can observe advertising videos. İn the video a space ship appears in the form of a science fiction movie of Star Trek that is known as “U.S.S Enterprise” (Figure 6) (https://gadgettendency.com/3d-effect-panel-on-shopping-mall-facade-in-china-video/).

Figure 6: Taikoo Li shopping mall and U.S.S Enterprise

Moreover, building façades change with this technological development. Once one can identify styles by analyzing its architectural features, or as it was in modern architecture form that is visible on the surface of the building fallows its function (Roth, L. M. 2018). However, façades recently have become an opening to another dimension by showing three dimensional virtual World. “FINAL FANTASY VII REMAKE INTERGRADE Red XIII 3D Billboard is another example for this kind of façades (Figure 7). Hence, with this perspectif it is possible to coat Einstein "Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution." Einstein (EINSTEIN, Albert. 2000).

Figure 7: FINAL FANTASY VII REMAKE INTERGRADE Red XIII 3D Billboard

5. CONCLUSION

Future cities have been foreseen and depicted in cinema and in science fiction literature in the 70's and 80’s. Cultural heritage, common knowledge in modern and postmodern era brings the notion of techno-metamorphosis as it was mentioned in the concept of “projectile” discussed by Deleuze within the same time period. Deleuze, in this concept argues that every kind of project is actually a projectile (which can be described as the area, the surface or the canvas

itself) the rest of the project will keep on changing according to the technology that the era brings (Pascal Michon, 2021). After a kind of breaking point in the technological advancements and facilities in hand, the projectile will remain but the project will have a very short life depending on the cultural memory that the designer lives within.

With a different but yet similar approach, Derrida argues in the same time period that culture is a living organism that its creations are "undecidable" in terms of ownership or in today's term "copyright".

Technological facilities effect the productions of every field in every era of the history. In this study two different levels of creation have been compared. The first group includes the fictional advertising videos that took place in 1980s SCI-FI movies and literature. The second group includes various 3D advertising animations that takes place in building facades of Asian metropoles. This comparative study indicates that past fiction became a part of the motives that shapes the cities of today with the help of technological advancement. What was once a prediction for the graphical elements of a future city became practical graphic element of some of the Asian cites.

Researches show that, what was imagined on the screen 30 years ago became the future city of today in more than one way. What was not possible to create 3 dimensionally is possible to build today, realized in front of our eyes. This cultural interaction will continue to affect future creations and generations.

Above mentioned examples of 80's sci-fi case studies and comparisons can also be adapted to different decades of 20th century to find out their effects on today's future cities. Further study related to the subject can be researched upon the relation in between contemporary scı-fı and fantastic literature / cinema and new architectural urban projects and applications such as virtual architecture design or parametrical architecture as being the new field of application.

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THE IMPACT OF TALL BUILDINGS WITHIN THE EXISTING AND HISTORICAL URBAN ENVIRONMENT

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Abstract
The rapid growth of the world increased the demand of the tall buildings as a result of physical, social and economic needs. Tall Buildings with their great size and large impact on the existing urban environment and especially on the historical one became like a double-edged sword. They may be an active city element and become a landmark that has its own value, preserve and respect the built surrounding, or it will be a portion that disfigure the urban skyline of the city and become a visual deformation within its space. The most important point that should be considered while designing a tall building is the harmony between it and its built surrounding. Design considerations regarding physical integration of the tall building with the context around it must be handled with more care than any other conventional building. In order to minimize the damage on the historical urban heritage and the existing built environment maximizing the useful landscape provided by its footprint on the site should be aimed. This paper aims to evaluate the impacts regarding the integration of tall buildings within the existing and historical urban environment. A holistic approach clarifying this integration as a way of designing an efficient urban element also aimed to be discussed in this paper.

Key words: Tall buildings, impact, existing urban environment, historical urban environment.

Özet
Dünyanın hızlı büyümesi, fiziksel, sosyal ve ekonomik ihtiyaçlar sonucunda yüksek binalara olan talebi artırmıştır. Büyük boyutları ve mevcut kentsel çevre ve özellikle tarihi doku üzerindeki güçlü etkileri ile yüksek binalar iki ucu keskin bir kılıç gibidir. Yüksek binalar aktif bir kentsel eleman, kendi değeri olan, yapılı çevreyi koruyan ve saygı duyan bir dönüm noktası haline gelebilirler veya bu durumun tam tersi bir etki ile kentsel silüeti bozan ve kendi alanı içinde görsel bir deformasyon haline gelen bir etki oluşturabilirler. Yüksek bir yapı tasarlanırken dikkat edilmesi gereken en önemli nokta, yapı ile çevresi arasındaki uyumdur. Yüksek binanın etrafındaki bağlamla fiziksel entegrasyonuna ilişkin tasarım kriterleri, diğer herhangi bir geleneksel binadan daha dikkatli bir şekilde ele alınmalıdır. Tarihi kentsel mirasa ve mevcut yapılı çevreye verilen zararı en aza indirmek için, tasarlandığı alandaki izdüşümünün sağladığı faydalı peyzajı en üst düzeye çıkarmak amaçlanmalıdır. Bu makale, yüksek binaların mevcut ve tarihi kentsel çevre ile entegrasyonuna ilişkin etkilerini değerlendirmeyi amaçlamaktadır. Etkin bir kent elemanı tasarlamanın bir yolu olarak bu entegrasyonu açıklayan bütüncül bir yaklaşım da bu bildiride tartışılmak istenmiştir.

Key words: Yüksek binalar, etki, mevcut kentsel çevre, tarihi kentsel çevre.

1. INTRODUCTION

Tall buildings are the structures that have tall facades with small roof area and footprint, which need an exceptional structural system due to their heights (Scott, 1998). What considered as a tall building actually differs from country to country and depends on the scale of that place where this tall building going to be built. In the context of this article, tall building is a building that exceeds the height of its surrounding buildings and make a domination point on the view and the landscape by its scale, and does not have to have that huge height (Jałowiecki, 2007).

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Cities evolve, this evolving include their urban and buildings, a positive contribution can be made by the well designing of tall buildings, tall buildings by their own could be a good example of architectural work whether as individual or cluster of buildings. The image and the identity as a whole can be affected by these elements; they can be like beacons of growth and investment (Design Council, 2014).

Throughout the history of humanity, tall buildings played a major role being symbols representing the power and prestige of the cities. Way to fascinate people and bringing them closer to their god and keeping them in touch with him since these buildings can be seen from a distance if we were talking about mosques and cathedrals (Dąbrowska-Budziło, 2002). From the ancient time to the pyramids of the Egyptians into the tall structures of the middle age and then the contemporary ones. All used to become symbols of the dominant and wealth of their owner which in its turn will reflect the respect for them in their local community (Kumorek, 2010).

At the end of 18th century, the development of construction materials and the using of concrete and iron in the buildings industry allow for creating new shapes and modern architectural forms that give the ability for a huge transformation in tall buildings construction and led to have new kind of dominant symbols that have new iconic meaning (Dąbrowska-Budziło, 2002).

In the age of modernization, tall buildings came as a solution to the rapid growth of population by achieving a high dense increasing and controlling the urban sprawl. The majority of these developments following a similar pattern promoted by a globalized movement (Jasiński, 1970). The design of these new structures should consider the cultural background of its built surrounding and be respectful to the environment around it.

A building that solidify the identity of the place and appreciate the local community while maximizing the historical value of cities. Dimensions like the image of this building in the city and its role of promoting the legibility of the space and being an active city element which respect the culture and heritage of the area, and a part of the city that enhance the cityscape and link the past with present and future should be considered.

The existing environment and new tall buildings relationship for all dimensions should be taking into consideration. Social, environmental and ecological dimensions are important for the design of tall buildings. The harmony between the tall building and its built surrounding is one of the important dialogues, which should be evaluated.

All these going to produce a desired symbol of success (Tavernor, Gassner, 2010) and an iconic landmark that guide people and help them finding their ways (Lynch, 1960), also forming the coherent integration between the city's urban composition and avoid the randomly in the placement of these elements (LBHF, 2015).

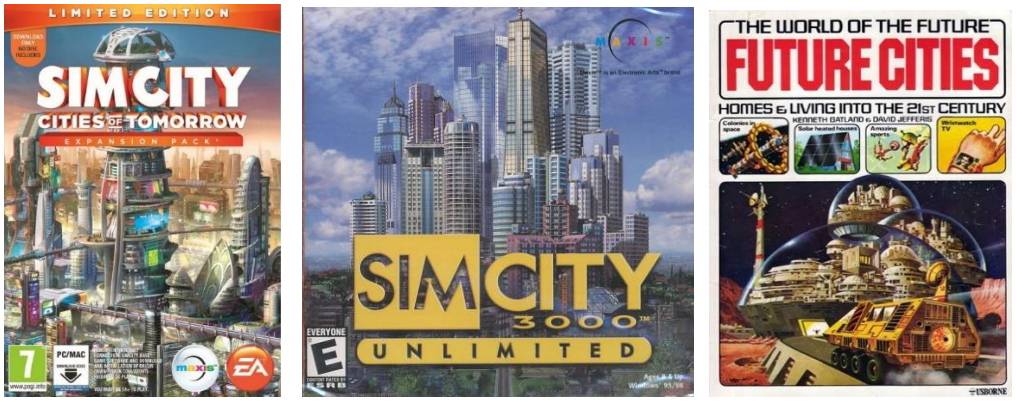
It is noticed that the result of googling "future city" most of the time is a city full of tall buildings and giant structures, and that goes also into the movies and video games as well, creating by that the same image in the minds of onlookers (figure 1).

A B C

The result after googling (future cities)
A Source: (www.turbosquid.com).
B Source: (https://pin.it/3yD8tuu).
C Source: ((665) Pinterest).

A B C

The result after googling (future city movies)
A Source: (Tomorrowland (2015) - IMDb).
B Source: (https://www.artstation.com/artwork/JleGnn).
C Source: (Don Dellpiero – future city).



A B C

A Source: (http://simcity.com/).
B Source: (http://simcity.com/).
C Source: (Paleo-Future - Long Now).
The result after googling (future videogames ads).

Figure 1: The result after googling (future cities, future city movies, future videogames ads).

2. LITERATURE REVIEW

2.1 The Significance of Tall Buildings

Tall building are the vertical structures that use special structural systems. Tall structure is a building that has a different height comparing with its surrounding buildings. Structures that fascinate people and make a domination point on the view by its scale. Depending on the existing surrounding heights, the tall building may be able to affect the city skyline and give a

new identity to the place where it has been built. Tall structure that features number of stories more than its sounding is a tall building.

Cities have undergone a huge transformation with the turn of 18th and 19th century, new vertical elements appeared as industrial stacks (Oleński, 2014) Vertical structures that use iron and steel which allow in its turn for new architectural forms, new technologies used also, all that led into a new vertical symbolic meaning (Dąbrowska, 2002). like the 10 stories building in Chicago, built in 1880s as a new development influenced the skyscrapers image of the city (Van Uffelen, 2012).

Tall buildings with the development of the construction industry and techniques became a trend to represent the power in the city, eye catching and tourist attractive elements. They also stand in a contrast with their vicinity and show the prestige on their place (Jasiński, 1970). These buildings usually can be noticed within their built environment, due to their size, and visibility they make a visual impact, which make them affect either positively or negatively on their surrounding (Strelitz, 2011). These buildings work as determination points of the aesthetic, reflect the uniqueness of the nature and identity of the city (Kosiński, 2011). Tall buildings came as a response and an efficient way to deal with the people immigration from villages to cities and a solution to the rapid growth of population by achieving a high dense increasing and controlling the urban sprawl.

They can be seen from many directions thanks to their height, guide people and tell them where to go, these elements contribute also in providing the powerful image of the city and considered as a landmark. Visual influencers affect the interior characteristic of the city allowing for spaces that are more open, identify the zones and close unspecified horizons (Jacobs, 1961).

While designing a tall building the social, environmental and ecological dimensions are also important criteria that should be considered and evaluated within that topic, this paper focuses on the impacts of the tall buildings when they are implemented within an existing texture and historical valued environment that has historical heritage

2.2 Potential Impacts of Tall Buildings within the Existing and Historical Urban Environment

2.2.1 Tall buildings as an image of the city

Lynch defined the city in 5 elements as path, district, edges, nodes and landmarks. Legibility is one of the most important characteristics of the city according to him, it is critically valuable in large and complex cities. Speaking of legibility tall buildings with their physical power could have the ability to make a more legible city and becoming a landmark within its built surroundings (Lynch, 1960).

A tall building can be particularly a beautiful landmark and an icon that represent itself as a symbol of success. These tall structures are the most popular constructions designed to demonstrate the aesthetic and contemporary character and shape the city's image which is based on respecting the identity of the place and protecting its value that’s in its turn going to be a connection between the past and present (Athens Charter, 2003).

It is substantial when inserting a new development in a place to take the characteristics of that context into account in order to make a balanced contextual and avoid damaging these characters. Considering these physical conditions and compositions when looking from a

townscape point of view inspire the opportunity of making a tall building that will act as a landmark and enchase the idea of legibility (LBHF, 2015).

Figure 2: Baku flame towers – Baku, Azerbaijan
Source: Baku Flame Towers / HOK | ArchDaily

The design idea of Baku flame towers in (figure 2) came from the history of fire worshiping of Baku city connecting the past with the present while making a vantage point that may be seen from most of the surrounding.

The success of a tall building changes and depends on its design and the context around it, in integration of a tall building within a city that has domes and minarets may change the landmark of the city or add one more to it. Tall building should serve in a way that will let the users integrate with it and converting it from a solid mass into a dynamic city element more effectively that is used in a social manner.

2.2.2 Tall building as an element of the cityscape

The city skyline of an area is one of the important roles that regarding the tall building and its perception on that place from where it can be seen, and it is a handy way to understand the relation between this building and its surrounding and background (Lynch, 1960). Realizing how tall building could occupy a prominent place, and distinguishing this relation from the formation point on view is a very practical way to set the location of a landmark facility.

Looking at cities from a historical point of view, and regarding the idea of cityscape it could noticed that the highest point in any city before was a church or a mosque, as a way to represent the identity of that city and kind of a reflection that this city has born from this place. That's why it is essential for a tall building to enhance that cityscape, while being a landmark that respect existing context, and conforming the identity of the place regardless of its main function.

Tall buildings are one of the possible models of increasing the density in one space, this element can reflect a positive approach of development by taking the scale and form into consideration, and by appreciating it as a part of the local plan of the city. Moreover, a particular tall element is a location does not justify the replacement of new tall structures (NPPF, 2014).

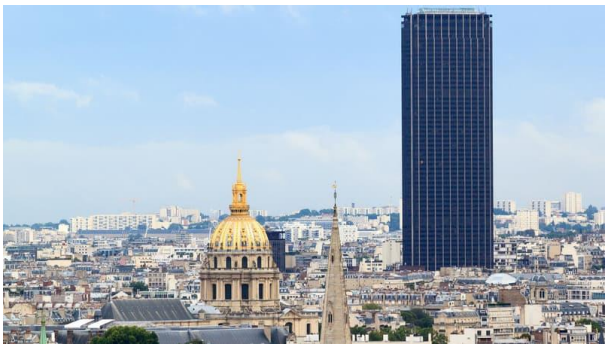


Figure 3: Tour de Montparnasse – Paris, France
Source: www.bfmtv.com

It is important when looking at a silhouette of a city to have a harmonic relation between its elements and their sizes. In addition, to notice the clear composition that will lead into a strong urban structure. And not to see a distortion between new and old tall buildings as a meaning of considering the identity and respecting the cultural heritage of the city (Czyńska, 2015) which at the end will help creating a futuristic city that has a homogeneous silhouette which appreciate the civilization of the area and its community (figure 3).

The geographical properties and formations of a place also play a major role on how this tall building will appear, or how the perception of it will be when looking at that city skyline. That is why it is an essential thing to consider while designing, or implementing a tall building since it will be a reflection on the futuristic skyline of the place.

A B

Figure 4: Cityscape of Istanbul city – Istanbul, Turkey
A Source: (İstanbul'un Gözdesi Yeni Yatırım İlçeleri Emlak Yasam - Hepsi Emlak)
B Source: (16/9 Kuleleri İçin Verilen Tıraşlama Kararı Bozuldu - Tansu Pişkin - bianet).

Istanbul city is one of the perfect example when talking about the geographical differences, in (figure 4) we can see that although the tall buildings are far away from the historical ones and the normal residential buildings but still we can see them like if they are next to each other's.

2.2.3 Tall building as an element of the streetscape

Thinking about the harmony of the tall structures, and their role of being in the every day's story of the citizen, help fitting a dominant element that promote the community involvement in the design of these tall buildings. Support considering it as a landmark that highlight the urban order of that area and make the people able to communicate with it (Jacobs, 1961). A landmark that will prevent what Lynch describe it as a 'disaster' and that when getting lost in a city (Lynch, 1960). The buildings arrangement within a street direct our sight into an important point which is the best place to locate a tall building, this location with that arrangement going to give this structure more than an architectural value (Czyńska, 2017). Studying and understanding the architectural mass of a tall building with its perception from close view and a distant, relating it with its physical surrounding will contribute making an imageable city and participate creating the mental map of that place.

Figure 5: The John Hancock tower Boston, USA
Source: (John Hancock Tower | Pei Cobb Freed & Partners (pcf-p.com))

The scale of tall building and the position it contribute to its perception within its surrounding, and help achieving a cohesive neighbourhood that has a relation with its context. A building that has a meaning, aesthetic and good composition, which in its turn respect the identification of the citizens and gain its value (Latour, 2000). Also help creating the relation between the people and their environment. Tall building works as a blocking element of the unspecified prospects (figure 5), that rise the curiosity level of the people (Cullen, 1961) which in its turn will accentuate the level of the development on that spot. It is an essential thing to understand how people recognize these elements within the streetscape and how they accept them as factors creating their observation.

2.2.4 Tall building as an element of the urban landscape

People usually create their perceptions about the urban landscape through its elements; the uniqueness of these features will make the environmental landscape stronger and brighter. Tall building is one of these factors that has a huge influence on the urban landscape due to its mass. We can look at tall building within the urban landscape from many perspectives, as an urban symbol specially if it was built in the right location and here this tall building will become a landmark, and then this landmark became an indicator or an index that will make the people able to communicate with it.

Public areas next to a tall building going to be enlarged due the nature of this building that's why another issue to consider in a tall structure is the diversity of the functions with the connectivity between the ground level of this tall element and people, by creating a human scaled masses, which encourage human activities. In order not to face a situation of depopulation, and emptiness on that urban spot (figure 6).

Figure 6: Boston city, USA
Source: https://i.redd.it/fvjqjdp3id451.jpg

The visual perspective is the main way for people to understand the urban landscape which depends on the aesthetic of that urban environment, considering that built environment as a form and symbolic will make it easier for people to understand the meaning of that environment.

Locating the tall building in the right place and comprehending its relation to local landscape and people cultural value and its role of connecting the past and future will be the key to build and construct a cohesive futuristic city (Athens Charter, 2003).

2.2.5 Social impact of tall building

Tall buildings have a direct effect on people's emotions due to their size so considering the intangible aspects while designing a tall buildings is a handy way of promoting the place making and improving the quality of community's life. Taking into account the cultural heritage of the place and how this building going to form a new identity or enhance the existing one is also important to promote the feeling of belonging of the citizens on that area.

Figure 7: 30St Mary Axe
Source: (30 St Mary Axe | 30 St Mary Axe - "the Gherkin" Category: of… | Flickr).

Orienting tall buildings during the design process towards serving the needs of that urban spot where it will act as an active element in the future of that city. Nevertheless, the harmony of a tall building and its integration with the surrounding culture an important key to consider while achieving futuristic coherent neighbourhoods.

The size and visibility of these elements may harm the nature which people appreciate in the space, depending on the scale existed in the space could be defined what tall building is. Most of the tall buildings miss the point of understanding the wider context, and the appreciation of the heritage impact (English Heritage, 2014). Thinking and careful selection to the location of this new development and its form of domination on the old cultural texture could make it a unique element. Also, represent the care given to the cultural heritage and identity of the city as well as the cityscape and its attractiveness. These developments are aesthetic determining elements for the city that create landmarks that are unique in the nature of the city (Kosiński, 2011).

3. CONCLUSION

According to the Charter of Athens the city should link the present and future with the past, such a link should be based on a knowledge, reason and a meaning in order to gain the special value and protect the cultural heritage of the city. The new development of tall buildings should be made in a way to avoid the harm of the historical fabric, the new image of the city should protect the historical facilities within the city and the urban arrangements as valuable elements. Protecting the historical places within the design process of a tall building will help this element to be as a positive extension that protect the city panoramas and the cultural heritage of the city. These buildings are important for the citizens identification, interrupting the social and cultural continuity of the city will lead to a degradation in the general cohesiveness of the city.
Therefore, it can be said that the rapid growth of the world and the development of the city in space and time, the function of these new developments became not only to respond to the economic and social need but also to interact and link with the historical layer of that city while making its own modern layer (Table 1).

Table 1: Suggestions should be considered while designing a tall building

Tall buildings as an image of the city	**Tall Building as an element of the cityscape**	**Tall Building as an element of the street-scape**	**Tall Building as an element of the urban landscape**	**Social impact of tall building**
Promote the legibility of a city	Considering the existing skyline and improve it	Be a curiosity element not a distortion one	Making multifunctional tall building that activate the place	Link the design with the people identity
Be an icon that shape an image for the city	Give the priority to the existing historical landmarks not blocking them	Involving the community with its design	Considering the community routine while designing	Visually appealing Design
Respect the identity of the place and be a dynamic city element	Harmonic relation regarding the size between the new and old buildings	Guide people & understand their needs	Promote the existing landscape and improve it	Featuring the cultural context of the place while designing

The social, environmental and ecological dimensions are important criteria to consider while designing a tall building; this paper focuses on the impacts of the tall buildings when they were implemented within an existing texture and historical valued environment that has historical heritage. Different examples of various tall developments around the world were presented, the physical and social impacts, the integration of tall buildings within the existing and historical environment were evaluated. Based on dimensions like the image of this building in the city and its role of promoting the legibility of the space and being an active city element which respect the culture and heritage of the area, and a part of the city that enhance the cityscape and link the past with present and future.

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An Example for the Reuse of Historic Residential Buildings as Cafes: Zahra Street

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Abstract

Cyprus has hosted many cultures and civilizations for centuries. Thanks to these civilizations, architectural structures of different styles are seen together in Cyprus. Nicosia's walled city, which started with the Lusignan period and took its current form during the Venetian period, is home to some of these structures. Although very few of the ones that have survived are used in the function of the period in which they were built, most of them have been re-functionalized. In addition, while some of them are idle, some of them have been preserved and used. Despite the touristic interest and socio-cultural activities in the region, the unused buildings have brought various negativities to the urban structure. Over time, with the increasing interest of the individuals living in the city in the historical texture, the re-functioning and use of these structures have gained importance. In this context, Zahra Street, which is among the urban spaces with an important location and architectural structures bordering the Buffer Zone within the city wall of the divided capital Nicosia, was chosen as the study area. The use of the British Period residences here with the function of a cafe today has contributed socio-culturally to the city walled area of the developing city of Nicosia. Effective use has been achieved thanks to adaptive reuse in the region where traces of past life are found in contemporary living conditions. Thus, a more livable, safe and pleasant urban space has been obtained. This study, it is aimed to emphasize the importance of improvement in urban spaces when they are reused in accordance with the changing living conditions depending on human needs. A literature review was conducted on the subject and data were collected using qualitative and quantitative methods during the on-site inspection. The facades, entrance hall/service area, sitting areas, toilets and outdoor/courtyard sections were examined in the tables created for each building with the collected data. According to the research, it can be said that successful re-use was applied to the cafe function while it was a residential function.

Keywords: Adaptive reuse, historical buildings, British Period Houses, Zahra Street, Nicosia

Özet

Kıbrıs yüzyıllardır birçok kültür ve medeniyeti barındırmıştır. Bu medeniyetler sayesinde Kıbrıs'ta farklı üsluplardaki mimari yapılar bir arada görülmektedir. Lüzinyan dönemi ile başlayıp Venedik döneminde bugünkü halini alarak şekillenen Lefkoşa suriçi, bu yapıların bir kısmına ev sahipliği yapmaktadır. Günümüze ulaşanlarınların çok azı inşa edildiği dönemin fonksiyonunda kullanılsa da büyük bir çoğunluğu yeniden işlevlendirilmiştir. Ayrıca bir kısmı atıl durumda iken, bir kısmı ise korunmuş ve kullanılmıştır. Bölgedeki turistik ilgi ve sosyo-kültürel faaliyetlere rağmen kullanılmayan yapılar kent yapısına çeşitli olumsuzlukları beraberinde getirmiştir.Zaman içerisinde, kentte yaşayan bireylerin tarihi dokuya olan ilgilerinin artmasıyla birlikte bu yapıların yeniden işlevlendirilmesi ve kullanılması önem kazanmıştır. Bu kapsamda bölünmüş başkent Lefkoşa'nın suriçindeki Ara Bölge ile sınırı bulunan önemli bir konuma ve mimari yapılara sahip kentsel mekanlar arasındaki Zahra Sokak çalışma alanı olarak seçilmiştir. Burada bulunan İngiliz Dönemi konutlarının günümüzde kafe işlevi ile kullanımı gelişmekte olan Lefkoşa kentinin surlariçi bölgesine sosyo-kültürel katkı sağlamıştır. Çağdaş yaşam koşullarında geçmiş yaşamın izlerinin bulunduğu bölgede yeniden işlevlendirme sayesinde etkin kullanım sağlanmıştır. Böylece daha yaşanılabilir, güvenli, keyifli bir kentsel mekan elde edilmiştir. Bu çalışmada, insan gereksinimlerine bağlı olarak değişen yaşam koşullarının gereğine uygun, yeniden kullanım yapıldığında kentsel mekanlardaki iyileşmenin önemini vurgulamak amaçlanmıştır. Konu ile ilgili literatür taraması yapılmış ve yerinde inceleme yöntemi ile veriler toplanmıştır. Toplanan veriler ile her bir yapı için oluşturulan tablolarda cepheler, giriş holü ve servis alanı, oturma alanları, tuvaletler ve dış mekan/avlu bölümleri irdelenmiştir. Yapılan araştırmalara göre bu yapıların konut işlevinden iken kafe işlevine yeniden kullanıldığı söylenebilir.

Anahtar kelimeler: Yeniden kullanım, tarihi yapılar, İngiliz Dönemi Konutları, Zahra Sokak, Lefkoşa

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1. INTRODUCTION

Architecture develops as a process that provides social and cultural context for the era to which it belongs (Aydın & Yaldız, 2010). In order to preserve both listed cultural objects and properties that have been declared as World Heritage Sites by national or local governments, it is essential to keep utilising ancient structures (Wang & Zeng, 2010). Especially historical buildings that undertake the task of transferring the values of the period they belong to future generations come to the fore at this point. The fact that these structures carry traces of the past makes it necessary to protect them in a sustainable way. The preservation of historical structures that lost their original functions due to social, cultural, economic and environmental reasons experienced during the process and ensuring the continuity of this protection bring the concept of reuse to the fore (İslamoğlu, 2018).

Buildings that are historically significant for the era they belong to and reflect the social, cultural, and economic evolution of the society can be preserved using the reuse strategy. Buildings' physical lives outlast their functional lives, and the structure changes much more gradually than the latter. The function degrades through time in terms of technology, society, and culture. It can be summed up simply as preparing the facility for new requirements through modifications. (Burden, 2004). Functional change is seen as a contemporary conservation approach in historical buildings (Ahunbay, 2009). It aims to preserve and keep alive the historical building by assigning a different function. This method also helps to promote the concept of urban sustainability. The long-term preservation of any historic structure necessitates the integration of sustainable design and historic preservation principles. Building adaptive reuse is a viable alternative to demolition and replacement because it uses less energy and waste and can provide social benefits by revitalizing and revitalizing familiar landmarks (Conejos et al., 2011).

Repurposing ancient structures is a crucial instrument for maintaining social memory, which plays a significant role in forging a society's connection to its history. The dwellings in the walled city region have been vacant over time due to the urban structure's ongoing development and change. The bandabuliya (bazaar), cathedral, mosque, church, historical library, khans, and different commerce centres allowed movement and usage to continue even though the homes remained vacant. Despite the region's popularity as a tourist destination and the social and cultural events that take place there, the vacant homes' idleness has brought about a number of negative effects. Over time, with the increasing interest of the individuals living in the city in the historical texture, it has gained importance to re-function and use the buildings built in the residential function in the region. Within the scope of this study, the use of the British Period Houses on the Zahra Street axis in the Nicosia walled city will be examined as cafe function today. It will be investigated whether the original function and the current function are compatible, as well as how they relate to one another.

2. LITERATURE REVIEW

2.1 History of Cyprus and Capital Nicosia

Cyprus has maintained its status as an essential island to be claimed in the Eastern Mediterranean over the years because of its strategic location commanding the nations of the Near East (Bagıskan, 2005). Moreover, besides being in an important location for Anatolia, because of its geopolitical position, Cyprus was used throughout history as a military and commercial base between Anatolia, Syria and Egypt (Gürsoy, 1971). The island was ruled by Byzantine, Lusignans, Venetians, Ottomans and English. These periods played an important role in the formation of architectural styles as well as the influence within the socio-political and cultural contexts of the island. The effects of all these styles are manifested in Nicosia, a city that has preserved the title of the capital city throughout all these periods (Erdogru, 2008).

The ancient city of Nicosia was built in the fold of the "Pedias" creek, known to the Turks as "Kanldere," as it changes course to the east on the Mesarya plain. Because of the abundance of soil in the area, the water was also abundant. This natural formation led to the establishment of several cities in succession. It is generally acknowledged that Nicosia, which is the continuation of the last of these established settlements, was erected on the ancient city known as "Lidra" (Ledra: Ledrae) (Gürkan, 1989).

During the Hellenistic, Roman, and Early Christian eras, from BC III to AD IV. In the fourth century A.D., Paphos was superseded as the capital of Cyprus by the city of Constantia, which Constantine II built on a smaller scale in Salamis. But the coastal cities were torched and destroyed during the Arab invasions, which began in 647/49 AD and lasted until 965 AD (318 years), ushering in an era of cessation. Therefore, it was crucial to move the administrative centre within the island, where it would be secure. Nicosia, in the middle of the island, was chosen to serve as Cyprus' administrative and military hub at the conclusion of the 11th century AD, which corresponds to the Byzantine era. Accordingly, from the Byzantine Period, Byzantine dukes, Templer Knights, Lusignan and Venetian Kings, Dukes, Lords, and Ottoman and British Administrators who were assigned to Cyprus as governors have all accepted and utilized Nicosia as their capital (Bağışkan, 2019).

The Lusignans constructed a stronghold in the form of a ring in Nicosia in 1211. Peter II finished building the four-mile-long surrounding fortress walls in 1372. But the defence walls built by the Lusignans were shrunk to their current dimensions when under the rule of Venice (1489–1571). The walls' circumference was cut to three miles during renovation, and eleven bastions were added to the ramparts (Charles et al., 1913).

2.2 Adaptive Reuse of Historical Buildings

Today's architectural discipline has the innovative and exciting problem of repairing and restoring existing structures so they can be used in the future. This extensive remodelling process is typically referred to as "adaptive reuse." According to Brooker and Stone, other names for adaptive reuse include remodelling, retrofitting, conversion, adaptation, reworking, rehabilitation, or refurbishing (Plevoets & Van Cleempoel, 2011).

Historical buildings are significant pieces that provide information about the culture, architecture, art, tradition and customs, the lifestyle of the society, in brief, all its past experiences. Historical buildings within the scope of cultural heritage are documents and symbols that reflect the economic, social and cultural accumulation of societies and the urban and architectural style of the period in which they were built. The most preferred method of preserving historical buildings is to give the building a new function (Aydın & Şahin, 2018). Functional change is seen as a contemporary conservation approach in historical buildings. Reuse is a technique that can be used on modern buildings in addition to old ones that have lost their use and served as witnesses to recent history. The reasons why historical buildings cannot continue their functions are summarized as the loss of their original functions and the functional obsolescence of the buildings (Altınoluk, 1998).

Functional change is the creation of new usage opportunities, including interventions that are going to meet new user needs, by preserving their architectural, aesthetic, social and cultural values, instead of the original functions of historical buildings that cannot be maintained due to different reasons such as environmental factors, economic reasons, socio-cultural changes. . Re-functioning is considered as a necessary practice to transfer historical structures and areas to future generations, to ensure physical and cultural continuity, to contribute to the economic and cultural environment by re-evaluating the structures and areas, to beautify the current environment and to meet the needs of the city (Gazi & Boduroğlu, 2015).

Giving a historical structure a new purpose, preventing it from being destroyed, maintaining it, keeping it in use, improving the appearance of the city, raising historical knowledge and stimulating the economy are all examples of contributions (Altınoluk, 1991; Gazi & Boduroğlu 2015). While historical buildings are being re-functioned, the new function to be implemented must be in accordance with the original. In addition, it is essential to consider criteria such as the structure and material of the building.

Due to the changing cultural, social and physical environmental conditions, the reuse of the buildings, which are the cultural heritage of the cities, depending on today's conditions, is also important for the sustainability of the cities. The principle of reuse in historical buildings is to transform the building into a new function independent of the original function it was designed for, as a result of not being used over time. The British Period houses on Zahra street in Nicosia (Figure 1), the capital city of Northern Cyprus, are also re-functionalized and used. The British Period houses in Zahra street, whose function today is a cafe, are examined as a study area in this article.

Figure 1: Zahra Street, Arabahmet - Nicosia (Wikimedia Commons, 2022)

The history of the building, its location and its relationship with the environment should give us a clue as to what the original function of the building was. In line with this argument, the new function to be given to the building should be close to its original function. In this point, for this study, the relationship between the house-cafe functions is so important.

In cafes, individuals can unwind, eat, drink, converse, and socialize while assessing their leisure time. Cafes fulfil various social functions and as a service and cultural institution, they follow the economic and social developments of the time. Houses, on the other hand, is the private place where individuals perform many activities as well as meet their shelter needs. The conversion of abandoned buildings for various reasons, designed as a house, into a cafe function, is a common situation in cities.In the continuation of the study, the housing-cafe reuse of the buildings in the study area is examined.

2.3 British Colonial Period Houses in Cyprus

Cyprus was one of the last colonies in the Mediterranean to be added to the British Empire. The island was ceded to Britain by the Ottoman Empire as part of a secret deal to support the latter against Russia in the 1877 Russo-Turkish wars. Britain supported the Ottoman Empire at the Congress of Berlin in 1878. British rule in Cyprus was relatively short compared to control by previous powers. It lasted for 82 years, from 1878 to 1960 (Kuban, 2000).

Courtyard buildings were generally constructed inward-facing, away from public streets and spaces, for defensive and privacy reasons. Entrance doors were strongly constructed for security. Any windows were mainly at a high level or protected with heavy iron railings or grilles at the lower level. Townhouses for wealthier citizens were built of stone or of composite construction, including mud brick or timber framed construction on upper floors, with pitched clay tiled roofs. Courtyards were generally spacious relative to the dwelling's ground floor plan coverage and provided a protected oasis of greenery and water from wells and cisterns (Kuban, 2000).

During the first period of British Rule, Cyprus was not a Crown Colony but a kind of Protectorate, where Britain had the authority to occupy, station troops and govern the island but sovereignty remained with 'The Porte'- the Ottoman Sultan. Under pressure from the European states, the weakened Ottoman Empire allowed relatively greater freedoms to its non-Moslem subjects, Christians and others, and granted privileges to countries of the West to develop trade and enterprises on its territory (Costa, 2013).

The island's economy was mostly agricultural and almost 90 per cent of the population lived in the countryside. Towns were relatively small, comprising attached inward-looking buildings and clearly defined boundaries, particularly for the walled towns of Nicosia and Famagusta (Costa, 2018).

During this period Building and Town Planning controls were limited and basically dealt with matters of health, safety and circulation. The absence of legislation requiring the mandatory submission of architectural plans for approval, allowed the master builders to continue to design and execute buildings and works without drawn plans (Ionas,2001)

3. MATERIALS AND METHODOLOGY

3.1 Research Area

Cyprus is the third largest island in the Mediterranean Sea. It has an important strategic location in the world. The Greek and Turkish communities lived together for many years in Cyprus. Nicosia is the capital of the country. The walled city with 11 bastions is part of it.

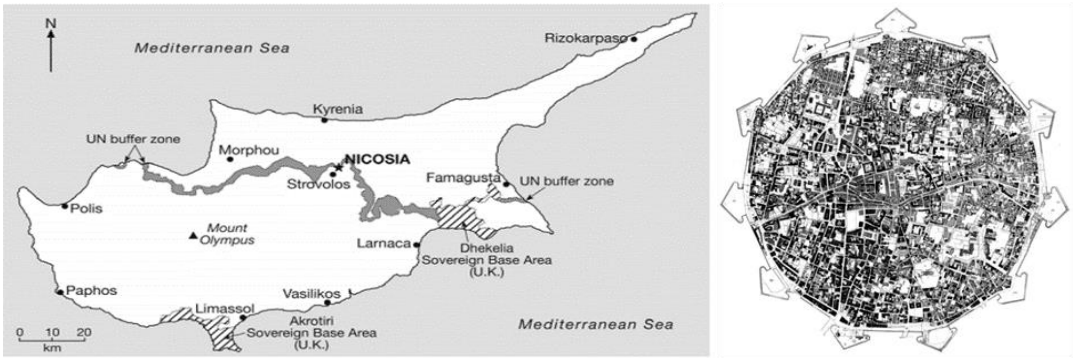


Figure 2: Cyprus island and 11 bastions (Oktay, 2007; Aga Khan Foundation, 2020)

Because of some problems between Turkish and Greek communities, Cyprus was divided into two parts North and South Cyprus in 1974. There is a buffer zone called the Green Line (YeşilHat) between them. As a result of this, Nicosia is also divided into two and continues to serve as the capital on both sides. Zahra Street, located in the Arabahmet neighbourhood, which borders the buffer zone in northern Nicosia, is chosen as the study area.

Figure 3: Zahra Street and buffer zone (Google Earth, 2022)

The idle state of abandoned houses had a negative impact on Zahra street in terms of social, cultural and security. The reuse of these buildings as cafes has led to the revival of the street.

3.2 Research Design and Evaluations

In the context of reuse in the historical texture, two cafes on the Zahra street axis are discussed. The current use of the cafes, whose original functions were residential, has been evaluated by the researchers. 'Room concept cafes' are places that only have a change in function, without changing the main decisions of the housing plan scheme during the reuse phase.

An inventory study is conducted to physically analyse the selected buildings. For inventory work, the facade, interior spaces (entrance hall, sitting rooms, kitchen, WC), and exterior spaces (semi-open space, courtyard) parts of the buildings are photographed (Table 1). The photographs of these areas and their evaluation by the authors are presented in Tables (Table 2, 3, 4, 5 and 6).

A spatial examination of two cafe constructions is shown in Table 1. These include the exterior and courtyard, sitting places, restrooms and washbasins, and entrance halls and service facilities.

Table 1: Inventory work areas at selected buildings

	CAFE 1: ''TIPICA''	**CAFE 2: ''ZAHRA''**
FACADES	In the facade layout of Tipica Kafe, there are two window openings on the left side of the entrance door on the ground floor and two on the right. There is an overhang above the entrance door that protrudes from the first floor. There are two window openings on the facade of the exit. There are one window on the right side of the exit and two on the left side. There are four cornices under the exit and three cornices under the balcony on the right and left sides. Window ratios are 1:3.	In the facade layout of Zahra Cafe, there are two window openings on the right side and one on the left side of the entrance door on the ground floor. There is an overhang on the first floor above the entrance door. There are two 1:3 windows on the facade of the exit. There is a window and a balcony on the right and left sides of the exit.
ENTRANCE HALL +SERVICE AREA	In Tipica Cafe, the entrance hall and the service area is positioned parallel to the stairs in the space.	In Zahra Cafe, the entrance hall and the service area are located at the bottom of the stairs in the space.
SITTING ROOMS	In the seating area of Tipica Cafe, wooden dividing elements are used between sofa furniture groups and spaces.	Various furniture groups are used in the sitting area of Zahra Cafe. These consist of armchairs, chairs and tables.
WC-LAVATORY	The WC sink area in Tipica Kafe was designed with dividing walls added later. There are two toilets and one sink.	The WC sink area in Zahra Cafe was designed with dividing walls added later. There are two toilets and one sink.
EXTERIOR SPACES - COURTYARD	The exterior of Tipica Cafe is located on the east and west facades. There are outdoor seating elements on the west (entrance) façade of the building. In the courtyard on the eastern (rear) façade of the building, there are code differences and seating elements within the space. There is also an exit from the courtyard to the other street front.	The exterior of Zahra Cafe is located on the east and west facades. There are outdoor seating elements on the west (entrance) façade of the building. In the courtyard on the eastern (rear) façade of the building, there are code differences and seating elements within the space. There is also an exit from the courtyard to the other street front.

Table 2: Evaluation of facades

	CAFE 1: ''TIPICA''	**CAFE 2: ''ZAHRA''**
FACADES	 Duman, 2022	 Duman, 2022
	Architectural elements of a traditional British Period house can be seen on the facades of both buildings. Among them, cumbia and 1:3 window ratios can be said.	

Table 3: Evaluation of the entrance hall +service area

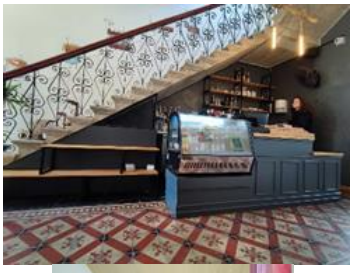
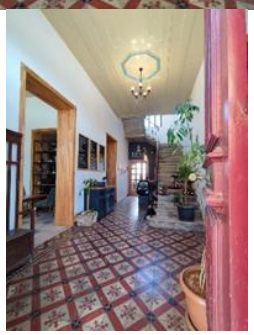
	CAFE 1: ''TIPICA''	**CAFE 2: ''ZAHRA''**
ENTRANCE HALL +SERVICE AREA	  Karaderi, 2022	 Karaderi, 2022
	In the entrance halls, there are service areas in both cafes.	

Table 4: Evaluation of the sitting rooms

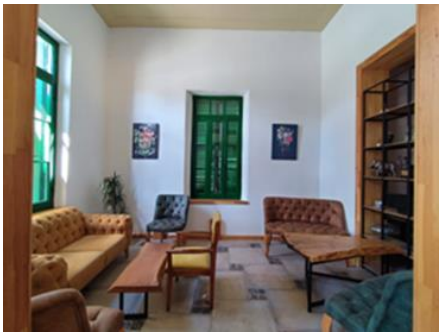
	CAFE 1: ''TIPICA''	**CAFE 2: ''ZAHRA''**
SITTING ROOMS	 Karaderi, 2022	 Karaderi, 2022
	The fact that each room in the British Period houses has been arranged to be used for more than one function has been suitable for the use of cafes as living rooms in its current function.	

Table 5: Evaluation of WC lavatory

	CAFE 1: ''TIPICA''	**CAFE 2: ''ZAHRA''**
WC-LAVATORY	  Karaderi, 2022	  Karaderi, 2022
	In both buildings, there are spaces that have been transformed into WC - lavatory areas with the interventions made to the original functions of the old British Period house.	

Table 6: Evaluation of exterior spaces -courtyard

	CAFE 1: ''TIPICA''	**CAFE 2: ''ZAHRA''**
EXTERIOR SPACES - COURTYARD	  Karaderi, 2022	  Karaderi, 2022
	Semi-open seating areas are created with the shading elements installed later on the front facades of both buildings. In addition, the opposite sidewalk of the buildings is arranged as open seating areas. Besides, there are courtyards on the rear facades of both buildings.	

4. CONCLUSION

The concept of the contemporary city includes the idea of development in a way that is sensitive to the cultural and natural values of the city. Nicosia has been home to many civilisations throughout its long history. These included the Lusignans (1192-1489), Venetians (1489-1571), Ottomans (1571-1578), British (1878-1960), and Turkish Cypriots and Greeks. The walled city is the historical region of the city with its star-shaped walls, multicultural traditional texture, buffer zone and natural beauties. However, a number of other reasons, such as static development, inappropriate usage, and changes in social structure, as well as physical, functional, regional, and image obsolescence, contribute to the rich cultural heritage's daily decline.

One of the important methods of preserving cultural heritage is reuse. Reuse in architecture can be defined as the preservation of the values of historical, socio-cultural, social, economic, scientific, architectural and aesthetic structures and their survival by reusing them (Kök & Uşma, 2022). The concept of reuse, which emerged at the point of protection of buildings that are important in the formation of urban identity and ensuring the sustainability of this identity, is a frequently preferred approach in contemporary conservation understanding.

There are also British Period houses in the cultural heritage of Nicosia. Considering the destruction of these structures, which have lost their function within the walls, after a while due to neglect, it can be said that the continuity of use of the structures is important. It is necessary to meet the current requirements in preserving and transferring the British Period houses to the future. However, while doing this, the protection/use balance should be established correctly. For the adaptation to be successful, the building must continue to live with its new function and the new users of the building must be satisfied with the spaces they experience.

Today's functions of British Period houses in Zahra street, which are examined within the scope of this study, are cafes. It has been determined from the analysis that the structure of the buildings, which are examined as facades, interior spaces, courtyards and exteriors, is preserved and adapts to their current functions. They are used for various activities throughout the day in cafes which start their activities in the morning and are open until late in the evening. These activities include casual meetings, social media activities, reading, study, and event meetings.

It is important for harmony with the cafe function that each room, which is among the features of the designs of traditional British Period houses, is suitable for flexible use to be used for every function. In this context, the usage relationship between the cafe and the house is explained in Table 7. As can be seen from Table 7, most of the actions performed in the residential building can also be carried out in cafes.

Table 7: The cafe - house action relationship

Action	House	Cafe
Shelter	✓	
Eating/Drinking	✓	✓
Activities (Having fun, listening to music, chatting, watching TV, etc.)	✓	✓
Cooking/preparation/serving	✓	✓
To lie down	✓	
To sit	✓	✓
WC/Lavatory requirements	✓	✓
Casual meetings	✓	✓

Social media activities	✓	✓
Reading, studying	✓	✓

It is accepted that functioning is the healthiest way to integrate cultural heritages with society (Kök & Uşma, 2022). In the examples in this study examined the adaptation to reuse, it can be said that the transformation of the British Period houses from a residential function to a cafe function was a correct function change. It is seen that there is a sociocultural and economic revival thanks to this reuse of Zahra Street, which was previously considered to be one of the idle areas of the city. In this case, a need of the city or society will be met and improvement of the quality of life will be increased. In addition, the sustainability of buildings with historical value has been ensured by reuse.

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