JCUA | International Journal of Contemporary Urban Affairs

Journal of Contemporary Urban Affairs

Vol. 03 - Issue. 01 2019 ISSN 2475-6156

In This issue:

ISSN 2475-6156 (print)
ISSN 2475-6164 (online)

Journal of Contemporary Urban Affairs

Volume 3, Issue 1, June 2019

www.ijcua.com

IMPRESSUM

Journal of Contemporary Urban Affairs
Volume 3, Issue 1, June 2019

ISSN 2475-6156 (print) ISSN 2475-6164 (online)
URL: www.ijcua.com
Email: editor@ijcua.com
Publisher: *Anglo-American Publications LLC*
Address:
- No 13, Subat Sokak, Orkoz 1 Apartment, Flat 3, KKTC, Via Mersin 99302, Turkey.
- Girne American University, Karmi Campus, Mersin 10 Via, KKTC, Turkey.
Phone: +90 506 189 99 66
Circulation: 100 copies

Indexed & Abstracted:
Crossref, CNKI , BASE (Bielefeld Academic Search Engine) , Findplus , Scilit, Garba Rujukan Digital (GARUDA), ISSN International Centre, Dimensions, Powered by Digital Science, DRJI (Directory of Research Journals Indexing), TIB, IPI (Indonesian Publication Index), Polish Scholarly Bibliography (PBN), Osmikon Search , EZB, Index Copernicus, Genamics JournalSeek, SSRN, MAFIADOC, KUDOS, WorldCat, CiteFactote, UBL (Universitas Bibliotek Leipzig), SCIPIO, Elektronische Zeitschriften, TurkEgitiminDeksi, ResearchBib, SIS Index, Scientific world index, IIJIF, COSMOS, ESJI (Eurasian Scientific Journal Index), IP Indexing, JOURNAL FACTOR, IP Online Journal, Root Society for Indexing and Impact Factor, General Impact factor, I2OR, Saif Scholars Impact, Slideshare, Science Index , SPARC Indexing, Biojournal, Internation Scientific Indexing (ISI), sjifactor, International Citation Index (ICI), Calameo, LIVIVO - The Search Portal for Life Sciences, ZB MED – Informationszentrum Lebenswissenschaften, Opacplus, Beluga – Catalogue of Hamburg Libraries, Tpbin, ResearchGate

Note: Journal of Contemporary Urban Affairs has already been approved to be host by that the libraries of Harvard University , Columbia University Libraries , University of Washington , University of Vechta and Technical University of Denmark.

Contemporary Urban Affairs

www.ijcua.com

Publisher: *Anglo-American Publications LLC*
Journal of contemporary urban Affairs

Review Board Members

Proofreader
Harry Jake Wadsworth, Girne American University, North Cyprus, Kyrenia, Turkey

Technical-Editor
Batuhan Yildiz, Girne American University, North Cyprus, Kyrenia, Turkey

Cover Design
Deren Raman, Girne American University, North Cyprus, Kyrenia, Turkey

Publisher:
Anglo-American Publications LLC
Address:
- No 13, Subat Sokak, Orkoz 1 Apartment, Flat 3, KKTC, Via Mersin 99302, Turkey.
- Girne American University, Karmi Campus, Mersin 10 Via, KKTC, Turkey.
Phone: +90 506 189 99 66
Website: www.ijcua.com
E-mail: editor@ijcua.com

About the Journal

Journal of Contemporary Urban Affairs is the interdisciplinary academic, refereed journal, which publishes two times a year by Anglo-American Publications LLC. The journal brings together all the theories, manifestoes and methodologies on contemporary urban spaces to raise the understanding for the future of urban planning. Overall, the journal of contemporary urban affairs aimed to establish a bridge between theory and practice in built environment. Thus, it reports on the latest research findings and innovative approaches, methodologies for creating, assessing, and understanding of contemporary built environments.

JCUA distinguishes itself by providing an international and interdisciplinary platform for the exchange of ideas and information among Architectures, urban planners, policy makers and urbanists from all disciplines to focus on seven main concern of this journal which are Housing studies, Emerging cities, urban ecology, Infra Habitation, Revitalization strategies, conflict, divided territories and overall contemporary urban issues about mentioned concerns. Submissions of empirical, comparative, theoretical research, critical review and manifestoes for the future of cities from different scholarly disciplines and methodological perspectives are encouraged.

Coverages

The journal explores a range of academic and policy concerns including, but not limited to:

- Conflict and divided territories.
- Emerging cities.
- Urban ecology, morphology and growing *concern on sustainability*.
- Infra Habitation (Slums / Affordable houses and Gated communities).
- Revitalization, regeneration and urban renewal.
- Housing studies (livability, responsive environment, quality of life and etc.)
- Contemporary urban issues (politics, strategies, sociology, Crime, Immigration and international labor migration and etc. New urbanism, Rapid urbanization, Urban sprawl).

Peer Review Statement

All research articles in this journal have undergone rigorous peer review, based on initial editor screening and anonymized refereeing by two referees.

The manuscript submission and peer review process is broken down into the following steps:

The Author submits a manuscript.
The Editor assigns Reviewers to the manuscript.
The Reviewers review the manuscript.
The Editor drafts a decision to be sent to the Author.

CrossCheck Plagiarism Screening System

The author bears the responsibility for checking whether material submitted is subject to copyright or ownership rights, e.g. figures, tables, photographs, illustrations, trade literature and data. The author will need to obtain permission to reproduce any such items, and include these permissions with their final submission. Where use is so restricted, the editorial office and Publisher must be informed with the final submission of the material. Please add any necessary acknowledgments to the typescript, preferably in the form of an Acknowledgments section at the end of the paper. Credit the source and copyright of photographs, figures, illustrations etc. in the supplementary captions.

Journal of Contemporary Urban Affairs

Publication Frequency: 2 Issues per year (June & December)
www.ijcua.com , editor@ijcua.com
ISSN 2475-6156 (print)
ISSN 2475-6164 (online)

EDITORIAL

Journal of Contemporary Urban Affairs (JCUA) is an open access international peer-reviewed and open-access journal, which provides a platform to brings together current manifestoes and methodologies on urban affairs to raise the understanding for the future of urban planning within some specific subject fields which are: Housing Studies, Emerging Cities, Urban Ecology, Infra Habitation, Revitalization Strategies, Conflict, Divided Territories and contemporary urban issues about above mentioned subject fields. Thus, it reports on the latest research findings and innovative approaches, methodologies for creating, assessing, and understanding contemporary built environments.

Editorial Board strives to provide a possibility for the scientists of different fields to publish the results of their research, technical and theoretical studies. JCUA is multidisciplinary in approach, and will publish a great range of papers: reports of qualitative case studies, quantitative experiments and surveys, mixed method studies, action researches, meta-analyses, discussions of conceptual and methodological issues.

A broad outline of the journal's scope includes peer-reviewed original research articles, case and technical reports, reviews, short communications and notes to the editor. All scholars, practitioners, professionals, researchers and policy makers with a common interest to study in the field of architecture and urban design from different disciplines, such as Art, Architecture, Landscape, Urban Planning and Urban Design are welcome to share their research findings. The journal only publishes research of the highest quality and impact. All articles are published in English and undergo a peer-review process.

The journal explores a range of academic and policy concerns including, but not limited to:
- Conflict and divided territories.
- Emerging cities.
- Urban ecology, morphology and growing concern on sustainability.
- Infra habitation (slums / affordable houses and gated communities)
- Revitalization, regeneration and urban renewal.
- Housing studies (livability, responsive environment, quality of life and etc.,).
- Contemporary urban issues (politics, strategies, sociology, crime, immigration and international labor migration, new urbanism, rapid urbanization, urban sprawl).

Educational Technology

JCUA has an international editorial board of eminent experts in their field from Turkey, USA, UK, Germany, India, Canada, New Zealand, Cyprus, Egypt, Malesia, Lebanon and Switzerland. We are confident that JCUA will attract a great number of editors, eminent scientists in the field. The selection will be based on the activities of the editors and their desire to contribute to the development of the journal. JCUA provides a platform for academics and scientists professionals to refer and discuss recent progress in the fields of their interests. Authors are encouraged to contribute articles which are not published or not under review in any other journal. Each submitted manuscript is evaluated based on the originality of its contribution to the field of scholarly publishing, the soundness of its theory and methodology, the coherence of its analysis and its availability to readers (grammar and style). Normal turn-around time for the evaluation of manuscripts is one to two months from the date of receipt.

Submission of an original manuscript to the journal will be taken to mean that it represents original work not previously published, that is not being considered elsewhere for publication; that the author is willing to assign the copyright to the journal as per a contract that will be sent to the author just prior to the publication and, if accepted, it will be published in print and online and it will not be published elsewhere in the same form, for commercial purposes, in any language, without the consent of the publisher. The names and email addresses entered in this journal site will be used exclusively for the stated purposes of this journal and will not be made available for any other purpose or to any other party. The requirement for the submission of a paper implies that it has not been published before; that it is not under consideration for publication anywhere else.

When considering submitting an article, the Editors have provided the following criteria to assist authors with preparing their submissions:

Originality – The author should ensure that the manuscript has not been previously published nor is being considered by another journal.
Plagiarism - All articles are test ted with iThenticate software. Content should be properly referenced. Be sure to check the paper for possible accidental plagiarism. Some plagiarism checker websites include: http://www.ithenticate.com/, www.antiplagiat.ru, www.grammarly.com, www.plagtracker.com or www.duplichecker.com
Writing – Please write in good English (American or British usage is accepted, but not a mixture of these). For non-native English speakers, and perhaps even for some native English speakers, grammar, spelling, usage, and punctuation of the texts are very important for an effective presentation. Hence, manuscripts are expected to be written in a clear, cogent, and readily understandable by an international readership.
Manuscripts must be submitted online. Electronic submission reduces the editorial processing and reviewing time. As part of the submission process, authors are required to check off their submission compliance with all of the following items, and submissions may be returned to authors who do not adhere to the following guidelines:

-The submission has not been previously published or presented to another journal for consideration (or an explanation has been provided in Comments to the Editor).
-The submission file is in OpenOffice, Microsoft Word, RTF, or WordPerfect document file format.
-Where available, URLs for the references have been provided.
-Where available, DOI Number for the references have been provided.

The text is single-spaced; uses a 12-point font; employs italics, rather than underlining (except with URL addresses); and all illustrations, figures, and tables are placed within the text at the appropriate points, rather than at the end. The text adheres to the stylistic and bibliographic requirements outlined in the Author Guidelines. If submitting to a peer-reviewed section of the journal, the instructions in *Ensuring a Blind Review* have been followed.
A manuscript goes through the peer review process. Authors submit manuscripts to Editorial office via the online system. The acknowledgement letter should be sent to the author to confirm the receipt of the manuscript. The Chief Editor first reviews manuscripts. Chief Editor is assisted by Section Editors (could also be Co- or Associated Editors). The Editor assigns a Section Editor to see the manuscript through the complete review process and return it with a recommendation or decision. The manuscript is checked to see if it meets the scope of the Journal and its formal requirements. If it is incorrect or unsuitable, the author should be informed and the manuscript filed (or returned if requested) – direct rejection. Manuscripts that are not suitable for publication in the Journal are rejected. A Rejection letter is sent to the author stating the reason for rejection. If the manuscript conforms to the aims and scope of the Journal, and formally abides by the Instructions to Authors it is sent out for review. Depending on the type of paper, it could be accepted immediately for publication (invited Editorial, Book review etc) by the Chief Editor. Check that the manuscript has been written and styled in accordance with the Journal style; that it carries an abstract (if applicable), keywords, correct reference system etc. and check that the correct blinding system has been used. If anything is missing, the Editor in Chief of associate editor will ask from the authors to complete it before the manuscript is sent out for review. The manuscript is sent out for review. The reviewer reads and evaluates the manuscript and eventually sends a review report to the Chief Editor. The time for review can be set to 2-6 weeks depending on the discipline (more time is usually given to papers in the humanities and social sciences). Make sure to provide the reviewer with clear instructions for the work, e.g. outlined in the form of a Review report or a number of questions to be considered. Based on the reviewers' comments the Chief Editor makes a decision to:
-Accept the manuscript without further revision
-Accept after revision
-Ask authors to resubmit
-Reject
An acceptance letter is sent to the author and the final manuscript is forwarded to production. Sometimes, the authors are requested to revise in accordance with reviewers' comments and submit the updated version or their manuscript to the Chief Editor. The time for review can be set to 2-8 weeks depending on the discipline and type of additional data, information or argument required. The authors are requested to make substantial revisions to their manuscripts and resubmit for a new evaluation. A rejection letter is sent to the author and the manuscript is archived. Reviewers might be informed about the decision. After review a manuscript goes to the Copy Editor who will correct the manuscript concerning the correct referencing system, confirmation with the journal style and layout. When Copy Editor finishes his/her work they send manuscripts to the Layout editor. Layout Editor is responsible for structuring the original manuscript, including figures and tables, into an article, activating necessary links and preparing the manuscript in the various formats, in our case PDF and HTML format. When Layout Editor finishes his/her job they send manuscripts to Proof Editor. Proof Editor confirms that the manuscript has gone through all the stages and can be published.
This issue has 19 articles. The editors seek to publish articles considering contemporary urban affairs in the specific field of: Housing Studies, Emerging Cities, Urban Ecology, Infra Habitation, Revitalization Strategies, Conflict, Divided Territories; they are looking forward to substantial improvement of educational processes and outcomes.

With kind regards,
Dr. Hourakhsh A. Nia
Editor-in-Chief
Girne American University
Phone: +90 506 189 9966

The title of our journal: Journal of contemporary Urban Affairs
URL: www.ijcua.com
Email: editor@ijcua.com ISSN 2475-6156 (print) ISSN 2475-6164 (online)

Note: Journal of Contemporary Urban Affairs (JCUA) has already been approved to be host by that the libraries of Harvard University , Columbia University Libraries , University of Washington , University of Vechta and Technical University of Denmark.

The journal also abstracted and indexed in the following institutions:
Crossref, CNKI , BASE (Bielefeld Academic Search Engine) , Findplus , Scilit, Garba Rujukan Digital (GARUDA), ISSN International Centre, Dimensions, Powered by Digital Science, DRJI (Directory of Research Journals Indexing), TIB, IPI (Indonesian Publication Index), Polish Scholarly Bibliography (PBN), Osmikon Search , EZB, Index Copernicus, Genamics JournalSeek, SSRN, MAFIADOC, KUDOS, WorldCat, CiteFactote, UBL (Universitas Bibliotek Leipzig), SCIPIO, Elektronische Zeitschriften, TurkEgitiminDeksi, ResearchBib, SIS Index, Scientific world index, IIJIF, COSMOS, ESJI (Eurasian Scientific Journal Index), IP Indexing, JOURNAL FACTOR, IP Online Journal, Root Society for Indexing and Impact Factor, General Impact factor, I2OR, Saif Scholars Impact, Slideshare, Science Index , SPARC Indexing, Biojournal, Internation Scientific Indexing (ISI), sjifactor, International Citation Index (ICI), Calameo, LIVIVO - The Search Portal for Life Sciences, ZB MED – Informationszentrum Lebenswissenschaften, Opacplus, Beluga – Catalogue of Hamburg Libraries, Tpbin, ResearchGate

DOI number

Each paper published in the Journal of Contemporary Urban Affairs is assigned a DOI® number, which appears beneath the author's affiliation in the published paper.

Table of Contents

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 1– 12

Urban Planning as an Extension of War Planning: The Case of Shenyang, China, 1898-1966

* Dr. Huaqing Wang[1], Dr. Galen Newman[2], Dr. Zhifang Wang[3]

[1 & 2] Department of Landscape and Urban Planning, Texas A&M University, USA

[3] College of Architecture and Landscape Architecture, Peking University, China

[1]Email: huaqingwang452@gmail.com [2]Email: gnewman@arch.tamu.edu [3]Email: zhifangw@pku.edu.cn

ARTICLEINFO:

Article history:

Received 20 March 2018

Accepted 23 April 2018

Available online 15 June 2018

Keywords:

Urban Morphology;
Chinese History;
Space Syntax;
Military Event.

ABSTRACT

War-city relationships had long been studied by scholars regarding wars' sudden impact on cities. Studies typically focused on one specific event's impact on urban military, politics, economy, or society. This approach, however, treated war's impact on cities as only temporary, hindered opportunities to reveal multiple political regimes' spatial competition through war-oriented city planning and construction, which is crucial for city development, and their resultant urban form changes through time. In response, this study has examined city planning and construction activities during the short time gaps between multiple military conflicts, with various military objectives, and conducted by different political regimes in Shenyang, China. In accordance with archival research, a space syntax axis analysis has been used to quantify spatial dynamics throughout war-peace-war cycles to explore the impact of military-oriented planning on city-scaled development. We have found these planning strategies, initiated by specific military goals, acted as extensions of war planning, segregating the city and causing urban fragmentation. They also acted as a driving factor which promoted modernization of the city in the early 20th century. We conclude that wars oriented planning can alter a city's development track and impact its structure and form through the creation of internally connected but isolated urban districts.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 1-12.
https://doi.org/10.25034/ijcua.2018.4677

www.ijcua.com

1. Introduction

The link between mass violence and cities is strong and complex (Schachtschabel, 2005). A variety of studies explored war's impact on cities by analysing the life of specific groups of residents, such as women, refugees, war prisoners, and relocations, and/or focused on the impact of wars on cities through analysing destruction or reconstruction of urban areas from economic, sociological or political perspectives (Christian Henriot, 20017; Diefendorf, 1993; Henriot, 2006 Nelson, 2012). Most of these studies examine wars as disasters to urban form and layout (Bishop and Clancey, 2004).

Studies on relationship between war and city development typically focus on one particular military event or city status after a series of wars, in a relatively short time period; these studies are conducted primarily qualitatively and with

***Corresponding Authors:**
Department of Landscape and Urban Planning, Texas A&M University, USA
E-mail address: huaqingwang452@gmail.com

little analysis of spatial change (Alexander, 2000; Brakman et al., 2004; Hardy, 1989; Henriot, 2017). Glaser and Shapiro conducted an overview of war-city relationships and concluded that wars may not significantly alter city form, and that the impact of terrorism on cities may be smaller than previously thought (Glaeser and Shapiro, 2002). Roger Lotchin conducted a comprehensive qualitative analysis on the impact of World War II on San Francisco, Los Angeles, Oakland, and San Diego, concluding that WWII was a Heroic Interlude in each city's developmental history (Lotchin, 2003). Sanso-Narro etc., used demographic measures of city growth as explanatory variables to measure war-city relationships, and concluded that the impacts from war shock on city growth were transitory (Sanso-Navarro et al., 2015). However, focusing on only one war event hinders opportunities to reveal multiple wars' spatial competition through city planning and construction. In response, this study seeks to answer, how does the resultant urban form due to war planning affect the internal and external connectivity of cities experiencing wartime? Through this, we unveil the role these war-planning activities play in city development.

The city of Shenyang, China was selected as a study area for numerous salient reasons. First, Shenyang experienced five major wars and invasions from 1898-1966. Similar to colonialism, these wars arose as the result of territories being settled by foreign powers. A variety of different city planning and construction projects were implemented during the short periods of peacetime between wars, primarily because war parties sought to exert total and permanent control over territories and population and tried to ensure lasting stability (de Moor and Wesseling, 1989). Meanwhile, planning approaches had clear military goals both spatially and operationally, aiming at efficiently producing war necessities. This circumstance provides a chance to examine how military oriented planning can impact city development. Secondly, historically, Shenyang was a partial port city containing attached and small areas of land inside the city for foreigners to rent and implement construction projects (Hou and Zhang, 2001). This provides a vista into how city planning by invaders can influence domestic planning practices.

The study crosses the boundaries of historicism, the cultural/political implications involved with wars, planning and their following urban form change on a longitudinal time scale to increase information about relationships of military, planning and city development. Additionally, the utilization of the space syntax method in historical research, extends the military planning focus beyond the previously cultural, economic and archaeology fields (Griffiths, 2012 and Griffths ,2011). To the best of our knowledge, few studies have analysed how military oriented planning and construction have altered city development between various wars longitudinally, spatially and quantitatively.

2. Space Syntax and the Indices Adopted

To untangle Shenyang's rich spatial tapestry, we adopted a quantitative space syntax axis analysis and integrated these findings into a historical interpretive analysis based on archival research. The focus of the socio-spatial dimensions of space syntax theory made it an optimum method for analyzing the relationship between planning, its resultant city form and how city operates. The logic behind space syntax is that human societies use space as a necessary resource in organizing themselves (Bafna, 2003), and spatial configuration explains a substantial proportion of the variance between human movement rates in different locations in urban space (Bafna, 2003; Hillier, 1987). At the city scale, street axis analysis of space syntax is an objective method to describing, comparing, and interpreting urban form characteristics (Ahmed et al., 2014).

We adopted two indices of space syntax axis analysis in this study. These integration indices are being used and shown to be valid by a growing number of city form studies in exploring city types, city core areas, and relationship between social events and physical form of city. Omer and Zafrir-Reuven found that cities belonging to the same region tended to exhibit similar local levels of spatial integration and significant syntactic differences appeared at a global level (Omer and Zafrir-Reuven, 2010). Giannopoulou et al. successfully confirmed the location and extent of the commercial and administrative center of Xanthi city, also finding differences in local and global levels (Giannopoulou et al., 2012). Froy found that commercial activities typically took advantage of distributed spatial configurations of the some cities and spread out across the street network, by analysing spatial organization of economic activities in early 19th century (Froy, 2016). Nattasit and Nobuo used integration analysis and found urban axes highly coexisted with city historical contents by examining how historical geo-political issues influenced urban axes and street networks in 'Lan Na' historic city in northern Thailand (Srinurak and Mishima, 2017).

The first adopted indicator in this study, Integration Value (IV) (Wu et al., 2015), reflects the degree of aggregation or dispersion of a unit in space. A higher Local Integration Value (LIV) indicates higher accessibility to the place and refers to more people on the site with high movement rate. The location of the city core area can be reflected by the location where high IV streets accumulate, especially in a Global Integration Map (GIV). The second index used in this study is the R^2 parameter, which reflects how well the LIV correlated with GIV in a city. In our case, the lower the R^2 value, the more various urban forms are contained by a city and the city would be spatially more fragmented (B. Hillier et al.,1987; W. R. G. Hillier et al., 1993).

3. Shenyang: Military activities and political regimes supersession

Shenyang, historically referred to as Mukden, is located in northeast China. It is currently the provincial capital and largest city within the Liaoning Province. It was one of the largest cities to have continuously experienced a series of large-scale warfare in modern China (primarily from 1898-1948), creating a continual war-peace-war cycle with various urban planning practice. The following set of paragraphs describes the major wars occured in Shenyang during this period.

Russian Convention: Shenyang became a Russian stronghold in China with the building of the South Manchurian Railway (Tietze, 2003) because of the sign of Sino–Russian Secret Treaty in 1896 and the Pavlov Agreement in 1898. The treaty allowed Imperial Russia to build a Russian gauge railway in Manchuria (Nish, 2014). It was signed by Qing Viceroy Li Hongzhang and Russian foreign minister Alexey Lobanov-Rostovsky in Moscow under the aftermath of the Japanese threat after the First Sino-Japanese War (1894-1895).

Russo-Japanese War: The introduction of Russian power into Shenyang encouraged the initialization of the Russo-Japanese War. It occurred from February 19-March 10, 1905 and was the largest modern-era battle ever fought in Asia prior to World War II. This war was fought between the Russian Empire and the Empire of Japan over rival imperial ambitions in Manchuria and Korea involving more than 600,000 combat participants. Following the Japanese victory, Mukden (Shenyang) became one of the chief bases of Japan on their way of invading China. Japan took control of the Russian built branch line of the South Manchurian Railway line which traversing through Shenyang city.

Warlord Zhang and the Huanggutun Incident: In 1920, the Chinese Central Government appointed Zhang Zuolin as Governor-General of the three eastern provinces, who eventually became the supreme ruler of Manchuria as a warlord. Zhang acted as an anti-Japanese force in Shenyang. To support his army, he initiated a variety of city planning and construction projects to both promote economic development and spatially restrict Japan from further expansion into other areas of Shenyang. However, this action caused Zhang's death due to assassination from the Japanese in 1928, this event is known as the Huanggutun Incident, which acted as the pretext of Mukden Incident (Jian, 2010).

Mukden Incident: On Sept.18, 1931, the incident was a staged event engineered by Japanese military personnel as a pretext for the Japanese invasion (Hata and Coox, 1988). After the Mukden Incident, Shenyang, whose area is three times the area of Japan, became a colony of Japan and its economic and military base. A variety of specific military oriented planning were then implemented. After occupying Shenyang, Japan further attacked towards the south and on January 28, 1932, the Japanese army attacked Shanghai (Treat, 1940). This expansion caused a counterattack from Chinese people, beginning in 1937 (Henriot, 2012).

Chinese People's War of Resistance against Japanese Aggression: This was a military conflict fought primarily between the Republic of China and the Empire of Japan from 1937 to 1945 (Hough et al., 2012). It was an important part of the international anti-Fascist war, but not until 1943 was Shenyang brought back to the Chinese from Japan. In this year, the Allies of World War II decided to restrain and punish the aggression of Japan by restoring all the territories that Japan annexed from China, including Shenyang (Wright, 1955).

Liaoshen Campaign: Only five years after droving out the Japanese army, in 1948, the Chinese Civil War passed through Shenyang as the Liaoshen Campaign. This campaign was the first of the three major campaigns launched by the People's Liberation Army (PLA) during the late stage of the Chinese Civil War. The PLA defeated the Nationalist forces and liberated Shenyang.

4. Military controlled planning and space syntax analysis

Table 1. Military events and their raised plan and construction projects

Event	Event year	Planning party	City plan and their implemented year	Construction completed	Map year
Russian convention	1898	Russian	Railway station (1898-1904)	Railway line and station	1911
Russo-Japanese War	1905	Japanese	City-Streets plan (1907)	Railway attached land	1919
Zhang Zuolin as Governor-General	1920	Zhang's government	General rules of Fengtian commercial port (1921)	Commercial port	1927
			Da-Dong industrial district plan (1919, 1928); Hui-Gong industrial district plan (1923); Feng-Hai plan (1926)	Industrial districts	1939
Mukden Incident	1931	Japanese	Fengtian City Plan (1938)	Tie-xi Industrial District	1946
Liaoshen Campaign	1948	Chinese government	Preliminary Plan of Shenyang (1956)	Overall fast urbanization	1966

Within the short peace gaps between wars, various city planning and construction projects were implemented (Table 1). Maps of Shenyang were selected and digitalized in AutoCAD, and then analyzed in space syntax software Depthmap-0.50. These maps include Shenyang maps in 1911, 1919, 1927, 1939, 1946, and 1966[1]. These maps were selected according to their availability and their ability to reflect the urban form of each developing stage between wars in the city history.

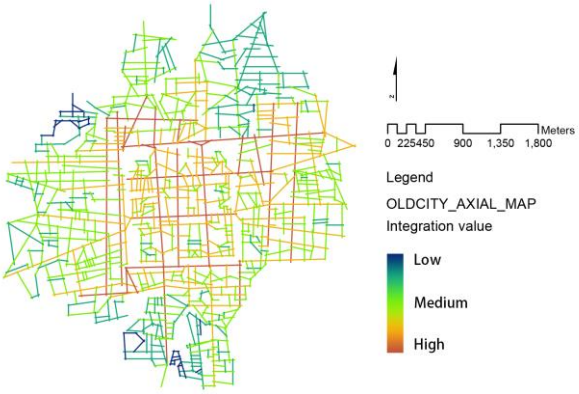


Figure 1. GIV of Shenyang old city.

Before the Russian convention, during the late Qing Dynasty, Shenyang was formed with Imperial Palace as city centre. This palace was built in 1625 and belonged to the Manchu noble family, which built the Qing Dynasty in Shenyang. The boundary of the palace was the inner-city wall of Shenyang, which is also the city core area (Figure 1). Outside of this wall, the city was mainly formed and planned by its residents. Because the primary transportation method for residents was walking, the road system showed a human scale organic form, developed very balanced towards all spatial directions (Figure 1). This planning logic resulted in a largely circular formed city. At the periphery of the city, an outer city wall was built to protect city residents. The road network structure inside and out of the palace was different, which, according to the space syntax analysis, captured by an R^2 value of 0.70 (the value should approach 1.0 when the road network is very similar). City infrastructures for ordinary residents were not as good as those inside the palace. Palace roads were paved with stone, while city roads outside it were unpaved with soil as the surface. Most city buildings, other than imperial structures and religious architectures, were single-story. Ordinary residents used candles for lighting and well water lifted by manpower or animals acted as water source.

After the Russian Convention, in 1911, Russia began to build railway lines in the west and they needed workers. Local residents began to commute between the old city and the railway line area to work. These commutes formed several main streets in between the two areas on a much larger scale than previous growth. The city began developing westward. Small-scale road network accessibility stayed fairly weak with a medium to low level LIV (Figure 2). From a road network perspective, the organic form of the old city hindered the direct road connection towards the west. The newly formed roads brought different road structures to the city and the R^2 accurately captured this change by decreasing slightly from 0.7 to 0.67.

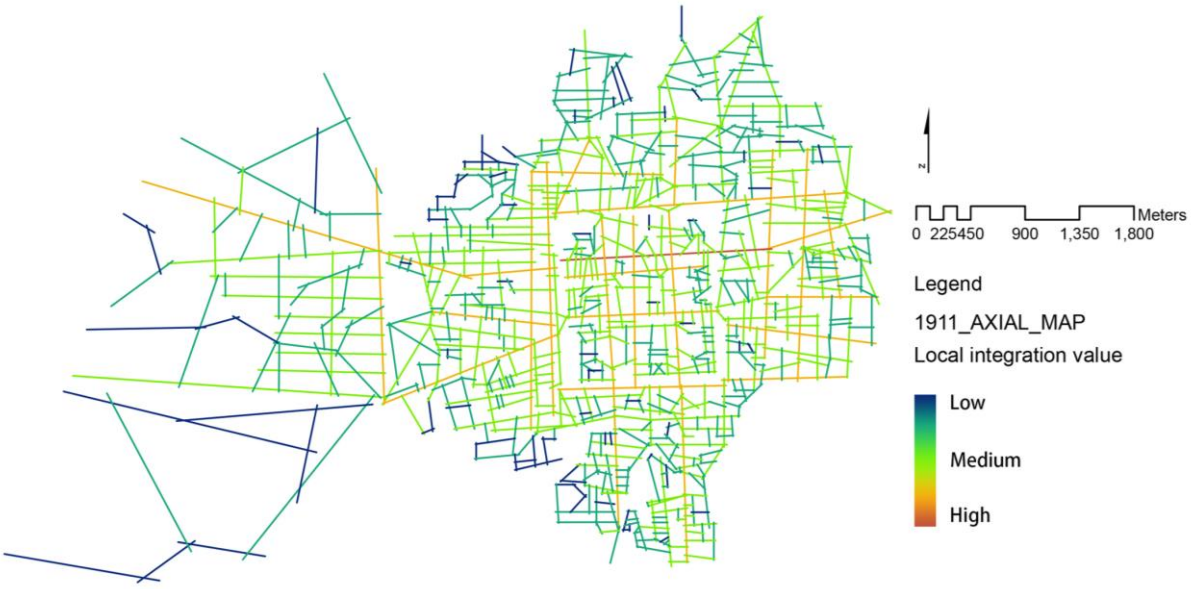


Figure 2. LIV of Shenyang 1911.

After the Russo-Japanese War in 1905, Japan controlled the railway and aimed at developing the occupied cities into chief bases to further invade China and for Japanese to settle down. A series of city plan were made, during 1907-1909, for the 15 major cities along this railway line. Shenyang 's railway zone (also named the Railway Attached Land, or RAL) is the largest one among them according to its area. It was built during 1907 to around 1931. The plan for the RAL took the railway station as its centre, the merging point of three radial distributed main streets. The plan of these main streets adopted a typical Baroque style of axial planning with round public squares and gathering points. Other secondary road structures adopted traditional Japanese neighbourhoods' 'ting' form, which are small, rectangular blocks with a basic size of 60 x 110 meters. The road network plan guaranteed a medium level of accessibility within its district (Figure 3). While for the whole city, this new road structure was added, and the R^2 sensitively captured this change by dropping to 0.42.

For the buildings, three primary categories were planned: Japanese official institutes such as banks and police stations; railway related functional buildings such hotels and commercial related land uses (e.g., Fengtian Hotel); service buildings for Japanese residents such as schools, malls, and residential buildings. During the construction, a variety of laws and regulations were created and applied. Within them, Buildings and Architecture Restriction Regulations and Railway Zone Construction Rules played essential roles. They stipulated building density, land use ratios and the height of buildings along the main streets. Additionally, very advanced infrastructures were planned and constructed, including a paved road system, drainage systems, and city parks. Facilities included electricity, gas, water lines,

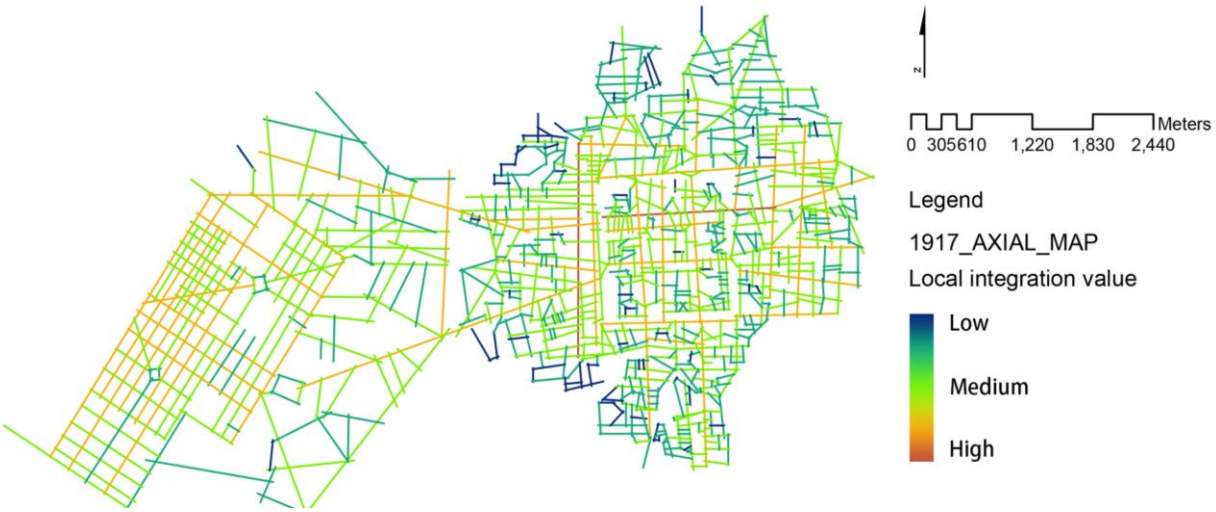


Figure 3. LIV of Shenyang 1919

and lighting. The drainage system contained open channels and underground drainage lines. Park design contained swimming pools, baseball yards, playgrounds and specially designed pools for children. Buildings in the RAL zone had multi-floors and adopted western building facades. The advanced city system soon brought large number of immigrants. The population increased from 2,579 in 1907 to 42,786 in 1930; in 1933, 70% of RAL's residents were Japanese.

The RAL's construction acted as a modern sample city area to the old city. Local Chinese were soon aware of the efficiency increases and the better living environment created by the RAL city plan. They adopted some aspects of the RAL plan, combined them with traditional Chinese philosophies, and created new city forms through the planning of the Commercial Port (CP). This CP area aimed at solving their political, military, and city problems.

By 1920, warlord Zhang Zuolin (Chang Tso-lin), also known as 'The Mukden Tiger', the leader of Feng faction, became the Governor-General of Shenyang. He aimed at building a strong economic base for his army and expected to promote economic development. Meanwhile, the Chinese government decided to open a commercial port, which was an area that allowed foreigners to rent land, construct buildings and conduct business. The government was willing to use commercial port, as a spatial strategy, particularly located between the RAL and the old city, to prevent the city from being overrun by the railway zone's expansion. Because of this specific military oriented site selection, largely a 'J' shape area was planned (Figure 4).

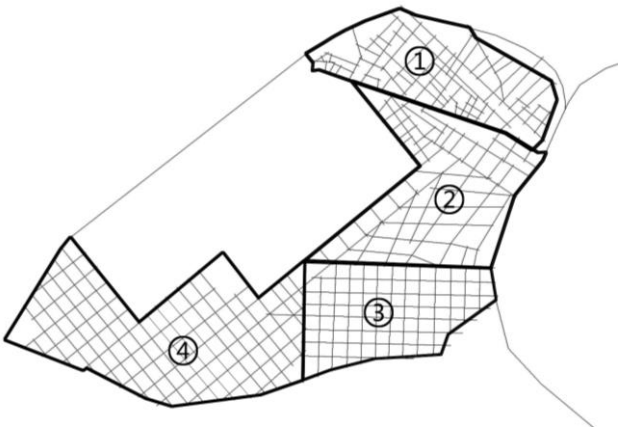


Figure 4. Zones inside the Commercial Port (1) North Main Zone (2) Main Zone (3) Vice Zone (4) Prepare Zone

The Commercial Port occupied 650 ha, including different zones (Figure 4). The prepare zone was swallowed up by the railway zone after the Mukden Incident in 1931; therefore, it followed the corresponding road structure of the railway zone. The vice zone and north main zone was planned largely following the directions of one existing main street. The main zone played an essential role in linking the grid and radial structure of the railway zone with the old city organic road system. During this time, an irregular diamonds style blocks pattern was planned. This pattern is neither radical axis form, nor grid form, but something in between. By tilting the typical grid form, it effectively kept the convenience of grid systems with a medium to high level of LIV (Figure 5) while at the same time, guaranteeing an accessibility equivalent with radical axis roads. With the development of this area, the R^2 value increased from 0.42 to 0.52, illustrating an improvement of city integration and the city core transferred westward.

After the road network plan, the zone was rented out to a variety of institutes, companies, and individuals who made their own building designs and constructions. Therefore, different architecture styles co-existed in this zone. Architects from Japan, United States, United Kingdom, Germany, and France designed and constructed buildings in CP. The Main Zone accumulated foreign embassies of Japan, the United States, Germany, Russia, France, Italy, Poland, and Australia. The North Main Zone accumulated economic institutes, including HSBC Bank, Citibank, Sino-French Industrial Bank, Mobil Bank and others. The Vice Zone accumulated large numbers of local commercial civilians. Their business included restaurants, teahouses, theatres and a variety of shops(Lv and zhu, 2012). These local business owners created mixed style buildings. These buildings have traditional Chinese wood architecture with western style façades. The occurrence of these buildings shows different degrees of influence of western building styles on Chinese architecture. Additionally, the CP equipped with equivalent infrastructures with the RAL, including paved road, water supply and drainage system, public toilets and parks. The construction of CP attracted large amount of businessperson and caused a population increase from 5,868 in 1908 to 60,214 in 1930, when it came to 1933, 85% of the residents at CP are non-Chinese.

Figure 5. LIV of Shenyang 1927

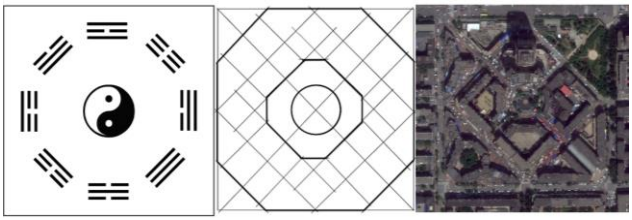


Figure 6. From left to right are (a) Eight diagrams; (b) Street structure of South Market; (c) Arial image of South Market[2].

South Market in the Commercial Port is an example of Chinese people merged western city form and Chinese philosophy into urban planning. It was developed in the 1920s. The design was based on the 'eight diagrams' (Ba Gua) idea from I Ching (易经), which is an ancient divination text and the oldest of the Chinese classic. The eight-diagrams is also one of the classical ancient Chinese war tactics (mair, 2008). The initial idea of utilizing this military tactic into planning was raised by Tang Yulin and Wu Junsheng, who were Zhang's military officers. Based on their idea, He Yiwu, who is the chief of engineering department of commercial port bureau, planned the South Market. Ideas of western axis and circles were used to create a form that followed Chinese philosophy (Figure 6). Additionally, the form of this plan successfully supported the city function of this area. It is commonly believed by the Chinese that battle arrays, urban areas, or other spatial structures following Ba Gua form are easy for people to enter into and hard for one to get out. When you are inside the South Market area, the buildings in eight directions (the east, west, south, north, northeast, southeast, northwest, and southwest directions) all look exactly the same, making people feel as though they are inside a labyrinth, becoming easily disoriented. For the market, this form succeeded in promoting more consumption as consumers spent more time here because they kept getting lost and attracted by other commerce.

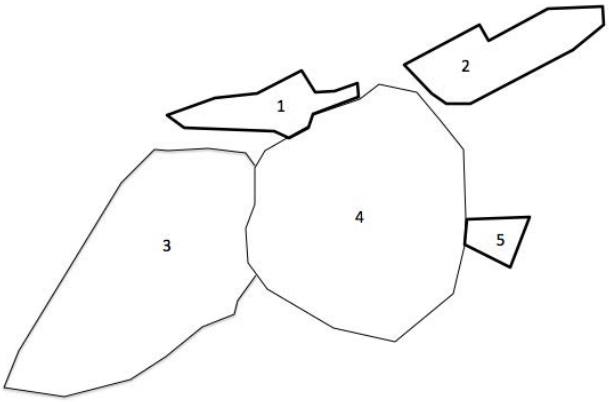


Figure 7. Spatial locations of RAL, old city, and industrial districts (1) Hui-gong Industrial District; (2) Shen-hai Industrial District; (3) RAL; (4) Old city; (5) Da-dong Industrial District.

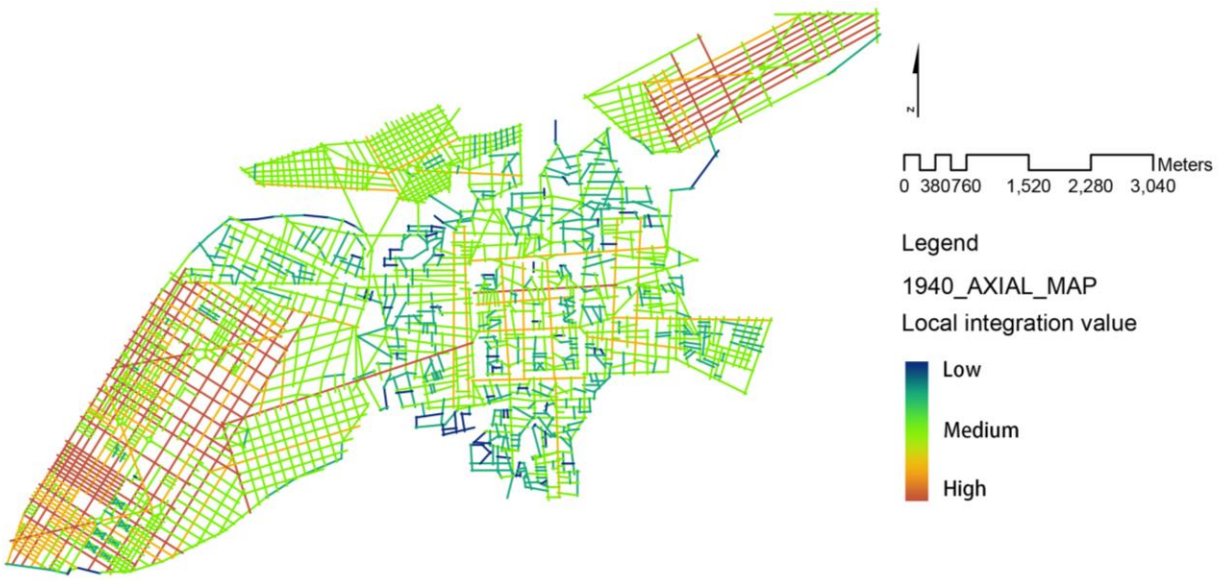


Figure 8. LIV of Shenyang 1939.

Besides promoting the economy, Zhang also planned to strengthen military and break the railway transportation control from Japan. As it became difficult to redevelop the old circle city, he transferred the focus of development to the north and east, away from the Japanese controlled area. Railway lines and several industrial districts were planned, including the Hui-gong industrial district, the Shen-hai Market district, and the Da-dong Weaponry industry district (Figure 7). Among them, the Da-dong district was spatially furthest away from the Japanese controlled railway zone and was specifically planned for producing weapons. It was fully controlled and operated by Zhang's military. Hui-going district contained military industry enterprises as well as civilian-run enterprises. The Shen-hai district was the nearest to Zhang's controlled railway line and was only rentable to Chinese businessmen. The urban street plan of these districts uses a combination of circles, squares, and radial axis combined with grid blocks, which almost copied the road network of railway zone. These industrial districts were well accessible within each, floating at the periphery of the city. With these additions, however, the city became more fragmented with an R^2 of 0.15.

After the Mukden Incident, Japan occupied the entire territory of Shenyang. They planned to develop the city into an industry base in order to support further military actions. In 1938, Japanese professional urban planners published a plan for Shenyang entitled the Feng-tian City Plan. It was the first general plan of Shenyang that took the entire city territory into consideration, rather than pursuing single parcel or district scale development. Ideas of The Charter of Athens, the Garden Cities movement, and Haussmann's renovation of Paris, influenced this plan (Leng and Yuan, 2007), a typical planned and constructed area is Tie-xi Industrial District.

The Tie-xi industrial district was planned at the west next to the railway line and occupied 1150 ha of land. A pure grid net road system was planned. During the planning process, a modern zoning/divisional planning method, which includes sub-level hierarchical policy plans after the master plans, was used. These sub-plans detailed out the broad objectives of the master plan at a comparatively smaller region. Internationally, the initial zoning idea was first drafted in 1928 in the Standard City Planning Enabling Act in the United States (Haar, 1955). Only ten years after, the Shenyang Tie-xi district plan adopted it, dividing the area into two zones. The northern portions of the area were factory zones designed with 200-250 x 150 meters' large blocks. Residential zones were located in the south at a size of 140 x 70 meters' blocks. This grid form achieved a highly accessible city area with high LIV lines accumulated in it (Figure 9).

Shenyang liberated in 1948 and the warring ceased. Mao Zedong took the principle of New China, stressing that development and industrialization were the highest priority (Qian, 2016). Because of the previous 50 years of city planning and construction activities implemented by Russian, Japanese, and Chinese people, Shenyang became one of the most highly urbanized and industrialized cities in China. Therefore, in 1956, when a Preliminary Plan of Shenyang was constructed, it prioritized Shenyang as a heavy industrial city, following

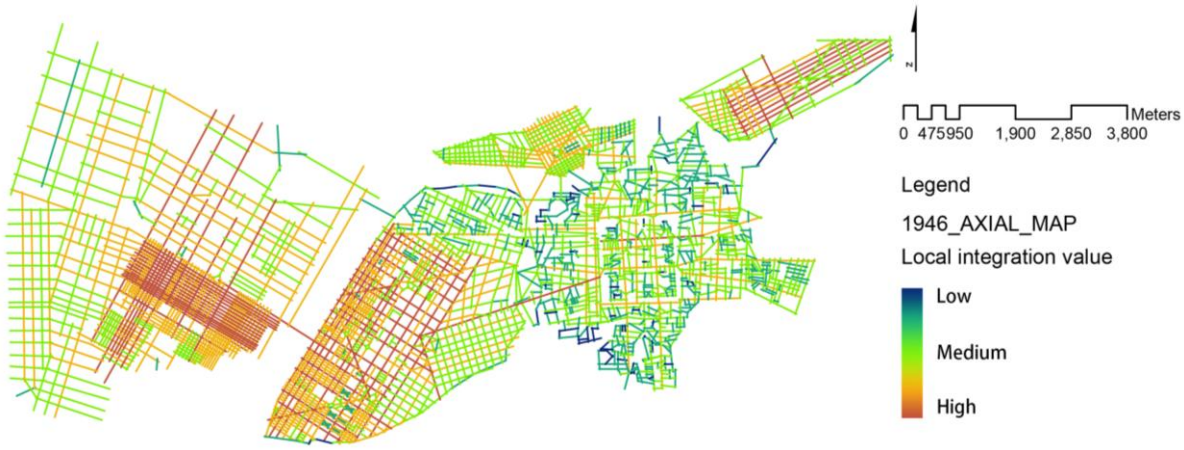


Figure 9. LIV of Shenyang 1946.

Table 2. A summary of city construction status in Shenyang history.

Map year	Constructions	Architecture	Infrastructures	City forms	Spatial directions of city development	R^2	Modernization
1911	Railway	Residential, single-storey, traditional Chinese style,	Railway, unpaved road, well water, candles for lighting,	Organic	West	0.67	Transportation
1919	Railway Attached Land (RAL)	Residential, two/more stories, western style	Drainage, paved roads, parks; electricity, gas, tap water lines, and electric lighting	Ting, axial, round squares, points	West	0.42	Started modern urbanization
1927	Commerical Port	Commercial two/more stories, western combined with Chinese style	Equivalent to RAL	Diamond, eight-diagrams form	Balanced	0.52	Further urbanization
1939	Shenhai, Dadong,Huigong, Industrial Districts	Industrial & residential, one/more stories, western style,	Equivalent to RAL	Circles, squares, radial axis, grid	North, south & east	0.15	Started industrialization
1946	Tie-xi District	Industrial & residential, one/more stories, western style,	Equivalent to RAL without Parks	Grids (two different zoning sizes)	West	0.13	Further industrialization
1966	Revitalization of old city, & expansion	Industrial, residential & commercial, Multi-level, modern	Equivalent to RAL + other modern facilities	Grid, Change organic form into grids	North, south & east	0.62	Overall fast urbanization

Mao's vision (Tang, 2000). Spatially, other than expanding a grid form towards the north, south, and east, another important urban practice was the revitalization and reconstruction of the old circle city area in 1966. The plan removed the organic road system and adopted a largely grid form that could merge into other portions of the city. This helped integrate and re-connect the city holistically, which can be seen by a sharply increasing R^2 to 0.62 (Table 2).

5. Discussion and conclusion

This study sought to determine how urban form due to war planning affects the internal and external connectivity of cities experiencing wartime. 'War and the city have intimately shaped each other throughout urban and military history' (Graham, 2004). Repeated internal and external colonial wars throughout Shenyang's history have created a unique urban planning and construction process. These city plans influenced urban morphology by affecting their internal and external connectivity and site selection of new districts, which caused fragmentation. They also directly and indirectly, promoted the modernization of Shenyang.

War-oriented city planning in Shenyang provided a chance for the city to begin to rapidly urbanize nearly 40 years ahead of other cities in China. Since the building of the railway attached land, the urbanization process initiated and city infrastructure improved. Water resource changed from well water lifted by manpower or animal into tap water; lighting systems improved from candle lighting into electric lighting; transportation systems altered from lifting sedan chairs into automobiles and tram (the first line started in 1925); roads were developed from unpaved mud roads into paved roads with street trees.

These planning practices also promoted industrialization, spanning mainly from 1920 to 1943. This is far earlier than most other cities in China, which industrialized primarily from 1949-76 (Gaubatz, 1999). Wars are won by industries, labor, natural resources, transportation as well as cities' advantages (Lotchin, 2003). City planning during warfare had specific aims, including developing industry for producing war

necessities. When Zhang occupied part of Shenyang and Japan controlled the other half, the need of wars in south China expedited the planning of industrial districts in Shenyang. These industrial districts made about half of the city area into industrial regions and set the scene for Shenyang to become a heavy industrial city after 1949.

Wars segregate people, and war-planning activities can segregate cities. Continuous war oriented planning and construction activities in Shenyang history significantly increased the local integration while decreased the global integration of the city. Road network connectivity is high inside land parcels, which were gradually developed by various political regimes. This is mainly due to each regime adopting advanced planning ideals and apparently actively or passively ignoring land parcel connectivity and urban form consistency. Wars brought new religion, culture, and technology to the city and these resultant plans brought various city forms including ting, baroque, rhombus, grid, radiation, and curve to the city. It affected the internal and external connectivity and caused overall city fragmentation but also resulted in pockets of development which were highly connected internally. The fragmentation can be seen through the continuously decreasing R^2 value from 1911 to 1949, from 0.7 before Japan built RAL all the way down to 0.13 after the built of Tie-xi district. These plans acted as extensions of wars in separating Shenyang city, and reflected spatial competition and segregation between political regimes. The result, a set of multiple isolated wartime developments which worked well within themselves but were detached from the city as a whole.

Additionally, planning with military aims influenced the site selection of new districts. The location of the commercial port was selected between the old city and the RAL, partly due to a military strategy to hinder Japan's further invasion into other areas of Shenyang. The site selection of industrial districts for both Zhang and Japan was with a military concern to avoid threatening from one another. Clearly, urban planning itself became war strategy and impacted city expansion significantly. It becomes unavoidable to recognize that these colonial planning rose by military events indeed had a far-reaching influence on Shenyang's spatial structure.

Notes

1. Shenyang map of 1911 is preserved by the National Archives of Japan. The map in 1919 is preserved in the National Diet Library of Japan. The source of Shenyang city maps in 1927, 1946 and 1966 are: Shenyang City Office of Local Chronicles Compilation Committee. Shenyang Picture Chronicles. Shenyang Press, 2012. For the map in 1939, see further: Fengtian. The vision of big Fengtian city. Fengtian city document department, 1939.

2. Bagua Jie in Shenyang. 41°47'08.68" N and 123°24'51.65" E. Google Earth. May 28, 2016. April 2, 2017.

Acknowledgment

We thank Yajun Liu, for her kind help in collecting Shenyang city maps. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The authors declare no conflict of interest.

References

Ahmed, B., Hasan, R., & Maniruzzaman, K. M. (2014). Urban morphological change analysis of Dhaka city, Bangladesh, using space syntax. *ISPRS International Journal of Geo-Information, 3*(4), 1412-1444. https://doi.org/10.3390/ijgi3041412

Alexander, I. (2000). The post-war city. In *The Australian metropolis: a planning history* (pp.98-112). New York, NY: Routlege. ISBN: 0419258108. https://books.google.com/books?id=tLSyx93RvRYC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Bafna, S. (2003). Space syntax: A brief introduction to its logic and analytical techniques. *Environment and Behavior*, *35*(1), 17-29. https://doi.org/10.1177/0013916502238863

Bishop, R., Clancey, G. (2008). The City-as-Target, or Perpetuation and Death. In *Cities, War, and Terrorism: Towards an Urban Geopolitics* (pp. 54–74). Malden, MA: Blackwell Publishing. https://doi.org/10.1002/9780470753033.ch3

Brakman, S., Garretsen, H., Schramm, M. (2004). The strategic bombing of German cities during World War II and its impact on city growth. *Journal of Economic Geography, 4*(2), 201-218. https://doi.org/10.1093/jeg/4.2.201

Henriot, C. (2006). Shanghai and the experience of war: The fate of refugees. *European Journal of East Asian Studies*, *5*(2), 215-245. https://doi.org/10.1163/157006106778869306

Wesseling, H.L. (1989). Colonial wars: An introduction. In *Imperialism and War: Essays on Colonial Wars in Asia and Africa* (pp.1-11). Leiden, The Netherlands: E.J. Brill: Universitaire pers Leide. ISBN: 9004088342. https://books.google.com/books?printsec=frontcover&vid=ISBN9004088342#v=onepage&q&f=false

Diefendorf, J.M. (1993). *In the wake of war: the reconstruction of German cities after World War II*. New York, NY: Oxford University Press. ISBN: 0195072197. https://doi.org/10.1080/03612759.1994.9949002

Froy, F.E. (2016). Understanding the spatial organisation of economic activities in early 19th century Antwerp. *The Journal of Space Syntax,* *6*(2), 225-246. http://joss.bartlett.ucl.ac.uk/journal/index.php/joss/article/view/287/pdf

Gaubatz, P. (1999). China's urban transformation: patterns and processes of morphological change in Beijing, Shanghai and Guangzhou. *Urban studies, 36*(9), 1495-1521. https://doi.org/10.1080/0042098992890

Giannopoulou, M., Roukounis, Y., & Stefanis, V. (2012). Traffic network and the urban environment: an adapted space syntax approach. *Procedia-Social and Behavioral Sciences*, *48*, 1887-1896. https://doi.org/10.1016/j.sbspro.2012.06.1163

Glaeser, E.L., Shapiro, J.M. (2002). Cities and Warfare: The Impact of Terrorism on Urban Form. *Journal of Urban Economics, 51*(2), 205-224. https://doi.org/10.1006/juec.2001.2262

Graham, S. (2004). Introduction: Cities, Warfare, and States of Emergency, Cities as Strategic Sites: Place Annihilation and Urban Geopolitics. In *Cities, War and Terrorism: Towards an Urban Geopolitics* (pp. 1-25 and 31-54). Malden, MA: Blackwell Publishing. ISBN: 1405115750. https://onlinelibrary.wiley.com/doi/book/10.1002/9780470753033 https://books.google.com/books?id=PgXnROoyeTwC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Griffiths, S. (2012, January). The use of space syntax in historical research: current practice and future possibilities. In *Proceedings of the Eighth International Space Syntax Symposium* (pp. 1-26). http://sss8.cl/8193.pdf

Griffiths, S. (2011). Temporality in Hillier and Hanson's theory of spatial description: Some implications of historical research for space syntax. *The Journal of Space Syntax*, *2*(1), 73-96. http://128.40.150.106/joss/index.php/joss/article/view/58/pdf_38

Haar, C. M. (1955). In accordance with a comprehensive plan. *Harvard Law Review*, *68*(7), 1154-1175. DOI: http://doi.org/10.2307/1337692

Hardy, D. (1989). War, planning and social change: The example of the garden city campaign,1914–1918. *Planning Perspective*, *4*(2),187-205. https://doi.org/10.1080/02665438908725679

Henriot, C. (2012). Slums, squats, or hutments? Constructing and deconstructing an in-between space in modern Shanghai (1926–65). *Frontiers of History in China*, *7*(4), 499-528. https://doi.org/10.3868/s020-001-012-0030-5

Henriot, C. (2017). 'Little Japan' in Shanghai: An insulated community, 1875-1945. In *New frontiers Imperialism's new communities in east Asia, 1842–1953*. Manchester, UK: Manchester University Press. ISBN: 9780719089329. https://doi.org/10.7765/9781526119742.00017

Hillier, B., Hanson, J., & Graham, H. (1987). Ideas are in things: an application of the space syntax method to discovering house genotypes. *Environment and Planning B: planning and design*, *14*(4), 363-385. https://doi.org/10.1068/b140363

Hillier, B., Penn, A., Hanson, J., Grajewski, T., & Xu, J. (1993). Natural movement: or, configuration and attraction in urban pedestrian movement. *Environment and Planning B: planning and design*, *20*(1), 29-66. https://doi.org/10.1068/b200029

Hillier, W. R. G., Hanson, J., & Peponis, J. (1987). Syntactic analysis of settlements. *Architecture et comportement/Architecture and Behaviour*, *3*(3), 217-231. http://discovery.ucl.ac.uk/86/1/hillier-etal-1987-synactic-analysis-settlements.pdf

Wilson, D. (1982). *When Tigers Fight: The Story of the Sino-Japanese War, 1937-1945* (p. 94). New York, NY: Viking Press. ISBN-13: 9780670760039. http://www.worldcat.org/title/when-tigers-fight-the-story-of-the-sino-japanese-war-1937-1945/oclc/8456592

Hou, Y. B., Zhang, F. H., 2001. The Theme in the Development of Chinese Modern Architecture (1840—1949): Typological Mode uurbanization. In *Anthology of 2000 International Conference on Modern History of Chinese Architecture* (pp. 3-10).

Beijing, China: Tsinghua University Express. ISBN: 7302045410. ftp://52jyw.com/%B5%E7%D7%D3%CD%BC%CA%E9/035/T/A2039617.pdf

Hata, I. (1988). Continental Expansion, 1905–1941. *The Cambridge History of Japan*, *6*, 271-314. https://doi.org/10.1017/CHOL9780521223577.007

Jian, W. (2010). A Review of the Aggressive Activities of the Japanese Kwantung Army in Northeast China before the September 18th Incident. *Journal of Liaoning Normal University (Social Science Edition), 33*(1), 25. https://doi.org/10.3969/j.issn.1000-1751.2010.01.026

Leng, H., Yuan, Q. (2007). Urban Planning Ideas in Modern Northeast China and Its Edification. *Shidai Jianzhu,* (6), 14-21. https://doi.org/10.3969/j.issn.1005-684X.2007.06.005

Lv, H. P., Zhu, Y. G. (2012). The Urban Planning and Land Management of the Commercial Port in Fengtian in Modern Time, *Architecture & Culture,* (6), 68-69. http://www.wanfangdata.com.cn/details/detail.do?_type=perio&id=jzywh201206016

Lotchin, R.W. (2003). *The Bad City in the Good War: San Francisco, Los Angeles, Oakland, and San Diego* (pp. 5). Bloomington, IN: Indiana University Press. ISBN-10: 9780253215468. https://books.google.com/books?id=dfTtsjHhaF0C&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Mair, V.H. (2008). *The Art of War: Sun Zi's Military Methods* (pp. xi-xxv). New York, NY: Columbia University Press. ISBN: 9780231133838. https://books.google.com/books?id=wdl2osmJC3YC&printsec=frontcover#v=onepage&q&f=false

Nelson, M.K. (2012). *Ruin nation: destruction and the American Civil War* (pp. 10-60). Athens, GA: University of Georgia Press. ISBN: 9780820343792. https://books.google.com/books?id=Emz9gv86FoMC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Nish, I. (2014). *The origins of the Russo-Japanese war* (pp.17). New York, NY: Routledge. https://content.taylorfrancis.com/books/download?dac=C2013-0-22828-3&isbn=9781317872184&format=googlePreviewPdf

Omer, I., Zafrir-Reuven, O. (2010). Street patterns and spatial integration of Israeli cities. *The Journal of Space Syntax*, *1*(2), 295. http://128.40.150.106/joss/index.php/joss/article/view/280/pdf_24

Penn, A. (2003). Space syntax and spatial cognition: or why the axial line? *Environment and behavior*, *35*(1), 30-65. https://doi.org/10.1177/0013916502238864

Qian, Z. (2016). Political campaigns and urban transformation in Maoist China, 1949–1976. *International Development Planning Review*, *38*(2), 113-133. https://doi.org/10.3828/idpr.2016.6

Read, S. (1999). Space syntax and the Dutch city. *Environment and Planning B: Planning and Design*, *26*(2), 251-264. https://doi.org/10.1068/b4425

Sanso-Navarro, M., Sanz, F., & Vera-Cabello, M. (2015). The impact of the American Civil War on city growth. *Urban Studies*, *52*(16), 3070-3085. https://doi.org/10.1177/0042098014553553

Schachtschabel, N. (Ed.). (2005). *Cities & eyes: bronnenboek* (pp. 272). Amsterdam, Netherlands: Amsterdam University Press. ISBN: 9053567895. https://books.google.com/books?id=PX-aeVlhyEUC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Srinurak, N., & Mishima, N. (2017). Urban Axis and City shape evaluation through spatial configuration in 'Lan Na'Northern Thailand Historic city. *City, Territory and Architecture*, *4*(1), 10. https://doi.org/10.1186/s40410-017-0067-z

Tang, W. S. (2000). Chinese urban planning at fifty: an assessment of the planning theory literature. Journal of Planning Literature, 14(3), 347-366. https://doi.org/10.1177/08854120022092700

Tietze, W. O. L. F. (2003). Fifty Years of Railways in Manchuria: A Contribution to the Study of Transport Development in the Far East. *Promet Traffic-Traffico*, *15*(3), 161-165. https://docplayer.net/82561970-Fifty-years-of-railways-in-manchuria.html

Treat, P. J. (1940). Shanghai, January 28, 1932. *Pacific Historical Review*, *9*(3), 337-343. https://doi.org/10.2307/3632911

Wright, Q. (1955). The Chinese Recognition Problem. *American Journal of International Law*, *49*(3), 320-338. https://doi.org/10.2307/2194862

Wu, L., Liu, X., Ye, X., Leipnik, M., Lee, J., & Zhu, X. (2015). Permeability, space syntax, and the patterning of residential burglaries in urban China. *Applied Geography,* 60, 261-265. https://doi.org/10.1016/j.apgeog.2014.12.001

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 13– 25

Evaluating Staff Perceptions of Supportive Healing Environment in Healthcare Facilities

* Ph.D. Candidate PATRICK CHUKWUEMEKE UWAJEH[1], Ph.D. Candidate IKENNA STEPHEN EZENNIA[2]

[1 & 2] Department of Architecture, Eastern Mediterranean University, Famagusta, North Cyprus via Mersin10, Turkey
[2]Department of Architecture, Nnamdi Azikiwe University, Awka, PMB 5025, Anambra State, Nigeria
Email: uwajehpatrick@gmail.com Email: is.ezennia@unizik.edu.ng

ARTICLEINFO:

Article history:

Received 04 January 2018

Accepted 10 February 2018

Available online 15 June 2018

Keywords:

Evidence-based design; Healing environment; Healthcare; Supportive design; Wellness; Health.

ABSTRACT

Evidence-based design strategies can improve stress-free environments in healthcare, by emphasizing strategic opportunities to influence the design of health facilities. Evidence-based design (EBD) as a tool for healthcare planning is a method that began in healthcare having a general purpose of providing evidence based medicine. It involved Gathering information and evidence and using this evidence to mold the environment which supports the programming stage in design problem-solving. The connection between the theories and use of findings in (EBD), have not been adequately revealed enough to be used as a tool in design. As such, several factors, or characteristics, evident in numerous studies about healing environment and (EBD), require categorization into tangible and non-tangible dimensions in order to apply them during the design process successfully. Among others, four distinct variable or factors summarized from the work of two researchers – Dilani (2009) and Ulrich (1991) have been selected to be tested in this research; (1) enhancement of social support, (2) stimulating design features, (3) flexibility and coherence (4) connection to nature, focusing on the hierarchy of the above mentioned attributes according to their relevance in application and outcomes. Two research questions served as a foundation for the investigation of attributes in healing environments: What critical attributes can be identified by healthcare staff related to Dilani and Ulrich's research findings? Is a hierarchy of attributes perceived by healthcare staff? The aim of this research is to closely examine the factors of Psychosocial Supportive Design theory by Alan Dilani (2001) and Supportive design theory (SDT) by Roger Ulrich (1991) on the staff in Eastern Mediterranean university health centre. Questioners and site visit were used for data collection. SPSS was used to obtain percentages from data collected. The result of the study reveals a hierarchy of factors perceived by the staff that can promote supportive healing.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 13-25.
https://doi.org/10.25034/ijcua.2018.4678

www.ijcua.com

***Corresponding Author:**
Department of Architecture, Nnamdi Azikiwe University, Awka, PMB 5025, Anambra State, Nigeria.
E-mail address: is.ezennia@unizik.edu.ng

1. Introduction

1.1. Definition of scientific terms

Supportive Healing environment: a term which defines a physical setting and administrative culture that helps patients and families cope with the stresses caused by illness, physical therapy, the healing process, and sometimes, with the demise of family and friends in healthcare buildings. The implication of this concept is that, the physical healthcare environment can make a difference in recovery time for patients with specific critical and prolonged health conditions (Molzahn, 2007).

Supportive design theory (SDT): a theory designed by Roger Ulrich (1991) that explores the various ways to utilize the built environment to minimize stress and stress causative factors, by providing a sense of control, access to social support and access to positive distractions to users in the physical surroundings (Ulrich, 2000).

Psychosocially supportive design (PSD): a theory designed by Alan Dilani (2009) that supports the healing environment from a standpoint of psychological manageability, and general wellbeing (Dilani, 2009).

Salutogenesis: is a term coined by a professor of medical sociology Aaron Antonovsky (1996), to define an approach aiming on factors that support human health and well-being, rather than on factors that cause disease. More specifically, the "salutogenic model" is concerned with the relationship between health, stress, and coping (https://en.wikipedia.org).

Wellness factor: This refers to components of the built physical environment that affects the quality of human life and emotional status. They include, physical, emotional, spiritual, intellectual, occupational, and social wellness.

Evidence-based design (EBD): this is a design approach which involves the collection of facts and evidence based data to achieve design goals. It is prominently applied in healthcare sectors, but has gradually gained recognition in other fields and building typologies.

Evidence-based medicine (EBM): is an approach to medical practice intended to elevate decision-making by stressing the use of evidence from well designed and conducted research. Although all medicine based on science has some degree of empirical support, EBM goes further, classifying evidence by its epistemologic strength and requiring that only the strongest types (coming from meta-analyses, systematic reviews, and randomized controlled trials) can yield strong recommendations, while weaker types (such as from case-control studies) can yield only weak recommendations (https://en.wikipedia.org).

1.2. Background of Study

People visiting healthcare facilities general expect a suitable and supportive healing environment. Hospitals have evolved from an institutional feel to a warm and welcoming environment. The makeup of such environments is, the careful integration of physical, social and psychological factors proven to have positive evidence based effects on health outcomes (Molzahn, 2007). In accordance with Mroczek, et al. (2005), who supports the theory, that there is a need for a continuous empirical analysis, focused on the identification of more definite and advanced factors that improves wellness in patients, family members and visitors in healthcare facilities, as proposed by Ulrich, should be strengthened by the observation of evidence oriented knowledge in existing healthcare buildings, with emphasis on design solutions that improves stress and perceived health outcomes.

1.3. The value of Evidence-based design (EBD) as a tool for healthcare planning

Designers are faced with the increasing task of integrating cultural diversity, psychological and socio-spatial considerations by the application of EBD in both interior and exterior context of buildings. The rigors of accessing valid EBD information for design purpose remain one of the main challenges, thus the development of suitable empirical methods towards achieving scientific results is a prerequisite in dealing with design challenges related to supportive healing environments. More so, recognizing and categorizing key influential factors of perceived care and wellbeing would provide ample guidance to designers in their design solutions (Molzahn, 2007). According to Dilani (2009), a properly designed physical environment improves health of mind and wellness, while a poorly designed environment promotes frustration and other health related problems which cumulate into illness in humans. As such, the need for these factors to be clearly defined in healthcare design is sacrosanct in order to become adoptable design tools for the therapeutic process.

1.3.1. Assumptions

Dilani (2009) and Ulrich (1991) agree that there are substantial and abstract impacts of physical

environments measured by different variables in certain environments in their research, which might pose a challenging to other settings, or situations. However, several assumptions frame this research inquiry.

A. The insufficient understanding of the variables providing little guidance to transfer the findings to enrich the knowledge of architects and healthcare professionals.
B. The need to use the variables suggested by earlier researchers, to validate base of their study, which is the (physical environment's ability to influence people's perceptions, behaviour, and performance).

2. Literature review

2.1. Supportive design theory

One of the main guiding principles of supportive design theory, is the ability of the environment to promote improved health outcomes efficiently by eliminating stress causative factors in the environment, which often have negative impacts on outcomes, for example, loud noise (Ulrich, 2000). The theory further explains the psychological needs of the patient's family members, staff and visitors in healthcare facilities. It also includes features in the environment that studies reveal can calm patients, reduce stress and increase coping process (Ulrich, 1991, 1997 & 1999). A number of supportive design guidelines backing up this theory, including several environmental qualities have indicated a tremendous reduction in stress and coping levels and outcome.

2.1.1. Supportive design guidelines:

The following design guidelines, as indicated in several studies, reveal that healthcare facilities will support, coping with stress and increase patient outcomes;

- Social support
- Sense of control and access to privacy
- Access to nature and other positive distraction.

1. Social support: A large number of research indicates that people who receive maximum social support, experience less stress and have better health than those who are isolated socially (Cohen et al,. 2000; Czajkowski, & Shumaker 1994 and Ulrich 1991). Social support can therefore be regarded as the emotional help and care rendered to a person or that which is received from others. Possible examples of approaches, adopting social support for patients include, the provision of the following for the family and visitors: pleasant and comfortable waiting areas, sitting socially enhancing sitting areas, access to nature and views of nature, effective work environment that enhances staff access to social support from other staff and to patients' as well (Purves, 2002; Chalfont, 2006; Marcus & Barnes 1999).

2. Sense of control and access to privacy: Carver, et al., (2000), defines control as someone's real or perceived ability to know what they do, to control their situation, and determine the impact of other people's actions and perception towards them. Several research has shown that the results in the stress coping abilities of people who feel they have some control over their situation is far greater than that of those who feel a lack of control (Lazarus, & Folkman, 1984; Schwarzer, 2014; Evans & Cohen,2000 ; Ulrich, 1984). In order to reduce lack of control in healthcare facilities, which results in medical and psychological conditions such as depression, high blood pressure and reduced immune system functioning, the need to implement this key supportive design strategy to create a more controlled environment.

It should be noted that an addition factor indicated by various studies, for the loss of control, is caused by architectural designs that do not enhance or provide access to privacy. For example, design of rooms that deprive a view out of the window, force bedridden patients to stare at a glaring ceiling light, or rooms that are difficult to locate without the guide of proper signage for directions (Shraiky, 2011; Schwartz, & Solove, 2011). As such, the consideration of incorporating architectural designs that facilitate wayfinding and access to privacy, for patients and staff include; providing bedside dimmers for private control, access to television control by individual patients, easy access to nurses work station from wards through mobile services, providing adjustable workstations for staff and comfortable relaxation areas during their break periods that provides a temporal sense of escape from the stress of hospital work place (Ulrich, 2000)

3. Access to nature and other positive distraction: Positive distractions are a sub sections of environmental-social phenomena that are well-known by their ability to promote wellness and reduce stress levels adequately and on time. They include distractions such as music, art, comedy, pet animals, and nature

views within and outside buildings. Ulrich 1999 study reveals that people suffering from anxiety or stress related illness are positively affected by certain nature scenes and recover faster. However, a limited number of research in healthcare suggests that stressed patients can experience substantial reductions in stress levels after a few minutes of viewing nature settings with greenery, flowers or aquatic bodies. Nevertheless, studies related to the use of nature as a positive distraction, though small, have shown substantial results enough to validate its propositions with outcomes, one of the most important, being the recovery rate of patient from post operations. This is evident in the study of patients recovering from abdominal surgery, which established that patients had a better postoperative health status if their bedside windows afforded them a view trees or greenery instead of a mere wall (Ulrich, 1984; Ulrich et al,. 1991; Kaplan, & Kaplan, 1989). It is worth noting that a controversial type of positive distraction in healthcare settings is the use of abstract art. Although designers, artists and most healthcare staff react positively to abstract images, or artworks that tend to challenge one mentally, a number of evidences in research affirm the possibility of such artworks to have negative impact on patient outcomes (Ulrich, 1991, 1992, 1999), therefore, healthcare managements should carefully select artworks displayed with the intention of a positive impact, to avoid an opposite negative outcome (Iyendo & Alibaba, 2014; Uwajeh & Iyendo, 2016).

2.2. Psychologically supportive design (PSD)

Clinical practice often lays more emphasis on treating ailments while neglecting the psychological, social and in most cases, environmental concerns of the patients. Psychologically supportive design engages and arouses people both socially and mentally, as well as providing an individual a high sense of coherence.The key function of PSD is to trigger a mental process of a person by attracting attentions capable of reducing anxiety and promotes psychological feelings (Molzahn, 2007 & Dilani, 2009). Furthermore, the application and practice of PSD in healthcare, could be promoted and reinforced by implementing architectural designs that are salutogenic, i.e., a more biological approach from a pathogenic concept of treatment which lays emphasis on factors that increase wellbeing, rather than those that makes us ill (Dilani, 2009, p. 31). According to Atonovsky (1996) who proposed a salutogenic concept which focuses on the health elevation of process in healthcare facilities has become widely applied. His view further consolidates Dilani's claim that there is a rising cognizance of the need to create functionally competent facilities that are also human-centered environments aimed at initiating and enhancing health processes and outcomes.

2.3. Conceptual framework of Healing attributes

As earlier stated, a very important feature of healing attributes is its ability to have a positive influence on patients physically, socially and psychologically. The challenge, therefore, is to measure the perception rates of these attributes by healthcare facility users, specifically from a staff perception, in order to assert their level of importance. This research is centered on four distinct variable or factors summarized from the work of two researchers – Dilani (2009) and Ulrich (1991), enhancement of social support, stimulating design features, flexibility and coherence and connection to nature, focusing on the hierarchy of the above mentioned attributes according to their relevance in the application and outcomes as shown in fig. 1 below.

2.3.1. Enhancement of social support

Social support can be classified into two, in terms of healthcare setting: healing culture and environmental design. Healing culture refers to the relationship among patient's staff and visitors while environmental design either enhances or reduces the healing process in hospitals or healthcare facilities (Rashid, 2010). It is made up of various areas which include the provision of emotional support, evaluation and Confirmation, intimacy, easy access to information, comfort and physical affection (Hale; Hannum, & Espelage, 2005). The interaction between recovery patients, their family members and staff is an important attribute in healthcare settings, which has not been given a lot of attention or consideration in terms of design, as it's been noted in several research, that medical facilities and health centres usually separate patients from families (Schweitzer, Gilpin, & Frampton, 2004). Simply providing patients and family members with adequate furniture arrangement, that encourages interaction and eye contact can elevate social support. Social support functions in healthcare can be summarized as see in figure 2.

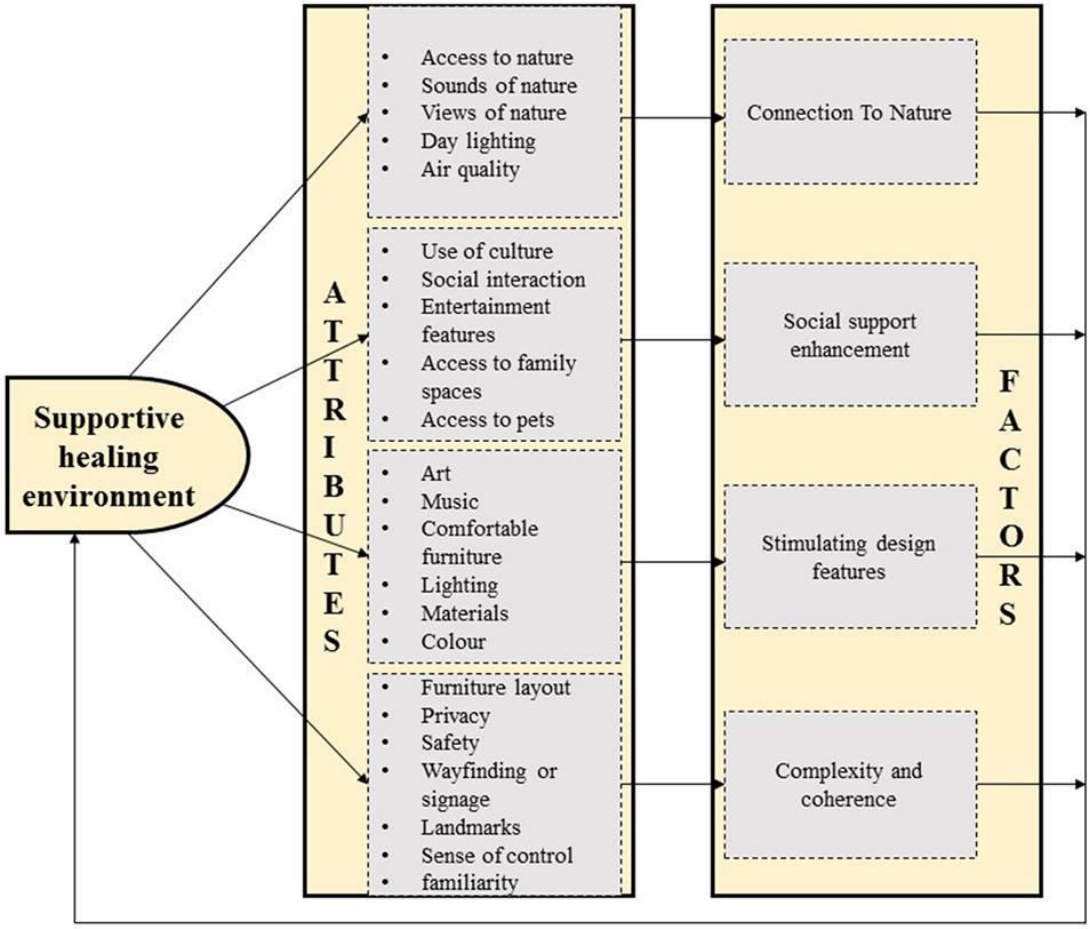


Figure 1. A conceptual model of supportive healing environment with the four attributes from Ulrich's and Dilani's theories.

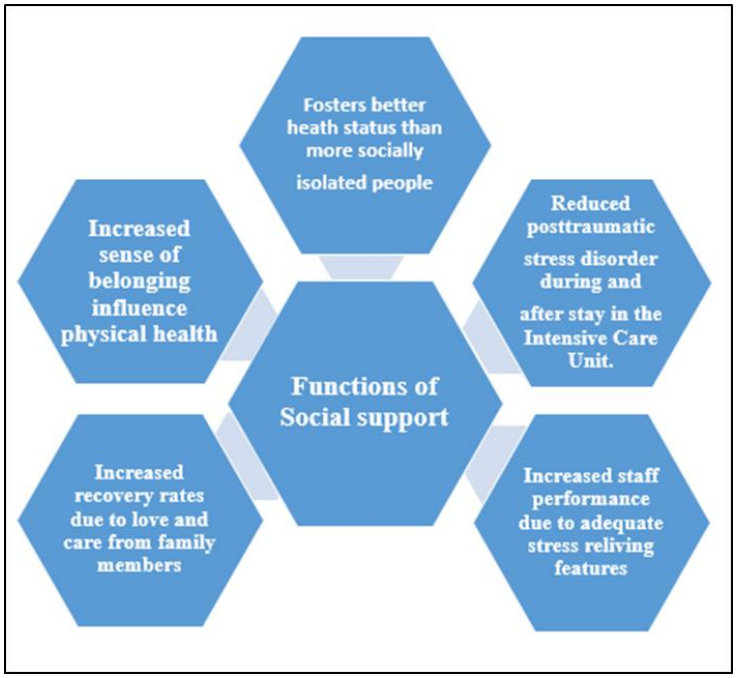


Figure 2. Schematic summary of the advantages of social support.

2.3.2. Stimulating design features

These are features believed to have a strong relationship between the interior environment of buildings and the human wellbeing. According to a research by Dr. Hettler, the executive director of the National Wellness Institute, in 1979, there are six wellness factors used to evaluate the effect of interior design features on human health, namely: physical, emotional, spiritual, intellectual, occupational, and social wellness (Montgomery, 2004). Other design factors considered to cause wellness such as: colour, lighting, acoustics, ventilation, use of space, use of art, and incorporation of nature.

2.3.3. Flexibility and coherence

The geometry and configuration of floor plans in healthcare design has a great impact on the coherence of spaces and way finding (Molzahn, 2007). Way finding is one of the guiding attributes for user's perception about the flexibility and coherence of spaces in healthcare buildings (Hölscher; Brösamle, & Vrachliotis, 2012). The term coherence in healthcare settings, refers to the quality of space integration, proximity and functional relationship between forms and elements within spaces, that affords users identify and locate functions within the space (Evans, & McCoy, 1998). A flexible and coherent space reduces the stress on patients, family members and staff, caused by poorly designed spaces and inadequate way finding signs. Another important aspect of flexibility is the sense of privacy. Healthcare designs should afford patients the opportunity to personalize their space by making them personal (Schweitzer, Gilpin, & Frampton, 2004). It is important to note, is the sense of control and safety attributes designers find difficult to harmoniously integrate properly into a coherent whole (Foque, & Lammineur, 1995).

2.3.4. Connection to nature

Incorporating natural elements or features that gives a semblance of nature within healthcare facilities have been revealed to offer soothing feelings. The consideration of interpersonal differences and preference to nature elements are significant considerations in the incorporation of nature in healthcare (Shepley, 2006). The studies of Ulrich (1991) strongly asserts that nature views enhances wellbeing of patients. Studies by Anderson, et al., (2007) also documented that proper use of nature reduces stress, pain management and elevates a sense of overall well-being in patients and staff. The incorporation of indoor plants or pictures of nature themes, aquariums and fountains into the interior setting, have shown positive health outcomes (Anderson, et al., 2007). A research on children suffering from attention deficit disorder (ADD) found that children functioned better after partaking in activities in natural environments (Shumaker, & Czajkowski, 1994). It also noted that the greener the play area, the less critical their symptoms were. This consolidates the fact that designing gardens adjacent to hospitals that can afford patients adequate view from their rooms, reduce stress while providing a sense of escape.

Case study

The Eastern Mediterranean University Health Centre is the case of study. It is the campus health centre located within the university in Famagusta which services EMU, EMC, EMP, Preschool and Kindergarten students, University academic staff, Administrative Services Staff, Workers and their spouses and children can benefit from the Health Centre. (Appendix A: floor plan).

3. Methodology

A subject method of data collection involving 20 survey questions administered to the staffs of the health centre was adopted for this study.

3.1. Data analysis

The target sample for this case study were staffs of the EMU health centre including doctors, nurses, administrative and managerial staff. The results of the survey conducted, revealed that out of 20 respondents, (n=8) 40% were male and (n=12) 60% were female. The study also deduced that (n=10) 50% of the staff have had less than five years working experience in the health care field, (n=2) 10% have had more than 15 years of work experience, while (n=5) 25%, had 5-10, (n=3) 15% had 10-15, years of experience respectively. Also, a cumulative result of (n=6), 30% and (n=4) 20%, resulting in (n=10) 50% suggests an average staff strength with working experience in previous healthcare facilities. (n=5) 25% of staff have had more than 7 years' work experience in EMU health Centre, (n=2) 10% had no work experience, while (n=5) 25% had 5-6, (n=8) 40% had 1-2, years of experience respectively. This result affirms the fact that, on the average, staff in the EMU health centre has worked in health facilities long enough to know the needs of patients socially, emotionally and psychologically in order to achieve improved health outcomes. A descriptive analysis of the demographic of staff working experience is given below in Table 1

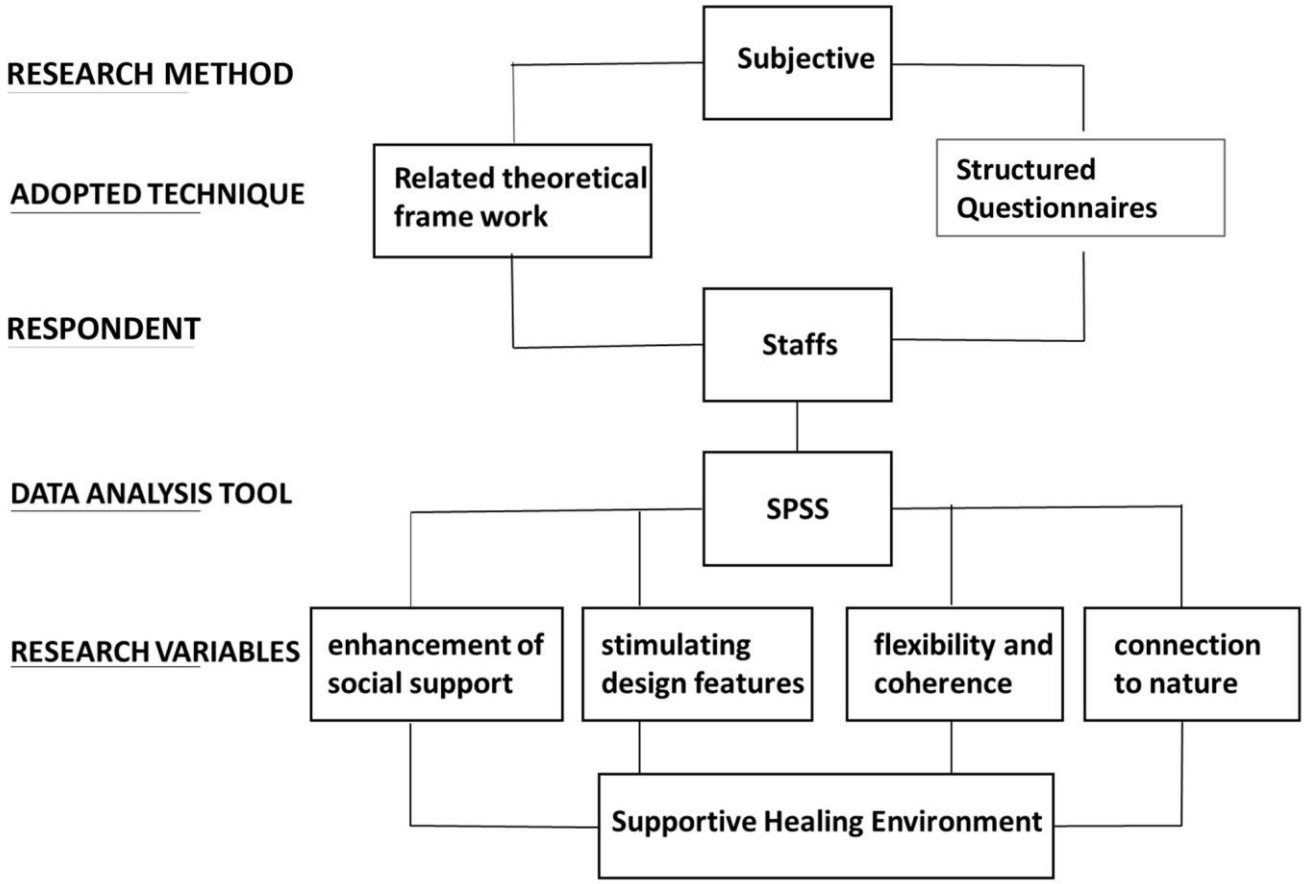


Figure 3. Methodology outline.

Table 1. Demographic information of respondents.

Variables	Scale/category	Number/frequency	Percentage
Gender	Male	8	40
	Female	12	60
Years of experience in health care field	Less than 5	10	50
	5-10	5	25
	10-15	3	15
	More than 15	2	10
Number of previous healthcare facilities worked in	0	9	45
	1-2	6	30
	3-4	4	20
	5-6	1	5
Number of years worked in the EMU health centre	0	2	10
	1-2	8	40
	5-6	5	25
	More than 7	5	25

3.1.1. Physical environment

- Personal work space

To understand the needs of staff in the EMU health centre that would facilitate their productivity and patient health outcomes, questions related to the quality and type of work environment in which staff spends more than 50% of their time in the centre, a ranking of the degree at which certain factors, equipment's and spaces affect their performance, the psychological implications of the view from their work station, and the percentage of hours spent at their workstation. The following results were found respectively: (n=1) 5% revealed that they worked in an enclosed office, (n=2) 10% worked in areas with panels for privacy, (n=2) 10% worked at a desk in an open area, (n=11) 55% worked in areas that is not designated specifically to them, (n=4) 20% of staff totally had no designated work place. (n=16) 80% responded the need for adequate work surface, (n=10) 50% depicted the need for technology (computers), (n=8) 40%

revealed the need for acoustic privacy and (n=7) 35%, a need for visual privacy. Most of the staff responded that they would feel more comfortable and work better in spaces that afford them privacy, designated for them and are less crowded. (n=7) 35% stated that their personal work space and surface was efficient, (n=12) 60% revealed neither efficient nor inefficient for patients and guest seating, (n=1) 5% lacked seats for internal and external colleagues. The results and request from staff affirms the need for the three factors of Ulrich (1991), theory of supportive design, 'sense of control with respect to physical surrounding' and 'access to positive distraction in physical surroundings' in the centre to be improved. Figure 4 (n=14) 70% and (n=6) 30% show the staff response to the need for an exterior nature view from office space as a source of positive distraction.

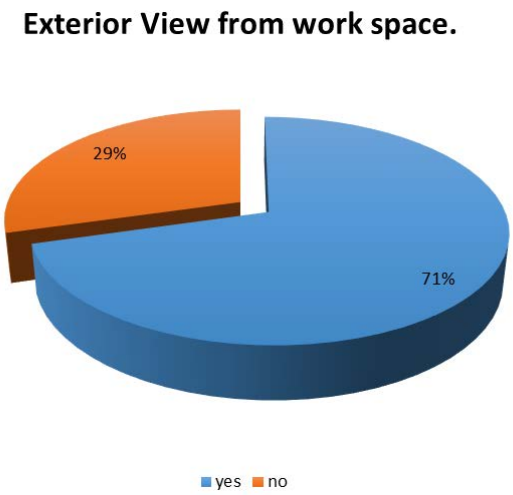


Figure 4. Exterior nature view from office space as a source of positive distraction.

- Public service space

Art works have therapeutic values that improve patient's medical state and general outcomes and healthcare staff performance (Barron, 1996; Iyendo & Alibaba, 2014; Uwajeh & Iyendo, 2016). To investigate the supportive design features in as regards public service space in EMU health centre, the findings from staff at the health centre when asked to rank art works of flower themes (n=20) 80%, people being helped (n=15) 75%, abstract paintings (n=1) 5%, rocky mountain landscape (n=2) 10%, and nature scene (n=14) 70%, confirms the elements related to an enhanced state of well-being within healthcare environment proposed by Ulrich and Dilani's theory as shown in Figure 5.

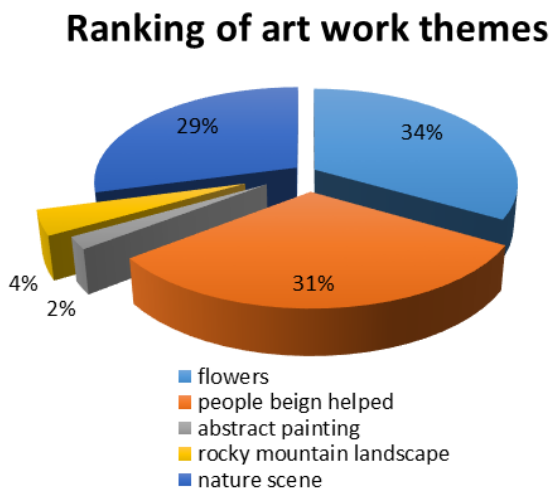


Figure 5. Rank of art work themes.

Responding to an open ended question, "what are the key important characteristics for a waiting area or lounge in a health Centre" two predominant key words were "clean" and "comfortable". Other terms include, homely, quiet, comfortable seat, health magazines, adequate direction signs, better technology for crowd control in terms of doctor/patient visiting turns. (n=11) 55% believed that a comfortable working environment is more important for staff/patient outcome, while (n=9) 45% preferred clean and sterile work environment as more important.

The attributes related to the theories of Ulrich and Dilani in terms of physical and socio-spacial context were also questioned. The opinion of the staff at the health centre showed (n=2) 10% for the use of artwork, (n=8) 40% on furniture layout and ease of way finding, (n=10) 50% for the type of reception people get when they visit the centre. See fig. 6 below.

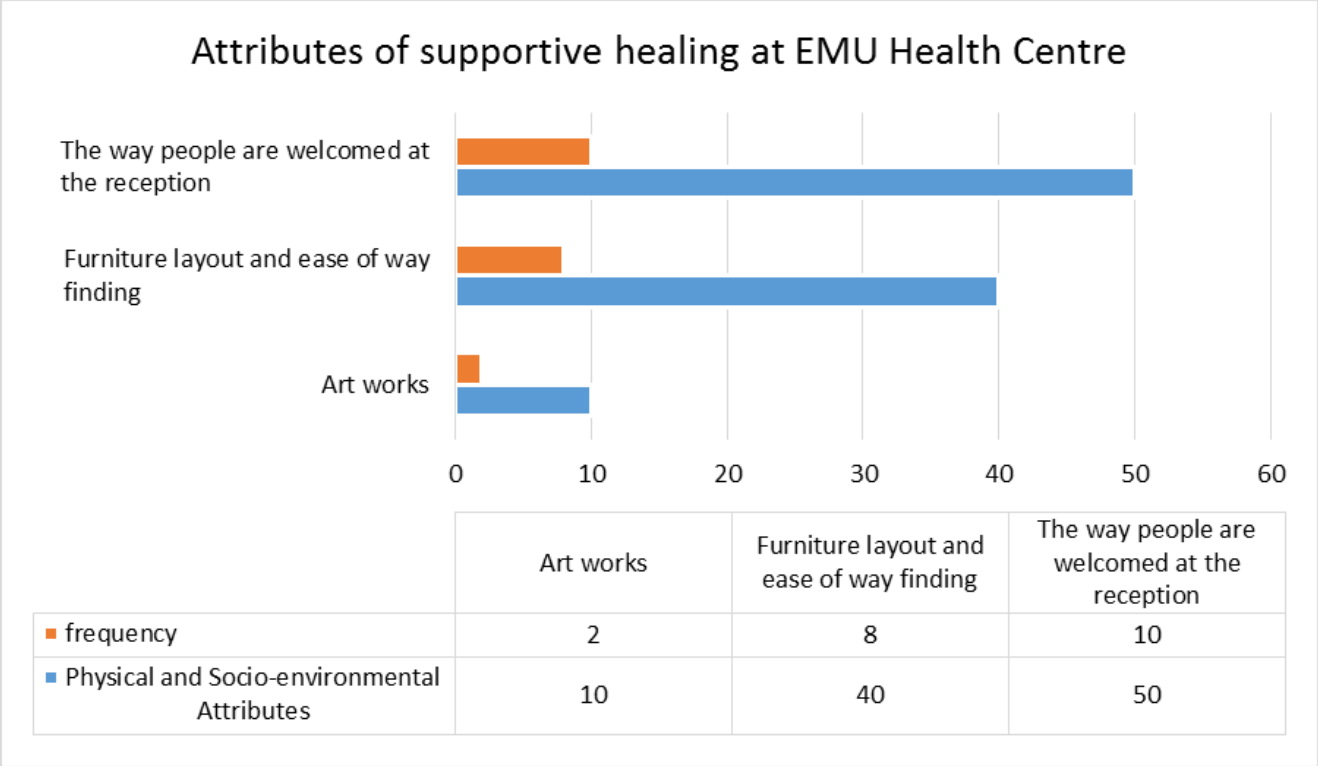


Figure 6. Attributes of supportive healing at EMU Health Centre.

Table 2. Rating of supportive healing features present in EMU health centre

Physical Elements	Percentage	Number of respondents	Classification of response
Adequate interior lighting	70	14	Effective
Acoustic quality of spaces	60	12	Effective
Visual privacy	30	8	Neither effective nor ineffective
Use of colour and Psychological effects (Bright, dull, boring, etc.)	45	9	Neither effective nor ineffective
Comfortable furniture	45	9	Neither effective nor ineffective
Safety measures in the health centre	35	7	Neither effective nor ineffective
View to exterior	35	7	Neither effective nor ineffective
Ease of access and way finding	65	13	Effective
Sense of control	55	11	Effective
Maintenance culture	60	12	Effective

As shown in (Table 2), respondents were asked to rate their perception of the listed physical elements at the health centre as proposed by Ulrich and Dilani. (n=14) 70%, adequate interior lighting proved to be the most effective element, followed by (n=12) 60%, maintenance culture and acoustic quality of spaces respectively, the third rank was (n=13) 65%, ease of access and way finding and the fourth effective ranking was (n=11) 55%, sense of control. Elements ranked as neither effective nor ineffective were, visual privacy (n=8) 30%,

safety measures and view to the exterior (n=7) 35%, respectively, comfortable furniture and the use of colours (n=9) 45% respectively.

3.1.2. Work-environment culture

The response of staffs regarding the rate at which certain norms and values were a constant characteristic of the centre, the following results (n=13) 65%, (n=11) 55, (n=13) 65%, respectively refer to (Communication with patients/clients seeking service, Reassuring friends/family regarding the patients/client health conditions and socially interacting with patients/clients). The other features refers to activities that are a norm at the health centre but not always practiced. See Table 3.

4. Discussion and finding

As shown in the conceptual model of supportive healing environment with the four attributes from Ulrich's and Dilani's theories; Enhancement of social support, Stimulating design features, Flexibility and coherence, Connection to nature. The results from the survey of this research was used to understand the hierarchy in the perception of the attributes from a staff perception in the EMU health centre to enable one to have a concrete evidence, backing the theory of supportive design, as to which attribute should be given the most priority in healthcare designs. Findings from the personal workspace survey indicated that the staff's response suggests a strong need in the social support with (n=11) 55% of staff, with the opinion that they will function better if they had a designated office, (n=16) 80%. This indicates a need for adequate work surface, and (n=6) 30% shows the staff response on the need for an exterior nature view from office space as a source of positive distraction.

Table 3. Rating of norm at EMU health centre

Norms	Percentage (%)	Number of respondents	Classification of response
Collaboration and communication among employees within same department	70	14	Almost always a characteristic
Collaboration and communication among employees in other department	60	12	Seldom a characteristic
Communication with patients/clients seeking service	65	13	Always a characteristic
Communication with visitors, family and friends	50	10	Almost always a characteristic
Going out of your way to offer a "helping hand"	50	10	Almost always a characteristic
Directing people to service areas	45	9	Almost always a characteristic
Reassuring friends/family regarding the patients/client health conditions	55	11	Always a characteristic
Socially interacting with patients/clients	65	13	Always a characteristic

Attention to/the presence of reading materials, TV Programs and other social amenities	25	5	Not a characteristic

Supporting the attribute of Stimulating design features, as found in the public space, art works of flower was rated (n=20) 80%, people being helped was rated (n=15) 75%, and nature scene (n=14) 70%. Also, results from the sound, found to support the healing attributes, located within the environmental work culture, were (n=14) 70% adequate interior lighting followed by (n=12) 60% maintenance culture and acoustic quality of spaces respectively. Furthermore, the perception of staff towards supportive healing environmental norms were also found in the area of enhancing social support, with (n=13) 65%, (n=11) 55, (n=13) 65%, representing (Communication with patients/clients seeking service, Reassuring friends/family regarding patients/client health conditions and socially interacting with patients/clients) respectively. The open-ended questions asked in the survey generally reveals the need for comfortable furniture's in the workspace for both staff and patients a clean and sterile environment, a noise free environment and adequate visual privacy.

Two research questions served as a foundation for this investigation of attributes in healing environments: What critical attributes are identified by healthcare staff related to Dilani and Ulrich's research findings? Is a hierarchy of attributes perceived by healthcare staff?

The main attributes identified by health care staff in the EMU health centre that can influence supportive healing in a hierarchical order include:

1. Comfortable furniture in lounge and work space
2. Social interaction with patients
3. Integrating nature elements in the interior
4. Visual privacy
5. Adequate indoor lighting
6. Sense of control acoustic quality
7. Art works
8. Proper signage /way finding.
9. Colour

5. Conclusion

The theory of Supportive healing environment is very broad and inter winds into both social, physical, psychological human context. Based on the literature and findings in this study, it is evident that both patient's staff and visitors in healthcare facilities would have tremendous benefits from the integration of evidence based design solution. From the survey analysis of this study, the staff of EMU also consents to this construct with (n=20) 100% when asked an open ended question "should connection between patients and employees be strengthened in EMU health centre". This response validates the second top ranking attribute of social interaction with patient listed above.

Furthermore, studies should be carried out across a wider target/staff strength to build on this theory.

Acknowledgements

The authors would like to thank Assistant Prof. Dr. Badiossadat Hassanpour for her kind assistance during the preparation of this manuscript as part of a PhD course taken under her and the insightful comments that contributed significantly to the article. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The authors declare no conflict of interest.

References

Anderson, J. L., Adams, C. D., Antman, E. M., Bridges, C. R., Califf, R. M., Casey, D. E.,... & Lincoff, A. M. (2007). ACC/AHA 2007 guidelines for the management of patients with unstable angina/non–ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 2002 Guidelines for the Management of Patients With Unstable Angina/Non–ST-Elevation Myocardial Infarction) developed in collaboration with the American College of Emergency Physicians, the Society for Cardiovascular Angiography and Interventions, and .... *Journal of the American College of Cardiology, 50*(7), e1-e157. https://doi.org/10.1016/j.jacc.2007.02.013

Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health promotion international, 11* (1), 11-18. https://doi.org/10.1093/heapro/11.1.11

Baron, J.H. (1996). Art in Hospitals. *Journal of the Royal Society of Medicine*, *89*(9), 482 – 483. https://doi.org/10.1177/014107689608900902

Carver, C. S., Harris, S. D., Lehman, J. M., Durel, L. A., Antoni, M. H., Spencer, S. M., & Pozo-Kaderman, C. (2000). How important is the perception of personal control? Studies of early stage breast cancer patients. *Personality and Social Psychology Bulletin, 26* (2), 139-149. https://doi.org/10.1177/0146167200264001

Chalfont, G. E. (2006). *Connection to nature at the building edge: towards a therapeutic architecture for dementia care environments* (Doctoral dissertation, University of Sheffield). http://etheses.whiterose.ac.uk/id/eprint/1241

Cohen, S., Underwood, L. G., & Gottlieb, B. H. (Eds.). (2000). *Social support measurement and intervention: A guide for health and social scientists*. Oxford University Press. http://dx.doi.org/10.1093/med:psych/9780195126709.001.0001

Dilani, A. (2009). Psychosocially supportive design: A salutogenic approach to the design of the physical environment. *Design and Health Scientific Review, 1* (2), 47-55. https://www.researchgate.net/publication/265349464

Evans, G. W., & McCoy, J. M. (1998). When buildings don't work: the role of architecture in human health. *Journal of Environmental psychology, 18* (1), 85-94. https://doi.org/10.1006/jevp.1998.0089

Foque, R., & Lammineur, M. (1995). Designing for patients: a strategy for introducing human scale in hospital design. *Design Studies, 16* (1), 29-49. doi.org/10.1016/0142-694X(95)90645-V https://www.researchgate.net/publication/222753497

Hale, C. J., Hannum, J. W., & Espelage, D. L. (2005). Social support and physical health: The importance of belonging. *Journal of American College Health, 53*(6), 276-284. https://doi.org/10.3200/JACH.53.6.276-284

Hölscher, C., Brösamle, M., & Vrachliotis, G. (2012). Challenges in multilevel wayfinding: A case study with the space syntax technique. *Environment and Planning B: Planning and Design, 39* (1), 63-82. https://doi.org/10.1068/b34050t https://en.wikipedia.org/wiki/Evidence-based_medicine https://en.wikipedia.org/wiki/Salutogenesis

Iyendo, T. O., & Alibaba, H. Z. (2014). Enhancing the hospital healing environment through art and day-lighting for user's therapeutic process. *International journal of arts and commerce*, *3*(9), 101-119. https://www.researchgate.net/publication/306394295

Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge: Cambridge University Press. ISBN-10: 0521341396/ISBN-13: 978-0521341394 https://bit.ly/2zhsPAx

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company. ISBN 10: 0826141900/ISBN 13: 9780826141903, https://bit.ly/2RYQJrp

Marcus, C. C., & Barnes, M. (1999). *Healing gardens: Therapeutic benefits and design recommendations.* John Wiley & Sons. ISBN: 978-0-471-19203-9, https://bit.ly/2qSTK13

Molzahn, E. J. (2007). *Revealing attributes of supportive healing environments in interior design: Staff perceptions in healthcare design* (Doctoral dissertation, Colorado State University. Libraries). https://bit.ly/2P4clRZ

Montgomery, K. F. (2004). Understanding the Relationship between the Design of the Workplace Environment and Wellness (Doctoral dissertation, Texas Tech University). https://bit.ly/2FwV3Nn

Mroczek, J., Mikitarian, G., Vieira, E. K., & Rotarius, T. (2005). Hospital design and staff perceptions: An exploratory analysis. *The health care manager, 24* (3), 233-244. https://www.ncbi.nlm.nih.gov/pubmed/16131934

Nussbaumer, L. L. (2009). *Evidence-based design for interior designers*. Fairchild Books. ISBN: 9781563677595, https://bit.ly/2PD1dju

Purves, G. (2002). *Healthy living centres: A guide to primary health care design*. Routledge. ISBN-10: 0750646020/ISBN-13: 978-0750646024, https://amzn.to/2BhBnZu

Rashid, M. (2010). Environmental design for patient families in intensive care units. *Journal of Healthcare Engineering, 1* (3), 367-398. http://dx.doi.org/10.1260/2040-2295.1.3.367

Schwartz, P. M., & Solove, D. J. (2011). Pii problem: Privacy and a new concept of personally identifiable information, 86 N.Y.U. L.Q. Rev. 1814 https://scholarship.law.berkeley.edu/facpubs/1638/

Schwarzer, R. (2014). *Self-efficacy: Thought control of action*. Taylor & Francis. EBook ISBN9781317763703, https://bit.ly/2zgty4W

Schweitzer, M., Gilpin, L., & Frampton, S. (2004). Healing spaces: elements of environmental design that make an impact on health. *Journal of Alternative & Complementary*

Medicine, 10 (Supplement 1), S-71. https://bit.ly/2DP8beM

Shepley, M. M. (2006). The role of positive distraction in neonatal intensive care unit settings. *Journal of Perinatology, 26*, S34-S37. https://www.nature.com/articles/7211584

Shraiky, J. (2011). Prescribing Architecture: A Critical Evaluation of How Design Impacts Health and Wellness. *Journal of Healthcare, Science and the Humanities, 1* (1), https://issuu.com/navymedicine/docs/jhsh_vol_1_no_1

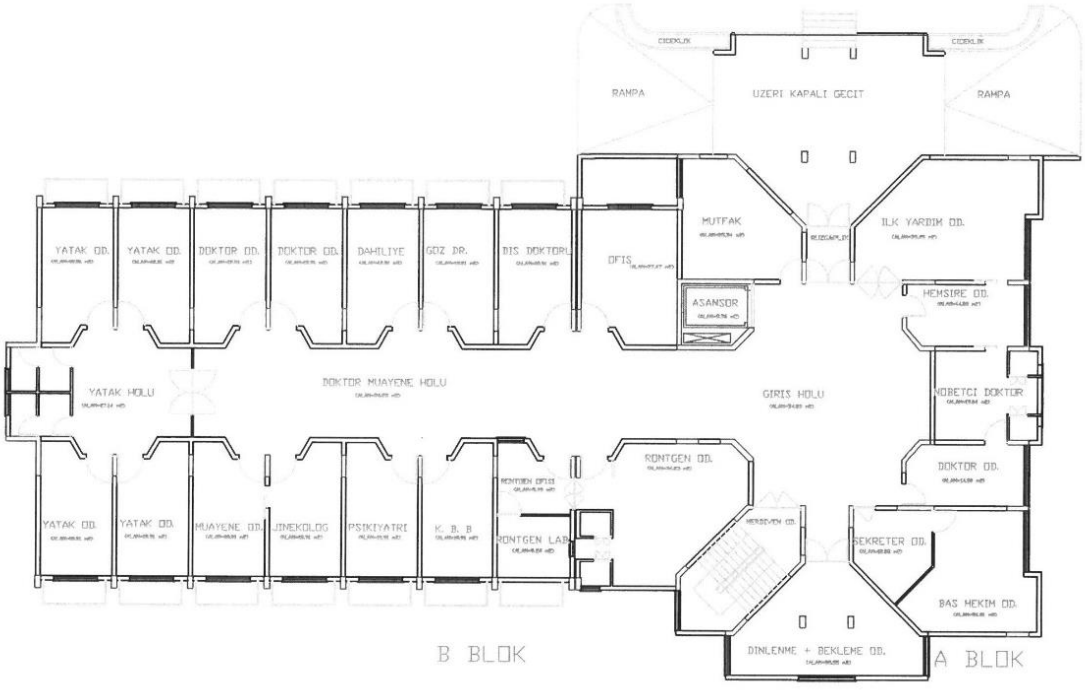
Shumaker, S. A., & Czajkowski, S. M. (1994). Plenum series in behavioral psychophysiology and medicine. *Social support and cardiovascular disease*. ISBN: 9780306439827, https://bit.ly/2Q2gVnR

Ulrich, R. (1984). View through a window may influence recovery. *Science, 224* (4647), 224-225. https://bit.ly/2A7DT2y

Ulrich, R. S. (2000, September). Evidence based environmental design for improving medical outcomes. In *Proceedings of the Healing by Design: Building for Health Care in the 21st Century Conference, Montreal, Quebec, Canada*. https://www.researchgate.net/publication/254623064

Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of environmental psychology, 11* (3), 201-230. https://doi.org/10.1016/S0272-4944(05)80184-7

Uwajeh, P.C & Iyendo, T.O; (2016). Visual Art and Arts Therapy for Healing in Hospital Environments. *International Journal of Management and Applied Science*, *2* (2), 159-165, https://bit.ly/2KgewQT



APPENDIX A: EXISTING FLOOR PLAN.

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 26– 37

From Zoning Based Area To A Hybrid Space; The Transformation Strategies

* Ph.D. Candidate FARHAN ABDULLAH ALI

Department of architecture, faculty of architecture, design and fine art, Girne American University, North Cyprus

Department of interior design, College of Arts and Letters Cihan University, Erbil, Iraq

Email: farhan.abdullah@cihanuniversity.edu.iq

ARTICLEINFO:

Article history:

Received 02 February 2018

Accepted 10 Jun 2018

Available online 02 July 2018

Keywords:

Zoning Based Space;
Hybrid Space;
Heterotopia;
Zoning Theory;
Deconstruction;
Transformation.

ABSTRACT

One of the contemporary city`s ambition nowadays is to be more comfortable, flexible and coeval. Although numerous urban design attempts have appeared to enhance the user's gratification, there are urgent demands to upgrade the classical public space to be more agreeable with the necessities of everyday life. Most of the urban areas after industry era are zoning based, meanwhile, have been less adaptable to daily life conditions economically, environmentally and psychologically alike. The zoning based space has a single- activity such as public or private, workspace or leisure space, etc., while the urgent demand is to look for kind of space, has mixed -activities that give it more richness, diversity, and interaction. This type of Heterotopic space has potentials, characteristics, and efforts that reconcile the everyday life requirements. On another hand, it could be defined, as a smart space, which is more correspondent with technological development through applying the digital technologies involved it. Regarding the principles of the deconstruction approach in urban studies, predominantly the hybrid space is compatible with these principles. Some of the key strategies that are sharing in both deconstruction approach and hybrid space concept are the layering and the binary oppositions. This paper is an attempt to reframe the principles of creating the public space and portrays the features of transforming the zoning based area into a hybrid one. In addition, it aims to implement deconstructive approach tools as strategies for enhancing user satisfaction in public space. The paper adopts a comparative approach that criticizes the zoning theory from different perspectives according to numerous situations and it accepts the hybrid space theory as a substitutional possibility to deconstruct the typical public space.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019) ***3***(1), 26-37.
https://doi.org/10.25034/ijcua.2018.4679

www.ijcua.com

1. Introduction

The public space is an essential part of the urban morphology; it is the lung of the city. Through history, there was a concern about designing the activated public space. In the 19th century with the development of industry sector, a new functional theory of urban planning had appeared to recognize and to zone the city areas, activities, and economic sectors. Industry impacts and immigration to cities during the 20th century provoked the zoning approach obsolescence. It became not able to compete with the increasingly changing in city lifecycle. Thus, public space started aging and slowly hibernating.

***Corresponding Author:**
Department of interior design, College of Arts and Letters Cihan University, Erbil, Iraq
E-mail address: farhan.abdullah@cihanuniversity.edu.iq

On another hand, the people themselves in the cities had suffered from the impact of work conditions, pollution and taxes. They began to feel disappointed, depressed and alienated.

Those kinds of economic, environmental and psychological effects on the consumers of the city have manifested the question about the role of Public Space in improving the emotional steadiness of human being. On the contrary, the public space that should be created as an outlet for the city has become the more worryingly status. It has suffered from many problems such as the waste disposal; lack the capability to exploits the potentials of greenery and loss of sense of diversity alike.

Predominantly this problem had not appeared in the ancient cities due to the simplicity of lifestyle and the rareness of city activities. Therefore, most of the public open spaces were agreeable with everyday life conditions at that time. Public spaces like the agora, the forum, the plaza and the souk were fixable, sensible and comfortable. It involved mixed activates that enriched the sense of place. This heterogeneous or hybrid space can consider as the area where complex and multiple social and technological conditions overlaid; It looks like an adequate answer to the city dilemma. This paper arises a question about the demand to revitalize our living spaces and to go with creating a heterotopic space that helps to reactivate the dead areas and refreshing the city blood cycle. It adopts the concept of hybrid space as a substitutional option; the paper started with clarifying the architectural concept of hybrid and heterotopia then highlighted the definitions and the terminology that related to these concepts. Then it manifests the past attempts that applied the idea of hybrid space to give more attention and reinforcing the raised thoughts. The zoning based space has become fossilized, obsolescence and unmatchable with requirements of contemporary life. The paper analyses this kind of zone principally to compare with the new trend of design the public space.

The core paper questions are; how could create an open space that a liable to everyday life? And how could transform and upgrade the old ones?

1. Hybrid space and Heterotopia concepts

1.1. Definitions, Terminology, and Beginnings

Etymologically, the term hybrid has been used in English since 1601. According to Merriam-Webster dictionary, it came from Latin hybrida, genetically; it is an offspring of two animals or plants of different races, breeds, varieties, species, or genera; A hybrid of two roses; a person whose background is a blend of two diverse cultures or traditions; something heterogeneous in origin or composition: composite hybrids of complementary DNA and RNA strands a hybrid of medieval and Renaissance styles; something (such as a power plant, vehicle, or electronic circuit) that has two different types of components performing essentially the same function drives a hybrid that gets really good mileage.

Nowadays, the hybrid space has a multilayer meaning depends on the purpose of the study, in the sense of technological milieu, it mean an area involves information that flow within it; it is an objective synonym for the virtual space. It is "space that is manifested in the physical world, but embodies digital information to make invisible social aspects of a coworking space visible." (Bilandzic, 2013) This kind of embodied hybrid space is "physical environments blended with ubiquitous computing technology." (Bilandzic, 2013)

In the sense of the built environment, the hybrid space can be defined as an area involves mixed-used activities such as work and leisure - shopping, etc. and it might have mixed-concerned perspectives such cultural, social and technological.

The term heterotopia might is not common in the architectural literature, although it had a philosophical origin from the 1960s when Michel Foucault gave a lecture through architectural studies circle 1967, but it did not publish until 1984.

Foucault in his speech described our age as the age of space. He referred to Gaston Bachelard`s phenomenological viewpoint about lived space to describe this kind of heterogeneous space "…. We are living not in a homogeneous and empty space but, on the contrary, in a space that is laden with qualities, a space that may also be haunted by fantasy." (Faubion, 1998)

He argues that there are real places, in every culture and civilization, these actual places; " …are designed into the very institution of society, which are sorts of actually realized utopias in which the real emplacements, all the other real emplacements that can be found within the culture are." (Faubion, 1998) He called this space a heterotopia as opposed to the utopia that according to him has no real place.

[1]Definition of (hybrid), Retrieved from https://www.merriam-webster.com/dictionary/hybrid

Etymologically, heterotopia indicates the contraction of 'hetero' (another, different) and 'topos' (place), the term used in medical and biology literature to describe a phenomenon happening in an unusual environment. Although he never apparently signified to this, "Michel Foucault borrowed the term heterotopia from the medical and biological contexts, and inserted it into his own discourse." (Dehaene, M & De Cauter, 2008) In this sense, the heterotopia might mean *the space of difference.*

Despite the novelty of the proposal, however, the idea had application`s roots in every culture as Foucault argued. Maybe the clear example the city of Rome as it manifested at the 18th century Map of the city of Rome by Giambattista Nolli (1748);

> *"The churches of Borromini prominently surrounding the Piazza Navona, the Pantheon a bit further to the east. The church interiors are drawn as cavities within the solid built mass of the city, making for an elegant visual expression of the ambiguous status of these 'Sacred' spaces that defy easy categorization within the private-public/black-white binary logic of the map. The Piazza Navona was built on the vestiges of a stadium, the Circus of Emperor Domitian, which demonstrates that heterotopias can over time develop into public spaces." (Dehaene, M & De Cauter, 2008)*

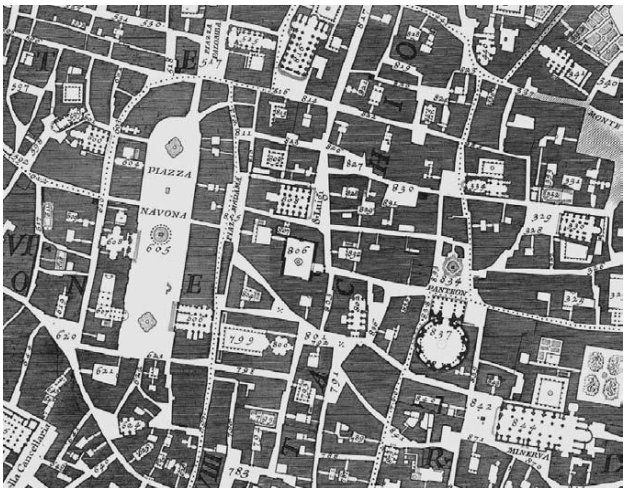


Figure 1. fragment of the 18th- century map of Rome by Giambattista Nolli (1748). Source; (Dhaene and De Cauter 2008)

1.2. Historical Examples Of Hybrid Space Concept

1.2.1. The Agora

The Agora of ancient Athens is the heart of Classical Greece, the native land of democracy. This multi-use significant "Marketplace" featured shops, temples, and public spaces where people met, debated, watched games and spectacles and voted on the most important political issues of the city. The Agora is considered the Classical long life element that witnessed the impact on this civic space, from Neolithic to modern times.
According to Hannah Arendt, the Agora is a symbol of power;

> *The politics of power brings together people at such places where the freedom of thought is expressed. Public squares & plazas as a podium of power, the arena to spread free thinking has been the imprint from the Grecian agora, the Roman forum to the Medieval Paris and the squares of the Renaissance." (Arendt, 1958)*

Hannah Arendt portrays an ancient society divided between the private, and Agora, the political 'space of appearance'. The distinction between private and public life qualifies the three forms of the activity: labor, work, and action. Richard Sennett describes the agora as a place for democracy;

> *The other space of democracy was the Athenian agora. The town square consisted of a large open space crossed diagonally by the main street of Athens. At the sides of the agora were temples and buildings called stoas, sheds with an open side onto the agora. A number of activities occurred simultaneously in the agora - commerce, religious rituals, casual hanging out. In the open space, there was also a rectangular law court surrounded by a low wall so that citizens going about their business or making an offering to the gods could also follow the progress of justice. (Wallenberg, 1998)*

In this sense, the agora is not just a physical place; it is a democratic experience in the city.

> Sennett manifests his visual impression of Agora; he determines two important aspects; *these two principles of visual design - lack of visual barriers but a well-defined zone of transition between public and private- shaped people's experience of language. The flow of speech was less continuous and singular*

> *than in the Pnyx. In the agora, communication through words became more fragmentary, as people moved from one scene to another (Wallenberg, 1998.)*thirty

Then he passes away on describing his visual journey inside the Agora;

> *The operations of the eye were correspondingly more active and varied in the agora than in the Pnyx. A person standing under the stoa roof looked out, his eye searching, scanning. In the Pnyx, the eye was fixed on a single scene, that of the orator standing at the bema. At most, the observer scanned the reactions of people sitting elsewhere, fixed in their seats. (Wallenberg, 1998)*

The agora of Athena was the place of powerful, democracy and communication; it is multifunctional public space represented as a sign of civic and monument of justice. Bildbände describes it as;

> *A large, open square where the citizens could assemble for a wide variety of purposes. On any given day, the space might be used for a market, an election, a dramatic performance, a religious procession, a military drill, or an athletic competition. Here administrative, political, judicial, commercial, social, cultural, and religious activities all found a place together in the heart of Athens, and the square was surrounded by the public buildings necessary to run the Athenian government." (Bildbände, 2009)*

1.2.2. The Forum

The forum was the center of social and public life; it is the descendant of the Greek Agora. The forum was the place for the communal, political, entertaining and religious activities.

It began as a marketplace then it rapidly became the commercial, political and ceremonial center of the Roman civilization. In the development, it developed into an elaborate architectural space that became a part of all Roman cities.

Unlike the Greek agora that is informal in the plan, and whose buildings are subsidiary to space, in the Roman Forum, the planning is more formal. The buildings surrounding it are typically large and dictate the area. Buildings regularly found in the forum include temples, basilicas, and baths.

In the beginning, in the sixth century B.C., the Roman Forum was simply a marketplace, but religious buildings soon began to be built there.

The Roman forum as a status of collective energy has a profound root of Romans memory. Favro debates:

> *For the Romans of the republic, every physical location had unique genius loci. This spirit of place drew power from the site`s inherent forces and from the cumulative input of human interaction. As a focal point for communal energy, the Roman forum was not just an open space in urban Rome; it was a container of collective consciousness. The genus of the forum was the genus of state. (Favro, 1988)*

1.2.3. The Plaza

Unlike the Agora and Forum, the plaza has proved its viability and continuity. Functionally and morphologically through ages, despite the obsolete of concept, but it is still staunch in the minds of urbanists and planners as part of the structure of the city even today, So as not to almost devoid any city from one plaza or more. "Plazas can host a diversity of civic activities and tend to be multi-purpose. At the city and intermediate levels, they normally are open to public access. City level. Large plazas, often planned by the government or religious authorities, have been common in a wide variety of urban contexts through history." (Stanley, Stark, Johnston, & Smith, 2012)

It developed as essential parts of the cities. Plaza was a very conscious and integral part of city structure. The enduring appeal of the Greek and Roman classical period returned to the city and replaced the structural aspect of the Middle Ages with a pure, symmetrically molded sculptural form. Plaza is an attractive communal space; the word plaza has Spanish origin refer to the town square or central place of gathering. "In Latin America cities, the centers have followed a particular pattern that gives it an important recognition in the shaping of the urban structure. The origins can be traced back to the law of Indies, where the Spanish prescribed for each town a certain structure particularly focusing on the plaza. With the church and city hall as key elements of the colonial Spanish-American city layout." (McAdams, n.d.).

1.2.4. The Arab Souk

The Souk is the economic vein of the traditional Arabic city; it is a "marketplace, which was often shaded and passively cooled and ventilated, the circulation thoroughfares within the campus are shaded and passively cooled. They are also characterized by dramatic natural lighting via their roofs and social spaces." (Elgendy, n.d.) The Souk typically consisted of several shops arranged linearly in a respective sequence connected with residential districts through certain paths to the main souk spine. An essential feature of Arab Muslim cities is a definite uniqueness in the urban layout and a distinct separation between a multifunctional public urban core, and the private zones of residence. The city center incorporates different layers of interconnected Souks, permeable space open to the other, usually organized around a covered market and the principal mosque.

The public space system, based principally on pedestrian movement, were collected the narrow alleys of the Souks and commercial streets that were balanced out by the large central courtyard of the Friday Mosque.

In some Arabic cities like Aleppo, the Hellenistic and Roman eras left their touches in the urban fabric with their visible Orthodox rectangular street grids that still preserved in its covered souks.

The city acquired its compact urban fabric, a commercial core centered on the main souk, considered the longest covered souk in the Middle East, "which was established along the traditional east-west axis of the Hellenistic town, with the main mosque occupying the former space of the agora. The souks consist of some parallel rows of covered market alleys linked by perpendicular connections." (Bianco, David, & Rizzadi, 1988) The old Souks create a heterogeneous but a unified ensemble through its gradual transition with the other components of traditional Arabic city.

1.3. Impacts behind recourse to hybrid space concept

The modern city has suffered numerous dilemmas due to many impacts; we could classify them into three broad categories, economic, environmental, and psychological. Those consequences happened due the effects of an industrial era upon people and city itself. Although the zoning theory tried to treat with those impacts at a planned manner, unfortunately, most of the planning solutions have failed to pursue the increasing influences of the urbanization.

1.3.1. Urban obsolescence

Even though urban obsolescence can be the outcome of altering economies, such as a process predominantly produced by changing moods, technologies, and styles Nevertheless, Obsolescence might be we connected with materialistic objects, especially electronics devices such as mobiles, televisions, computers, games, etc.

"The term obsolescence was first applied in English to the built environment around the year 1910 to help explain the phenomenon of American downtown skyscrapers recently built and still physically sound but brought low by a process of what was called ' financial decay." (Daniel, 2015) The phenomenon shows why the estate sudden lost its economic value due to market competition.

The concept expanded to cover built environment in early 1930 when planning literature "began publishing essays on (obsolete cities) and (obsolescence in cities). The term synonymous with (blight) was applied to areas deemed substandard in economic, physical and social measurements, a condition generally attributed to suburban competition that drew resources away from city centers. The solution to urban obsolescence was most often demolition." (Daniel, 2015) Thus, when the building or place has treated as an economic commodity, pessimistically it will yield to the law of supply and demand according to market competition, that mean it will reach to maximum validity and will be expired, decay or obsolescence and may be at the worst possibility, it will die.

The city of Detroit is a stark example of modern urban collapse due to economic decline; it was cars industry city; giant corporations had established there. As the capital of the Twentieth Century, 1940s-era Detroit was an industrial behemoth, after World War II, Detroit, the phenomenon reached its climax. "Since 1950, Detroit has lost nearly a million people and hundreds of thousands of jobs. Vast areas of the city, once teeming with life, now stand abandoned." (Sugrue, 2005) Because The manufacturing industries that considered the backbone of the American economy had automated production and transferred factories to suburban and rural areas, and progressively relocated in the low-salary labor markets of underdeveloped countries such as the American South and the Carib¬bean.

"The complex and pervasive racial discrimination that greeted black laborers in the "land of hope" ensured that they would suffer disproportionately the effects of deindustrialization and urban decline. For a

large number of Afri¬can Americans, the promise of steady, secure, and relatively well-paid em¬ployment in the North proved illusory." (Sugrue, 2005)

The decline of the American industrial cities increasingly accelerated after the oil crisis of the 1970s; the manufacturing industries lost hundreds of thousands of jobs.

"Detroit was not a global city like New York or Los Angeles, where in the 1970's and 1980's, a large, internationally linked information and service sector emerged to replace manufacturing jobs." (Sugrue, 2005) In contrary, the manufacturers and governmental policies left Detroit and the small cities facing their inevitable fate.

"There is nothing economically or socially inevitable about either the decay of old cities or the fresh-minted decadence of the new un-urban urbanization. On the contrary, no other aspect of our economy and society has been more purposefully manipulated for a full quarter of a century to achieve precisely what we are getting." (Jacob, 1961)

The period between 1970 and 2000 experienced a severe collapse of the residential structure in the city "more than 161,000 dwellings were demolished in Detroit, amounting to almost one-third of the city's occupied housing stock -- that's more than the total number of occupied dwellings today in the entire city of Cincinnati. And demolition activity continues today." (Philpott, 2010)

"This city is never coming back; whatever happens, next will be without urban precedent because the context of the city no longer applies in this place where history has finally run out." (Herron, 2012) By this, sad and pessimistic tone Jerry Herron summarized the feeling people of the city toward what happened to the capital of the 20th century.

1.3.2. Recycling wastes disposal

Significantly, the roots of most environmental problems come from modernization after the industrial revolution. Waste disposal, Air pollution, global warming, etc. through history, human needs, and requirements have changed, and usage of the built environment usually modifies those needs and demands. And as a casual byproduct of those demands, Wastes appear as an urban dilemma affecting dramatically on human health.

Wastes are ingredients that are not main products for which the primary consumers has no further use regarding their commitments to fabrication, change or consumption, and of which they want to organize it. Waste disposal is critical environmental impasse cost the societies a lot of mislaid on different sides, economically, mentally and healthily. It is one of the severe charges usually paid for urbanization and industrial progress.

Most of the wastes were thrown into rivers, public spaces, and even streets that caused serious environmental problems affected the health of the residents and became the disposal or recycling it, the priority of the municipalities of the cities.

The economic prices of managing waste are costly, and commonly paid for by municipal governments; money can often be saved with more powerfully considered assembly means, changing vehicles, and with public tutelage.

Environmental solutions can decrease the cost of controlling and reduce waste capacities. Waste recovery (that is, recycling, reuse) can control economic costs because it avoids extracting raw materials and often decrease the transportation costs.

2. Hybrid Space Concept Vs Zoning Space Concept

2.1. The Zoning-Based Space: Theory and Application

Zoning theory is the land use regulations, regional planning theory was born from the womb of academic theories of the urban economies, the economic literature is dealing with the land as property or a commodity has a market value, not as a human value. The theory is the invention of a political process, and it serves the interests of those who control that process. It is "method of land use regulation undertaken by local governments. It divides a jurisdiction into geographically contiguous 'zones'. The local zoning ordinance prescribes what may be done in each zone and what may not be done. The great majority of the population of the US lives in communities that are zoned." (Fischel, n.d.)

The first appearance of the theory had been in Europe at the end of 18th century after the industrial revolution. "The precursor to modern zoning first appeared in Europe in 1891 when the German city of Frankfurt implemented a comprehensive plan that divided the city into different districts with varying building and use restrictions tailored to intended area uses." (Ryan, 2002)

Then the concept had transferred to the United States and also spread all over the world, Ryan explains the planning of the American cities;

> *Los Angeles followed in 1909 with a city plan that designated one residential and seven industrial districts. In 1916, the rapid rise of American zoning was triggered by New York*

> *City's adoption of an ordinance designed to curb the increasing traffic congestion and decreasing light and air associated with proliferating skyscrapers and to limit the incursion of sweatshop factories into the posh Fifth Avenue commercial district. (Ryan, 2002)*

Euclid v. Ambler Realty Company case considered the first significant evidence relating to the applying of the zoning regulations in United states that been the start point for most of the municipalities to adopt the zoning regulations. "In 1926, in the landmark Village of Euclid v. Ambler Realty Co. case, the Supreme Court formally recognized municipal zoning regulations as a constitutionally incident to the police power when enacted pursuant to validly implemented land use plans that advance a legitimate public interest." (Ryan, 2002)

The industrial era, especially in Europe, after that in the United States, had converted the features and morphology of the cities consequently; the influence of industry, urbanization, the automobile new infrastructure, the zoning regulations, and middle-class richness had provoked this change. Herndon determines five sectors that had been motivated:

> *The industrial revolution, however, brought about a fundamental shift in development patterns that realigned the structure of the built environment and, particularly in the United States, eroded the set of common principles that historically structured urban form. This transformation was spurred primarily by five factors: industrialization, urbanization, advances in transportation, zoning ordinances, and the rise of an affluent middle class. (Herndon, 2011)*

Although the undoubted intents of the zoning theory to protect the public health from the pollution hazard, the city has lost its ability to self-adapt with new changes and necessities of the inhabitants, due to lack of integration and the inflexibility of those regulations.

2.2. Lack of Integration

Most of the 19th and 20th century's urban areas are zoning based, they have been less adaptable to the changeable life requirements and human conditions, economically, environmentally and psychologically alike. The zoning based space has a single- activity such as public or private, workspace or leisure space, etc. the impacts of the industry and the migration to cities during the 20th century provoked the zoning approach outmodedness. It was not able to compatible with progressively changing in urban growth. The zoning theory depended in its conceptual primary on segregation, not integration. Therefore, city sectors and activities already have isolated, and the zoning based spaces have become fossilized, obsolescence and unmatchable with the requirements of contemporary life.

Therefore, hope and desire to realize an urban integration among city sectors has become the urgent concern for urban postmodernism designers. These belief and desire are underlying in the hearts of those who dwell; they are the ones who had suffered from the scourge of functional theories that economists, in a capitalist conscious, had inset to the literature of urban planning. "The shift away from the segregation of land uses and back toward the integration of them has established mixed-use development as an important paradigm in the planning and development worlds. In fact, many people view it as a panacea for the problems confronting our fragmented urban areas." (Herndon, 2011)

Diversity and integration become urgent demands of the societies as a reaction to the segregation and monotone of zoning theory regulations.

Thus, the construction of public space might initially adopt a rather functional approach, focusing on the social connectivity and communication and supporting diverse activities, avoiding single-activity areas and class-definite buildings that may exploit the social life of public spaces.

"Density, diversity, and concentration of activities will all play a role. On a micro-scale, this integration of activities, functions and their users in and around public spaces may spark collective actions that mutually stimulate and inspire each other" (Gomes, 2011)

2.3. Hibernation of the Public Space

Ironically, it seems that the zoned public space, in the present city, has consumed visually, financially, and environmentally. It has suffered enough from the impacts of the urban economy policies, the territorial isolation and personal benefits of the bloated class.

In her book, *the Death, and Life of Great American Cities*, Jan Jacob attacks the zoning planning theory when she describes the city of New York. "Its streets are zoned in the main against "incompatible uses" intruding into the preserves for solidly constructed, roomy, middle- and upper-class apartments.) (Jacob, 1961)

Jan Jacob ensures that this situation noticed in most the American cities "In city after city, precisely the wrong areas, in the light of planning theory, are decaying. Less noticed, but equally significant, in city, after city, the wrong areas, in the light of planning theory, are refusing to decay." (Jacob, 1961)
She attacks city planners apparently when she assumes that cities are becoming a huge workshop or as she described it a (laboratory) of experiments tolerates the bilateral of trial and error, failure and success. "This is the laboratory in which city planning should have been learning and forming and testing its theories." (Jacob, 1961)
The zoning based space has become fossilized, obsolescence and unmatchable with necessities of present-day. Therefore, the question might; about the future of public space, is it going to the (the hibernation mood) if it fails to reactivate again? Conditionally, if it has a spirit! Moreover, could the urbanists be shifting in focus from quantity to quality of public space?

3. Strategies of Deconstructing the Classical Public Space

3.1. Layering and Overlapping

Hybrid space has many opportunities that help the user to improve his mental mood might reflect on positively on the live environment. According to Jader Tolja, who is a present doctor, and psychotherapist focuses on the effect of space on the brain and the body, "As a surgeon, I came to realize that whatever happened to a person physically was very connected to what happened to him on an emotional level." (Tolja, n.d.)
On his research at the department of psychosomatic medicine in Milan from 1970th, he ensures "that mind, body, and space cannot be separated. Whenever there was a change in the mind of a person, not only his body changed, but to our surprise, his perception of space also changed. Similarly, any change in the spatial environment effected a change in both mental and physical states." (Tolja, n.d.)
Thus, due to the connection between user mental health and design of space, clearly shows the role of public spaces in the human being behavior, perception, and feeling. To address this relationship, we need useful layout strategies that are focusing on the features and relationships of public space. "By creating virtual metaphors and mental maps of different spatial layers within postmodern cities, public spaces are experienced as sequential images and overlapping layers of events as they emerge." (Fahmi, 2001)
The layering and overlapping are ones of these strategies that have a crucial role in enriching the public space and make it more attractive, joyful and constructive.
What means by layering is distributing functions and transportation networks in different levels that help urbanists to provide more opportunities for the users to communicate and participate together and give the flexibility to improve the public space.
The multi-layered tactic holds, in essence, the multiplicity of meaning and this diversity stems from the different cognitive understandings of the recipients, this visual experience able to stimulate the inhabitants and visitors alike.
With overlapping, the designer presents a new understanding of the spatial relationships, the zoning boundaries disappearing and a good chance for constructive dialogue between users may gaining.
The town of Almere is a good example of those tactics, Almere is the newest Dutch city situated on a new cultivated land of the Southern Flevoland polder, at about 25 kilometers from Amsterdam. "Comprehensively planned and built as a modern polynuclear city that consists of a conglomeration of six compact urban nuclei/towns. Planned and built in the past three decades, Almere is the last of the twenty-one new towns recently built on the Ijsselmeer polders and represents a quintessential expression of Dutch planning for both the newly created living environments and for the new dwellers" (Newman, 2010)
By the late 1950s and early 1960s, the typical, mostly unplanned urban fabrics of the old medieval compact towns were faced with new challenges. It was then that "the Dutch made the transition from their post-war reconstruction efforts in an attempt to shape a new urban society and a greener lifestyle. This transition required new approaches to the development of urban places, and Almere New City is one of the urban "products" of that era." (Newman, 2010)
The development of Almere city acquired many phases, and stills continue, In 1997, the municipality of Almere sure that it was time to start the development of a new center; as the city would grow in the coming decades. A package of necessities was being created. "The new center, 'Stadshart Almere' (City heart Almere), should become the main core of the whole city." (Zhou & Commandeur, 2009)
The diversity appeared as an essential concept of the planning, "the northern part of the center, above the railway line, would become a business center. The southern part, between the railway and the artificial lake 'Weerwater',

would become an area of shops, housing, cultural facilities, and entertainment." (Zhou & Commandeur, 2009)

Seemingly, the concept of layering dominated the layout of function, the essential element of the (Rem Koolhaas – OMA) design is "the vertical separation of functions. The public facilities and housing are situated at ground level; while basements, parking, and service entrances are located at a lower level. The ground floor level is lifted above the parking garages that are positioned underneath. The design contains two main axes, crossing each other at the highest point." (Zhou & Commandeur, 2009)

The social and cultural life has a crucial importance in defining the identity of the city of Almere, and it acquires a great consideration in the design approach of Almere city.

"The area located near the lake is mainly in use as an entertainment zone; this is where the cultural centre, cinema, theatre, and cafés are located. The main axes, linking the train station and the lake, are only accessible to pedestrians and contain shopping facilities. Cafés and restaurants are concentrated at the squares 'Grote Markt' and 'Belfort'." (Zhou & Commandeur, 2009)

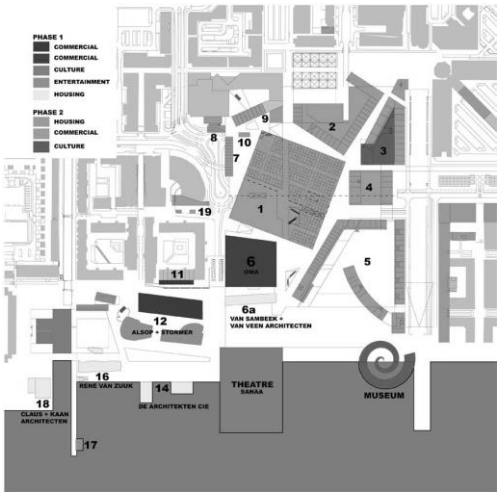


Figure 2. Almere master plan source: http:llwww.e-architects.co.uk/holland/almere-masterplan-oma

3.2. Fading The Barriers

The sharpness of the functional segregation of the zoning- base theory affected negatively, on the constant dialogue of the users, it broke the communication. The hybrid public space regarding the new demands of knowledge city, raising a transition and anti-edge tactics to overpass the threshold limitations. "Physical limitations may stem from restrictive opening hours, from the presence of guards, fences or gates which might discourage people from entering the spaces; entrances should be well connected to paths and smoothly transition to the surrounding sidewalk. There are other barriers to access that primarily affect certain user groups, such as stairways or car predominance in residential areas." (Gomes, 2011). Fading the boundaries among different zones, will breaking the tedious separation and activate the social participation.

Urban design consideration should concentrate on finding kind of plasticity of the boundary, the boundary as space, not as a line, space for communicating and interacting. It is the duty of urbanists to produce social modification through the precise identification of the boundary and activation of the edge. The "borders present a new transitory zone that can accept a multiplicity of new ideas that stitch formerly segregated areas of the city together. These plastic edges represent opportunities to strengthen social design through their engagement and manipulation." (Brillembourg, Klumpner, & Sherman, 2011)

This kind of physical flexibility requires considerate by those responsible. Moreover, the transition between different spaces, activities, and areas requires softness and faded edges "Besides the role of buildings and their functions in attracting visitors, a smooth transition between private and public realms can promote opportunities for public space use. The relationship is bi-directional." (Jacobs, 1993) This type of relationship might generate a transition space as a kind of *in-between* space could use it as a gallery, show area or advertising place. It may on the same level or locate in tiny different level, all of these possibilities stemming from the hybrid space's aptitude to cope smoothly and flexible coexistence with spatial changes and situational development based on the needs of users.

The technical development may impose new thoughts that require this kind of communication, cohesion to break the spatial boundaries of public spaces and overlapping networks and modern communication systems, in this sense Traditional space is no longer as it was and its limits may also have ravaging changes.

3.3. Fragmentation

The variety and multilayer of hybrid public space involve a hierarchical pattern connecting the urban morphology elements with the different level of scales corresponding to a range of human habits. "The patterns found at different levels such as street/block, plot series, plot, building, cell, and structure are not interchangeable, and the long-term success of a design depends on understanding not only

the differences but also the relationships between levels."

Fragmentation here means the continuous grain pattern of the city, not the segregation of parts. It is an important tactic used to emphasize this connection. The direct meaning of fragmentation might give a contrary and confused impression about the intention of this concept, which could be understood as a kind of spatial segregation that unfortunately, could lead to social isolation. Thus, "In this process of dissolution, fragmentation, and privatization, the city suffers a weakening of public space as a civic space, which causes ungovernable territory now filled up with products, inequalities, and marginalization." (Janches, 1985)

On the contrary, the hierarchical fragmentation of hybrid public space focuses on dividing the main space to many smaller connecting areas depending on the hierarchical row that enriches the urban scene and creates a visual surprise. This spatial characteristic might be found it in the traditional cities fabric; it was an environmental solution and urban visual experience alike.

"In a traditional city, public space was made up of a maze of streets and squares which together formed logical sequences and a hierarchized, coherent whole permeated with social meaning." (Dymnicka, 2009)

The contemporary city has significant market policies need kind of tools to enforce the market conflicts. In this perspective, although the fragmentation of public space is a spatial phenomenon, it could also have an economic dimension to improve everyday needs.

"The segmentation and specialization of the urban space is, at the same time, the spatial reflection of processes that regard the social and cultural sphere– and which lead to the multiplication of groups and lifestyles – and the effects of capitalism and neoliberal policies, which lead to the reduction of the common goods sphere and the appropriation of them by the market." (Mela, 2014)

Nowadays, the city intends to be a knowledge city or a smart city; this transformation invokes balance between the multi-layers of new networks, functions, buildings, and infrastructure of public space, the "layers` influence, modify and change the city's structural concept and produce fragmentary urban patterns, with historical and topographical factors generating contradictions and tensions." (Fahmi, 2001)

3.4. Juxtaposition and Binary Oppositions

The urban juxtaposition is human phenomenon embodied as a physical structure; juxtaposition here differs from the neighborhood unit that appeared conceptually with zoning-based theory in which inhabitants of the community are gathering according to the economic class. Nevertheless, the juxtaposition as well extends to combining binary oppositions.

Historically, people engage in dialogue without any religious discrimination, sectarian or social. The Southeast Asian archipelago is a good example of urban juxtaposition when

"For several millennia, the Southeast Asian archipelago has been the site of some of the world's most diverse urban juxtapositions of ethnicity and culture." (Dehaene, M & De Cauter, 2008)

That juxtaposition contributed a cultural interchangeability, unified the heterogeneous society and enriched the urban culture. According to Dehaene, M & De Cauter:

> *A finely grained hierarchy of social distinctions has historically been mapped according to complex combinations of class, religion, ethnicity, language, and occupation. Since the first centuries of the Common Era, trade has brought different populations together, and towns have formed as a spatial mosaic of distinct ethnolinguistic cultures operating in explicitly segregated urban spaces. (Dehaene, M & De Cauter, 2008)*

A binary opposition is a couple of correlated objects or concepts that are opposite in meaning. Binary opposition is the system by which, in language and thought, two ideological opposites are strictly defined and head out against one another. A binary opposition is seen as an essential idea of human philosophy, culture, and language. In this standpoint, the binary oppositions are the most related tools of the hybrid space concept when the public/privet or the work/ leisure are locating together at a juxtaposition relationship.

If the urban juxtaposition has this active role in improving the social relations and developing the cultural cross-fertilization on the level of the city, this role should not be overlooked at the scale of public space.

The implementation of the binary oppositions should not be only in the functional dimension but also includes the social and cultural dimensions thus; the public space becomes a full of multiculturalism and sociability. Batuman explains the relationship between the social events and the characters of space;

> *Everyday life has a multilayered character, which is a result of the overlapping repetitive cycles that occur in urban space. The same is valid for social events: it is the repetition of such activities in certain spaces that make*

them public spaces in collective memory. Then, public space is defined by, on the one hand, repetitive spatial practices of similar kind and on the other, the juxtaposition of social relations of different kind. (Batuman, 2015)

4. Conclusions

The contemporary city has been suffering from economic, environmental and social-psychological impacts since it missed the compatibility with urgent everyday demands. The zoning-based planning theory that depended on the functional segregation became not valid as much as supposed to be updated with the new knowledge era conditions. This impact has aroused an immediate claim for a hybrid space which able to gather various functional activities in one package. Nowadays, the hybrid public space is the most vibrant theme that been in the heart of the urban studies, research and discussions. Although the concept is not a new, it had appeared in the ancient civilizations in different versions such as the Agora, the Forum, the Plaza, and the Souk. To construct the new hybrid space, or to deconstruct the built one, numerous design strategies should take into consideration like; the layering, the overlapping, fading the barriers, the fragmentation, juxtaposition and binary opposition. Furthermore, in the technological sense, the hybrid concept could embody the virtual public space in a physical form which, means it will be matchable with the smart growth of the new heterotopias. The resilience, the social and the network infrastructure, are the main aspects of the new heterotopia that diversity, mixed-use, and adaptability are constituted its hidden structure.

Acknowledgment

The main idea of the paper was submitted as one of the requirements of the (reconstruction and deconstruction of the public space) course as part of my on-going doctoral study at Girne American University. The course was tutored by Professor Dr. Jose Madrigal. Kindly, I would like to acknowledge and express my gratitude to Prof. Dr. Madrigal for his advices, encourage and guidance through my doctoral study.

Conflict of interests

The author declares no conflict of interest.

References

Arendt, H. (1958). The Human Condition. Chicago: University of Chicago Press. Retrieved from http://b-ok.cc/book/551178/3e27a3

Batuman, B. (2015). Everywhere Is Taksim; The Politics of Public Space from Nation-Building to Neoliberal Islamism and Beyond. Journal of Urban History. DOI: 10.1177/0096144214566966

Bianco, S., David, J.-C., & Rizzadi, G. a. (1988). The Conservation of the old city of Aleppo: Syrian Arab. Retrieved from unesdoc.unesco.org: http://unesdoc.unesco.org/images/0004/000421/042161eo.pdf

Bilandzic, M. V. (2013). The embodied hybrid space: designing social and digital interventions to facilitate connected learning in coworking space. PhD thesis. https://eprints.qut.edu.au/62872/1/Mark_Vicko_Bilandzic_Thesis.pdf

Bildbände, Z. (2009). The Athenian Agora; New Perspectives On An Ancient Site. Athens: The American School of Classical Studies at Athens. Retrieved from http://www.oxbowbooks.com/pdfs/books/vonZabernFront.pdf

Brillembourg, A., Klumpner, H., & Sherman, M. C. (2011, February). Trans-Borderlands: Activating the Plasticity of Urban Border Space'. Trans 18: Politics. https://www.research-collection.ethz.ch/handle/20.500.11850/6209

Daniel, M. A. (2015). Architectures of Obsolescence: Lessons for History. In T. B. Babette, & S. Wasserman, Cultures of Obsolescence: History, Materiality and the digital age (pp. 61-78). Palgrave Macmillan a division of Macmillan Publishers Limited. DOI:10.1057/9781137463647

Dehaene, M, M., & De Cauter, L. (2008). Heterotopia in a postcivil society; public space in a postcivil society. Taylor & Francis e-Library. Retrieved from https://www.hse.ru/data/2013/12/10/1339198680/Michiel%20Dehaene,%20Lieven%20De%20Cauter%20Hetero..ce%20in%20a%20Postcivil%20Society%20%202008.pdf

Dymnicka, M. (2009). fragmentation of public space- an attempt at recomposition. Regional and Local Studies (special issue 2009 ISSN 1509–4995). Retrieved from http://www.studreg.uw.edu.pl/pdf/spec_2009/4_Dymnicka.pdf

Elgendy, K. K. (n.d.). A Sustainable Campus in Saudi Arabia. Retrieved from carboun.com: http://www.carboun.com/sustainable-design/kaust-a-sustainable-campus-by-the-red-

Fahmi, W. (2001). Reading of Post-Modern Public Spaces as Layers of Virtual Images and Real Event. The 37th International Planning Congress HONEY, I SHRUNK THE SPACE" Planning in the Information Age. Utrecht:

Utrecht, The Netherlands. Retrieved from https://www.academia.edu/4496961/Reading_of_Post_Modern_Public_Spaces_As_Layers_Of_Virtual_Images_and_Real_Events

Faubion, J. D. (1998). Michel Foucault; Aesthetics, Methods, and Epistemology. New York: The New Press. Retrieved from https://pages.uoregon.edu/koopman/courses_readings/colt607/foucault_EW2_method.pdf

Favro, D. (1988). The Roman Forum and Roman Memory. Retrieved from placesjournal.org: https://placesjournal.org/assets/legacy/pdfs

Fischel, W. (n.d.). zoning and land use regulation. Retrieved from dartmouth.edu: http://www.dartmouth.edu/~wfischel/Papers/WAF-zoning%20ELEpdf.pdf

Gomes, P. S. (2011). Factors Of Good Public Space Use. Retrieved from academia.edu: https://www.academia.edu/2069849/Factors_of_good_public_space_use

Herndon, D. J. (2011). Mixed-Use Development in Theory and Practice Learning from Atlanta's Mixed Experiences. Retrieved from smartech.gatech.edu: http://smartech.gatech.edu/bitstream/handle/1853/40790/JoshuaHerndon_Mixed-Use%2

Herron, J. (2012). The Forgetting Machine: Notes Toward a History of Detroit. Retrieved from placesjournal.org: https://placesjournal.org/article/the-forgetting-machine-notes-toward-a-history-of-detroit/?cn-reloaded=1

Jacob, J. (1961). Death and Life of Great American Cities. New York: Vintage Books. Random House Inc. Retrieved from https://www.buurtwijs.nl/sites/default/files/buurtwijs/bestanden/jane_jacobs_the_death_and_life_of_great_american.pdf

Jacobs, A. B. (1993). Great Streets: Monument Avenue, Richmond, Virginia. ACCESS (03). Retrieved from http://www.accessmagazine.org/wp-content/uploads/sites/7/2016/07/access03-04-Great-Streets.pdf

Janches, F. (1985). the significant of public space in fragmented city designing strategies for new opportunities. International Forum on Urbanism (IFoU). 2628 BL Delft The Netherlands ISBN: 978-90-78658-14-6. Delft. Retrieved from https://repository.tudelft.nl/islandora/object/uuid%3Ae9c92ec4-c30f-4ce1-aa67-a9b7a2b75365

McAdams, M. (n.d.). The Urban Structure of El Centro in Border Cities: A Case Study of Reynosa, Tamaulipas, México. Retrieved from academia.edu: https://www.academia.edu/1278326/The_urban_structure_of_el_centro_in_border_cities_A_case_study_of_Reynosa_Tamaulipas_M%C3%A9xico

Mela, A. (2014). Urban public space between fragmentation, control, and conflict. City, Territory, and Architecture; An interdisciplinary debate on project perspectives. https://doi.org/10.1186/s40410-014-0015-0

Newman, M. (2010). Almere New City: Sustainable City, Ideal City? An Urban Morphological Analysis of the Newest Dutch City. Sustain A Journal of Environmental and Sustainability Issues: Sustainable Communities, 13-21. Retrieved from http://sun.louisville.edu/sustain/SUSTAIN%2021.pdf

Philpott, T. (2010). From Motown to Growtown: The greening of Detroit. Retrieved from grist.org: http://grist.org/article/food-from-motown-to-growtown-the-greening-of-detroit/

Ryan, E. (2002). Zoning, Taking and Dealing: The Problems and Promise of Bargaining in Land Use Planning. Retrieved from scholarship.law.wm.edu: http://scholarship.law.wm.edu/facpubs/2542

Sarfraz, H. (1997). Urbanism, Ethnicity, and Alienation. Retrieved from researchgate.net: http://www.researchgate.net/publication/242365313

Stanley, B., Stark, B., Johnston, K., & Smith, M. (2012). urban open spaces in historical perspective a transdisciplinary typology and analysis. Retrieved from researchgate.net: http://www.researchgate.net/publication/268208067_Urban_Open_Spaces_in_Historica

Sugrue, J. (2005). The Origins of the Urban Crisis. New Jersey: Princeton University Press. Retrieved from http://b-ok.cc/book/2090770/950e5a

Tolja, J. (n.d.). Body, Mind, Space - Body Conscious Design. Retrieved from bodyconsciousdesign.com: http://www.bodyconsciousdesign.com/uploads/bodymindspace.pdf

Wallenberg, R. G. (1998). Richard Sennett; (a place for democracy), Raoul Wallenberg Lecture. The University of Michigan. Retrieved from https://taubmancollege.umich.edu/pdfs/publications/map/wallenberg1998_richardsennett.pdf

Zhou, J., & Commandeur, S. (2009). Urban Culture In New Town Almere. The New Urban Question – Urbanism beyond Neo-Liberalism The 4th International Conference of the International Forum on Urbanism (IFoU). Amsterdam/Delft. Retrieved from http://newurbanquestion.ifou.org/proceedings/3%20The%20Urbanized%20Society/full%20papers/B0281_ZHOU_JING_URBAN%20CULTURE%20IN%20NEW%20TOWN%20ALMERE.pdf

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 38– 43

The Role Of Urban Density And Morphology In The Air Pollution Of Tehran Metropolitan

Ph.D. Candidate ROUHOLLAH OSHRIEH[1], *Ph.D. Candidate EHSAN VALIPOUR[2]

[1]Islamic Azad University, Tabriz International Branch, Iran

[2] Sapienza University of Rome, Department of Architecture and Construction, Italy

E mail: Art_boy3000@yahoo.com , [1]E mail: eh.valipour@gmail.com

ARTICLEINFO:

Article history:

Received 08 April 2018

Accepted 10 May 2018

Available online 05 June 2018

Keywords:

Urban density;
Air Pollution;
Morphology;
Tehran Metropolis.

ABSTRACT

Today, regard for the wellbeing of the group and the earth is on the plan of most nations on the planet, and one of its imperative viewpoints is the contamination of the air and figuring out how to diminish it. Without a doubt, a standout amongst the most vital ranges that assume an unequivocal part in decreasing or expanding this parameter is the city and urban morphology. Tehran, which is viewed as the capital and vital city of Iran, has experienced this issue for a long time, and there are no legitimate arrangement found to decrease its air contamination. Then again, the city has movement from different parts of the nation consistently that makes this issue harsher. The most vital issue in such manner is the city's range, and in addition the city's extension, which decides the thickness of the city. The greater part of this must be joined by the wear and tear of a low standard, which includes a high level of contamination. The failure of the vast majority to purchase houses inside the city has made satellite towns nearby Tehran. Then again, the presence of tremendous local locations around Tehran and the area of workplaces in the downtown area are among alternate issues tended to in this investigation. This examination endeavored to utilize the explanatory expressive technique to think about the part of pressure and morphology of Tehran and its effect on air contamination and give answers for diminishing air contamination and movement.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 38-43.
https://doi.org/10.25034/ijcua.2018.4680

www.ijcua.com

1. Introduction

The city is a logical issue since its target and physical measurements in all social, monetary, physical, and spatial fields can be measured by logical criteria. Then again, the city is a spatial-worldly marvel created in a specific point in space and created after some time. Urban areas are considered as an imperative piece of the spatial viewpoints of sustainability and advancement in progress in urban communities, so they can be considered as the most vital stage for economic improvement. Then again, the huge deluge of populaces into substantial urban communities and the quest for meeting fundamental human needs and urban requirements is a standout amongst the most critical worries in the present urbanization. As indicated by UN gauges, in the vicinity of 2000 and 2025, with the multiplying of the quantity of urbanists, their extent is required to increment from 47% to over 61% (Hall and Fifeffer, 2009; 35). With the fast development of the total populace and its focus in urban communities, suburbia of urban areas have been quickening and

***Corresponding Author:**
Sapienza University of Rome, Department of Architecture and Construction, Italy
E-mail address: eh.valipour@gmail.com

the urban arranging emergency has turned out to be across the board in many parts of the world; thus, the urban advancement worldview is serious to accomplish maintainability and social and spatial equity. Actually, the possibility of a "minimal city" was a consistent reaction to the worries of urban advancement (Tory, 1996).The growth of the city and the increase of urban density alone, in order to answer the problems, as quantitative coordinates and the qualities are ignored. What has been encountered by today's cities in Iran, including Tehran, is the quantitative growth where the development debate is less visible. In today's urbanization, high-rise buildings can be designed as one of the features of a city's view with a node that has a positive role in increasing the visual characteristics of the city. City view as the most important link of the city with the viewer is the language of a city, which induces the state of the city to the viewer. Urban views establish communication with urban viewers and have the greatest visual impact on the urban observer. Therefore, the city density and the densely populated city cannot be avoided, but there must be a way to apply these parameters correctly to make the city dynamic and least problematic.

2. Methodology

In this paper, the comprehensive plan for reduction of air pollution in Tehran and the pathology of its different axes have been investigated and the morphology of this city and urban density have been investigated to discuss and compare the reduction in the air pollution in the metropolis of Tehran. Given the nature of the subject and the objectives of the research, the approach to the research space is descriptive-analytic. Data collection method of initial data is documentary and library using Tehran Metropolitan Statistical Yearbooks and the urban comprehensive plan and the stations for measuring the amount of air pollution. The population of Tehran's 22 districts is surveyed by surveying the city's morphology, topography, population density, and user and vehicle evaluation. In addition, personal and public vehicles and their pollutants are also examined and classified to identify and present the main pollutants and find the appropriate solution.

3. Dense city

Despite the many definitions of the sustainable city, some believe that the concept of sustainability of the city is so comprehensive that cannot be converted into scientific dimensions and cannot simply be converted into concrete, short-term and executive actions. Alternatively, it may be possible to determine the stability but not able to measure it (Tabibian, 1999; 52). Nevertheless, in general, the compact city, in terms of form and scale, is a city suitable for walking, cycling and public transport, along with a congestion that encourages social interactions. In practice, this scale equals the density of streets and buildings of three or four floors in the urban areas of most English and European cities (Pourmohammadi and Ghorbani, 2003; 94). Some urban conservation researchers consider the need for less frequent travel by car, public transport support and pedestrians or bicycles associated with reduced fuel consumption as the benefits of a densely populated city. In addition, more and better access to services and facilities, increasing the efficiency of urban services are of the consequence of urban compactness (Burton, 2000; 19). Optimization of energy consumption, reduction of harmful gases by reducing the need for transportation and reducing waste of resources due to the provision of basic services with better efficiency from the state are of other advantages of the compact city (Pourmohammadi, Qorbani, 2003; 94). The urban compact structure shows the complex reality of everyday life in many successful cities, which can be applied to the pattern of radial, longitudinal, and organic cities along the paths of communication. These are the patterns of cities spread against and expansion that has been overwhelming, but Tehran has experienced some kind of controversy in this regard. On the other hand, the urban model is denser in its planning, and on the other hand, there is an increasing trend in the area of the metropolis on the surface and wide increasing urbanization has caused many traffic and pollution. The compact urban development pattern maintains appropriate levels of economic and social activities around urban and local centers, and ensures that all parts of the city - even remote areas and quieter neighborhoods - at a distance have good sources of basic transportation and urban services. It is precisely such a level of development that is felt in most urban areas of today, but due to the lack of proper management of this metropolis, there is neither good public transit nor distance of residential areas are respected for recreation facilities and, in fact, a decent city strategy, due to lack of understanding and implementation, has become a major dilemma for the city. The location or position of creating flexible policies for congestion plays an important role. There

are certain areas where priority should be given to increasing the density of space use. Urban and transportation centers both attract more population density and more diverse use. Many recycled lands are ideal for this type of development and construction, in coordination with other sectors because of their location in cities. Municipalities can use incentives to increase congestion in designs that have high design quality in response to high-density construction needs.

4. Building Density

The urban texture, physically, can be seen as the accumulation of space-wise units. Here, the study of the form, in different scales, in both dimensions and in three dimensions, can be constructed as a combination of individual structures, blocks, urban areas, and entire urban texture. In addition, when considering the pattern of streets and squares, one can notice the space between these sectors. On the other hand, the growing population of large cities, the relentless invasion of rural populations, the concentration of power centers and welfare facilities and job opportunities, the inadequacy of laws and mismanagement are among the factors that put the cities at serious risk. With the development of environmental wastes and the decline in the general level of living, especially in urban societies, over the past two to two decades, the sustainable development approach was identified by the United Nations as the most important issue of the last decade of the twentieth century (Kazemi, 2001). The density of the number or area (each element examined) in a space (or level) is called the density of that element in that space or surface (Mashhdi, 2010; 9). Demographic density is obtained by dividing the total population of the target area into its built-in level. In this definition, the calculated level does not include the scale of the city. Building density refers to as the total building area to the total area of the building's base (Azizi, 2004; 21). Demographic density is a planning language for urbanization, whereas congestion is the practical and operational language of demographic density in urban planning. Increasing or decreasing construction density in housing and residential plans has a significant impact on the production of infrastructure for housing and building (Azizi, 2009; 5). Growing high-rise growth has led to the emergence of squeezed cities with their own disadvantages and advantages. For example, high-rise makes vertical population denser and therefore reduces traffic, but on the other hand, it affects environmental factors such as shading and not reaching the neighboring units. However, it should be noted that high-rise buildings as indicators of high visibility can be considered as symbolic elements, and, on the other hand, they can deprive the visibility of the existing urban signs and face. Therefore, the location of high-rise buildings, if properly selected and located in necessary places, will deepen the sense of location and direction in the city's inhabitants and can be used as factors in the identification of the city and in different parts of it.

5. Air pollution and Tehran metropolis

Pollution has become one of the main challenges countries face. In such a way that countries, in addition to policies and actions within their borders, are also pursuing a policy of pollution in the international arena. Among the examples of contamination, air pollution, which is more prevalent due to its nature, is more or less perceptible in most parts of the world. Undoubtedly, production and spread of pollution are a function of the process of economic growth and development of the countries. Air pollution is one of the greatest environmental problems in the world that threatens the health of living creatures. Solids, liquids or gases released from natural resources or because of human activities in the air damage the health of humans, animals and plants and the balance of ecosystems (Dimitriou, 2007: 24). A survey is conducted on 12 countries, 25 cities and a population of 39 million, where the death toll from air pollution was 10,000. The most important dangers from air pollution are human health due to NOx, SO2 and dusts. Contaminants from contaminated materials, in addition to affecting human life, endanger the ecosystem's surroundings by transferring into disrupting water and soil and endangering the life of plants. In 2013, Tehran was named the 19th most polluted city in the world. Tehran's air pollution has caused a 60 percent increase in respiratory illnesses and a reduction in average life expectancy of residents up to five years. According to estimates, the death toll from air pollution in Tehran is about 27 people a day, and about 4,000 people a year. The number of clean days from March to September 2016 decreased to 8 days, while in the same periodof the previous year it was 29 days. Therefore, Tehran is one of the most polluted cities in the world (1993). Graedel and Crutzen stated that the major part of pollutants released from internal combustion engines are hydrocarbons, carbon monoxide, nitrogen oxides, and oxides of sulfur, particles

and pollutants (Fshinehnejad, 2004) along the main pollutants in engines are combustion of gasoline sparkings of hydrocarbons. These three pollutants in the normal operating conditions of the engine have the largest share in the emissions of gasoline engines, with 90% of these gases through the medium motor vehicles and cars, and the remaining 10% from homes, waste incinerators and small workshops in the city (Rafipour, 2000).

6. Morphology, Topography and pollutants in Tehran metropolis

Tehran is located on the slopes of the Alborz Mountains and the northern margin of the central desert in the plain enclosed to the north by these mountains. From north to south, on the slopes of Shemiranat Mountains, 10% to 15% of Tajrish to the hills of Abbasabad with a mean inclination of 3% to 5% from Abbasabad to Engelab Street 2% and from the center of Tehran to the suburbs 1%. The length and width of this city is at its highest is 50 and 30 km. Mountain winds dominate the plain and plain to the mountains and merely cause the transfer of pollutants from the northwest to the south east and from the south to the north, and the northern mountains prevent the release of pollutants. In addition, 70% of Tehran's winds are weak and have variable directions, and only 30% of the rest are west, northwest, and southwest of Tehran, which have a relatively high velocity and can contribute to the outflow of pollutants from the city (Kermani, 2003). On the other hand, Tehran has an area of about 800 square kilometers. There are more than 7,000 industrial units in Tehran, 30% in the West, 54% in the South, and 16% in East Tehran. According to the study, the most important factors affecting Tehran's air pollution were the population of more than 12 million Tehran in the day and about 9 million people per night, the specific topographic climate situation, and population density. Moreover, the reason are industry and urban transport network, inappropriate quality of diesel fuels and high levels of sulfur in diesel production, elimination of lead in gasoline and replacement of more polluting substances with benzene.

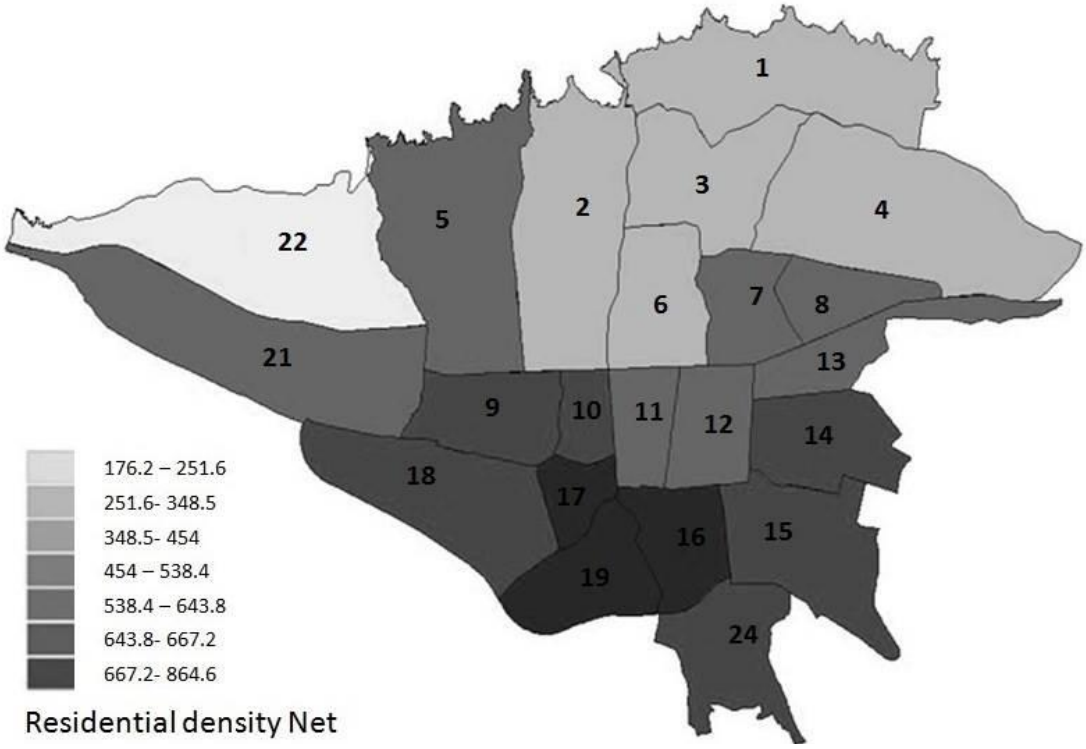


Figure 1. Residential net density in 22 areas of Tehran

The population growth rate is not consistent with the growth of green space, and the per capita green space inhabitants of Tehran are far below the international standard, which is the cause of air pollution. One of the effective factors in increasing the concentration of this pollutant in Tehran is the presence of moving and fixed pollution sources and a specific topography of the city.

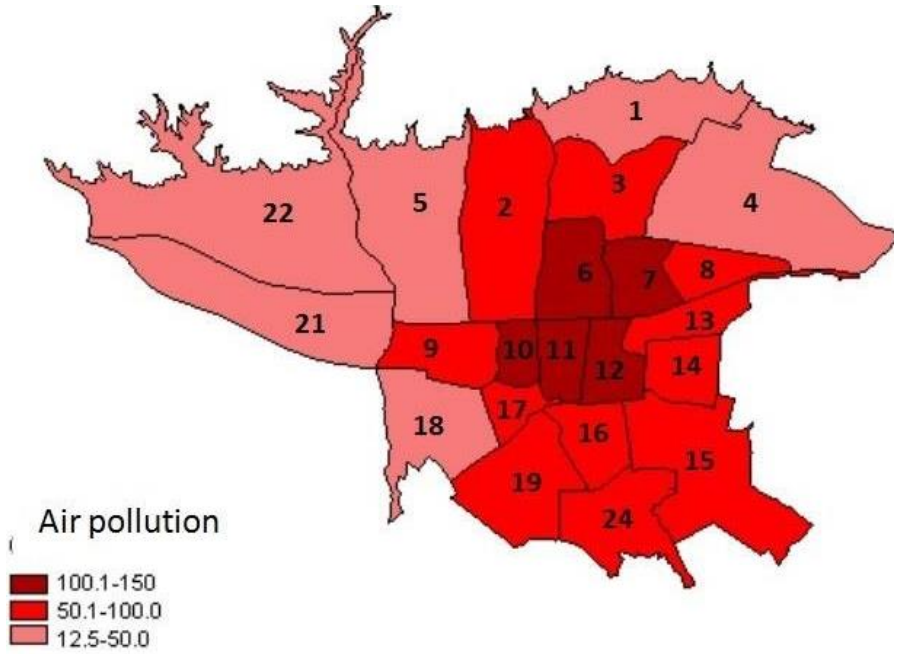


Figure 2. Distribution of air pollution (carbon monoxide) in Tehran regions (2002-2005); sources: literature by Mohammad Hossein Gholizadeh et al.

According to Figures (1) and (2) it can be concluded that living in southern Tehran is more densely populated but due to the density of government offices, markets and other businesses in the city center, the invasion of this area causes the highest level of pollution in this area. On the other hand, as the capital and center of the largest metropolitan complex of Iran over the past decades, Tehran has attracted a lot of population, privileges, and facilities and, consequently, many problems. The results of the comprehensive evaluation model show that in Tehran in 1996, only 53.3% of the urban environment was desirable. In the comprehensive plan of the Tehran metropolitan area, the issue of preventing the expansion of the metropolitan suburbs under the title "Organization and maintenance of the area and preventing any expansion of the city" has been mentioned. Therefore, it seems that the form of a densely populated city has been selected as a desirable form in planning for sustainability Tehran. However, according to Figures 1 and 2, it can be easily understood that the distribution of the population and the concentration of organizations, departments and ministries in the city center have led to a massive amount of urban traffic, which is more often created by private cars and the resulting pollution is among metropolitan problems of Tehran. The lack of proper planning has caused pollution, traffic and other environmental problems in the city. The air of Tehran until March 21, 2015 was 16 days and in 2013 it only had a clean 3 days. Most pollutants in Tehran metropolitan area according to the surveys are as follows:

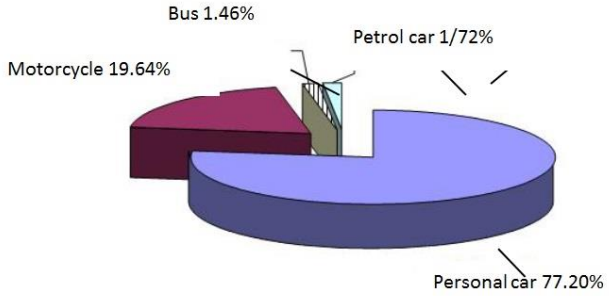


Figure 3. The contribution of different transport system groups to the pollution of the moving air resources of Tehran in 2004, Source: Writers

What is clear from the figures above is that the lack of urban densities in Tehran has not only contributed to the removal of urban problems, but also has aggravated these problems, and Tehran's morphology has been ineffective and inadequate for this reason. Therefore, the metropolitan managers of the metropolitan area should seek new thinking as soon as possible to prevent it before the disaster.

7. Conclusion

In order to reduce the amount of pollutants in Tehran, it is necessary to collect and manage resources worn out and non-standard cars. In addition, expanding public transportation, improving the monitoring and culture development process in the community can also reduce pollution. Making a proper technical inspection, resulting in correction of technical defects in the vehicle, is another way of reducing pollutants. On the other hand, heavy taxes have to be levied on private cars entering the traffic and city center area, with

the highest volumes of pollution would make public transport more welcomed. In this regard, the sale of a traffic plan that even happens on a daily basis should be stopped as soon as possible, as many vehicles with this design do not have the minimum environmental standards. On the other hand, appropriate loans must be provided for the removal of worn out vehicles, and the need for domestic and legal follow-up for the production of built-in vehicles must be carried out in accordance with international standards to minimize fuel consumption, air pollution and energy depreciation. Updating the public transport fleet, such as in-city buses, the construction of new bus and metro lines that cover the whole city should be carried out as well At the core of urban design should also be noted that the sale and granting density to the city center should be carefully and strictly carried out and sell bulk density in the West that Tehran be appropriate to reduce pollution should be minimized to lobby conditioning the air is unobstructed and reduces the pollution of the city. Another way is the fair distribution of recreational and service facilities at the city level in order to reduce the volume of traffic. Moreover, the concentration of offices, ministries, and government agencies in the city center, and some of them that have the least link with the rest of the world have moved from that location to other locations. Eventually, the city's greenhouse has to be increased, so it is close to having a clean city and pollution.

Acknowledgement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The authors declare no conflict of interest.

References

Pourmohammadi, M.R. and Gharbani, R. (2003). Paradigm Dimensions and Strategies for Density of Urban Spaces . Quarterly Journal of Humanities, Vol.6, No. 29, pp. 85- 107.

Kazemi, M and Mohammadi, M. (2001). "Sustainable Urban Development, Concepts and Perspectives", Quarterly Journal of Geographic Research, No. 62

Tabibian, M. (1999). Determination of Sustainability Indicators and their Representation in the Environment". Journal of Environmental Studies, Vol. 25, No. 24, pp. 12-12. https://www.journals.elsevier.com/journal-of-environmental-sciences

Azizi, M.M. (2009). The role and place of building density in urban development, Proceedings of the first construction seminar in the capital https://bipublication.com/files/20160230.pdf

Azizi, M.M. (2004). Density in Urban Planning Second Edition, Tehran: Tehran University Press. http://press.ut.ac.ir/

Gholizadeh, M.H. and Farajzadeh, M., and Mohammadi, M. (2009), Relationship between air pollution and mortality in the population of Tehran, Hakim Research Journal, Summer 88, Volume 12, Number 2, pp. 65-71. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5859399/

Mashhadi, S. (2010). Population density and construction in Shohreh., Tehran: Masinaei Publishing. http://jmre.journals.ikiu.ac.ir/

Farshinehnezhad, M.R. (2004), "Introduction to Environmental Issues," Adineh Publication. http://press.ut.ac.ir/

Rafipour, (2000), The Swedish Environmental Protection Agency. "Final Report on Formation of a Basic Information Item for the Study of Air Pollution in Cities", Research Center for Meteorology and Geosciences. https://www.naturvardsverket.se/Documents/publikationer6400/978-91-620-6784-7.pdf?pid=21182

Hall, P. and Fifer, O. (2009). 21st century urban future. Safai, Venus Tehran: Iranian Consulting Engineers Society. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4898840/

Kermani, M. (2003) "Investigation of TSP and 10 PM values and composition of their constituent materials in the air of Tehran Shariati Hospital", Master's Degree in Environmental Health Engineering, School of Public Health and Research Institute of Health Research, Tehran University of Medical Sciences. http://press.ut.ac.ir/

Tory, P.N. (1996). Urban Consolidation and the family, in the Compact City: A Sustainable Urban Formss, London:E and Fn Spon, and Imprint of Chapman and Hall. https://www.researchgate.net/publication/248974140_Three_Challenges_for_the_Compact_City_as_a_Sustainable_Urban_Form_Household_Consumption_of_Energy_and_Transport_in_Eight_Residential_Areas_in_the_Greater_Oslo_Region

Burton, E. (2000). the potential of the compact city for promoting social equity Achieving sustainable urban form: Spon press. https://www.researchgate.net/publication/313103443_The_potential_of_the_compact_city_for_promoting_social_equity

Dimitriou A, Christidou V. (2010) . Pupils' understanding of air pollution. Journal of Biological Education. 42(1):24-29. https://doi.org/10.1080/00219266.2007.9656103

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 44– 51

Urban Sprawl Negative Impact: Enkomi Return Phase

* Ph.D. candidate KAMYAR FULADLU[1 & 2]

[1] Faculty of Architecture, Department of Architecture, Eastern Mediterranean University, Famagusta, Northern Cyprus
[2] School of Computing and Technology, Department of Construction Technology, Eastern Mediterranean University, Famagusta, Northern Cyprus
E mail: kamyar_fuladlu@yahoo.com

ARTICLEINFO:

Article history:

Received 28 March 2018

Accepted 26 April 2018

Available online 15 June 2018

Keywords:

Public Awareness;

Sprawl Impact;

Sprawl Phases;

Urban Sprawl .

ABSTRACT

Most of the cities around the world are dealing with different kinds of the problems such as social, environmental, economic and others. However, for many years, urban planners have attempted to find solutions that fit within the context and have put them into practice in order to shape the form of a city accordingly. One of the controversial problems which most of the developing and developed countries deal with it is urban sprawl, which affects everything and everyone in different scales. For last three decades, even in case of T.R.N. Cyprus, urban sprawl has become inevitable; urban sprawl is recognizable, sprawl construction becomes a profitable business for construction, real-estate, and others involved in this business. Unfortunately, some communities to realize their vision welcomed to urban sprawl construction and enthusiastically embrace it with open arm, such communities sacrifice sociability opportunity and vibrant neighborhood to those single-use towns which is one of the main characteristics is social exclusion and psychological problems, fundamentally one of the key factors can be found in lack of public awareness especially for who prefer to live in sprawl town. In T.R.N. Cyprus urban sprawl didn't promote auto-dependency. Despite urban sprawl in T.R.N. Cyprus have many repercussions, one of the important impacts which are considered in this articles are psychological impact of urban sprawl, also this article attempt to divide urban sprawl leaving condition into three phases, and promote the contemplate phase which makes sprawl inhabitants think and return to inner-city neighborhood again.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 44-51.
https://doi.org/10.25034/ijcua.2018.4709

www.ijcua.com

1. Introduction

At first glance urban sprawl is a simple word, which means involving a wide range of professions and specialization, however it can be defined as scatter, unplanned, wasteful patterns development in suburban, this kind of construction out of the city boundaries has brought wide range of problematic issues such as ecological, environmental, psychological, social exclusion and fragmentation, loss of community, increase in household expense and so on. In most of the literature, urban sprawl is called as a multifaceted concept; most of the scholars and thinkers measure a variety of impact for this multifaceted phenomenon.

Sprawl which is low development and this land development occurs at the edge of the urban location which is prompt auto-dependency. Sprawl attempts to transform thousands of acres of the green field into single-family and detached houses increasing the administrative

***Corresponding Author:**
Faculty of Architecture, Department of Architecture, Eastern Mediterranean University, Famagusta, Northern Cyprus
E-mail address: kamyar_fuladlu@yahoo.com

cost for government in providing sufficient basic infrastructural amenities such as access way, sewer/water pipe etc. (Soule, 2006).

History of the sprawl dates back to 1920s, people in America and northern parts of Europe, started moving out of the urban boundaries, people who are moved to suburbs were affluent and powerful. However, over a period of time, this became a mass movement. For instance, during the interwar period in London, tens of thousands households from medium income class of society and capable to move out from over-populated central neighborhoods relocated to row houses, single-family and detached houses in suburbs (Bruegmann, 2005).

One of the main factors is overpopulation, everyday urban population grows and this growth is inevitable. The roots can be found in increasing the number of the immigrant to the urban and higher number of births than deaths are important factors and contribute to increasing of urban population (Bhatta, 2010) and this makes urban area crowded, urban area with massive and compact housing resulted in the decrease of greenery. On the other hand, the humanity based on historical recorded always has rural lifestyle experience, this scheme during the time transfer to the urban lifestyle. Despite now day's again most of the people prefer to have rural lifestyle, one of the reasons is proximity to nature which is offer healthy life, majority of people, who live in crowded ill city want to escape and find their dream at countryside in order to get peaceful life which is not achievable at downtown, also people looking for houses with more privacy, bigger front yard with small garden (Iram, Rasool, Shahzad, & Saeed, 2012).

In case of the northern Cyprus this trend also valid, most of the middle-income class and those who are from the affluent group of Cypriots community in order to realize their visions start to exodus into urban sprawl town and move out of city skirt, another supporting idea is, detached houses in sprawl town was cheaper and sweet, thus such fascinating will encourage them to immigrate, as it mentions such kind of the exodus mostly occur in affluent group of community, however, such trend can represent other repercussions which are social fragmentation and known as one of the important impact of urban sprawl to the society.

On the other hand, constructions companies didn't trade off their business, they moved towards promoting urban sprawl in T.R.N. Cyprus, they attempt to realize dreams of people at the countryside at affordable land, of course in order to provide cheap houses, development will inevitably move creep beyond city boundaries.

Whenever this sort of the low density and single-use developments out of the city border occur, they provide inadequate infrastructure which is not appropriate to provide sufficient services for newcomers and inhabitants nevertheless such kind of leakage somehow will be balanced by sprawl inhabitants base on auto-dependent to provide their primary necessity, hereof the turning point to the problem which is loaded by urban sprawl, everything starts to effected accordingly probably later on sprawl inhabitants get relevant reflects of sprawl in their lifestyle

The aim of this article, focus on psychological impact for urban sprawl inhabitants and recognition the sprawl phases, this study as an objective consider the possibility of return phase as rescue process to bringing urban sprawl inhabitants into the neighborhood.

Methodology of this article based on case study in "Turan Kaynak Sitesi" town (Figure 1) and its inhabitants in T.R.N. Cyprus as well as problem solving and attempt to filling literature gaps, especially in this subject there is lack of relevant literature in this subject which encourages urban sprawl inhabitants to return again into inner neighborhood.

2. Literature Review

One of the significant and also important evidence about cities from the many years ago until today shows that there was the enormous difference between rural and urban lifestyle. Within the fortification city exactly like most of early cities, always visitors face with a very dense cluster with mass of buildings, narrow streets with cul-de-sac, and also a vibrant with variety of rich dynamic urban life which is offer to visit lots of option and this makes lots of choice for especially those who capable to get them (Bruegmann, 2005).

In opposite point of the dense cluster there is disregard trend of urban sprawl and become a primary method of urban expansion of course because of the negative effect in social, environmental and economy most of them scholar criticize it especially during recent years (Daneshpour & Shakibamanesh, 2011). On the other hand, sprawl intensify the cost of infrastructure in several manners in order to provide services for the fewer household government should provide their necessity such as road, water, and sewer if development was compact instead of sprawl, same cost amount can supply more households (Burchell, Downs, McCann, & Mukherji, 2005).

Many thinkers believe that infrastructure cost saving entail high densities rise, despite both businesses and consumers wish faraway location which is easily found inexpensive plot, on the other hand, more clustering of businesses anymore because of contemporary way of communication is unnecessary, therefore people choose place to live far from urban area and work it possible when the auto travel cost was low, however, there is negative impact and psyche costs especially for young and elderly people those who cannot drive, and this make limit for them in order to access community facility and etc. (Ewing, 1997). A study in both single-use and mixed-use show that people who live in sprawl area didn't have a sense of community this because of the lack of interaction possible in sprawl area environment (Ewing, 1997).

Most of the research base examined on depressive symptoms believe that disadvantaged environments were extremely stressful for sprawl residents, of course, the cause of both mental health and physical injuries may be determined as social disorganization (Latkin & Curry, 2003). From another point of the view high quality of the urban which is found in neighborhoods with variety and strong kind of the opportunely, for instance, the cultural activity can increase the social cohesion, on the other hand, people those who have the transaction with such kind of neighborhoods mostly was creative people (Gertler, 2004). However urban sprawl in contrasted with social cohesion and increase another negative trend which is social fragmentation, researcher substantiation that high level of fragmentation leads the society to the lowest level of contribution (Chakravarty & Fonseca, 2014).

The disadvantage of social fragmentation during last year's became an outstanding discussion. In fact, there is an effort which is trying to show that people who among fragmented society was dealing with long-term mental health problems (Morgan, Burns, Fitzpatrick, Pinfold, & Priebe, 2007). On the other hand, green accessibility shouldn't be forgotten as an important issue which is impact on mental health, many researchers believe that those residents who have appropriate access to green environment for instance park, they are less than other people involved in risk of stress, also increase the social wellbeing are one of the other important aspects of the green accessibility (Alcock, White, Wheeler, Fleming, & Depledge, 2014).

People leave their cities to have a healthier life, green accessibility, a cleaner environment and escape from ill city nerveless urban sprawl present them reverse, actually, sprawl development offered poor air quality because of auto-dependency, weak and unhealthy watershed, loos of walking opportunity from work and school to house raised the health risk in several manners (Schmidt, 2004). There is the definition of the health which is provided by World Health Organization (WHO), according to WHO "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Mental health itself can drive from the social determinants (Manderscheid, et al., 2010).

Sprawl has a wide range of impact in public health of course regarding the age, race, occupation, social class and so on all of the was determine factors, some people bear more risk than other. In sprawl community most of the travel was done by automobile and this make the family life more involving with chauffeuring, most of the family should be deal with collection of following mission taking children from school and/or elder parent to doctor, running to the bank, shop and etc. however most of the research show that woman deal more than man with mention responsibilities, the reason is women more involve with children, also mental stress which is related to driving put women at serious risk (Frumkin, Frank, & Jackson, 2004).

As it mentions the impact of sprawl distribute between society member accordingly and children were no exception, but children suffer from sprawl more than adult especially dose children who are unable to reach school by bike or walking on the other hand if their school did not offer any physical activity they face with obesity. Moreover, children who are living at urban community has more opportunity to roam but in sprawl town because of parent fear this was eliminated, however, if we consider adult at least they have a chance to drive for sport club (Frumkin, Frank, & Jackson, 2004).

People those who looking for the green environment and for this purpose move to sprawl this was a short change for them because during the time the green aspect under other obstacle lost its values (Ontario College of Family Physicians, 2005). In order to attack urban sprawl government should renovate and revitalized inner neighborhood which prevents city center decay of course by following such police city center enable to increase social interaction such cohesion enhance the quality of the urban area (Brueckner, 2001).

Researcher shows that with a real prospect for neighborhoods with government funding and

accompaniment of the relevant instituted by following the correct strategy and control the neighborhood in a way that increases the quality of life at inner city and decreases the crime level all of them together might encourage people to return to the inner city (Power, 2001).

3. Methodology

"Turan Kaynak Sitesi" which is one of the famous and sprawl town in Famagusta district at a proximity of "Enkomi" (Turkish: Tuzla) village at 35°09°N and 33°53°E (Figure 1), this town can be called as one of the earliest urban sprawl town in Famagusta district which is constructed in about 1994 and town had an area of 56 896 m^2 with 63 buildings which are detached, semidetached and apartment units, most of the inhabitants are affluent, they are with variety of the occupation, nation, age, gender, marital status, ethnic and etc. data collection was based on interview, observation and document analyze from the "Turan Kaynak Sitesi" as case study.

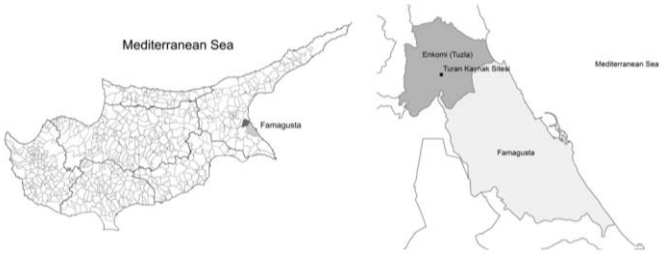


Figure 1. Cyprus Map, location of Famagusta city and "Turan Kaynak Sitesi" at proximity of Enkomi (GIS developed by author).

Thus, losing a sense of place led to decrease social participation/ communication, safety and lack of identity increased social conflict, crime, and transgressions in towns. According to advantages and disadvantage of this era of architectural design has been illustrated in Table1. To sum up, designer tried to make integration between past and present so post-modernism style started to overcome the objectives of the designs.

3.1. Interview

The interview conducted among approximately half of "Turan Kaynak Sitesi" household, and few Cypriot citizens who plan to move to this town in future, and it was with diverse social as well as psychological trend also multiplicity of the interview base on the personality, occupation, age and etc. Relevancy of interview regarding the personality and characteristic of interviewee make interview process more difficult, however, to interpret interview and reflect the result need to define a certain main category as below which are more classified and easy to understand:

Reason for living in sprawl town: "… always looking for a quiet place, sense of relaxation, proximity to nature and green area, far enough from Famagusta and rumors, out of the congestion, detached house with more privacy. Now two floors villa with big garden, enough space for cars. However, this are in contrast with dose day's which is lived at one floor apartment, just 3 or 2 beds, lack of enough space for activity, lack of parking space for cars, noisy and loud neighbors, untidy dark staircase…" most of them sell its apartment in order to realize their dream and with same price or even less at "Turan Kaynak Sitesi" they have chance to bought detached house.

Increase in household expanse: Most of the inhabitants believed that household expense increased, however, this didn't affect too much their lifestyle because they are wealthy and/or middle-income people, on the other hand, auto-dependency problem was not concerned them, even when they lived at inner neighborhoods they were auto-dependent and used the car for everyday life as Cypriot habit. The main problem is, when a specialist needs to be called for any mechanical or electrical service, the service providers ask for extra cost because of their house located out of urban skirts.

Problems in daily life: They believe that during the preliminary stage of town construction there were roads and access problem especially inner town roads were dirt and this created lots of the dust and noise especially while heavy vehicle passed, meanwhile most of the time big trucks movement in town made threat to their children. Additionally, water shortage on few days was a concern and water shortage continues during summer, but nowadays the main problem was inadequate lighting elements in some of the inner roads of the town, on the other hand during winter or after any heavy precipitation town face with waterlogging especially on the main road.

Opportunity to socialize: Town inhabitants mention that there is no social activity in "Turan Kaynak Sitesi" or in the town nearby and to involve in social activity or some other event they need travel to Famagusta or other big cities around. However, most of the inhabitants have a common opinion "… time was not enough to involve or get benefit from the social activity, some of them spending time with children, elder parent, some of them suffer from commuting, some of them invite friends to the get together over weekends …"

Neighbors: Town inhabitants mostly thought that they know their neighbors, however some of the people didn't know them because "... some of them was just an empty house or some of the house residents were foreigner, despite most of the town residents in order to find playmate for their children should know their neighbor, some residents need neighbors to get help in trouble ..."

Neighborhood benefit: Nobody has any clear answer for this subject, some of people believed that "... neighborhood and sprawl town both has its benefits ..." some people believed that "... despite neighborhood has problem, but at least vibrant and provide chance to meet friends ..." some of them for reasons stay "... because of my parent, I should live in in "Turan Kaynak Sitesi", otherwise prefer neighborhood ..."

3.2. Observation

Observation work as interview complementary, it was personally and deep observation, with same structure but it conducts from a different perspective, however observations process from "Turan Kaynak Sitesi" town and living condition of inhabitants show that there are some conflict and missing part in interviews, of course observation attempt is expletive those missing parts which are not covered by interviews, observation from the town put in to the following categories:

There are limited and inadequate interaction and communication between people, they know each other somehow somewhere but in fact, they don't want to be involved with each other, and actually they didn't know their neighbors as family friendly, interview also proof of this, they looking and communicate with each other for a certain reason.

Inhabitants feel that they belong to the wealthy group of society and "Turan Kaynak Sitesi" town also belong to affluent and wealthy people, such point of view result in deep social fragmentation and high level of social fragmentation reflect in social resentment.

Town minimized in sidewalk even available sidewalk used as car parking lots (Figure 2), on the other hand, inadequate greenery which is the contrast with the idea of proximity to nature is another aspect, all of them accordingly effect on the human sprite.

Children mostly alone, they entertain itself within plot boundary, indeed there is no playmates in neighbors also they didn't have chance to run out, because of parents fear, elderly also in same manner imprisonment within house boundary, especially children and disable or dose who are not able to get benefit of car are victims of urban sprawl, because there is no any sociability and communication opportunity for them at town, such difficulty has wide range of repercussions, of course psychical impact is inevitable.

Most of the town inhabitants were not aware of sprawl and related impact into their daily life, most of them during interview even understand impacts of urban sprawl and this directly related to lack of awareness, still between inhabitants there are some people who willing to return into neighborhood, however some of them has reason to stay.

Figure 2. Inadequate greenery and lack of sidewalk, "Turan Kaynak Sitesi" April, 2015 (Photos taken by author).

3.3. Relevant interview and document analyze

To clarify the process of interview and observation for this methodology, analyze relevant document as well as an interview with who are specialists in planning and work many years directly with "Turan Kaynak Sitesi" are inevitable:

According to Batuhan Bayramoğlu (May, 2015) head of planning department in Famagusta municipality explains that "... after bankruptcy of the "Turan Kaynak Sitesi" construction company about more than half of the houses leave as unfinished and sold to customer and even were not certify by municipality, this means that those houses are an illegal constructions from municipality point view ...", this means that those houses are not safe houses from the structure and/or architectural point of view which is harmful and dangerous for its resident.

According to Naci head of water department in Famagusta municipality, "... summer water shortage, winter waterlogging, "Turan Kaynak Sitesi" is one of the problematic towns in Famagusta district for supplying water and sewer most of the citizen had complained in last decade for water shortage in town, however, they team satisfied to solve this problem, from 2005 municipality start a project in order to increase the water pipe diameter and change the water pipes with High-density polyethylene (HDPE) ... Naci Taşeli mention water shortage during summer still is main problems, because of increasing temperature increase water consumptions accordingly, on the other hand

during winter because "Turan Kaynak Sitesi" soil is not permeable after heavy precipitation make town waterlogging ...".

According to the Statistical Service Cyprus (2010) published report, 84.3% of trips made by motorized vehicle, 14.8% none motorized vehicle and just 0.8% by public transportation, it shows that Cypriot people already auto-dependent and it should be taken into consideration, sprawl in Cyprus was not promoted auto-dependency, in fact Cypriot didn't have any choice, lack of public transportation because of inadequate demand to run public transportation as well as lack of biking path and minimized in proper sidewalk, make them chauffeur. On the other hand, auto-dependency is still inexpensive and easy for families, and this aspect from many years ago combined with their culture, of course yet Cypriot are a social and well-being people and it was one of the valuable issues which are combined with their rich cultures.

3.4. Result Visualization

By getting accurate in collected data and literature, this idea comes to mind that, three phases are shaping the urban sprawl, this phase are vision, obstacle and contemplate, vision phase occur while people decided to move into sprawl town and the rest phases while living at sprawl town while experience the situation and this represent obstacle and contemplate phases, of course, all the phases are depended to each other and run one by one as sequence (Table 1).

Table 1. Main sprawl phases while people moving and living.

	While moving to Sprawl	While living at Sprawl	
	Vision phase	Obstacle phase	Contemplate phase
Grounds	-Proximity to nature -New life style -Fresh air -Escape from ill city -Increase privacy -Detached house -Bigger and green yard	-Auto-dependence -Increase household expanse -Lack of primary infrastructure -Loss of sociability and communication -Psychological and health Impact	-Be patient and dealing with problem -Return back to the neighborhood

In vision or initial phase people start to perceive that, there is a necessity to move into sprawl town, they want to realize their vision such as proximity to nature, fresh air, new lifestyle, escape from city center, increase privacy, detached house, bigger and green yard and etc. they find solution in sprawl town which encourages them to move out of city skirt.

The second phase call obstacle phase, this phase occur while living in urban sprawl town, people start to experience and perceived the problems and relevant impacts which belong to urban sprawl, the outstanding are auto-dependence, increase household expense, lack of primary infrastructure, loss of sociability and communication, psychological and health impact and so on, most probably during this phase the initial ideas lost its main value, because inhabitant face with wide range of obstacle which is not predicted before.

Finally as contemplate or thinking phase, if inhabitants aware about urban sprawl impacts, they start to make comparison between sprawl town and inner neighborhood, decision should either be patient and deal with problem or return back to inner neighborhood, still there is possibility for who are not aware of impacts, indeed this directly or indirectly related to impressed degrees of impact by urban sprawl whiten periods of living at sprawl town, however awareness of the difficulties of living and impacts of urban sprawl can shape inhabitants decision accordingly otherwise they stay with tolerance.

4. Discussion

By consider finding phases this outstanding question as an objective of this article come to mind as well, does any rescue possibility for urban sprawl residents? In fact there is lack of proper literatures and research in order to provide the clear answer for this question, however there is some inadequate research but even most of them didn't consider properly a possibility of inhabitants to return into inner city, researcher is insistence on role of government, of course, role of governments are crucial, according to the Jan Brueckner (2001) and Power (2001) government and relevant institute should be followed practical policies in order to the revitalization and renovate the inner neighborhoods as well as taming crimes and vandalism which are resulted in social cohesion and this reflects on enhancing the quality of life at inner neighborhoods, following such policies "... might encourage 'urban pioneers' to move into inner city neighborhoods ..." and it can be a tackle to social exclusion and fragmentation as well (Power, 2001).

Although if urban sprawl phases which are present in this article become practical, whole sequence are summarized as following flowchart (Figure 3), process look like a loop and all sequence directly dependent to the contemplate phase which is shaped urban

sprawl inhabitants decision, to leave sprawl either town or be patient and dealing with sprawl impacts, if citizen stay in sprawl town and dealing with obstacle this become a linier process, otherwise sprawl habitant leave sprawl town and return into inner neighborhoods which make process like a loop (Figure 4), of course, the outstanding question is, why this process becomes a loop process? By considering process leave inner city once again after rescue is not out of mind especially for next generation and this make process like cycle, certainly rule of government and relevant authorities for sprawl inhabitants rescue both in enhance urban quality and increase public awareness are inevitable, one of the important effort during last year's was published of 'The Health Impact of Urban Sprawl' as an information series from Ontario College Of Family Physicians to present urban impacts and increase the public awareness, of course following such policies is appreciated and resulted in increasing public awareness for both who live in urban sprawl and/or inner city, meanwhile in this idea can prevent the loop process which is also one of the possible condition.

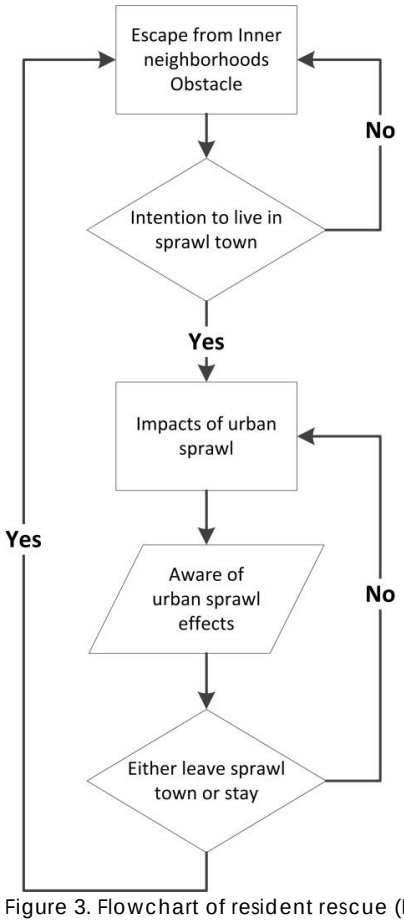


Figure 3. Flowchart of resident rescue (Illustration by author).

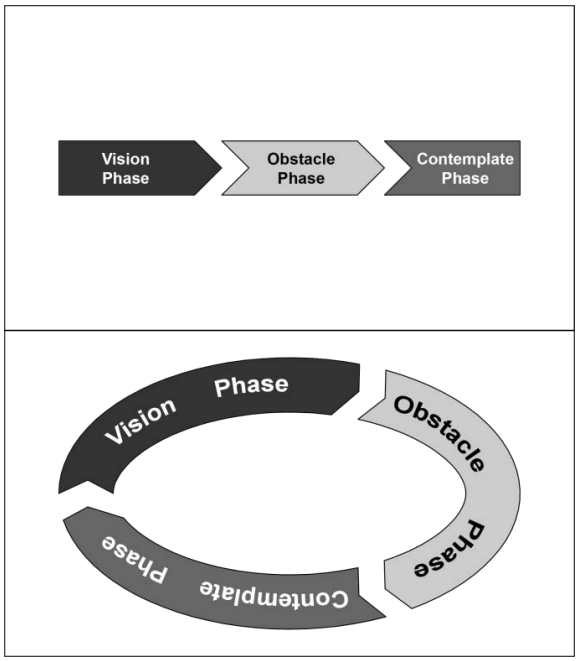


Figure 4. Linier and Cycle path as Urban sprawl phases (Illustrations by author).

4. Conclusion

Present explanatory research show that "Turan Kaynak Sitesi" habitant leave inner neighborhood in order to realize their vision at country side and this found in lack of awareness, they have great perspective from urban sprawl and most of the "Turan Kaynak Sitesi" inhabitants was not aware about the urban sprawl impact and further affect circumstance on their future life and this one of the important aspect, nevertheless there are some people who wish to leave urban sprawl and interview, observation result is proof it, however it shouldn't be forgotten that Cypriot are already auto-dependent, and this makes them convenient to choose urban sprawl at first glance.

Furthermore, this article has drawn attention with presenting urban sprawl as three phases and in addition, present contemplates phase as return process which is a possible condition for urban sprawl residents rescue, of course, to achieve this purpose, relevant policies should follow by the government, local authorities and related institutes. Interview and observation show that still some people are willing to live at inner neighborhood, certainly when people who have tendency to move into sprawl town, inform about urban sprawl and farther impacts, direct or indirect can affect their incentives, this can be one of successful solution against urban sprawl and toward compact cities, in order to bring urban sprawl inhabitant again to inner neighborhood.

However, there are two factors which are support rescue process and idea of

contemplate phase, first government policies in order to improve quality of urban neighborhoods, second inhabitants should aware of urban sprawl impacts and it means that public awareness work as catalyst in this process, obviously role of government and local authorities in both of terms are vital.

Acknowledgment

The authors wish to acknowledge Canay ATAÖZ, Head of Technical Service of Library at Eastern Mediterranean University, Naci TAŞELI, Department of Planning at Famagusta Municipality, Batuhan BAYRAMOĞLU head of planning department in Famagusta municipality and Hürol ÜŞÜMÜŞ, State Planning Organization for providing the necessary resource for executing this study. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The author declares no conflict of interest.

References

Alcock, I., White, M., Wheeler, B., Fleming, L., & Depledge, M. (2014). Longitudinal effects on mental health of moving to greener and less green urban areas. *Environmental science & technology, 48*(2), 1247-1255. Doi:10.1021/es403688w

Bhatta, B. (2010). *Analysis of urban growth and sprawl from remote sensing data* (1st ed.). Heidelberg: Springer.

Brueckner, J. (2001). Urban Sprawl: Lessons from Urban Economics. *Brookings-Wharton Papers on Urban Affairs, 2001*(1), 65-97. Doi:10.1353/urb.2001.0003

Bruegmann, R. (2005). *Sprawl: a compact histor* (1st ed.). Chicago: University of Chicago Press.

Burchell, R., Downs, A., McCann, B., & Mukherji, S. (2005). *Sprawl costs: economic impacts of unchecked development.* Washington: Island Press.

Chakravarty, S., & Fonseca, M. (2014). The effect of social fragmentation on public good provision: an experimental study. *Journal of Behavioral and Experimental Economics, 53*, 1-9. doi:10.1016/j.socec.2014.07.002

Daneshpour, A., & Shakibamanesh, A. (2011). Compact city; dose it create an obligatory context for urban sustainability? *International Journal of Architectural Engineering & Urban Planning, 21*(2), 110-118. Retrieved February 11, 2015, from http://ijaup.iust.ac.ir/article-1-116-en.html

Ewing, R. (1997). Is Los Angeles-Style Sprawl Desirable? *Journal of the American Planning Association, 63*(1), 107-126. Doi:10.1080/01944369708975728

Frumkin, H., Frank, L. D., & Jackson, R. (2004). *Urban sprawl and public health: Designing, Planning, and Building for Healthy Communities* (1st ed.). Washington, DC: Island Press.

Gertler, M. (2004). *Creative cities: What are they for, how do they work, and how do we build them?* Ottawa: Canadian Policy Research Networks Inc. (CPRN) . Retrieved February 03, 2015, from http://rcrpp.org/documents/31348_en.pdf

Iram, A., Rasool, L., Shahzad, F., & Saeed, Y. (2012). Impact of Urban Sprawl on Public Health: An Analysis of Lahore - Pakistan. *World Applied Sciences Journal, 20*(1), 80-86. doi:10.5829/idosi.wasj.2012.20.01.2806

Latkin, C., & Curry, A. (2003). Stressful Neighborhoods and Depression: A Prospective Study of the Impact of Neighborhood Disorder. *Journal of Health and Social Behavior, 44*(1), 34-44. Doi:10.2307/1519814

Manderscheid, R., Ryff, C., Freeman, E., McKnight-Eily, L., Dhingra, S., & Strine, T. (2010). Evolving Definitions of Mental Illness and Wellness. *Preventing chronic disease, 7*(1), 1-6. Retrieved February 10, 2015, from http://www.cdc.gov/pcd/issues/2010/jan/09_0124.htm

Morgan, C., Burns, T., Fitzpatrick, R., Pinfold, V., & Priebe, S. (2007). Social exclusion and mental health: Conceptual and methodological review. *The British Journal of Psychiatry, 191*(6), 477-483. Doi:10.1192/bjp.bp.106.034942

Ontario College of Family Physicians. (2005). *The Health Impacts of Urban Sprawl Information Series: Social & Mental Health Volume 4.* Ontario: Ontario College of Family Physicians. Retrieved February 03, 2015, from http://ocfp.on.ca/docs/committee-documents/urban-sprawl---volume-4---social-and-mental-health.pdf

Power, A. (2001). Social Exclusion and Urban Sprawl: Is the Rescue of Cities Possible? *Regional Studies, 35*(8), 731-742. Doi:10.1080/00343400120084713

Schmidt, C. (2004). Sprawl: The New Manifest Destiny? *Environ Health Perspect, 112*(11), A620–A627. Doi:10.1289/ehp.112-a620

Soule, D. (2006). *Urban sprawl: A Comprehensive Reference Guide* (1st ed.). Westport, Conn.: Greenwood Press.

Statistical Service. (2010). *Short Distance Passenger Mobility Survey.* Nicosia: The Republic of Cyprus. Retrieved July 23, 2017, from: http://www.cystat.gov.cy/mof/cystat/statistics.nsf/All/6848AD4254CE09B0C2257781002774D8/$file/PASSENGER_MOBILITY_SURVEY09-120810.pdf

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 52– 61

Economic Diversification and the Urban Image; Changing the Narrative on Street Vending

PhD Candidate MUHAMMAD K. BALARABE [1], * PhD Candidate ABDULSALAM I. SHEMA [2], M.Sc. MARYAM AHMAD[3]

[1]Department of Architecture, Kaduna State University. Kaduna state, Nigeria.

[2]Department of Architecture, Cyprus International University. North Cyprus, Turkey.

[3]Department of Economics, Kaduna State University. Kaduna state, Nigeria.

E mail: muhdkabir@gmail.com E mail: shemadaddy@gmail.com E mail: daso40@gmail.com

ARTICLEINFO:

Article history:

Received March 2018

Accepted 14 April 2018

Available online 15 June 2018

Keywords:

Public Space;
Aesthetic Experience;
Street Vending;
Urban Design;
Urban Environment.

ABSTRACT

Street vending is a dynamic phenomenon of network of events, socio-economic and cultural factors while remaining a narration of place. At the metropolitan level, the narrative is negatively skewed towards street vending and its aesthetic reality, contemporaneously exploring hostile environmental interventions within the informal sector. This paper attempted to explore a counter-narrative asking; based on aesthetic experience, can the "desired" urban image be achieved by allowing street vendors proliferate in public spaces? This question was asked within the scope of the political-economy of diversification in Nigeria. Mapping over google satellite images over critical periods leading to demolitions and/or developments, this paper documented the spatial distribution of vendors to determine the urban centres that are hostile to vending activities and those that were not. The paper argued that, around public spaces such as parks and sidewalks, the precarious nature of vending activities lead to their diffidence in upgrades to stalls, tables and kiosks. With pictures from spaces that appear to approve of street vending tacitly, a pattern of upgrades in vending apparatus and kiosks were established. This paper proposes an integrative model of passive, active and tacit support that is required to influence the discourse of vending activities within the context of urban images produced in Nigerian. In conclusion and using sing Gouverneur (2014) concepts of receptors and transformers, this paper revealed that potential existing parks within a dense urban area could serve as transformers, creating an urban image that defies that "out of place" narrative associated with vendors.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019) ***3***(1), 52-61.

https://doi.org/10.25034/ijcua.2018.4682

www.ijcua.com

1. Introduction

This paper set out to investigate the following question; can the "desired" urban image be achieved by allowing street vendors proliferate in public spaces? These questions sprung from the competition different actors exact on the urban interface of varying influence. The different dimension to which these forces – such as "developers", "landowners", politicians and administrators and users – shape the

***Corresponding Author:**
Cyprus International University. North Cyprus, Turkey
E-mail address: shemadaddy@gmail.com

environment is compartmentalized, with each having a strong effect in their particular domain (Alabelewe, A. 2018). On the advice of technical personnel and sometimes towards serving a political goal, politicians/administrators determine the direction of development within the city. Master plans are then produced through a combination of different professionals concerned with the physical, environmental and sociological aspect of the built environment. Urban designers and architects are therefore tasked either by the public or private sectors to come up with schemes that satisfy the initiators' needs and rarely that of the people/users. At the micro level, architects/builders are contracted to make alterations into the physical environment on plots that reflects the wishes, aspirations and personalities of clients. This is the canonised view of how the built environment gains its image, each actor implicated within the verb of creation. However, the repercussions of each action on the final image of a city are incommensurate. The framework of urban development is skewed towards a close network of administrators and professionals, instead of "making [the] process [open] to as wide a group of interests as possible … [while] identif[ing] who gains and who loses in this process" (Mehar, M. 2012). Power is implicated through the deployment of 'epistemic violence' (Spivak, 1988) in shaping the urban image. The formal process of city building disregards the alternative form of city developmental practices hence subjugating the alternative images produced as a result. It is within this frame of alternatives that street vending lies. Street vending is perceived as producing a distinct urban image when it agglomerates and forms a cluster (Bromley, 2000). To grasp the perceived image produced in such spaces, one needs only to listen to the lexicons used in describing them. Dirty, chaotic, alien, congestion, eyesore are such words that dominate discussions about street vending. It is these dialectic ideas of the city that we ask if they can be resolved within the urban fabric without disparaging the latter. While we do not dispel these characterizations, we argue that it is not an inherent nature of street vending to degenerate the urban landscape, but rather it invests in the physical upgrades of its immediate surrounding. Within the political context of 'diversification' (to be defined in section 2.2), we argue that it provides a unique opportunity for moving away from the misinformed characterizations through inclusivity. In what follows, we map the discussion of urban image shaping and street vending. We then investigate the current situation of street vending in Nigeria's context. The discussion turns to that of political programmes as manifestos and the kind of opportunity they offer in particular to street vending. Finally, our proposals are fitted in the context of 'Receptor' and 'Transformers' to fit into the emerging literature that seeks to offer alternative forms and city building that seeks transform the urban narrative.

2. Literature Review

The idea of desiring a distinct urban image to the level of effecting change suggest intense planning with combined power and ability to do so. In contemporary neo-liberal cities, this description is held within a small group of the capitalist, market forces, politicians and designers. As McGlynn and Murrain (1994; 322) have shown, they are the ones who mostly "can initiate and control development in a very direct way [emphasis ours]." The image produced as a result of their (in)actions is one that seeks to perpetuates their political and economic hegemony within the urban environment. Limits to their interventions are bound by their financial power which is planetary (Brenner, 2013; Brenner and Schmid, 2011). This ranges from within the city such as privatizing public spaces through the development of plazas in exchange for increase buildable floor area (Whyte, 1980). It also to new kind of urban development where marginalized areas are integrated through investments and repurposing, often serving as auxiliary points along service points, not for the needs of the local populace.

Dispelling the thought of having a desire for a unified city image, it is worth noting that existing or new enclaves are reshaped and produced to serve a particular end, political or representational. Cities could be identified by their landmarks as an image, though it does not rise to the level of shaping the entire city such as Sydney Opera House conjuring Sydney or as Rockefeller Building might portray New York. However, Shane (2011) has shown that large urban enclaves – China towns or walled cities- can come to represent a city due to their distinct character, with such cities termed 'fragmented metropolis.' These enclaves serve a distinct purpose such as business activities, cultural centres or historical custodians and are often carefully planned and shaped. Such development curates a distinct urban identity (Relph, 1976) by combining distinct functions and social class of people in an area. There are often made to look timely, new and expensive, creating an image that increases social division.

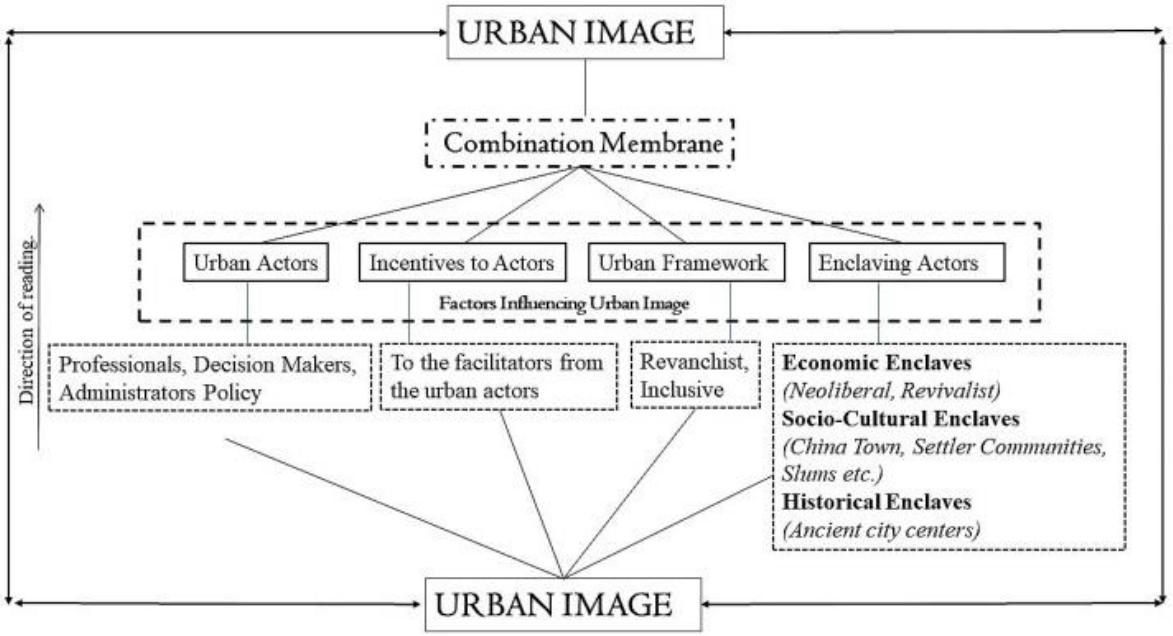


Figure 1. Mapping the theoretical terrain of factors shaping the urban image. The diagram is to be read from bottom up. Any combination of the factors, socio-cultural, economic and historical can coalesce into combination membrane and produce a distinct urban image.Source: Authors, (2018).

Such social divisions are not created arbitrary or randomized within the urban landscape but deliberated targeted where marginalized communities occupy the valuable location. The plans for creating such city images are proposed in these communities. Swanson had argued that these images are created by racism, income inequalities and economic opportunities these atrocities offer. Explaining the case in Ecuador, Swanson posits that the "racial-spatial divide" is a form of urban racism entrenched on an already segregated population by the discourse of urban "cleanliness, hygiene and…aesthetics" (Swanson, 2007; 719).

Such revivalist, regeneration and renewal projects are based on the notion that activities of the street vendors are "out of place" (Yatmo, 2008). The implication is seeing vending and other activities as the 'other' regardless of its contribution to the street life and communities. Crossa (2013) has shown the life generated in Coyoacan's historical Centre from the combination of street artist and vendors, students, cultural activities and intellectuals to be one that a good urban square/plaza should choose to emulate, however, such creative spirit has not stopped the city attempting to clear the centre. However, due to the prevailing language of human rights in urban issues, pro-poor policies and the strength of "deep democracies" (Appadurai, 2001) in organising and creating a voting bloc, there are policies that have begun to cater for the inhabitants of such places with the design and implementation of such projects having varying results (Ortiz, 2011). It is within this recent framework of inclusivity in designing of urban spaces that seeks to eliminate those hostile actions against street vendors that we write our proposal on this paper.

2.1 Street vending and the Nigerian image experience.

Street vending in Nigeria has always had a schizophrenic relationship with planners and politicians. On the one hand, street vendors constitute a large voting bloc while still being perceived as a menace to the urban environment. This dichotomous relationship has led to a plethora of policies and government pronunciations. There have been several attempts to reconcile the need for political power, the creation of the clean urban image and street vending activities. Kaduna typifies the nations spirit at this phenomenon. Within four decades, there have been a series of policy shifts. In the 80s under the military regime, allocation "layouts were prepared…for strategically chosen kiosk sites. The design integrated requirements for shopping (through kiosk spaces of approximately 3m x 4m each), circulation and provision for environmental control at these kiosk sites." (Simon, 1998). The drawn plans, however, deal only with already kiosk owners and those who could afford the new spaces, emphasizing what Simon characterizes as a tiered informal sector, one

that neglects those with "micro-enterprises." 2010 ushered in a new master plan policy document for the state. Street trader discussion was minimal and kept to the modern understanding of vendors as negative to the environment.

However, what represented a radical shift was urban design proposal for a bridge crossing over river Kaduna with specific mention to street vending spaces along the two-tier footbridge (Max Lock, 2010). The current administration has taken a different turn to the plight of vendors. In a new Anti-hawking bill, the person who buys or sell is liable to litigation (Binniyat, 2018: Alabelewa, 2016: Sunday et al., 2018). This has created a climate of tension, where vendors are unsure of their traditional-implicit-conditional-approval.

The anti-hawking bill potency is yet to be established. Vendors are continuously visible at junctions and roadsides. However, there have been some demolitions of illegal shops and stalls around school premises, with viable alternatives yet to be provided. Similar themes occur across different locations across Nigeria. Kano, Lagos Abuja have all exercised state power by demolitions roadside stalls in the name of road expansion, new development and visual non-conformity with the environment (Ahmad, 2015;; COHRE, 2008; Kazeem, 2017).

Figure 2: Ariel view of the Murtala Muhammad Way bridge showing a sanitized image that masks the human activity taking place within its vicinity. Source: Salihu T. Yakasai, (2018).

In marginal cases, there have been proposals made by authorities towards street vendors. Mobile phone vendors have been relocated from their precarious grounds in Kano from the post office grounds to a permanent place, albeit less visible at Farm Centre. This has nonetheless proved successful with other vendors congregating around its vicinity, taking advantage of its legal status. However, relegating it to a specialized enclave serves the governments narrative of creating a new and modern environment. These image campaigns are taking place on different platforms, with officials producing sanitized and non-human scale image of the environment.

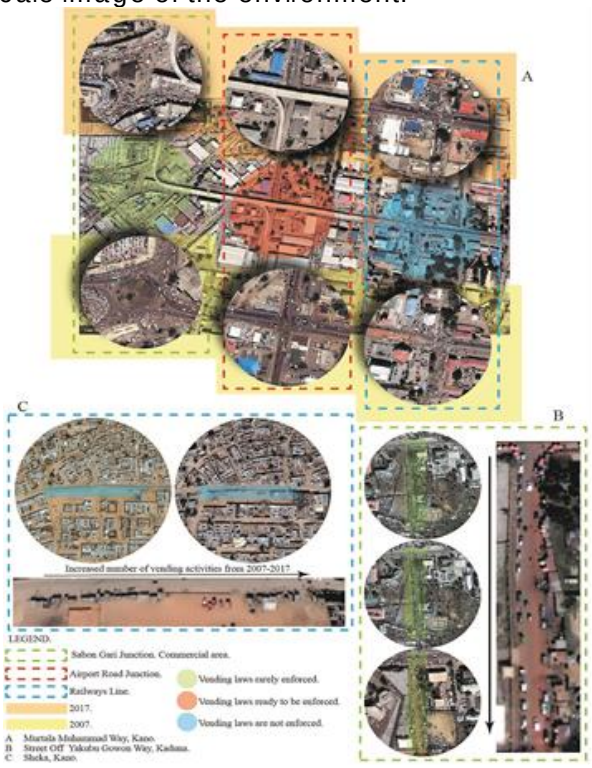


Figure 3: Spatial distribution of vendors in different urban centres. It shows areas that are hostile to vending activities and those that are not. Within A, it can be seen that different configuration of the urban environment and accompanying land uses (commercial, institutional and derelict lands) influences the extent to which the law is applied.
Source: Authors, 2018.

Others have proved less successful. The lack of sociological knowledge of street vending in Lagos has proved costly in governments programs. Olawoyin (2017a: 2017b) has shown the new phenomenon of ghost malls been set up, with specialised areas for vending activities. However, these malls have proved unfeasible to vendors whose customers are opportunistic buyers and are at the street levels. While still owing stalls within the malls, vendors have abounded them and return to the street sides. The schemes were exposed as not intended for the success of the vending activities but rather are political props to be waved as completed projects for electoral gains. The ghost-malls typology is simply for taking vendors of the street.

2.2 Diversification of the economy in Nigeria.

Diversifications are understood in Nigerian phraseology as the recalibration of the economy by reducing its dependency on crude oil earnings and allowing much revenue flow from previously neglected sectors. Nigeria's economy has been oil dependent since its commercialisation in the 1970s. Crude makes-up 10 per cent of GDP (NBS, 2018) yet accounts for up to 90 per cent of the nation's income while

the sector employs less than ½ a per cent of the countries workforce. The decline of global oil prices from $150 to about $70 today (29th March 2018) has questioned the sustainability of the state as an entity, resulting in a rapid response by the government to find an alternative way of financing expenditure. Other means of funding government's budget have to be planned.

Increasing the tax base, which currently stands at 7.8 per cent of the tax to GDP ratio (Oyedele, 2018), investing in the value chain around agriculture to increase productivity and expanding the mineral based mining activities have all be highlighted as areas for potential growth of the economy. Indeed, the Anchor Borrower Programme with more than 225,000 beneficiaries, has shown initial success by increasing local productivity and reducing imports "by almost 50 per cent to 280,000 tonnes in 2016" (Ogunmade et al., 2017). While those numbers are good - and with progress in other sectors - it is worth noting that farming, mining and industrial expansion can only go so far. With the population of Nigeria set to exceed 400 million by 2050 and majority living in cities, land competition will exacerbate, adding strain to already scarce resources. Likewise, manufacturing industries require long-term investment in equipment and physical infrastructure before their cushion effect could be felt within the economy.

Increasingly robotics, automation and ICT technologies are being deployed as substitutes (and complementary) in organisations and industries to reduce human errors and costs. As Nigeria moves from lower-middle income country to middle and high-income country, wages will rise to leave the industries and foreign capital to move elsewhere in search of cheaper labour. These scenarios put a hole to diversification claims concentrated in those sectors in the Economic Recovery and Growth Plan (ERGP), National Economic Empowerment and Development Strategy (NEEDS) program, and others alike. Neglecting the importance of vending activities as a dimension of the informal sector worth engaging and diversifying into could prove as an opportunity missed. The informal sectors as a whole employs majority of the people and represents 57-77 percent of the country's GDP (Ogbaubor & Malaolu, 2013) and with little difference existing between formal and informal sector (Simone, 2004), exploring it as an economic opportunity for employment and increased tax based in the diversification exercise is prudent.

3 Diversifying into street vending: what it would take.

We argue as follows; to effectively have street vending shed its negative connotations and make a significant contribution to the overall image of any given city and in particular cities in Nigeria, there needs to be a holistic rethink of vending's contribution to the urban landscape and economy. This rethink will guide legislative action to decriminalize vending and bring about careful experimentations in urban planning and design. As the discourse of diversification and its implementation within the Nigerian context is still at its infancy, our paper casts a wide net into the possible avenues that can be leveraged to effectively uplift and upgrade the physical and the aesthetic aspects of vending activities without its viability as a commercial enterprise impaired. To this effect, we propose three dimensions of support namely; passive, active and tacit support.

3.1 Passive Support

Passive supports are categorized as non-material supports that are not directly involved in the shaping of a particular place or group of places. Policy and legal frameworks fall squarely under this category. Laws generally do not deal with the specificity of issues rather they deal with the overall context of the given programme. Hence, the malleability of the law is its general characteristics. In any given situation, a single provision within a legal code can be argued for one reason or another.

When it comes to vending, there seems to be a consensus amongst the planning elites that doesn't reflect the law as a flux. This has led to incessant demolition, confiscations and heavy fines on vending actors in Nigeria. Hence the call for a passive action.

What this represents in principle is the relaxation of hostile laws against vendors which has a success rate in evictions of 20 per cent, represented in multifaceted ways such as "government decisions" and grandiose "planning schemes" (Onodugo et al., 2016). Layouts and road expansion schemes are the usual culprits that instigate these hostilities. Hence, laws that protect vendors could be initiated and proposed with consultation and about street vendors.

Such law could be classified in different ways. An example could be; laws by goods type and geographical spread; goods that do not endanger public health and are safe for the environment. This would provide legitimacy to street vendors selling provisional goods, daily household items, books and electrical gadgets amongst others.

Laws by geographical spread will deal with the extent with which vending is allowed within a location. Looking at the concentrated areas where vending activities are concentrated (markets, junction and public spaces), any city could decide - to a carefully determined radius - the extent to which vending is allowed to different centre points. For example, from any market location, a distance of 500m could be allowed as legal vending areas. This would allow for kart and table owners to establish a space for their activities without constant fear of harassment from the task force. It will also provide avenues for gradual upgrades of stalls, possibly to the level of the designed container.

3.2 Active support

If passive support does not directly effect change on the ground, then active support is meant to accomplish that exactly. This realm of supports deals with contributions from the design community, academia, NGOs, legal advocates. Support for the vendors has been few and far between. Aside from their organisations, which are often small and uncoordinated, little specialised organised support is offered. Many NGOs do facilitate the causes of informal communities at large. Justice and Empowerment Initiatives (JEI) and Isa Wali Empowerment Initiative offer crucial services by organizing legal practitioners, linking them to communities and helping other organisations

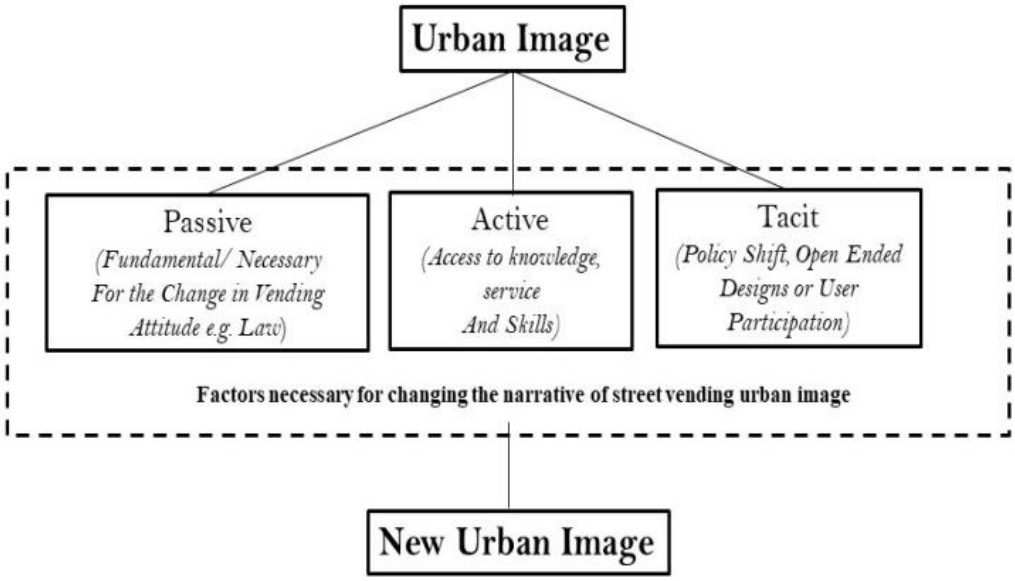


Figure 4: Proposed model for changing the narrative about street vending.

Diversifying into street vending could also be exploited for maintaining security. As Jacobs (1961) noted, security at the neighbourhood level is maintained through an unorganised complex network of individuals keeping their "eyes on the street." Mostly in her analysis, the contributions of shop owners feature centrally. They maintain relationships and are in constant lookout for unfavourable street behaviour, acting as "mayors" (Whyte, 1980), i.e. with keen interest regarding the social sustainability of the place. Street vendors acting as mayors can aid secure our neighbourhood parks, open spaces and darkened street allies, complimenting security forces in keeping the peace. Residents and regular visitors of the ancient cities within Nigeria feel this communal effect of eyes on the street. Legal freedom and clarity will, therefore, allow vendors to invest in their business rather than simply deciding between protecting their goods.

with expertise and resources (JEI, 2018: IWEI, 2018). Though such services are needed, the peculiar nature of street vending demands single initiative advocacy or at the very least specialised units with such organisations with prior experience. Linking up with global networks such as Women in Informal Employment: Globalizing and Organizing (WIEGO) can benefit local vendors in areas of fighting draconian land and labour laws; acts and lobby groups to negotiate taxes and lobby allocations to the informal sector.

Active support regarding image shaping is not limited to the legal realm. Design knowledge will prove crucial to street vending activities not only in creating a signature style but also solving mobility and space management problems. Relationship with the academia can provide this interminable access to skill and knowledge. Through contact with students and professors, a plethora of designs and studies could be initiated to the benefits of vending communities at no cost. Knowledge produced could help

guide the rehabilitation of dilapidated areas; the design of new vending areas; and provide individual/group design for stalls, tables, sheds, karts and carriers to interested vendors.

Having established the uneven distribution of vending activities as part of the perception of its undesirability (Bromley, 2000), key infrastructural provisions as well could boost this image misnomer. Provision of lighting and well-paved areas across different parts of the city decongests incessant vending in a single area. These single areas are where few services are provided, such as street lights, pavements and gutters long main roads, major junctions and public spaces. Increase provisions of these facilities not only disperse activities but also increase their operating hours into the night, resulting in an increased turnover and profits margins. This will also reduce noise and air pollution from to the use of generators.

Figure 5: Street vendors on precarious location (at Airport road junction, Kano). They boarder banks and telecommunication companies, therefore, all mobile, carrying their merchandise. The high presence of police officers here leading to regular enforcement of the law. Hence, little investment in equipment on the vendor's part. This particular stretch along the road does not lend itself to permanent vending activities. Source: Authors (2017).

Figure 6: Mobile vendors on derelict lands that allows for temporal but steady informal activity. Vendors can invest in karts with umbrellas. Due to the constant ability to trade, vendors have a slightly higher amount of merchandise to trade and can continue to make improvements to their vending devices. Source: Authors (2017).

Figure 7& 8: These are areas with tacit approval for vending activities. Different stall typologies exist at different stages of development, despite been at different locations. 6 providing different computing services and accessories is located at the CBD in Kaduna, off Yakubu Gowon Way, while 7, selling food and other perishable goods, is at the outskirts of Sheka district. Source: Authors (2017)

Decriminalizing street vending and diversifying into it can unlock its multifaceted potential that could reduce its perceived image problem. One dimension for this potential is ICT. Money transfer, market survey and weather forecast have been shown to improve farmer productivity around the world (Mittal & Mehar, 2012). Cost of production has been brought down, barriers in accessing information cut and profit margins increasing just by deploying the telephone within the Nigerian farmer's community (Bolarinwa, & Oyeyinka, 2011: Ogunniyi, & Ojebuyi, 2016). Applications such as Verdant have begun to take hold of the industry. Technological savviness, therefore, has proven not to be a barrier when deployed in low-educated and low-income industries. Hence apps developed that will gather the planning and zoning ordinances regarding vending; provides real-time updates on a potential change in government policy and information about access to professional design and legal help can bring street vending closer to the general public. Seeing it in a new light of embracing modern technology and associating with centres of knowledge production can change the perception and narrative about it image problem within the city.

We have deliberately left the most contentious of active support for the last, monetary and material support. Issues of financial supports always hinge on complete integration into the formal economy. Though integration on paper seems appropriate, without safeguards, the less powerful will always seem to lose either land, capital or other resources to the most powerful (Roy, 2005). Hence, if credit lines are to be provided to a street vendor who owns a kiosk, patch of land or vehicle, careful consideration

needs to be made to the ownership structure. This is to guard against the violent consumption of the venture capitalist, banks and loan sharks, and safeguard the property of vendors. Hence, land, kiosks and other assets should be held in cooperatives completely owned by an association of vendors. In the case of loan defaults by a particular vendor, the organization's bail/buys them out. This regulates assets from excessive speculations and limits the circle of decision making and control to the vendors. In this manner, cooperative accounts could be set up, loans taken from banks and investment made on a communal basis, often leading in the direction which serves the best interest of a group of vendors. Physical upgrades within this setup could be made easily and collectively, harmonising and change the image of the place.

3.3 Tacit support.

Tacit support involves deliberate attempt within the design and legal paradigm to make a vague proposal within specific geographical areas that allow for the possibility of co-creation of the urban built environment between street vendors and the planning authorities. This will form a morphological pattern that harnesses the logic and practicality of the organic pattern at the same time the gaining from the problem-solving rationale of the conventional planning.

This is to allow for the incorporation of already developing communities mostly at the peripheries, acting as a new paradigm for planning. The settlement could start as organic and then followed by periodical intervention from the authorities with as little disturbance as possible to the built-up area. The process could be vice versa, having a designed plan of main services, such as roads, sewage, schools and other social amenities. This then allows for infill by organic development including street vending activities. Such experimentation will give credence to the organic social process of vending, producing a hybrid image of old and new ushering a new way envisaging the urban environment.

4. Conclusion

There have been attempts at engaging with the informal communities in general and trying to incorporate them into the formal landscape of urban planning. Gouverneur (2014) proposes an "Informal Armature" (IA) approach that sees informal urbanizations as a dominant form of urban shaping. IA is meant as a guide rather than control of the future evolution of cities. Key to the IA concepts are receptors, "areas made available for the settlers to self-construct their dwellings" and transformers which "are dynamic, rapidly changing zones for the provision of services, commerce, and production, and eventually more complex urban uses and real-estate operations" .

Our tacit support borrows from Gouverneur perspective. Spaces, where vendors occupy, are mostly public such as street, sidewalks and urban parks. In the case of parks, rather than conceptually separating receptors from transformers spatially, we argue that a temporal (time-based) understanding will aid in changing the urban image narrative of street vendors. Vendors set up stalls in urban spaces (receptors first), and before reaching a critical mass, necessary urban infrastructure are provided together with plans and proposal recommending complimentary/necessary activities within such park and spaces that suit the immediate local population. Such kind of initiatives gains from the organic prowess of the informal sector and the medium and short-term strategies of the planning regime.

The desire for economic capital and political elites to forge a new material culture that absorbs street vending activities fail to appreciate the importance of flux and tensions that exist within cities. Planners, administrators and investors need to understand that cities are an agglomeration of its parts which give rise to its overall character. Transcending the 'place-city problem,' i.e. a better understanding of the whole rather than looking at the city in cells/blocks (Hillier, 1996), actors shaping the urban environment will appreciate the need for diversity in the urban image. Imageability is crucial in navigating through a city (Kubat et al., 2012: Lynch, 1960) and understanding its identity (Relph, 2007 [1976]).

Diversification of the economy in Nigeria has potential not only to include the urban poor within the planning framework, boost their economic activity but also deepening social integration within the city. Changing the narrative from a negative tone to a discourse of inclusion and a credible alternative should be among the first steps in that process. The proposals made here to that effect do not constitute an exhaustive list of recommendations rather a starting point for discussions with students of planning, design and others concerned with the physical environment. Carefully exploiting these means that gradually shape the informal sector by improving its physical, economic and environmental conditions can create and shape a new image within the city palatable to all parties involved in

the struggle.

We have shown that street given the right conditions and incentives, street vendors make appropriate improvements to their stalls. This gradual upgrading's from handheld merchandising to the use of karts, then fixed shops/kiosk varying in construction material shows a desire for creating a suitable environment for business. However, this only comes when there is lack of hostilities from the authorities, and it makes financial sense to the vendors. Our framework is an attempt make such revisions by the vendor possible. Diversification of the economy has the potential to push these changes in the physical environment and potentially to the vendor's immediate vicinity.

Our recommendations have transverse the legal, political, business, academic and the civil society realms. The potency of each of these realms in changing the narratives on street vending and its image within the urban landscape needs further research for it to be established.

Acknowledgements

Authors extend their thanks to Aliyu Ado Shehu, Muhammad Mustapha and Muhammad Mubarak Balarabe for their support and contribution during our field study. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The authors declare no conflict of interest.

References

Ahmad, M. (2015). Kano marks 100 "illegal structures" for demolition-premium times in Nigeria. Retrieved November 11, 2016, from North West. http://www.premiumtimesng.com/regional/nwest/188679-kano-marks-100-illegal-structures-for-demolition.html

Alabelewe, A. (2018). Beggars protest against El-Rufai's anti-begging, hawking law. The Nation Nigeria. Retrieved, 29. http://thenationonlineng.net/beggars-protest-el-rufais-anti-begging-hawking-law/

Appadurai, A. (2001). Deep democracy: urban governmentality and the horizon of politics. Environment and urbanization, 13(2), 23-43. doi/pdf/10.1177/095624780101300203

Binniyat, L. (2018). Buy from street hawkers and be jailed-Kaduna govt. https://www.vanguardngr.com/2016/05/buy-street-hawkers-go-jailed-kaduna-govt/

Bolarinwa, K. K., & Oyeyinka, R. A. (2011). Use of cell phone by farmers and its implication on farmers' production capacity in Oyo State Nigeria. education, 16, 13-3. https://pdfs.semanticscholar.org/fe6a/1318c67cb9bd5cb58f604fc45a95e15260b8.pdf

Brenner, N., & Schmid, C. (2011). Planetary urbanisation. In M. Gandy (Ed.), *Urban Constellations* (pp. 10–13) doi/pdf/10.1177/1367549413497696

Brenner, N. (2013). Theses on urbanization. Public culture, 25(1 (69)), 85-114. https://static1.squarespace.com/static/53a0503be4b0a429a2614e8b/t/53ffc5eee4b0c3314cbc21e1/1409271278878/Brenner.pdf

Bromley, R. (2000). Street vending and public policy: a global review. International Journal of Sociology and Social Policy, 20(1/2), 1-28. https://doi.org/10.1108/01443330010789052

Alliance, C. (2011). Demolition of businesses leaves many Kano shopkeepers destitute. Retrieved November 11, 2016. https://www.researchgate.net/publication/283507933_Governance_and_Security_in_Anambra_State

Cohre, S. (2008). The Myth of the Abuja Master Plan: Forced Evictions Urban Planning in Abuja, Nigeria. Geneva, Switzerland: Centre for Housing Right and Evictions. https://curve.coventry.ac.uk/open/file/286e264c-3d26-4448-8049-6f2ef3fda727/1/chimacomb.pdf

Crossa, V. (2013). Play for protest, protest for play: Artisan and vendors' resistance to displacement in Mexico City. Antipode, 45(4), 826-843. https://s3.amazonaws.com/academia.edu.documents/37401223/Crossa_A_13.pdf?disposition=inline%3B%20filename%3DPlay_for_Protest_Protest_for_Play_Artisa.pdf

Hillier, B. (1997). Cities as Movement Economies. In *Intelligent environments* (pp. 295-344). https://www.researchgate.net/publication/32885939_Cities_as_Movement_Economies

IWEI. (2018). *Iwei-ng.org*. Retrieved 27 March 2018, from http://iwei-ng.org/

Jane, J. (1961). The death and life of great American cities. *New-York, NY: Vintage*. https://en.wikipedia.org/wiki/The_Death_and_Life_of_Great_American_Cities

JEI. (2018). *Justice & Empowerment Initiatives*. Retrieved 27 March 2018, from http://www.justempower.org/

Kazeem, Y. (2017). *Lagos wants to be a modern mega city, so it's forcing thousands of slum dwellers from their homes*. *Quartz*. Retrieved 24 March 2017, from https://qz.com/936761/lagos-wants-to-be-a-

modern-mega-city-so-its-forcing-thousands-of-slum-dwellers-from-their-homes/

Kubat, A. S., Özbil, A., Özer, Ö., & Ekinoğlu, H. (2012, January). The effect of built space on wayfinding in urban environments: a study of the historical peninsula in Istanbul. In Eighth International Space Syntax Symposium (Vol. 8029). https://s3.amazonaws.com/academia.edu.documents/32258908/the_effect_of_built_space_on_wayfinding_in_urban_environments.pdf?

Lynch, K. (1960). *The image of the city* (Vol. 11). Cambridge, MA: MIT Press. http://www.miguelangelmartinez.net/IMG/pdf/1960_Kevin_Lynch_The_Image_of_The_City_book.pdf

NBS. (2018). *Nigerianstat.gov.ng*. Retrieved 29 March 2018, from http://nigerianstat.gov.ng/

Mittal, S., & Mehar, M. (2012). How mobile phones contribute to growth of small farmers? Evidence from India. Quarterly Journal of International Agriculture, 51(3), 227. https://ageconsearch.umn.edu/bitstream/155478/2/2_Mittal.pdf

Ogunniyi, M. D., & Ojebuyi, B. R. (2016). Mobile phone use for agribusiness by farmers in Southwest Nigeria. Journal of Agricultural Extension, 20(2), 172-187. file:///C:/Users/CIU/Downloads/149367-392990-1-SM%20(1).pdf

Ogbuabor, J. E., & Malaolu, V. A. (2013). Size and causes of the informal sector of the Nigerian economy: Evidence from error correction mimic model. Journal of Economics and Sustainable Development, 4(1), 85-103. https://s3.amazonaws.com/academia.edu.documents/30633219/Size_and_Causes_of_the_Informal_Sector_of_the_Nigerian_Economy.pdf?

Ogunmade, O., Ajimotokan, O., & Okoh, G. (2017, May 17). Ogbeh: Nigeria's Rice Policy Hurting Thai Production. Retrieved March 29, 2018, from https://www.thisdaylive.com/index.php/2017/05/17/ogbeh-nigerias-rice-policy-hurting-thai-production/

Ortiz, C. (2011). Negotiating downtown renewal in Colombia: is the right to the city a public discourse or a grounded citizenship practice?. In *The struggle to belong Dealing with diversity in 21st-century urban settings.* (p. unpaged). Amsterdam. Retrieved from http://www.rc21.org/conferences/amsterdam2011/edocs/Session%2018/18-1-Ortiz.pdf

Onodugo, V. A., Ezeadichie, N. H., Onwuneme, C. A., & Anosike, A. E. (2016). The dilemma of managing the challenges of street vending in public spaces: The case of Enugu City, Nigeria. Cities, 59, 95-101. https://doi.org/10.1016/j.cities.2016.06.001

Oyedele, T. (2018). *Economic and fiscal implications of Nigeria's rebased GDP*. *PwC*. Retrieved 29 March 2018, from https://www.pwc.com/ng/en/publications/gross-domestic-product-does-size-really-matter.html

Shane, D. G. (2011). Urban design since 1945: a global perspective (p. 360). Chichester: Wiley. https://h20zvcx7nd11.storage.googleapis.com/EirFQNnxi8nQAaSFhi11.pdf

Simon, P. B. (1998). Informal responses to crises of urban employment: an investigation into the structure and relevance of small-scale informal retailing in Kaduna, Nigeria. Regional Studies, 32(6), 547-557. https://doi.org/10.1080/00343409850119111

Simone, A. (2004). For the city yet to come: Changing African life in four cities. Duke University Press. https://books.google.com.cy/books?

on the history of an idea, 21-78. https://books.google.com.cy/books?

Sunday, E., Ebiri, K., Akpan, A., & Akhaine, S. (2018). *Street hawkers: How they fare in Lagos, Port Harcourt, Calabar and Kaduna*. Retrieved 29 March 2018, from https://guardian.ng/sunday-magazine/street-hawkers-how-they-fare-in-lagos-port-harcourt-calabar-and-kaduna/

31 Swanson, K. (2007). Revanchist urbanism heads south: the regulation of indigenous beggars and street vendors in Ecuador. Antipode, 39(4), 708-728. https://doi.org/10.1111/j.1467-8330.2007.00548.x

Roy, A. (2005). Urban informality: toward an epistemology of planning. Journal of the american planning association, 71(2), 147-158. https://www.tandfonline.com/doi/pdf/10.1080/01944360508976689

Relph, E. (2007). On the identity of places [1976]. In M. Carmona & S. Tiesdell (Eds.), *Urban Design Reader*. Pp. 103-107, Oxford: Architectural Press. https://ecommons.cornell.edu/bitstream/handle/1813/34149/ak383.pdf?sequence=1

Whyte, W. H. (1980). The Social Life of Small Urban Spaces (Conservation Foundation, Washington, DC) Google Scholar. https://trid.trb.org/view/521122

Yatmo, Y. A. (2008). Street vendors as 'out of place'urban elements. *Journal of Urban Design*, *13*(3), 387-402. https://www.tandfonline.com/doi/full/10.1080/13574800802320889

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 62– 66

Environmental Regulations and Rules: United Nations Perspective and the Nigeria Experience

*Ph.D. Candidate FASHUYI OLUGBENGA
Federal University of Technology Akure Ondo State Nigeria, Nigeria
Email: olugbeinga@gmail.com

ARTICLEINFO:

Article history:
Received 5 April 2018
Accepted 25 April 2018
Available online 27 June 2018

Keywords:
Agenda 21;
Bunkering;
Oil Spill;
Nigeria;
Cook Stove.

ABSTRACT

This research reviewed the Nigeria's environmental laws within the context of Agenda 21 at the three levels of water, forest degradation and solid waste management with the intent of evaluating the importance of Agenda 21 on environmental sustainability in the country. Furthermore, the study examined the Nigeria's environmental laws to determine its effectiveness. In this way, the study provided information on the effectiveness and extent of United Nations interventions on environmental issues in Nigeria thereby revealing the gap between such interventions and actual environmental challenges of the country.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 62-66.
https://doi.org/10.25034/ijcua.2018.4683

www.ijcua.com

1. Introduction

With the advances made in globalization resulting in progress in international integration and interchange of world views, global environmental concerns have assumed a more germane dimension. It has therefore become easier to realize that local environmental challenge in certain parts of the world have widespread reverberations on some other parts of the globe. In fact, it has been pointed out that recent global issue in form of depletion of the Ozone layer and global warming are the result of greenhouse gases and other complex processes (Blodgett, 2004). These have further resulted to major environmental devastations and called the attention and interventions of the United Nations. These interventions precipitated two major and important events, vis-à-vis: the Rio conference of 1972 and the United Nations Conference on Environment and Development, 1992. At these meetings, global environmental issues were dialectically analyzed and a broad template for Earths sustainability (the Agenda 21) was realized and adopted.

Agenda 21 discussed Earth's environmental problems and suggested solutions within the frame and peculiarity of each member state of the United Nations. It is within the context of these suggested solutions that Nigeria (a United Nation member state) re-defined her constraints, priorities and environmental laws in order to meet up with United Nations criteria for Earth's sustainability.

In view of the foregoing, this research intends to review Nigeria's environmental laws within the context of Agenda 21 with the intent of evaluating the importance of Agenda 21 on environmental sustainability in the country. The study will also examine the Nigeria's environmental laws to determine its

***Corresponding Author:**
Federal University of Technology Akure Ondo State Nigeria, Nigeria
E-mail address: olugbeinga@gmail.com

effectiveness. In this way, the study reflects on the United Nations interventions in Nigeria thereby taking a position on the extent and effectiveness of such interventions on the environmental milieu of the country. Moreover, this study examined the Nigeria environmental challenges at the three major levels of water problems, waste management and forest degradation and the issues involved at these levels are discussed in different sections of this work.

2. Environmental Regulations and Rules

2.1 United Nations Perspectives

Environmental laws stems from the recognition that the natural environment is fragile and needed special protection (Environmental law, Mold and Water Damage Expert, 2018). Following this important realization, it became imperative to protect the Earth natural assets.

Addressing these challenges the United Nations (UN), summoned the 'Stockholm conference' which converged at Rio de Janeiro in 1972. This was succeeded by another major meeting in 1992 referred to as the United Nation's Conference on Environment and Development (UNCED) or simply Earths summit. These world conferences were targeted at addressing the Earth's environmental challenges. According to the UN the major environmental challenge in Africa and Nigeria inclusive, are related to issues of drought, flooding, deforestation, and widespread poverty (Table 1).

Table1: United Nations perspective.

	▪ Environmental issue addressed o Not addressed
▪ 1	Drought
o 2	Water hyacinth
▪ 3	Flooding
▪ 4	Air pollution
o 4	Cook stove
▪ 6	Deforestation
o 7	Solid and coastal Erosion
▪ 8	Loss of bio- diversity
▪ 9	Fresh water availability
▪ 10	Degradation of soil
o 11	Oil pollution
▪ 12	Flooding
▪ 13	Wide spread poverty

2.2 Nigeria Perspective

Nigeria is a tropical country located in western Africa on the Gulf of Guinea and has total area of 923,768km^2.

2.2.1 Perspective of the Federal Government of Nigeria on Environmental Challenges.

Literature has shown that environmental challenges in Nigeria, at their primary levels, manifest in three major forms vis-à-vis: water problems, forest degradation, and solid waste management (Ogunleye, 2004). Nigeria (Fig. 1) is largely an agrarian economy until more recent times when the economy relied heavily on petroleum resources for development.

Figure 1: Map of Federal Republic of Nigeria.

At the secondary level (Table 2), these challenges are recognized by the Federal Government of Nigeria (FGN) in relation to: drought, flooding, air pollution, deforestation, loss of bio diversity, fresh water availability, and widespread poverty.

Table 2: Showing Federal Government Perspective of environmental challenges in Nigeria.

	▪ Environmental issue addressed o Not addressed
▪ 1	Drought
▪ 2	Water hyacinth
▪ 3	Flooding
▪ 4	Air pollution
o 5	Cook stove
▪ 6	Deforestation
▪ 7	Solid and coastal Erosion
▪ 8	Fresh water
▪ 9	Soil degradation
▪ 10	Oil pollution
▪ 11	poverty

This study examines the current trend in environmental challenges in the country, vis-à-vis the UN recommendations and their

interconnectedness at the three primary levels of environmental concerns.

2.2.2 The Objectives of the Federal Government of Nigeria and United Nations Recommendations

In response to UN recommendation at UNCED 1992, the Federal Government of Nigeria (FGN) organized a regional workshop in Abuja titled: 'the implementation of Agenda 21 in Africa' in 1993. After the workshop, the Federal Government established a National Advisory Committee (NAC) on the implementation of the Agenda. Prior to the UNCED however, environmental concern in Nigeria has been generally monitored by the Federal Environmental Protection Agency (FEPA). In preparation for UNCED 1992, the guidelines and standard approved by FEPA was reviewed through Decree 59 in 1992. In so doing, the decree legalized proposed guidelines and standards for environmental pollution control, the regulations on effluent limitations, pollution abatement in industries and the regulations for the management of social and hazardous waste. Furthermore, the Environmental Impact Assessment (EIA) was also enacted in 1992 to serve as a tool for integrating environmental issues in all major activities throughout the country.

After UNCED 1992, the Nigeria government created its own version of the UN recommendation. In so doing, the FGN mapped out strategies towards the implementation of Agenda 21, and identified the following as major environmental challenges confronting the nation. These are: deforestation, drought and desertification, solid and coastal erosion, water pollution, oil pollution, water hyacinth invasion, loss of bio-diversity, flooding, urban decay and industrial pollution (FGN, 1992). In the bid to redress these challenges, the FGN took initial measures such as integrating the environment into development planning and decision making. The strategy to do this includes: (i). improving the provision of EIA through Decree 86 of 1992; and (ii) adopting the system of National Accounting (AC) to adequately reflect the extent to which economic development activities have increased or decreased environmental pollution and natural resources on which future economy and social developments depends.

3 Deforestation (Forest Degradation) and Water Pollution

Most of the environmental problems in Nigeria, either ranging from deforestation, urban decay, urban poverty and desertification have their roots in oil pollution (due to oil spillage) as a result of lassez-faire attitude in the petroleum resource exploration. In fact, statistics indicate that corrosion of pipelines and tanker accounts for 50% of oil spills while sabotage, oil production operations and non-functional production equipment accounts for 28%, 21% and 1% respectively (FGN, 1992). As a result, immense proportions of the mangrove forest have been destroyed. More so, an estimated 5% to 10% of Nigerian mangrove ecosystem has been wiped out thus implying deforestation and loss in the ecosystem (Fig. 2-3). Moreover the rain and mangrove forests which previously occupied 7,400 square kilometers of land have disappeared. These are coupled with soil contamination and freshwater crisis resulting from oil spills in many parts of the country.

Figure 2: waste land.

Figure 3: Loss in the ecosystem.

Mangrove forest has also resulted into urban poverty as the forest has served as major source of wood for indigenous people and vital to their subsistence. Thus the indigenous people are forced to derelict settlements since they have no economic resource to provide settlements

fitted with even the most basic amenities. This view was buttressed in literature and it was observed that 33-67% of urban poor in Less Developed Countries (LDC) such as Nigeria lives in urban core settlements characterized by shanty housing and decaying environments (Olotuah, 2000) (Fig.4). Consequently, these indigenous folks took to sabotaging the petroleum pipelines- '*bunkering*' amongst other vices as means of alleviating their poverty (fig.5). Moreover, it has also been observed that much of industrial effluent and other hydro-carbons from petroleum resource exploration have been carelessly released into the atmosphere, and have consequently induced greenhouse gases (Lorraine, 2004). In many instances, these have resulted in climatic changes culminating to desertification and drought.

Figure 4: Slum housing.

Figure 5: Bunkering-illegal tapings into pipelines.

3.2 Solid Waste Management

Much of the cause of solid waste in Nigeria owes to industrialization, heavy refuse dumps, urban consumerism pattern and air pollutants emitted from factories. Indeed air pollution is copious in many parts of the world (Oshrieh & Valipour, 2018). Statistics obtained in the 1980's by two research teams showed that 70-90% of residents of cities in Nigeria such as Ibadan, Benin, Enugu and Kaduna failed to use officially designed facilities for disposing their refuse (Obi, 2002). In fact, the refuse are often piled randomly at any available location. Thus within a short time, an amorphous settlement character evolves, drainage patterns are blocked and derelict houses are built on flood plains leading to flooding.

3.3 United Nations Recommendation and Federal Government Interventions

The United Nations recommendations on environmental concerns in Africa and Nigeria have been documented in details in Agenda 21 of UNCED 1992. These concerns focused on vast array of environmental issues ranging from drought to widespread poverty as earlier explained. However, the United States Environmental Protection Agency (EPA) realized the need for concern on the environmental import of the growing use of cook stoves on indoor and outdoor spaces in Africa before its impact contaminate the global environment (Manda, 2017). This issue was not realized in the United Nations. This aspect is of vital importance as almost every urban and sub-urban dweller in Nigeria and many other Less Developed Countries (LDC) uses the cook stoves (Federal Republic of Nigeria, 2002; Obi, 2017). Furthermore, environmental challenges of: water hyacinth, solid and coastal erosion, oil pollution, flooding were reinforced in FGN interventions but were neglected in the UN specification for environmental challenges in Nigeria (Table 3 below).

Table 3: Showing areas of non-intervention by FGN and United Nations on environmental issues as it concerns Nigeria.

FEDERAL GOVERNMENT OF NIGERIA	UNITED NATIONS
COOK STOVE	Cook stove
	Water hyacinth
	Solid and coastal Erosion
	Oil pollution

4 Conclusions

The FGN has 'packaged' its version of Agenda 21 in form of formal pronouncement backed by law. However despite all the retinue of the FGN policies, Government interventions are ineffective in many ways and up till now, the issues of flooding and decaying urbanism, shanty housing resulting from unplanned settlements and poverty are still prominently severe in the country. This ineffectiveness is most probably because FGN interventions come through the instrumentality of law and other legal paraphernalia available to Government constituency whereas the concept of private sector participation in taking environmental decisions have been largely ignored. As a result, some authors have painted Government effort as cosmetic (Ogunleye, 2004). Lending credence to this view, the Federal Republic of

Nigeria, has appropriated coordination of Government intervention on environmental issues within the country as a difficult problem (Federal Republic of Nigeria, National Policy on the Environment, 2016). Evidences from literature have also attributed this difficulty to the fact that the wealth of information that could be used to manage sustainable development in the country cannot be accessed in useful format. This is coupled with the general lack of awareness on the importance of the environment among majority of the people in the country. The study however recommends that FGN policies as it regards the environment should be re-tailored to mitigate environmental consequence of the cook stoves in Nigeria.

Acknowledgement
This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests
The author declares no conflict of interest.

References

Blodgett, J.E. (2004). Environmental protection: New approaches. NY. Nova Publishers. https://www.novapublishers.com/catalog/product_info.php?products_id=1274

Environmental Law (2016). Framework for assessing and improving Law for sustainability. Martin, P, Boer, B, Slobodian L. (Eds). A legal component of a natural resource governance framework. https://www.iucn.org/theme/environmental-law

Ogunleye, F. (2004). Environmental sustainability in Nigeria: The "awareness" imperative. African Issues, 31 (1/2) 41-52. https://doi.org/10.1017/S1548450500006600

Federal Government of Nigeria (1992). Environmental protection agency (amendment) decree. http://www.nigeria-law.org.201992.htm . Accessed on: 25 Feb. 2018.

Federal Republic of Nigeria (2002). Government white paper on the report of the presidential committee on urban development and housing. https://www.emeraldinsight.com/doi/full/1108/JFM-12-2015-0037?mobileUi=0

Federal Republic of Nigeria, National Policy on the Environment (2016). Federal Ministry of Environment. http://environment.Gov.ng/media/attachments/2017/09/22/revised-nationalpolicy-on-the-environment-final-draft . Accessed on: 23 March 2018

Lorraine, M. E. (2004). The global politics of the environment. Palgrave Macmillan: New York. https://nyupress.org/books/9780814722183/

Mandal, A. & Byrd, H. (2017). Density, Energy and Metabolism of a proposed smart city. Contemporary Urban Affairs (JCUA), 1(2), 57-60. Doi: 10.25034/ijcua.2017.3648

Clark, V.E., & Phil, D. (2016). The politics of the Nigerian oil industry: Transparency and accountability for sustainable development in the Niger-Delta. American International Journal of Contemporary Research. 6(4); 76-82. www.aijcrnet.com/journals/Vol_6_No_4_August_2016/9.pdf

Obi, I. (2017). An agenda for the management of contemporary sustainable houses. Journal of Contemporary Urban Affairs. 1 (2), 33-37. DOI: 10.25034/ijcua.2017.3646

Olotuah, A.O. (2000). The challenge of housing in Nigeria Effective housing in te 21st Century. Akinbamijo, O.B et al. (EDs) Environmental Forum. Federal University of Technology, Akure Nigeria. www.ijhssi.org/papers/vol7(4)/Version-1/B0704011116.pdf

Oshrieh, R., & Valipour, E. (2019). The Role Of Urban Density And Morphology In The Air Pollution Of Tehran Metropolitan. Journal of Contemporary Urban Affairs (JCUA), 3(1), 38-43. Doi: 10.25034/ijcua.2018.4680.

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 67– 81

Evaluation of the Sustainable Aspects In Housing Sector To Overcome Housing Stress In Northern Iraq

* M.Sc. RAHEL MOHAMMED AMIN[1], Ph.D. Candidate SALAR SALAH MUHY AL-DIN[2]

[1]Faculty of Architecture, Department of Architecture, Cyprus International University, Lefkosia, Northern Cyprus
[2]Student, M. Arch. Girne American University, Northern Cyprus
Email: rahel_amin@yahoo.com Email: salars.muhyaldin@yahoo.com

ARTICLEINFO:

Article history:

Received 15 June 2018

Accepted 29 June 2018

Available online 1 July 2018

Keywords:

Housing;
Environ. Sustainability;
Economic Sustainability;
Social Sustainability;
Northern Iraq.

ABSTRACT

Northern Iraq as part of Iraq, has been witnessed a great population increment last few decades. However, housing stress in Northern Iraq has risen due to that. Environmental, economic and social sustainability became crucial in the movement towards a more effective built environment and community nowadays. This research seeks to evaluate the presence of sustainability aspects (environmental, economic, and social) in housing sector, which makes them acquired and affordable for low income earners in Northern Iraq. Housing projects as case studies were investigated in Erbil, the capital of Northern Iraq. The research examined, the presence of sustainability aspects. Field observations checklist have been prepared based on the theoretical analysis through literature review and applied to collect data on the case studies. The results demonstrated that applying the aspects of sustainability for the buildings is weak and not clearly familiar in Northern Iraq. The study concluded that, the housing projects focusing on the case studies not sustainable. The findings show that the application of sustainable principles in the housing projects at Northern Iraq is very weak. It is highly recommended to achieve sustainability, because it is the significant way to produce acquired and affordable housing and overcome the housing problems, socially, environmentally and economically. The recommendations have been suggested to formulate new ways for implementing sustainable principles in the housing sector to overcome housing stress in Northern Iraq.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 67-81.
https://doi.org/10.25034/ijcua.2018.4684

www.ijcua.com

1. Introduction

The building of house can be seen as the most significant investment one can make for his family. Hence, the house has many considerations for a human being in the different levels of his life, such as economic level, social level, and even on psychological and safety levels. The housing sector of every country is a very important part of the country's economy this is true because bloomed and developed housing sector is an indicator of a strong program of a countries investment and it is a milestone for future economic growth and social cultural development (Joseph, 2006). Nowadays, the world is getting aware of climate changes, global warming and natural resources depletion on the earth. They try hard to achieve sustainable development (Chiu, 2004). The sustainability in term of design and construction solutions could be applied to support the low-income people, and solve the housing demand problems, as well as promote social, economic and environmental aspects of

***Corresponding Author:**
Department of Architecture, Cyprus International University, Lefkosia, Northern Cyprus
E-mail address: rahel_amin@yahoo.com

living in Northern Iraq.

Northern Iraq has experienced significant social and economic growth in the last decade along with a strong contrast between poverty and wealth. The populated city in this region, and Erbil city, as a capital of the region has also witnessed this phenomenon. The disparity in the living environment demonstrates the gap between rich and poor. The lack of housing policy by the region government increased the housing problems (Faraj, 2014). In Northern Iraq There are a significant number of households with no houses, and the current rate of housing occupancy is relatively high (1.37 household per each housing unit and 2.23 person/room) (Ministry of Planning, 2011). That indicates a large housing deficit (about 250,000 housing units are needed in 2016) according to Ministry of construction and Housing-KRG-Iraq estimates (Ministry of Planning, 2012a). In another hand, the modern houses are neither sustainable nor affordable in meeting the financial and environmental needs of the occupants. Missing of government regulations on affordable and sustainable housing creates an obstacle to the application of sustainable methods.

2. Literature Review

2.1 Housing

Housing considers as, one of the fundamental needs of human and it is the most important for his survival after the needs for food (Muhy Al-Din, 2017). Housing, both in units or multiple forms is one of the important parts of community structure, which provide the important need for the human being who is the most important part of the society. The development of the people related to the type and condition of the housing, which consequently develops the countries. It is also an indicator of people level of living and their position in the society (Olayiwola, et al., 2005). The housing can be seen as a big issue mostly for the urban populace and the less privileged areas of the society. The housing problem is agreed as being a complex. This problem seems difficult to solve and it is worldwide. Hence, it is very difficult for any country in the world to meet its housing requirements (Abiodun, 1985). According to Maslow's hierarchy of needs based on Maslow's theory, shelter, sleep etc coming in the second main needs after biological and physiological needs. If these needs are not met, the human body cannot continue to function (Maslow, 1943).

Housing is also one of the basic rights of the human. The Universal Declaration of Human Rights (1948), article 25 states; "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services".

When a large number of people living in the city became more competitive, the demand for housing will increase then the gap between housing demand and supply will enlarge if the construction speed is lower than housing demand. The young households and low-income households have the lower competition power and maybe they will become homeless because it is difficult for them to enter the housing market.

2.2 Sustainability and Housing

Because of the desires to overcome the environmental problems, which the world facing it in twenty first century, the efforts towards sustainability are now the important subject globally. Quick growth of urbanization will continue rising demand for housing. Housing formulation has developed in remarkable way over the years. The desire for the welfare of future generations is also important. To achieve these desires there is an urgent need to balance urban planning, design and construction. Therefore, sustainability became a necessity and the application of sustainable principles in design and construction is crucial for the survival of natural resources for next generations. United Nations World Commission on Environment and Development (UNWCED), defined Sustainability was defined as that which "meets the needs of the present without compromising the ability of future generations to meet their own needs" (1987), (Al Surf, 2014). Sustainable development and housing are directly affect one another, as Section 7.67 of the United Nations' Agenda 21 states: "The activities of the construction sector are vital to the achievement of the national socio-economic development goals of providing shelter, infrastructure and employment. However, they can be a major source of environmental damage through depletion of the natural resource base, degradation of fragile eco-zones, chemical pollution and the use of building materials harmful to human health"(UN -Agenda 21, 2004).

The core of sustainability consists of three main pillars, interlocking circles creates the sustainability. Sustainable development could be elucidating in terms of environmental protection, economic growth, and social development (Adams, 2006). These aspects should be considered in order to implement a desired level of sustainable development. See figure '1'.

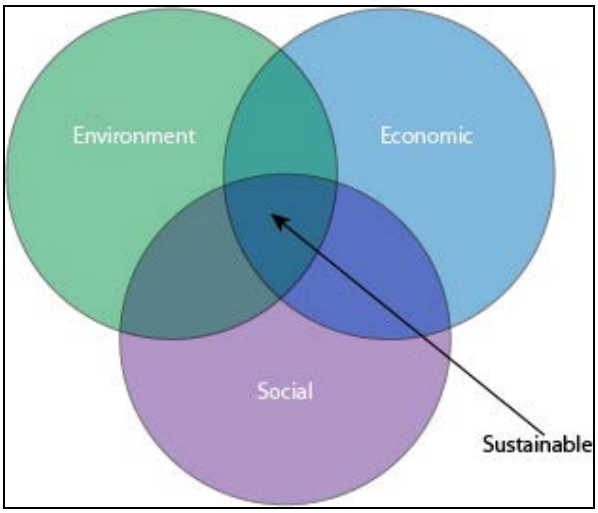


Figure 1. Three main aspects of sustainability.(URL1)

Housing development can be considered one of the crucial issues for sustainable development, because of its long life-span and its direct and indirect impact on human's life. Despite that housing is one of the significant ways to reach the goals of sustainability; however, the researches demonstrate that it is one of the more neglected aspects of sustainability (Winston & Eastaway, 2008). Therefore it is important to find methods to ensure that new housing projects are sustainable.

2.3 Sustainable Factors and Housing System

A sustainable house characterized by cost-efficient over time period, also, comfortable, and eco-friendly. In the same context, sustainable housing could be defined as housing, which looking for integral quality, including social, economic, and environmental performance (Adebayo, 2013). In the social dimension Sustainable housing offers a better environment which encourages residents to stay at home longer among friends and families and neighbor in the social context (Abidin, and Jaapar, 2008). One of the important factors to conduct sustainability in any community is providing decent and affordable housing (Maliene, *et al.,* 2008). Generally, housing can achieve sustainability through the three main dimensions of sustainability: Environmental sustainability, economic sustainability and Socio-political sustainability (McConville, 2006). Table '1', demonstrates the main elements to achieve sustainable housing considering the three dimension of sustainability.

Table 1. The elements to achieve the three dimension of sustainability (McConville, 2006).

Economic Sustainability		Implies that sufficient local resources and capacity exist to continue the project in the absence of outside resources.
Environmental Sustainability		Implies that non-renewable and other natural resources are not depleted nor destroyed for short-term improvements.
Social Sustainability	Socio-Cultural Respect	A socially acceptable project is built on an understanding of local traditions and core values.
	Community Participation	A process which fosters empowerment and ownership in community members through direct participation in development decision-making affecting the community.
	Political Cohesion	Involves increasing the alignment of development projects with host country priorities and coordinating aid efforts at all levels (local, national, and international) to increase ownership and efficient delivery of services.

2.4 Sustainable House design principles

Constructions and housing as part of it, involves into socio-economic development deeply and makes significant use of the resources in Nature and affects the generation of greenhouse gasses through buildings (Asif *et al.,* 2005). Sustainable housing main principles are to provide the safety and comfort to occupants as well as the surrounding environment and society. The principles ensure healthy living quality, and in harmony with nature (Abidin and jaqpar, 2008). This principle needs care for future generations without compromising the demands of the present generation. There are several principles of sustainable housing applied around the world. In environmental dimension, are:

1. Apply energy efficiency in the buildings through the optimum orientation, optimum sun incidence into the buildings, introducing ventilation, natural lighting into the building, and use renewable energy technologies in building services (Muhy Al-Din, *et al.,* 2017).
2. Ensure good indoor air quality with achieving thermal, visual, as well as acoustic comfort into the building. This will include low volatile organic compounds usage, inner air filtration, and proper humidity.
3. Selecting a proper site with the accessibility to public transport, services, and open space.
4. Choosing materials that have low impact on the environment and human (Minke, 2006; (Koenigsberger, et al., 2010)
5. Rainwater harvesting, recycling the water and water system equipment.

In other dimensions such as social and economic dimensions, assuring social equity and affordability in the housing are the main points to achieve sustainable design principles in housing (Sani and Chi munaaim, 2012).

2.5 Characteristics of Sustainable Housing

Based on the literature review the characteristic of sustainable housing could be including;
1) A house which meets the government financial obligation and individual ability without policy change.
2) An acceptable building within the people in the society, through understanding traditional and core value.
3) A building that does not increase social exclusion or segregation.
4) A building that is located on a site with minimum impact on nature biodiversity.
5). A building that is located on a site with maximum low-energy consumption.
6). A building that encompasses the following environmental features; applies efficient materials, passive solar design, water conservation, appropriate waste management during the construction (Pullen *et al.*, 2010). Whole above points characterize the sustainability based on the literature review, whereas points '1 and 2' concerning economic sustainability. In the same context, the points '2, 3 and 5'related to social sustainability, and the points '4, 5 & 6' are related to environmental sustainability (Pullen *et al.*, 2010). See table '2'.

Table 2. The characteristic of sustainable housing according to literature review. (Pullen *et al.*, 2010)

Sustainability	Economic	1) Meets the government financial obligation and individual ability; 2) Acceptable building within the people in the society; 3) Has low-energy consumption
	Social	1) Acceptable building within the people in the society through understanding traditional and core value; 2) Does not increase social exclusion or segregation
	Environmental	1) Has a minimum impact on nature biodiversity; 2) Has low-energy consumption; 3) Applies efficient materials, passive solar design, water conservation, appropriate waste management during the construction.

Sustainable design in buildings and particularly houses, in Northern Iraq, is still not following the sustainability because of the lack of awareness about the payback principle of sustainable design strategies. Therefore, the concept is not present.

2.6 Northern Iraq

Northern Iraq, is located in the North-East of Iraq, and its capital is Erbil, as seen in figure '2'. The area of the region is almost 42,812 Km^2. The population of this region represents almost 17% of the total population of the Republic of Iraq. Northern Iraq is located between latitudes 34.7° N and 37.4° N and longitudes 42.4° E, and 46.25° E, (Rashid, 2014).

Figure 2. Northern Iraq (Kurdistan region of Iraq). URL 2

The following data will give some indicators about the region, as seen in table'3';

Table 3. General information about Northern Iraq. (Ministry of Planning, 2011)

Governorate	Erbil (Capital), Sulaimanyah, and Duhok
Language	Kurdish & Arabic
Religion	Muslims, Christians, Yezidi, etc.
Ethnic Groups	Majority: Kurds Minority: Turkmen, Arabs, Assyrians, Chaldeans, , Armenians, etc.
Currency	Iraqi Dinar (IQD)
Rate of Exchange front of US Dollar	1 USD = 1200 Iraqi Dinar (IQD) (as average)
Annual average income per Capita in (IQD), 2003-2011	976,794 - 7,693,200 *

**1: 1 US Dollar = 1250 IQD, Source: (Ministry of Planning, 2011)*

2.6.1 Housing Stress in Northern Iraq

Based on several studies, economic and social surveys conducted recently in the region, for assessments of the existing housing condition, all of these demonstrated a shortage of housing. The demands are to secure at least 250,000 housing units between 2012-2016 according to Ministry of Construction and Housing in the region (Ministry of Planning, 2011).
In other report for Ministry of Planning in the region (2012) assert that, the population in the region has been estimated at 5,432,000 people or 1,131,700 households in 2012, and the growing rate is at around 2.7% a year. Based on this, information and the annual housing requirement to accommodate the people based on the annual growth rate in the region are 30,390 units including all income levels, assuming separate houses for each householder. The government in the region Housing strategy 2012 estimates that almost 25% of existing households require improved housing or new one in order to change inadequate

housing (Shawkat, *et al.*, 2018). This means other 283,000 houses for all income levels. To overcome the problem within 10 years, 28,300 new or improved houses are required. Thus, according to the previous data, the annual housing demand is 58,690 (30,390 + 28,300) housing units (Ministry of Planning, 2012b).

In general view, the most of the existing housings are usually built by private small builders working separately for different customers who have their independent finance and design to run the process. There are no enough data or researches on the size of the housing in the region and relying on old data of the housing statistics carried on several years ago, which does not reflect clear picture. The houses number made by the Ministry of Construction and Housing until the end of 2009 was 25,331 units (45.5% in Erbil, 5.3% in Duhok and 49.2% in Sulaimanyah). Whereas, the apartments number were made by the Ministry in the same period was 4,456 apartments distributed by 77.6%, 22.4% in Erbil and Sulaimanyah, respectively. On the same line, the number of houses which implemented by the investment projects system were estimated by 11,240 units included; 24.5% of the houses in Erbil, 67.5% in Sulaymaniyah and 8% in Duhok, (Ministry of Planning, 2011). Recently, there is a great demand on housings that should be considered as one of the serious challenges in the Northern Iraq.

3. Methodology

In order to validate and enhance the credibility of the research, the real-life case study for affordable projects have been selected from Northern Iraq, and then the data collection and analysis will be acquired. Both primary and secondary data sources were used in the study. To reach an adequate understanding about the main ideas and theories related to the topic. The literature review was carried out through different sources, such as documents, government reports, books, previous researches and studies, published and unpublished materials internet and electronic documents, as well as architectural and planning journals. Secondary data collection have been used in this research, where, the analysis of the case studies have been conducted base on assessment of the 'Check List' prepared to be tested through site observation to evaluate the use of sustainable aspects in the projects. The self-observation has been conducted, through the site visit, studying the documentary and plans of the projects. Furthermore, theoretical analysis of the house has been approached, to investigate sustainable principles according to the three aspects of sustainability, economic, environmental, and social. The assessment of the aspects was implemented as per each dimension concerns, which provided based on previous literature review as seen in Figure '3'.

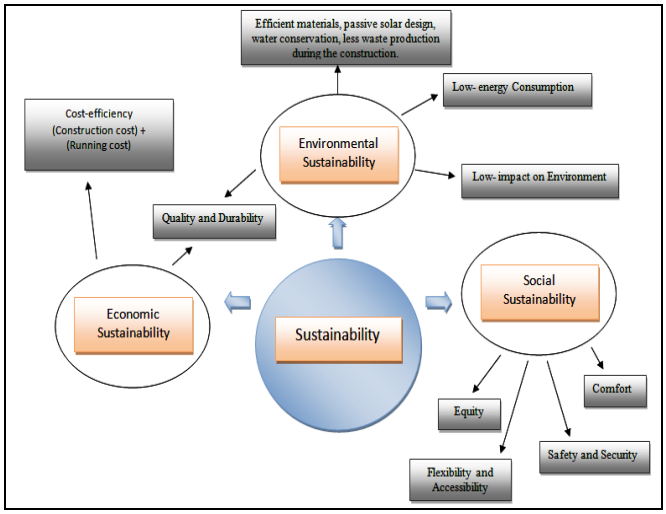


Figure 3. Assessments of sustainability three dimensions based on their factors. (By Auther). Source: (McConville, 2006; Abidin, and Jaapar, 2008; Zainul Abidin and Pasquire, 2005; Muhy Al-Din, et al., 2017;.Asif et al., 2005; Sani and Chi munaaim, 2012; Dell'Isola and Stephen, 1981; Minke, 2006; Koenigsberger, et al., 2010; Jin Kim, 1998; American Institute of Architects, 1992; Ilberg, and Rollins, 2007; Pullen et al., 2009)

3.1 Case Studies

Two housing projects have been selected as case studies. The goal behind analyzing any case study is to get a comprehensive intelligibility about the case to learn lessons (Waltz *et al.*, 2010). The case studies were selected based on the several criteria, namely; the case study should be a housing project; the case studies should have relatively the same construction age; the projects should be in the area of Northern Iraq.

3.1.1 **First case study 'Goollun City'**

The project has been implemented at Erbil City near 'Ankawa' district, and far from Erbil center (Citadel of Erbil) around 5.27 km, as seen in figure '4'.

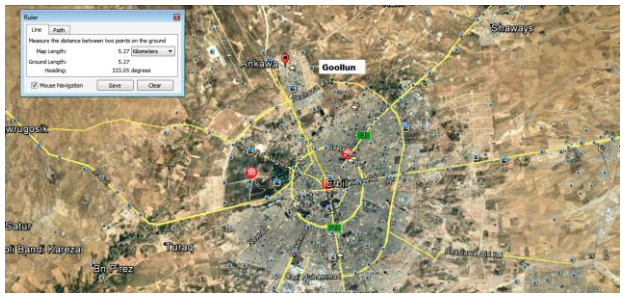


Figure 4. The location of Goollun City housing project. Source: Google Earth.

The project started in 2008 and ended in last quarter of 2010, which contains 610 houses, and the evaluated price for each house is 55,000 US Dollar, around 68,750,000 IQD (Taken by the author from Municipality of Erbil, January, 2017). The project executed by Investment sector, and all the houses are occupied. The houses are semi- detach houses, and total land area is 200 m^2, whereas, the building area is 200 m^2, 110 m^2 for the ground floor and 90 m^2 for the first. See figure '5'.

Figure 5. Goollun City housing project. (By Author).

3.1.2 **Second case study 'Aarshum project'**

The project started in 2009 and completed in 2011, and located at north part of Erbil city, 4 km from Erbil center (Citadel of Erbil), see figure '6'.

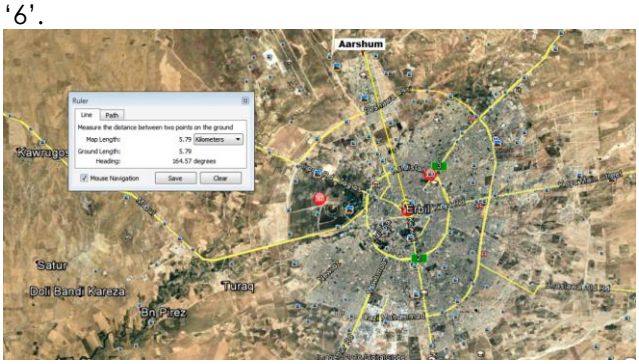


Figure 6. Location of Aarshum Housing Project. Source: (Google Earth, 2017)

The project contains 500 houses, and the evaluated price for each house is 35,000 US Dollar, around 43,750,000 IQD (Taken by the author from Municipality of Erbil, January, 2017). The project executed by government and private sector, and all the houses are occupied. The houses are raw housing system, and total land area is 200 m^2, whereas, the building area is 147 m^2, one floor. See figure '7'.

Figure 7. Aarshum Project. (By Author).

3.2 Field Observation

The observation is one of the commonly used methods, which the information is collected by researcher through direct investigation. In this method personal tendency could be neutralized, information acquires by current events (Kothari, 2004). It had been used to observe sustainable principles in the houses for the selected case studies in Erbil city. Checklist has been prepared by the researcher to assess the sustainable factors in the houses. For sustainability analysis three aspects of sustainability were analyzed, which are (environment, economy, and society). The factors have been formulated based on literature review and depending on several studies and references. Fourteen factors were identified to cover the three dimensions of the sustainability to apply on the case studies in order to get intelligible understanding about the presence of sustainability in the housing in Northern Iraq. Each dimension of sustainability (environmental, economic, and social) was identified by several factors according to their relation and effects to the aspect. See table '4'.

Table 3. The assessment checklist for sustainable factor presence in the housing. (By Author)

No	Aspects of Sustainability. (Adams, 2006); (Adebayo, 2013); (Winston & Eastaway, 2008); (McConville, 2006)	Sustainable factor	References
1	Environmental Sustainability	Passive solar design Cooling/ heating strategies (Less use of mechanical cooling)	(Koenigsberger, *et al.,* 2010) ; (McConville, 2006); (Zainul Abidin and Pasquire, 2005); (Sani and Chi munaaim, 2012); (Muhy Al-Din, *et al.,* 2017).
2		Thermal Insulation	(Koenigsberger, *et al.,* 2010); (Sani and Chi munaaim, 2012)
3		Water Conservation	(Minke, 2006); (Muhy Al-Din, *et al.,* 2017); (Sani and Chi munaaim, 2012); (Ilberg, and Rollins, 2007);
4		Availability of Green Area	(Sani and Chi munaaim, 2012); (Pullen *et al.,* 2009)
5		Site Orientation	(Koenigsberger, *et al.,* 2010); (Pullen *et al.,* 2009); (Muhy Al-Din, *et al.,* 2017); (Sani and Chi munaaim, 2012)
6		Low- impact on Environment (Using local, eco-friendly materials and equipments in the building)	(Minke, 2006); (Asif *et al.,* 2005); (McConville, 2006); (Zainul Abidin and Pasquire, 2005); (Dell'Isola and Stephen, 1981); (Sani and Chi munaaim, 2012); (Jin Kim, 1998); (American Institute of Architects, 1992); (Pullen *et al.,* 2009) ; (Ilberg, and Rollins, 2007)
7		Low- energy Consumption (Use of Green Energy)	(McConville, 2006); (Minke, 2006); (Koenigsberger, *et al.,* 2010); (American Institute of Architects, 1992)
8	Environmental & Economical Sustainability	Structural Quality, Durability, and Low Maintenance Cost	(Dell'Isola and Stephen, 1981) (McConville, 2006); (American Institute of Architects, 1992); (Ilberg, and Rollins, 2007); (Pullen *et al.,* 2009)
9	Economical Sustainability	Cost – efficiency (Construction + Running costs)	(Dell'Isola and Stephen, 1981); (McConville, 2006); (American Institute of Architects, 1992); (Pullen *et al.,* 2009); (Ilberg, and Rollins, 2007)
10	Social Sustainability	Flexibility and accessibility (Near all amenities)	(Pullen *et al.,* 2009); (Sani and Chi munaaim, 2012)
11		Safety (Indoor Air Quality, and Physical Health 'Wellbeing')	(Jin Kim, 1998); (Zainul Abidin and Pasquire, 2005); (Pullen *et al.,* 2009)
12		Equity (Suitable for the local social context and cultures)	(McConville, 2006); (Pullen *et al.,* 2009); (American Institute of Architects, 1992)
13		Comfort (proper inner spaces for the users, comfortable services	(Abidin, and Jaapar, 2008); (Zainul Abidin and Pasquire, 2005); (Koenigsberger, *et al.,* 2010); (Pullen *et al.,* 2009)
14		Security (proper Urban planning for the safety of the occupants and their movement and activities)	(Sani and Chi munaaim, 2012); (Jin Kim, 1998); (Pullen *et al.,* 2009)

The checklist assessment of sustainability with included factors have been evaluated through DST (Descriptive Statistical Tools) as well, and the percentage were considered as a scale to recognize the presence of sustainability in the houses, following the availability of the factors which are fourteen factors and find the percentage based on presence of these factors in the case study houses. The assessment carried out by the researcher based on theoretical analysis.

4. Data analysis & Discussion

Based on the three main dimensions of sustainability, environmental aspect, economical aspect as well as social aspect, there are many factors to implement each of these dimensions in the buildings as per the prepared "Check List".

4.1 **'Goollun city' housing field observation data** (First case study)

The result were obtained for the field observation according to checklist form, which prepared by the researcher to analyze the sustainability in 'Goollun City' houses. The factors to evaluate the sustainability in the housing sectors were investigated as shown;

The first factor in the checklist was the availability of passive solar design cooling/ heating strategies, as part of environmental sustainability was investigated through personal visit. Passive design strategies are important to the climate of Erbil. There are many effective strategies to reduce heating/cooling exchange through inside and outside, such as wall thick mass. Also, examine the window or opening response to sunlight entrance or block into the building, as well as the ventilation which is relatively limited in harsh seasons in Erbil. The result was negative because the designer didn't take into consideration any of these passive strategies during the design of the housing units. Second factor was missing in all the housing units according the existing condition and design documents of the project. Third factor had been missing as well through examine the existence of any ground water storage for rain water harvesting or water re-cycling system in the houses. The front garden or green area were founded in the houses unites, as seen in figure '8'. Factor number five was the orientation of the building according to their response to sun path. The observations demonstrate that the units are oriented in all the directions regardless the relation with the sun or manipulating the building envelope for this purpose.

Figure 8. Front Garden of the houses in Goollun City

Low- impact on the environment as the sixth factor in the checklist were assessed through examine the usage of local materials like natural stones as an eco-friendly materials, also examine the type of equipment used at the houses as electrical sets, cookers, heating and cooling sets, and how much they are eco-friendly. The observations showed that building materials for masonry units are concrete block. It is containing aggregate and cement and that has more impact on environment comparison with bricks, or natural stone which is very good building material in Northern Iraq. The slab and foundation had been achieved by using reinforced concrete, which considers very much impacted on environment. The factor number seven is showed negative because of missing any green energy system application in the building even the solar panels.

Factor number eight in the check list was 'structural quality and durability' were tested through watching the material and construction technique. The houses demonstrate durability in the view of sustainability, as well as Low Maintenance cost. The main material in the building is concrete and steel which provide high durability and low maintenance during the age of the building. The ninth factor was 'Construction cost –efficiency and running costs. The factor showed that the construction cost is not efficient, based on the analysis of construction cost compared with average construction cost in Northern Iraq which it is 300,000 IQD according to Ministry of Construction & Housing, Republic of Iraq (2006). As per the price of the houses which is 68,750,000 IQD and the area of the constructed which is totally 200 square meter for both floors, the cost of the building per square meter will be as shown;

$$One\ Square\ meter\ building = \frac{Total\ price\ of building}{Total\ area\ of\ building} \quad \text{..... (1)}$$

After apply the data in the formula '1', the results will be 343,750 IQD, which indicate that the cost of the building price is already higher than average, whereas the price should be even lower than average market price to achieve the efficiency. Take in the consideration that the land is free of charge and subsidized by government to the investors.

In the factor number ten, the 'Flexibility and Accessibility' were analysed and found that the project is located on country-side of the city. Despite of that, the project is relatively far from the city centre, but the accessibility to the place or from the place to the city centre is not difficult, because of the availability of public cars and paved roads.

In the factor number eleven, 'Safety (indoor air quality, and physical health', the evaluation of the building inner spaces division carried out and found. Apertures quality is PVC and low infiltration take place through them, thus, the

quality of inner air could be controlled. Also, the existence of frontage garden will promote the wellbeing, as seen in figure '9'.

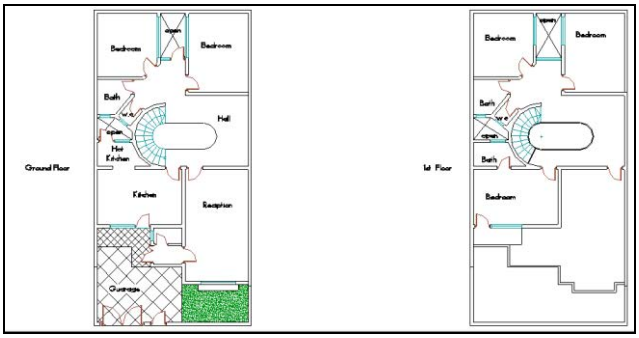


Figure 9. The plan of the both floors in single house in the Goollun city Housing Project. (By Author).

Equity (suitable for the local social context and cultures) is another factor for sustainability (social sustainability), which is very important in the society of Erbil, which it could be consider relatively closed society. Hence, the design analysis found that the specialty has given to family zones and guest zones and some of separation is considered in the design between the occupant's families. Bedrooms and services are well managed as well. See figure '9'.

In the factor number thirteen 'Comfort and proper inner spaces for the users, comfortable services), is includes the comfort of occupants. After the field observation the research came out with; there are weakness in services management of the housing project from the investors (who are responsible for provision of the services like water, electricity, etc.) according to Investment contraction. That affected occupants comfort inside the buildings due to shortage in providing electricity and water.

Last factor of sustainability in the checklist form is proper planning for the safety of the occupants and their movement and security. The field observation showed that the security of the housing project is provided. This was done through entrance, exit check points and also providing the location of school buildings within the 'walkability' distances for the primary and secondary schools without crossing any main street. Super block design concept is applied in the project.

Based on previous explanation the checklist form for the first case study was as shown in table '5'.

Table 4. Sustainability assessment in the houses of First Case study 'Goollun' city, based on prepared Check list form.

	Aspects	Sustainable factor	Criteria for judgment	Presence of the factor	
				Yes	No
1	Environmental Sustainability	Passive solar design Cooling/ heating strategies (Less use of mechanical cooling)	Site visit to check the existence of thermal mass walls, successful incidence of sunlight as per requirements, ventilation, etc.		●
2		Thermal Insulation	Personal site visit		●
3		Water Conservation	Existence of rain harvesting system or water conservation sanitation fittings such as sensors taps, etc. Using construction materials, which needs less water consumption		●
4		Availability of Green Area	Site visit and based on the units design	●	
5		Site Orientation	Site visit and examine the sun path in different seasons		●
6		Low- impact on Environment (Using local, eco-friendly materials and equipments in the building)	Site visit to investigate construction materials properties, and investigate the cooling and heating system		●
7		Low- energy Consumption (Use of Green Energy)	Investigate the presence of renewable energy technologies in the building such as photovoltaic or solar panels		●
8	Environmental & Economical	Structural Quality, Durability, and Low Maintenance Cost	Site visit and structural design review	●	

9	Economical Sustainability	Cost – efficiency (Construction + Running costs)	Construction cost per square meter, analysis and compare it with the standards.		●
10	Social Sustainability	Flexibility and accessibility (Near all amenities)	Based on Site visit, and location analysis	●	
11		Safety (Indoor Air Quality, and Physical Health 'Wellbeing')	Design analysis; inner space analysis, aperture location analysis, and construction material used.	●	
12		Equity (Suitable for the local social context and cultures)	Personal assessment of the design through achieving private zones and gathering zones inside the building	●	
13		Comfort (proper inner spaces for the users, comfortable services	Housing project management assessment, after handing over the project to dwellers		●
14		Security (proper Urban planning for the safety of the occupants and their movement and activities)	Site study and assessment.	●	

4.2. 'Aarshum' governmental with private sector participation Project's field observation data

(Second case study)

The result for the second case study had been obtained with the same way of the first case study. The observation of the factors in the second case studies demonstrated relatively similar result of the first case study regarding the presence or absence of the sustainable factors in the project, with some difference in the social sustainability dimensions factors, and the checklist form had been implemented as shown in table '6'.

Table 5. Sustainability assessment in the houses of First Case study 'Goollun' city, based on prepared Check list form.

	Aspects	Sustainable factor	Criteria for judgment	Presence of the factor	
				Yes	No
1	Environmental Sustainability	Passive solar design Cooling/ heating strategies (Less use of mechanical cooling)	Site visit to check the existence of thermal mass walls, successful incidence of sunlight as per requirements, ventilation, etc.		●
2		Thermal Insulation	Personal site visit		●
3		Water Conservation	Existence of rain harvesting system or water conservation sanitation fittings such as sensors taps, etc. Using construction materials, which needs less water consumption		●
4		Availability of Green Area	Site visit and based on the units design	●	
5		Site Orientation	Site visit and examine the sun path in different seasons		●
6		Low- impact on Environment (Using local, eco-friendly materials and equipment in the building)	Site visit to investigate construction materials properties, and investigate the cooling and heating system		●
7		Low- energy Consumption (Use of Green Energy)	Investigate the presence of renewable energy technologies in the building such as photovoltaic or solar panels		●
8	Environmental & Economical	Structural Quality, Durability, and Low Maintenance Cost	Site visit and structural design review	●	
9	Economical Sustainability	Cost –efficiency (Construction + Running costs)	Construction cost per square meter, analysis and compare it with the standards.		●
10	Social Sustainability	Flexibility and accessibility (Near all amenities)	Based on Site visit, and location analysis		●
11		Safety (Indoor Air Quality, and Physical Health 'Wellbeing')	Design analysis; inner space analysis, aperture location analysis, and construction material used.	●	

12		Equity (Suitable for the local social context and cultures)	Personal assessment of the design through achieving private zones and gathering zones inside the building	●	
13		Comfort (proper inner spaces for the users, comfortable services	Housing project management assessment, after handing over the project to dwellers		●
14		Security (proper Urban planning for the safety of the occupants and their movement and activities)	Site study and assessment.	●	

The first factor in the checklist the result was negative because of the same reason in previous case study. The designer didn't take into consideration any of the passive strategies during the design of the housing units, to reduce heating and cooling in different seasons.
Second and third factors were missing in all the houses according the building design documents of the project and existing condition based on field observation. The fourth factor was implemented through frontage garden in the houses unites, as seen in figure '10'.

Figure 10. The frontage garden (green area) in the houses at Aarshum project. (By Author)

The field observation about the orientation of the building demonstrates the missing of this factor which is the fifth factor. The sixth factor in the checklist were assessed through examine as in the first case study. The field observations showed that building materials is the same materials that used in the first case study. The factor number seven is missing because of the absence of green energy system application in the building. Eighth factor in the houses demonstrate durability in the view of sustainability, as well as Low Maintenance cost, because it holds the similar character of the first case study.

The factor number nine showed that the construction cost is not efficient, based on the same analysis, which have been carried out for the first case study. As per the price of the houses which is 47,500,000 IQD and the net building area of the houses is 147 m^2. According to the formula '1', the cost of building per square meter equal to 327,381 IQD, which is also higher than market average cost. Despite of the price in the second case study is relatively cheaper in one square meter of construction if compare it with the first case study, but it is still not efficient. In this project also the land is free of charge and provided by government itself to the project. Factor number ten, the 'Flexibility and Accessibility' in the second case study were analysed. The project is located on country-side of the city, and farther than first case study by 500 meter which is partially unpaved road. This makes the accessibility more difficult than which is in the first case study. Hence, in this case study the field observation found that the accessibility is difficult especially in rainy seasons if the road stayed un- paved. Therefore the factor number is missing in this project in time; it was available in the first case study. For the factor number eleven of the checklist, the field observation found it available according to the same analysis for the first case study, see figure '11';

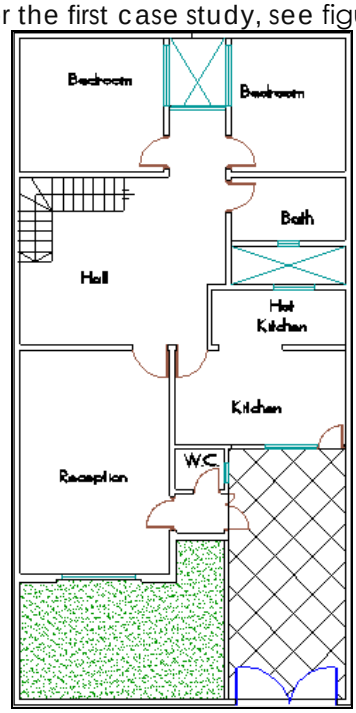


Figure 11. The plan of the house in the Aarshum Housing Project. (By Author)

Factor number Twelve, found available through design analysis based on the similar observation for the first case study. See figure '11'.
In the factor number thirteen and after the field observation the researcher found the comfort is missing mainly because of the number of

occupants in each residence unit. There is also shortage in electricity provision, and that is general problem in Erbil and Northern Iraq, which increases the uncomfortable situation especially in cold and hot seasons. For the last factor, based on the same analysis had been done for the first case study, the security of the housing project is available.

4.3 Summary of the sustainability in both case studies

Through the analysis of the sustainability in the houses for both case studies, the results can be summarized. Table '7', demonstrate the ratio of sustainability in the houses of both case studies for three dimensions; environmental sustainability, economic sustainability, and social sustainability), as per the checklist factors.

Table 6. The percentage of sustainability in the case study houses as per prepared factors in the checklist. (By Author)

No.	Sustainability dimension (aspect)	1st Case study (Goollun)	2nd Case Study (Aarshum)
1	Environmental Sustainability	25%	25%
2	Economical Sustainability	50%	50%
3	Social Sustainability	80%	60%

According to table 7, the results shows that both case studies have remarkable deficiency in implementing sustainability, especially in the environmental dimension which affect directly the running cost of the building. Economic dimension in both case studies could be improved. The social sustainability has the highest percentage and the first case study registered higher than the second one, because the first case study is more expensive with more facilities compared with the second one.

5. Conclusion

The significant social and economic growth in Northern Iraq creates a strong contrast between poverty and wealth in the last decade. That projected on the cost of the residential units in the region. Provision of the residential units for each family is aim of the most governmental bodies, including the government of Northern Iraq. Low earners in Northern Iraq are facing difficulties in maintaining their life because of the cost of housing provision. To overcome this challenges housing stress in Northern Iraq, requires a deliberate and embracing strategy among the participators to reach successful results in overcoming housing problems. Sustainability in the housing sectors is the significant factor in order to achieve that. Three dimension of sustainability should be considered by the authorities during the implementation of housing projects. Sustainability is crucial to be implemented not only to overcome the housing problem, but in order to don't compromise the rights of next generations for better life.

The research found that the sustainability is applied in very weak level in the housing projects in Northern Iraq. The reason behind that is the absence of the legislation and the awareness about sustainability (especially environmental sustainability which is significant for controlling running cost of the building.). The observations showed that the buildings were neglecting many fields as renewable energy and water conservation, etc., even the passive design strategies were absent in general for those buildings. Hence, almost one quarter of environmental sustainability had implemented according to the prepared checklist for field observation in this research. The economic sustainability was achieved in the building durability and long life term only, that based on the questionnaire and field observation. In the same time the application of local materials or re-cycled one was missing according to field observation in both case studies. The economic sustainability achieved 50% of the requirement as per the checklist of this research. Social sustainability was examined through field observation and found that the social sustainability has been scored more than other dimensions and has been implemented in 'Goollun City' project with higher score than 'Aarshum' project. The reason is because of the first project is more expensive with more facilities compared with the second one. Thus the social sustainability achieved based on the increment in the building cost which is indicates that the strategies was not perfect in achieving social sustainability when it conflict with cost. The extra initial costs of sustainable materials and strategies have discouraged people to apply sustainable housing concept in the region. It is still difficult to apply a sustainable housing concept in Northern Iraq, which consider very new developing society.

5.1 Recommendations

According to, the obtained results in this research that has been carried out, the following recommendation have been made, to be taken into the consideration for the future, and in order to overcome the problems of housing stress;

1) The participators in the housing projects processes should evaluate highly the sustainable strategies and techniques in their projects. Hence, it is recommended to add new legislations about sustainable standards in construction specification and codes.
2) The designers and contractors should follow these codes and specification under surveillance of technical sectors in the government authorities. The owners and house holders should be aware about the payback of any extra cost could be spent in order to achieve sustainability at the beginning.
3) Designing of houses according to climate response should be encouraged to achieve environmental sustainability and obtain healthy environment for the people, and local building materials such as natural stones, should be studied and improved to produce cost-effective and durable houses.
4) Energy saving systems such should be encouraged and supported by government to enhance the sustainable culture among the people.
5) Establishment of sustainable construction material manufacturing in Northern Iraq in order to reduce the initial cost of these materials when they are imported from abroad.
6) Applying new technologies and methods in the construction that cost less than traditional ways or the existing ones, in order to reduce the cost of the construction. Also apply new cheaper materials in the construction process in order to reduce the cost without affecting the quality of the construction.

Acknowledgement
This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests
The author declares no conflict of interest.

References

Abidin, N. Z., & Jaapar, A. (2008). *Sustainable Concept Awareness in Malaysia Construction Practices*. Presented at The 3rd Built Environment and Natural Environment Conference, 137-144. Retrieved from, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.509.8139&rep=rep1&type=pdf

Abiodun, J.A. (1985). 'Housing Problems in Nigeria Cities' in Onibokun, P. (Ed.) *Housing in Nigeria* (49-63). Ibadan, Nigeria: A Book of Reading NISER. Retrieved from, http://www.niser.ac.in/library/content/online-databases

Adams, W.M. (2006, 29-31, January).*The Future of Sustainability: Re-thinking Environment and Development in the Twenty-first Century*. Report presented to the IUCN Renowned Thinkers Meeting.IUCN, the world conservation union. Retrieved from, https://cmsdata.iucn.org/downloads/iucn_future_of_sustanability.pdf

Adebayo, C. O. (2013). *Comfort Factors in Low Cost Houses: Case Study at Batu Pahat, Johor Malaysia*. Master Thesis, Universiti Tun Hussein Onn Malaysia. Malaysia: Universiti Tun Hussein Onn Malaysia. Retrieved from, http://eprints.uthm.edu.my/5443/1/CHRISTIE_OLUSEYI_ADEBAYO.pdf

Al Surf, M. S. (2014). *Challenges Facing the Application of Sustainability to Housing in Saudi Arabia*. Ph.D. Thesis, Queensland University of Technology, Brisbane, Queensland. Australia: Queensland University of Technology. Retrieved from, https://eprints.qut.edu.au/78685/3/Mohammed_Saied_Al_Surf_Thesis.pdf

American Institute of Architects (1992). *Subscription: Environmental Resource Guide*. Washington: American Institute of Architects. Retrieved from, https://www.buildinggreen.com/newsbrief/environmental-resource-guide

Asif, M., Muneer, T. &Kubie, J. (2005). Sustainability analysis of window frames. *Building Services Engineering Research & Technology* 26(1): 71-87. Doi.org/10.1191/0143624405bt118tn

Chiu, R.L.H. (2004). Socio-cultural sustainability of housing: a conceptual Exploration. *Housing, Theory and Society*, 21, 65-76. Doi.org/10.1080/14036090410014999

Dell'Isola, A. J., and Stephen J. K. (1981). *Life Cycle Costing for Design Professionals*. New York: McGraw-Hill.

Faraj, Y. (2014). Land *strategies to address low-income housing in Suleimany city, Kurdistan Regional Government*. Master Thesis, TU Delft. Delft, Netherlands: Delft University of Technology. Retrieved from, file:///C:/Users/dell/Downloads/P5%20Final%20report_Land%20strategies_yadfaraj_1272241.pdf

Ilberg, A., and Rollins, C. (2007). *Low Cost House Construction Manual.* USA: Engineers without Borders. Retrieved from, https://www.doc-developpement-durable.org/file/Construction-Maisons_et_routes/MaisonsABasCout/LowCostHouseConstructionManual.pdf

Jin Kim, J. (1998). *Sustainable Architecture Module: Qualities, Use, and Examples of Sustainable Building Materials*. USA: National

Pollution Prevention Center for Higher Education. Retrieved from, https://p2infohouse.org/ref/26/25792.pdf

Joseph, S. (2006); *"Sustainable Housing Development in Nigeria: The Financial and Infrastructural Implication"*. International Conference on Spatial Information for Sustainable Development Nairobi, Kenya 2–5 October 2001. Retrieved from, https://www.fig.net/resources/proceedings/2001/nairobi/ajanlekoko-CMWS1-1.pdf

Koenigsberger, OH , Ingersoll, TG , Mayhew,A. , Szokolay, S V. (2010) . *Manual of Tropical Housing And Building* . Hyderabad: India, Universities Press. https://www.slideshare.net/yashu2211/manual-of-tropical-housingkoenigsberger-52000850

Kothari, C.R., (2004). *Research methodology*: Methods and Techniques, second revised edition. New International Publisher. University of Rajasthan, Jaipur (India). Retrieved from, http://www.modares.ac.ir/uploads/Agr.Oth.Lib.17.pdf

Maliene, V., Howe, J., & Malys, N. (2008). Sustainable Communities: Affordable Housing and Socio-Economic Relations. *Local Economy, 23*(4), 267-276. Doi.org/10.1080/02690940802407989

Maslow, A. H. (1943). A Theory of Human Motivation. *Psychological Review*, 50, 370-396. Retrieved from, https://psychclassics.yorku.ca/Maslow/motivation.htm

McConville J. R. (2006). *Applying Life Cycle Thinking to International Water and Sanitation Development Projects: An assessment tool for project managers in sustainable development work*. Master thesis, Houghton, Michigan. Michigan Technological University. USA: Michigan Technological University. Retrieved from, https://www.mtu.edu/peacecorps/programs/civil/pdfs/jennifer-mcconville-thesis-final.pdf

Ministry of Construction & Housing, Republic of Iraq. (2006). *Iraq Housing Market Study: Main Report*. Iraq: PADCO In cooperation with Community Development Group. Retrieved from, https://www.humanitarianlibrary.org/sites/default/files/2013/05/4997_65700_IHMS_Main_Report.pdf

Ministry of Planning (2011). *Regional Development strategy for Kurdistan region 2012-2016.* Erbil, Iraq: KRG. Retrieved from, http://www.mop.gov.krd/resources/MoP%20Files/PDF%20Files/gd_ps/regional_development_strategy.pdf

Ministry of Planning (2012a). *Regional Development strategy for Kurdistan region 2013-2017.* Erbil, Iraq: KRG. Retrieved from, http://www.mop.gov.krd/resources/Strategic%20Plan/PDF/Regional%20Development%20Strategy%20for%20Kurdistan%20Region%202013-2017.pdf

Ministry of Planning (2012b). *Building the Kurdistan Region of Iraq: The Socio-Economic Infrastructure*. A Joint Report by the KRG Ministry of Planning and UNDP. Erbil, Iraq: KRG Ministry of Planning and UNDP. Retrieved from, https://us.gov.krd/media/1318/building-the-kurdistan-region-sociao-economic.pdf

Minke, G. (2006). *Building with Earth: Design and Technology of a Sustainable Architecture*. Berlin, Germany: Birkhäuser – Publishers for Architecture. Retrieved from, http://www.rivendellvillage.org/Building_With_Earth.pdf

Muhy Al-Din, S. S., *Iranfare, M., Surchi, Z. (2017). Building Thermal Comfort Basedon Envelope Development: Criteria for selecting right case study in Kyrenia- North Cyprus.* Energy Procedia (Open Access), 115, *80-91. Doi.org/10.1016/j.egypro.2017.05.009*

Muhy Al-Din, S. S. (2017). The influence of Mediterranean modernist movement of architecture in Lefkoşa: The first and early second half of 20th century. Journal of Contemporary Urban Affairs, 01(01), 10-23. Retrieved from, http://ijcua.com/index.php/ijcua/article/view/4

Olayiwola, A. L.M., Adeleye, O., Ogunshakin, L. (2005, September, 27-30). *Public Housing Delivery in Nigeria: Problems and Challenges*. Presented to World congress on Housing Transforming Housing Environments through the Design September, Pretoria. South Africa: XXXIII IAHS. Retrieved from, https://repository.up.ac.za/bitstream/handle/2263/10438/Public?sequence=1

Pullen, S., Arman, M., Zillante, G., Zuo, J., Chileshe, N. & Wilson, L. (2010). Developing an assessment framework for affordable and sustainable housing. *Australasian Journal of Construction Economics and Building, 10*(1/2), 48-64. Retrieved from, file:///C:/Users/dell/Downloads/1587-Article%20Text-6398-1-10-20100702.pdf

Rashid, R.H.M. (2014). *The Use of Water for Sustainable Rural Development: A Case Study in the Kurdistan Regional Government*. Doctoral Thesis, University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Romania. https://scindeks.ceon.rs/article.aspx?query=I

SSID%26and%2613393&page=0&sort=8&stype=0&backurl=%2Fissue.aspx%3Fissue%3D13393

Sani , A. R., Che Munaaim, M. A. (2012). Sustainable House Principle in Affordable House. *International Proceedings of Economics Development & Research (IPEDR), 39*. Retrieved from, http://www.ipedr.com/vol39/001-ICITE2012-B00001.pdf

Shawkat, L. W., Muhy Al-Din, S. S., Kuzović, D. (2018). Opportunities for Practicing Sustainable Building Construction in Kurdistan Region, Iraq. *Journal of Contemporary Urban Affairs, 2*(1), 96– 101. Doi:10.25034/ijcua.2018.3665

Universal Declaration of Human Rights. (1948). [Retrieved] from http://www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf

UN -Agenda 21. (2004). New York, USA: NY. Retrieved from, https://sustainabledevelopment.un.org/outcomedocuments/agenda21

URL1:http://www.sustainableschoolswales.co.uk/supporting_information/sustainability/sustainability.php

Waltz, C., Strickland, O. L., & Lenz, E. (Eds.). (2010). *Measurement in nursing and health research*. Springer Publishing Company. Retrieved from, http://lghttp.48653.nexcesscdn.net/80223CF/springer-static/media/samplechapters/9780826105073/9780826105073_chapter.pdf

Winston, N., & Eastaway, M. P. (2008). Sustainable Housing in the Urban Context: International Sustainable Development Indicator Sets and Housing. *Social Indicators Research, 87*(2), 211-221. DOI: 10.1007/s11205-007-9165-8

Zainul Abidin, N., Pasquire, C. L. (2005). Delivering sustainability through value management: Concept and performance overview. *Engineering, Construction and Architectural Management, 12*(2), 168 – 180. DOI: 10.1108/09699980510584502

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 82– 91

Access to Land Influencing the Urban Development of Egypt

* Dr. MOHAMED RASLAN[1], Dr. HANY AYYAD[2]
[1 & 2] Architecture Department, Faculty of Engineering, Alexandria University, Alexandria, Egypt
E mail: m.ramadan@alexu.edu.eg E mail: hany.m.ayyad@alexu.edu.eg

ARTICLE INFO:

Article history:
Received 08 February 2018
Accepted 08 May 2018
Available online 15 June 2018

Keywords:
Access to land;
Urban development;
Urban growth patterns.

ABSTRACT

The paper seeks to assess the impact of access to land of Egypt on urban development in an attempt to identify policies and laws that can be categorized as a catalyst in urban conflict.

Systematic review of Data on land tenure environment of Egypt, land access, land governance and tenure security, the actors involved in these processes, their roles, the land tenure related challenges they face and measures that can be taken to address these challenges was collected at country level.

In the context of Egypt, Access to land is deemed with obstacles confronting beneficiaries and legal procedures that uncover dispute. By investigating the land tenure environment, conclusions could be drawn on how to improve the systems so that they can be used as development tools that decrease the probability of conflict to happen. Furthermore, by understanding how access to land plays a crucial role in urban development patterns, we can allocate recommendations for more sustainable developments.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 82-91.
https://doi.org/10.25034/ijcua.2018.4685

www.ijcua.com

1. Introduction

Research done on urban developments in Egypt shows there is a link between land tenure and physical and spatial characteristics of developments. The UN-Habitat (2007) in their research on the condition of informal settlements in Egypt identified land tenure systems as one of the factors contributing to informal settlements in the country. The report highlighted unclear tenure relations where multiple interests on one piece of land held by different people as a major limitation to development control and direct cause for urban conflict.

Johannsen (2008) investigated informal mechanisms of accessing land in informal settlements in Cairo. His study focused on behavior patterns of key actors involved in land access from obtaining information on plot availability, setting of parcel boundaries to registration of rights. Findings of this research showed that informal processes of accessing land in Cairo are not disordered but are regulated by informal rules which draw from existing legal policies and customary rules. Yet, these policies are the main reason for conflict around multiple areas in Cairo causing the city to be contested.

***Corresponding Author:**
Architecture Department, Faculty of Engineering, Alexandria University, Alexandria, Egypt
E-mail address: m.ramadan@alexu.edu.eg

Although previous research on land tenure and urban developments in Egypt discussed above highlight uncertainty over existing tenure relations as a burden for land use planning, they do not illustrate how this has led to urban conflicts which leads a city to be contested. This research by examining land tenure environment processes under different land tenure systems clarifies the roles, interests, strategies and interactions of actors in these processes providing insight on the stage of the land development process in which informality occurs. The output of this research would be useful to (a) Institutions responsible for land management in Egypt (b) bodies charged with management of urban developments in Egypt (c) Civil Society Organizations undertaking various interventions on informal urban developments in Egypt (d) Institutions charged with land conflict resolution measures

2. Methodology

Qualitative methods was applied in collecting the data needed to adequately address the research questions. Although quantitative methods were relevant, they weren't applied due to the lack of resources and security permissions.

Data relevant to the access to land was collected mainly through literature review. Review of relevant literature also aided in the identification of bodies involved in land tenure environment processes under the land tenure systems in Egypt from which information significant to this study was pursued through expert interviews.

Responses obtained from expert interviews were transcribed and the questions as set in the interview guide and the additional questions that came up during interviews matched with the responses given.

3. Tenure types in Egypt

Five main types of formal land tenure exist in Egypt:

Private ownership (freehold)

Freehold land is land registered with the local district office of the Real Estate Registry Division and owned by private persons or companies. The great majority of agricultural land is privately owned, especially in the older, settled rural areas. All land not registered to private entities is technically considered to be publicly owned, although informal tenure of unregistered land in some areas is in fact considered to be quite secure. There are several restrictions on agricultural landholdings. Law No. 50 of 1969 provides that an individual cannot own more than 50 feddans of agricultural land (or its equivalent in uncultivated and desert lands) and that a family cannot own more than 100 feddans of agricultural land. The law prohibits construction of any buildings on farmland without a license from the Ministry of Agriculture and Land Reclamation.

Public ownership

Land registered as state property and not leased to a private entity is publicly owned. Land under public ownership falls into two categories: state domain, which includes desert or unclaimed lands and is administered by the governorate; and public domain, which serves a public utility such as rivers, roads, military installations, land for antiquity sites, and land set aside for development.

Publicly leased land

Land owned by the state can be leased on a long-term basis to its occupants. These leases apply in a number of circumstances, most importantly for land in reclaimed areas and for squatters (by way of a request to the governorate). In reclaimed areas, lease rates are limited (e.g., at the cost of irrigation or at 6% of the total land value) and rights may convert to ownership rights after a particular period of time.

Endowment or Al-Awqaf land

Endowment land is land set aside by the state for charitable or religious intention and usually administered by a specific ministry for it (Al-Awqaf,2005). The purpose for categorizing land as Waqf is to avoid subdivision and to eliminate conflict among descendants. The revenues from the land belong to the beneficiary; Waqf land cannot be sold or mortgaged.

Encroachment (Wadaa Al-Yad).

The Civil Code makes it possible for the user or holder of a plot of land to acquire ownership of that land if it is occupied constantly for 15 years without the owner claiming his rights (Hasan, A. ,2012).

4. Access to land

4.1. Introduction

The lack of systematic land registration has become an increasing problem in Egypt. Approximately one hundred people are killed annually in Egypt due to land conflicts (Mahrus, 2009). The problem has been on the increase

because of the fast growing population in Egypt. There are more than 93 million Egyptians in Egypt today and this number is expected to reach 100 million by 2025 (World Bank, 2016). This growth has necessitated the development of unused land. As these extensions, especially in villages or rural areas, were not implemented according to a plan followed by the state they depended on society and individuals to arrange them amongst themselves. Therefore, clashes due to a conflict of interests have been increasing and have become hard to control. Furthermore, the population growth (Egypt has a population growth of 2.51 percent per year (World Bank, 2016) creates additional problems because of the limited cultivatable land in the country. More and more people, both poorer people forced to move to the border of the old inhabited land because of the limited land available for housing in the old areas, and investors and spectators who have seen this development as a way to make money, have felt compelled to move from registered old land to the non-registered newly reclaimed desert areas.

This has meant an increase in the number of disputes about desert land that is reclaimed or that people want to reclaim. In this section we will look at the laws and regulations concerning landownership in Egypt. Afterwards, we will focus on legalizing of land channels and procedures that beneficiaries follow. Finally, the history of encroachment will be investigated while exploring all the factors that support this phenomena. Through an understanding of those factors we will be able to discuss the different elements of the phenomena of land disputes and analyse how disputes and conflicts might be prevented in the future.

4.2. Explanation for the lack of land registration in Egypt

Land registration is a relatively recent phenomenon in Egypt. Before the 1952 Revolution, only 6 % of the population owned 65 % of the land. Afterwards, the land was redistributed and small farmers started to own some feddans. The average number of feddans owned by small farmers was one to three (Johannsen, 2008).Nowadays, still only 25 percent of cultivated land is registered. There have been efforts by the state to register the rest of the land but those measures have not corresponded with the population growth and extensions of the villages (Abdel-Qadder, 2009). Registration fees for landownership in Egypt have always been very costly, compared with most people's resources, in spite of the government's efforts to reduce costs. This is one of the main reasons why people avoid registration (Johannsen, 2008). The fees have therefore also been one of the main reasons for land violations as individuals have often been satisfied with just keeping customary contracts. This has allowed criminals to create forged Customary contracts and to attempt to prove the validity of these contracts at court and thus be able to register them.

Even foreign investors tend not to register their real estates. One example is that of Saudi investors, who own more than 100.000 properties but have not registered their property in Egypt. According to the Centre of Information of the Egyptian cabinet, only 27 percent of the real estate that the Saudi investors own, is registered (Hamilton, 2012). In 2004, the Egyptian parliament approved a bill to reduce the fees of ownership registration by one third. In this concern, the fees paid for the registration are 3 percent instead of 4.5 percent of the price of the registered land. The reason for this reduction was to get the remaining real estate that is estimated to be worth 32 billion dollars, registered. Nevertheless, in 2006 Law no. 83 was issued to modify the Real Estate Registry fees at a fixed price instead of a percentage in order to encourage investment and development in Egypt.

The objective of this law is to stop the customary contracts that have increased ownership disputes and violent conflicts in Egypt dramatically. But customary contracts are still widely used among citizens as the owners of unregistered contracts, when necessary, can prove ownership of their real estate in two lawsuits:

First: By proving the validity of the signature of their preliminary contract.

Second: By proving the validity of the whole contract. Thereafter, they can register their real estate in the Real Estate Registry Department .The state is unwilling to force citizens to register their land; instead the law tolerates the holders of unregistered contracts and gives them the chance to register their contracts in case they need to. Thus it seems that the authorities, so far, have not implemented one way standards, but instead proceed with laws and rules contradicting each other. Instead of encouraging people to prove ownership in court and thereby to register the land involved in disputes the law allows people to use unregistered land which easily can become subject to conflict.

Other reasons for the lack of land registration are due to the maze of bureaucratic

procedures a person has to go through if he wants to own his land officially. In order to officially own a piece of land in the newly reclaimed areas in Egypt one has to go through 24 procedures, in 13 different offices, involving three different ministries (Abdelhamid, 2016). A procedure which, on average, takes between six and 11 years. Further, the formulation of urban and rural areas is unclear in the law, which has led to some problems in the areas close to the desert. Law no. 3 of 1982 illustrates the lack of formulation in the law by giving only a blurred definition of urban areas. This has led to brokers escaping both rising prices in the cities and laws directed toward the cities' urban areas by moving to the rural areas. There is a general lack of cooperation between the different authorities dealing with the issue which opens up the possibility of conflict and violations of laws as well. Experts have pointed out that there is a big problem concerning under staffing, lack of facilities and equipment (available maps are often outdated) in the authorities involved with landownership (Ismail, Head of Legal department - The Egyptian Survey Authority, 2016). Each governorate in Egypt experiences an average of 9000 land violations every year. At the same time, the average number of employees in a governorate dealing with this issue is 50 people (El-Hefnawi, 2005). This fact shows how difficult it is for authorities to handle the large number of violations. The employees' salary is very low and this makes it even harder to keep experienced officials or keep out corruption or attract a new work force.

All land in Egypt is in theory reserved for the military. To gain land ownership you need to obtain permission from the military to use the land. After getting permission from the military you can move on to getting permission from the other ministries involved. The ministries involved in land registration in Egypt are the Ministry of Agriculture and Land Reclamation, the Ministry of Housing, Utilities and Urban Communities, the Ministry of Justice, the Supreme Council of Antiquities (SCA) and the Ministry of Petroleum (Johannsen, 2008). A person needs the approval of all these authorities to officially own land. Still the military, even in case of proved ownership, has the right, at any time, to reclaim the land they consider necessary for military purposes (Sims, 2010).

In addition to the ministries involved in land registration there are local authorities in the governorates that play a role. It is the governor's responsibility to implement laws and ministerial decrees. However this also means that there are differences in coping with land ownership from governorate to governorate, though no customary contracts and encroachment are legally used in the very deep desert area, Sinai or the desert of the Red Sea area. This coincides with article 10, law no. 143, 1981 which considers Encroachment a violation of state property (Mahrus, 2009).

There are though differences in this matter from governorate to governorate. This can be seen in the case of the governorate of Marsa Matrouh where Encroachment is not illegal. There Encroachment is registered through the extradition of documents with the governor's seal and considered a step toward official ownership. This is possible in Marsa Matrouh because of Presidential Decree no. 632, article one, 1982,22 which states that certain areas and governorates, Marsa Matrouh being one of them, do not have to apply law no. 143, 1981, but can apply their own laws concerning land ownership as dictated by the governor of the area (Johannsen, 2008).

4.3 Land Legal Access Systems

There are different procedures and challenges to acquire legality for each land tenure form in Egypt. These procedures and challenges are different if the applicant deals with land legal obtainment or property legal obtainment. The upcoming part will be focusing on legal land obtainment.

4.3.1. Legal Access Process of Private Land and State Private Land

As David Sims stated, since 1946 (Law no. 114), all sales, purchases, and transfers of land must be registered with the Real Estate Registry to ensure complete legal protection for the owner, to recognize the property and allow property tax payments (Séjourné, 2012). Real Estate Registry is under the Ministry of Justice and an office exists in every governorate (Egyptian Ministry of Justice, 2008).

Acquiring land or transferring it in Egypt is not an easy or simple procedure. On the contrary it is a very long and complicated process. To acquire a property legally there are many procedures that should be followed. Acquiring private property is the easiest among all forms of property. While acquiring state Public Domain is completely forbidden and any kind of squatting on it cannot be registered by the governmental authorities. The state Private Domain can be legalized in case of squatting but with very difficult and strict procedures. The property is subdivided into built property or not built property .

4.3.2. Legalizing of land transmission "Non Built Property"

The procedure is really complicated and time consuming. The owner of the property should prepare a file including application form, a primary contract and receipt of property tax "Cashf Al-Moshtamalat كشف المشتملات" to the Real Estate Registry (see Error! Reference source not found.). Afterwards, the Real Estate Registry investigates the file and send it to the survey authority -Hayaat Al-Mesaha هيئة المساحة that send a personnel for a field visit to check the exact location of the property, the boundaries and the total surface area and if there is an existing conflict about the land or its boundaries (Ismail, Head of Legal department - The Egyptian Survey Authority, 2016).In the field visit, if the survey authority delegate finds any conflict about the land boundaries, the legalizing process is cancelled until the conflict is resolved. This condition is itself a conflict generating policy, since whoever wants to stop the process of legalizing the ownership may create a dispute while the field visit is happening. In addition, the survey authority cannot resolve the conflict, since the maps they refer to is outdated paper based maps. Yet, up until now, no survey authority department in Egypt has a complete computerized maps for the territory it manages, including detailed parcel sizes with their owners (Ismail, Head of Legal department - The Egyptian Survey Authority, 2016).

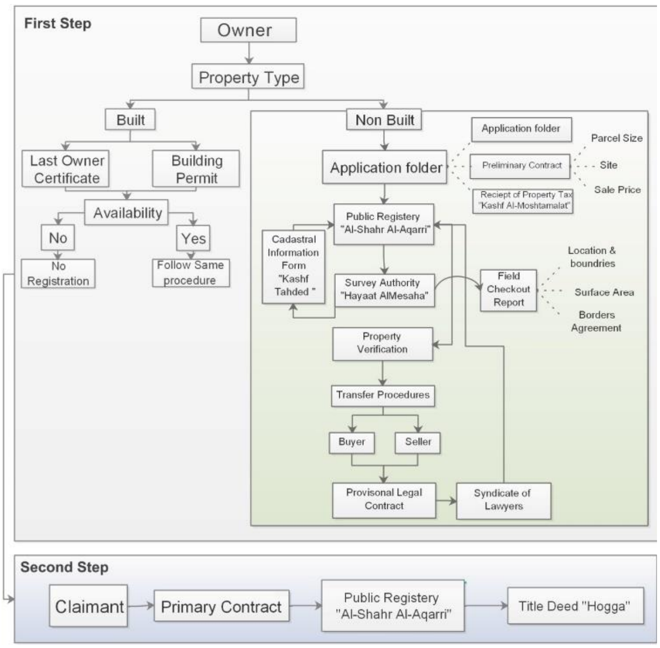


Figure 1: Legalizing of Land Transfer Property - Source: Researcher

If the field visit occurred without any dispute or conflict around the land. The survey authority send a report "Kashf Tahded كشف تحديد" to the Real Estate Registry with all the details of the field visit. The Real Estate Registry after checking the report and the legal aspects of the application, verifies the property to the owner. The Real Estate Registry provides the owner with a temporary legal contract that should be signed from both the seller and the buyer to complete the transfer.

This contract is first approved by the syndicate of lawyers and afterwards, sent to the Real Estate Registry for final approval. Not only that, but also a second step should be made afterwards, where the new owner (applicant for ownership) takes the primary contract to register it in the Real Estate Registry which in return provides the applicant with a title deed for the property, while the original contract remains in the Real Estate Registry in a specific department "Dar Al-Mahfozat دار المحفوظات" (Abdelhamid, 2016). This procedure is really inhospitable, very complicated and time consuming.

4.3.3. Legalizing of land transfer "Built Property"

To register a built property, the applicant for ownership should ensure two main things: (a) the seller should be registered as the last owner of the land in the Real Estate Registry and (b) the building is in the construction permitted building zone. If the two conditions are met the applicant for ownership follow the same procedures as the preceding case. While if not met, the property can never be registered. In the case of private property, the buyer and the seller must sign a primary contract "Aqd Ebtdaai - عقد ابتدائي while signatures observed by two witnesses. The primary contract contains land's details, for example: parcel size, parcel location and sale price. For the contract to be considered officially legal, it should be registered in the Real Estate Registry (Abdelhamid, 2016) see figure 2. If the property is a state Private Domain, it gets more complicated and hard as the seller in this case is the state and it takes a lot of time to finish this transfer, according to the Egyptian Center for Economic studies, this procedure can last for 435 waiting days and costs nearly 20,000 L.E (Alfiky, 2014).

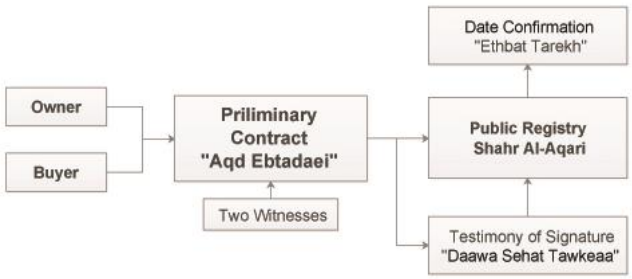


Figure 2: Legalizing of Private Property, Source: Researcher

4.3.4. Formalization of Sales Contract

There are two tricks that squatters use to get tenure security. The first is testimony of signature "Daawa Sehat Tawkeaa دعوى صحة توقيع". In this case, both the buyer and the seller sign a contract. Afterwards, the seller appears before the court; requiring confirmation for his signature. The judge gives him a testimony after verifying his signature, without giving attention to the terms of the contract. The second trick is validation of purchase date"Ethbat Tarekh دثب ر خ " (see Figure 3). In this case, the buyer after signing the contract, approaches the local Real Estate Registry to confirm the date of sale. According to an interview conducted by the author with a lawyer (Al-Gammal, 2016), these papers are not title deeds and do not secure tenure. Yet, they can be used afterwards in the court along with other documents to strengthen the applicant for ownership situation in the court to achieve tenure security and prevent forced eviction.

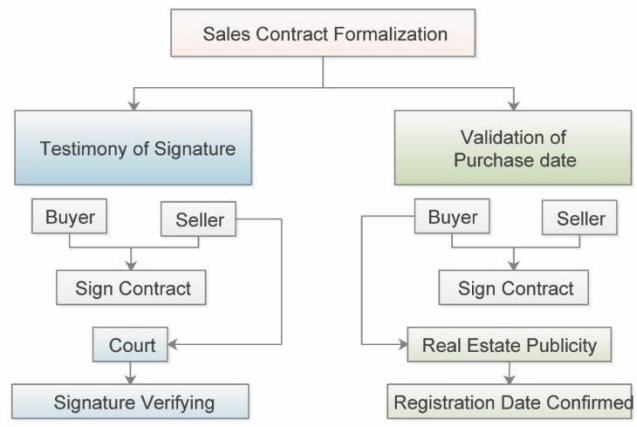


Figure 3: Formalization of Sales Contract - Source: Researcher

4.4 Supposition

There is insufficient law enforcement in Egypt. The Egyptian authorities have for decades tried to implement legal land registration without much success. Most of the conflicts and the violations over land are due to the lack of implementation and monitoring of laws. Although the state has criminalized encroachment in most places in Egypt, the practice continues and even increased after implementation of Law no. 134, 2006, which prohibited any further acquirement of land through encroachment after August 2006 (Abdelhamid, 2016). The continuing increase of the practice was partly due to people trying to gain as much land as possible before the activation of the law.

Law no. 143, 1981 was clear about considering encroachment a crime in large parts of Egypt. However, so far the state has not intervened to stop the violators. Furthermore, the state has not protected official landowners, as an individual can buy land legally and be forced to pay a second time because of tribes who claim land ownership through encroachment (Al-Gammal, 2016).The state's reduction of registration fees has not encouraged people to register their land. The law gives the right to holders of customary contracts to have legal possession of their land, although not through full ownership. As long as customary contracts are partly legal, there is little chance that people will start to register their land.

5. Impact on Urban Development patterns

According to (Guadiano, 2005) There are five types of urban growth patterns which can be represented in fractal cells (see figure 4:) :

1-Type 1: Small and isolated build up patches
2-Type 2: Dispersed built up patches
3- Type 3: Metastatic growth
4-Type 4: Rapid growth and metastatic consolidation
5-Type 5: Consolidated compact areas

Figure 4: Types of Urban Growth Patterns - Source: Gaudiano 2005

By referring to the fractal analysis of the Eastern part of Metropolitan Alexandria of years 1959, 1985 and 2014 applied by (Hasan, 2012), shows five different types of urban growth patterns: Ranging from the cells that have high fractal dimensions (type 4 and 5), representing the most compact, homogenous patterns and uniform distribution of built-up masses, and found generally in the middle and eastern districts; to the cells that have lower fractal dimensions (types 2 and 3), representing non uniform distribution of urban patterns and contrasting lacuna sizes as represented in the emerging peri-urban informal expansions.

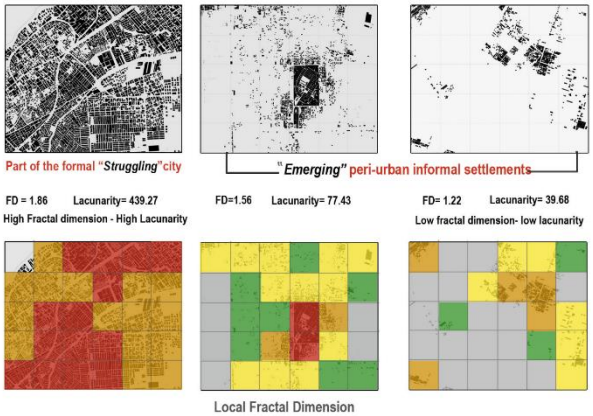


Figure 5: Examples of Fractal cells representing different growth types in Alexandria - Source: Hasan,2012

According to Hasan (2012), results from the historical data analysis reveal that the development of urban areas in Alexandria generally starts by type 1 and then evolves to higher types that are more compact. It is observed also that the types 1,2 and 3 dominate dispersed areas (at the city peripheries)(See Figure 5). In contrary, the built-up areas in the city core and extensions are dominated by cells of type 4 and 5. It is observed that the Central Business District (CBD) exhibits a uniform saturated distribution of high fractal dimension (mainly types 4 & 5) that did not change throughout the study timeline.

5.1 Impact of Land Tenure Policies on Urban Growth Patterns

In the upcoming section we will investigate one case of change from one type of urban pattern to another. By focusing the study on the role of access to land policies play as a catalyst in changing urban growth patterns. The case of Al Maamoura zone will focus on the change from type 2 (Dispersed built up areas) to type 3 (Metastatic growth).In the case study we will investigate the characteristics of the focus zone, the accessed land tenure form, how tenure security is acquired and the urban growth pattern across time.

5.2. Case Study: Al-Maamoura

Al-Maamoura zone is located in Al-Montazah Second District in the eastern part of Alexandria. The zone is composed of roughly 60% agricultural land while the rest is considered informal peripheral urban settlements apart from the gated community of Al-Maamoura Coastal apartments see figure (Ismail, Head of legal department, Egyptian Survey Authority, 2017).The zone is connected with the rest of the city through two main roads, Mostafa Kamel and Malek Hefni.

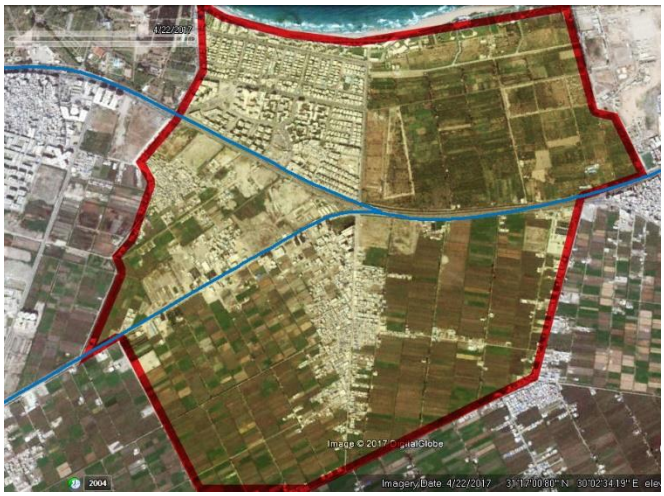


Figure 6: Focus Zone in Al-Maamoura - Source: Google Earth

Figure 7: Scattered Built up areas in Al-Maamoura - Source: Google Earth

In 2004, urban growth pattern in Al-Maamoura could be categorized as scattered built up areas, where families working on the agricultural land gathered in groups of small rural houses see figure 7. These houses where registered and organized through the governorate with supply of fundamental amenities like electricity and sewage.

Figure 8: Urban sprawl on Agricultural land in Al-Maamoura - Source: Researcher

Due to the system of land subdivision mentioned earlier, one piece of land could be subdivided into small plots as a result of the inheritance system. Consequently generation after generation the land becomes smaller, and nowadays the characteristic width of many plots is 7.29 meters. Most of the cases, owners of these plots have two options, either sell or rent this plot cheaply for the adjacent owner to add it with the same crops he cultivate , or build a house to live in or sell it for a much higher price. While the later is the more feasible option for the owner, it is the main reason of the long term of urban sprawl on agricultural land (see figure 8).

Starting from 2016, the urban growth pattern had changed to be metastatic growth where built up areas are becoming more densified and starting to outreach to surrounding areas. It's anticipated with that range of growth to reach type 4 of urban growth patterns within 5 years. While by 2030 most of the agricultural land of Al-Maamoura will be malformed into informal settlements unless the authorities took serious measures (see figure 9).

Figure 9: Development and Projection of informal settlement growth in Al-Maamoura - Source: Researcher

Since legalizing of non-built property transfer is a very difficult and time consuming procedure as mentioned earlier, Most of the owners tend to go with legalization of sales contract in any property transfer. Through Testimony of Signature which is acquired from court and Validity of purchase Date acquired from Real Estate Publicity, the owner and the buyer affirm

their purchase. Although, these papers are not title deeds and do not secure tenure. Yet, they can be used afterwards in the court along with other documents to strengthen the applicant for ownership situation in the court to achieve tenure security and prevent forced eviction.

Another vital aspect in this case, is that the type of tenure has greatly affected how holders of the land dealt with their agricultural land. In figure 10, the red shaded area are under tenure type of publicly leased land, yet the blue shaded areas are free-hold land. It's well-conceived that the publicly leased land plots have no violations however holders of the free hold have altered and subdivided their land informally and their abuses couldn't be monitored easily.

While building on agricultural land is criminalized, still there are law loopholes that the owners use to get away with this act. When an official from the district files a violation case on agricultural land, the court requires a testimony to affirm the violation. The testimony could be acquired from an agricultural engineer, which can easily be bribed from the owners or, from a neighbor of the agricultural land in question who mostly has his own violation or might falsify his testimony for his neighbor (the violator owner).According to Al-Gammal (2016), this could easily be avoided if the court acquired its testimony from the official who filed the violation or his head.

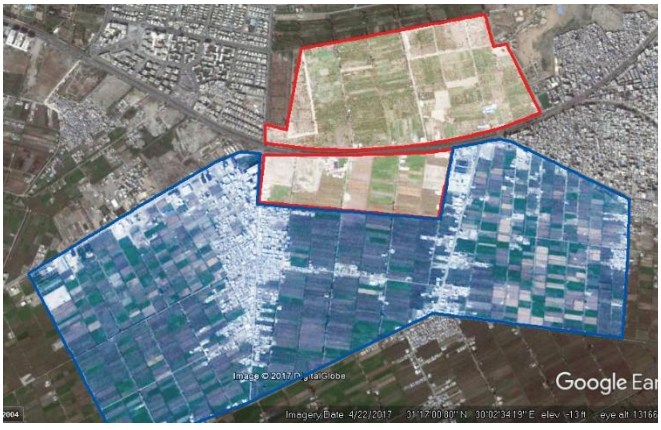


Figure 10: Areas of different land tenure form in Al-Maamoura - Source: Researcher based on Google Earth

6. Conclusion

The objective of this study was to investigate the role of the access to land conflict situations and its impact on urban development patterns. It explained how although the structures for land tenure development programs, administrations and legal policies are in place, they can fail to act as development tools and can actually generate conflict. Access to land can be addressed in the developing environments through laws reforming efforts in which state led and community led approaches are used to increase the accessibility of land to landless individuals, as well as law enforcing regulations related to legal access. The main purpose of this research was to show that the land tenure environment can play a vital role in developing strategies for land tenure. To do so, it was crucial to explore the value of the land tenure environment in addressing the issues that often lead to conflict. The hypothesis is made that the more effective the environment, the greater its ability towards acting as a development tool. By investigating the land tenure environment, conclusions can be drawn on how to improve the systems so that they can be used as development tools that decrease the probability of conflict to happen. This paper focused on Egypt due to its history of high rate of land tenure conflict together with its dependence on land for economic growth. In many other countries, land tenure conflicts either appear in the outcome of other profound conflicts.

This study can be expanded in several ways to fully understand the relationship between the land tenure environment and land conflict, where a comparative study could be conducted between various land tenure environments in different countries and how policies were reformed in order to vanquish land conflict from its roots.

Acknowledgments

Thanks to all the interviewees that helped in collecting case relevant data. Additionally, The researcher would like to show his sincere gratitude to Prof. Hany Ayyad for his guidance throughout the research. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The author declares no conflict of interest.

References

Abdelhamid, E. (2016, May 10). A technical engineer - State Property Protection Agency. (M. Raslan, Interviewer) Alexandria.

Abdel-Qadder, M. (2009, January 9). Al-Bashayer magazine. The man who protects the land in Egypt. Retrieved from https://www.researchgate.net/profile/Ayman

_Othman/publication/271906673_SB13_Cairo_Proceedings/links/54d5f7ee0cf246475808cb53/SB13-Cairo-Proceedings.pdf

Alfiky, M. (2014). Community Based Security of Tenure. Stuttgart: University of Stuttgart Press, 50-89. Retrieved from http://www.academia.edu/36654940/Community_Based_Security_of_Tenure_Initial_Framework_for_Squatter_Areas_in_Cairo_

Al-Gammal, Y. (2016, September 3). Lawyer – Expert in land conflicts-. (M.Raslan, Interviewer)

Egyptian Ministry of Justice. (1984).103-142. Retrieved from http://documents.worldbank.org/curated/en/289771468037496435/pdf/365200EG0White10121041200701PUBLIC1.pdf

Egyptian Ministry of Justice. (2008). The Encyclopedia of Unified Building . Cairo. Retrieved from http://www.cpas-egypt.com/pdf/Doha_Moustafa/MS.c/Egyptian%20Urban%20Planning%20Institutional%20Framework-Doha.pdf

El-Hefnawi, A. I. (2005). Protecting' agricultural land from urbanization or _managing' the conflict between informal urban growth while meeting the demands of the communities. Brasilia: World Bank Urban Research Symposium, 3-6. Retrieved from http://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/336387-1269364699096/6892630-1269364758309/elhefnawi.pdf

Ababsa (role)edt, M., Dupret (role)edt, B., Denis (role)edt, E., Léna, E., Ferrier, M., Séjourné, M., ... Jähnigen, F. (2012). *Popular housing and urban land tenure in the Middle East : case studies from Egypt, Syria, Jordan, Lebanon, and Turkey*. Cairo : American university in Cairo press. Retrieved from http://lib.ugent.be/catalog/rug01:002048185

AHMAD, B. (2012). David Sims 2011: Understanding Cairo: The Logic of a City out of Control. Cairo and New York: The American University in Cairo Press. *International Journal of Urban and Regional Research*, *36*(6), 1357–1358. https://doi.org/10.1111/j.1468-2427.2012.01216_4.x

Hamilton, N. (2012). Land, Legitimacy and Governance in Revolutionary Cairo. New York: Columbia University Press, 20-31. Retrieved from http://csud.ei.columbia.edu/files/2012/08/120311-SIPA-EPD-Cairo-Land-Legitimacy-Governance.pdf

Hasan, A. (2012). Analyzing Urban Growth Patterns in Metropolitan Alexandria. Faculty of Engineering,Alexandria University Journal, 22-29. Retrieved from http://www.eulc.edu.eg/eulc_v5/Libraries/Thesis/BrowseThesisPages.aspx?fn=PublicDrawThesis&BibID=12297954

Ismail, A. (2016, July 10). Head of Legal department - The Egyptian Survey Authority. (M. Raslan, Interviewer)

Ismail, A. (2017, 1 10). Head of legal department, Egyptian Survey Authority. (M. Raslan, Interviewer)

Johannsen, A. T. (2008). Landownership disputes in Egypt. Cairo: American University in Cairo Press. https://www.arabwestreport.info/sites/default/files/pdfs/AWRpapers/paper15.pdf

Kumar, R. (2005). Research Methodology: A step by step guide for beginners. London: SAGE Publications. http://www.sociology.kpi.ua/wp-content/uploads/2014/06/Ranjit_Kumar-Research_Methodology_A_Step-by-Step_G.pdf

Mahrus, M. N. (2009, Week 22). Land registration problems in Egypt. Arab-West Report. http://www.arabwestreport.info/sites/default/files/pdfs/coptic_stats/copticmigration_statistics-list_of_articles_without_excerpts.doc

Sejourne , M., Dupret (role)edt, B., Denis (role)edt, E., Léna, E., Ferrier, M., Séjourné, M., ... Jähnigen, F. (2012). *Popular housing and urban land tenure in the Middle East : case studies from Egypt, Syria, Jordan, Lebanon, and Turkey*. Cairo : American university in Cairo press. Retrieved from http://lib.ugent.be/catalog/rug01:002048185

Sims (2011). Understanding Cairo: The Logic of a City out of Control. Cairo and New York: The American University in Cairo Press. *International Journal of Urban and Regional Research*, *36*(6), 1357–1358. https://doi.org/10.1111/j.1468-2427.2012.01216_4.x

World Bank. (2016). World DataBank : World Development Indicators. http://databank.worldbank.org/data/reports.aspx?source=2&country=EGY#.

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 92– 103

Learning from Resilience: Cities towards a Self-Organizing System

* Ph.D. Candidate CEMALIYE EKEN

Department of Architecture, Faculty of Architecture, Eastern Mediterranean University, Famagusta, Cyprus

E mail: cemaliyeken@gmail.com

ARTICLE INFO:

Article history:
Received 08 January 2018
Accepted 23 February 2018
Available online 20 June 2018

Keywords:
Resilience;
Adaptive Cycle;
City;
Living Organism;
Self-Organizing System.

ABSTRACT

The study exploits development of a new field of research with the aim of reading uncertainty and transformation at cities by revealing resilience systems thinking theory for urban studies. The paper first generates understanding the resilience framework and its critical identities. Secondly the city is introduced as a complex living organicism. Here the complexity of cities is conducted in the context of a self-organizing organism while conserve their spatial structure, function and identity. At this juncture; cities and their built environment are proposed in the framework of 'being able to absorb uncertain perturbation and adapt itself through an adaptive cycle; of which key attributes of resilience is figured out a novel method for urban studies to be used to detain the taxonomies of uncertainty at identity of built environment. The study is concluded by impelling resilience as novel frontier thinking for postulating the ways of assessing a self-organizing city thinking towards uncertainty of change.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 92-103.
https://doi.org/10.25034/ijcua.2018.4686

www.ijcua.com

1. Introduction

> *"We know that we can't design for every unpredictable event, but we can make sure our buildings and cities are better able to weather these disruptions." (Mehafyy and Salingaros, undated)*

Today, one of the reason why a range of scientific approaches of urban studies fail in pragmatism is because they endorse a rigid conceal for understanding city and its built environment in a stabilized equilibrium, and also a steadiness of relationships. Since, change occurs perpetually in life. The problem of adjusting built environment and cities in equilibrium disregards the monarchy of change, which continuously exits. Therefore, the complexity of relationships could not be understood, or may be difficult to be rationalized in a model. Therefore, the growing challenges of shocks, depletion and destruction of change must endorse a novel vision for understanding cities as a system in a resilient form, rather than in a stabilized equilibrium. However, the intense here should not admire designing each unpredictable and uncertain event; but allocating built environment and cities in a better capability of adaptation or a self –containing towards

***Corresponding Authors:**
Department of Architecture, Faculty of Architecture, Eastern Mediterranean University, Famagusta, Cyprus
E-mail address: cemaliyeken@gmail.com

uncertainties of change. The question is to understand how the cities could detain the uncertainly of change as a self-organizing organism and how coherent contributions from other fields reveling resilience thinking could be embedded in mean of resilient self-organizing cities. Therefore, in the next sections, the study presents the resilience thinking framework and its critical identities regarding the relevance of those magnitudes to the cities. First, the study examines several definitions of resilience term for asserting a grounded understanding of its meaning. Then, a theoretical review is accomplished for defining its critical identities. In the third section, the city is examined as a living organism that asserts a self-organism system where a complex interaction between parts accomplishes multi-equilibrium to conserve whole of the system in a stabilized equilibrium. In the last session; the study introduces the city and architecture in mean of adaptive capability or the ability to bounce back to equilibrium, of which is the domain dimension of resilience in a self-organizing system dealing with multi-equilibrium.

2. Understanding Resilience Framework and Critical Attributes

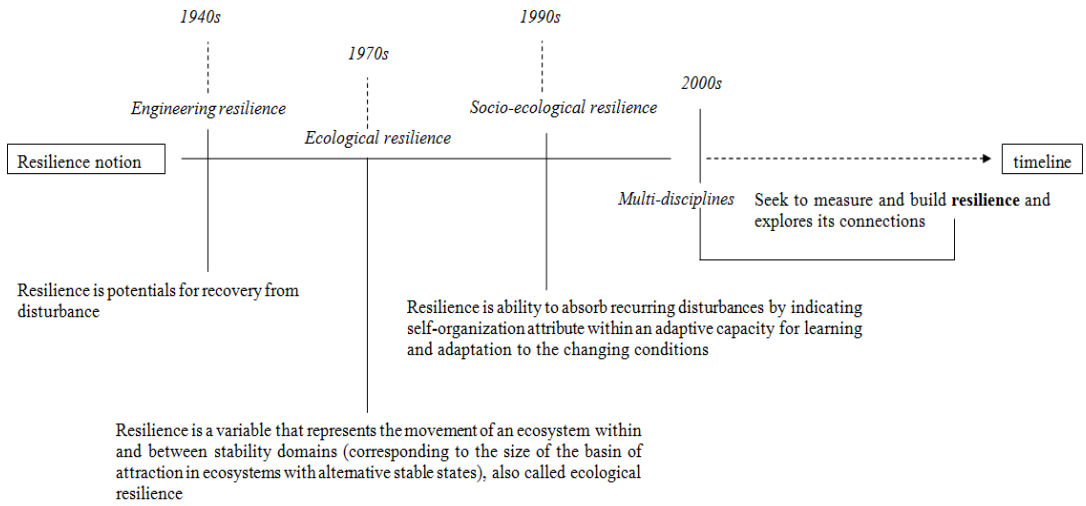
2.1 A Definition

Over time, the term resilience refers to the 'jump back, or 'flexibility quality of a substance (Klein, et.al., 2003; Ledesma , 2014; Greene, (ed.)., 2002). As opposed to its original use, resilience term is also utilized as a conceptual framework to evaluate the ability or capacity of a person, object, entity, or system to persist in the face of disruptions or difficulty (Laboy and Fannon, 2016). In core, resilience is primarily utilized to describe 'a thing's ability to deal with change by remaining or preserving the same state or condition, or adapting itself to the novel the state or condition.' (norrish, 2016).

In literature multiple approaches describe, discuss and explain the resilience notion through different meanings and methods. As examples from ecology, Holling (1973) provides a persistence system quadrant of the term resilience in multi-stability core drawing an ability to absorb change; Alexander (2013) from geography provides a detailed historical etymology of the term 'resilience'; Bruneau et al. (2003) identifies robustness, redundancy, resourcefulness and rapidity as properties of resilience term; Gallopin (2006) thoroughly analyses the conceptual relations of resilience to interrelated key terms such as vulnerability and adaptive capacity; Klein et al. (2003) explore the usefulness of the resilience concept to natural hazard reduction. Some of the scholars accumulate defining resilience through in *thinking of system attribute* towards *the disturbance;* as 'before' and 'after disturbance'. On one hand; Walker et.al. (2004); Fiksel (2006); morris et al. (2016); Longstaff *et al.* 2010; provide a perspective to defining resilience regarding a system's attribute in response to after disturbance. Walker et.al. (2004) defines resilience as "the capacity of a system to absorb disturbance and re-organize while undergoing change so as to still retain essentially the same function, structure, identity and feedbacks" (Walker et.al. , 2004). Allenby and Fink (2005) define resilience as the capability of a system to maintain its functions and structure in the face of internal and external change and to degrade gracefully when it must. Fiksel (2006) operates the term resilience "the capacity of a system to survive, adapt and grow in the face of change and uncertainty". Norris *et al.* (2008) define it as "a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation *after* [emphasis added] a disturbance.... resilience emerges from a set of adaptive capacities". Longstaff *et al.* (2010) illuminate resilience "the capacity of a system to absorb disturbance, undergo change, and retain essentially the same function, structure, identity, and feedbacks. According to Carl Folke et al, *"resilience for social-ecological systems is often referred to as related to three different characteristics: (a) the magnitude of shock that the system can absorb and remain in within a given state; (b) the degree to which the system is capable of self-organization, and (c) the degree to which the system can build capacity for learning and adaptation. "* On the other hand; Tierney (2003); Kahan et. al. (2009); Gilbert (2010); describe a perspective resilience regarding a system's attribute before and after disturbance. Tierney (2003) describes "the term 'resilience implies both the ability to adjust to 'normal' or anticipated stresses and strains and to adapt to sudden shocks and extraordinary demands. In the context of hazards, the concept spans both pre-event measures that seek to prevent disaster-related damage and post-event strategies designed to cope with and minimize disaster impacts" (Tierney 2003). " (Kahan *et al.* 2009) "We see resilience as the aggregate result of achieving specific objectives in regard to critical systems and their key functions, following a set of principles that can guide the application of practical ways and means across the full spectrum of homeland security missions... The objectives (or

end states) of resilience that underpin our approach are *resistance, absorption, and restoration*" (Kahan *et al.* 2009). Gilbert (2010) "*resilience* is defined as the ability to minimize the costs of a disaster, to return to a state as good as or better than the *status quo ante*, and to do so in the shortest feasible time... *Resistance* is used to mean the ability to withstand a hazard without suffering much harm. *Resilience* in this paper will include resistance but will also include the ability to recover after suffering harm from a hazard" (Gilbert, 2010). As the review of the literature presented here clearly demonstrates, there is considerable variation in how different authors from different fields have defined resilience (Carlson et.al., 2012). In consequence, diversity in definitions accumulates a danger for resilience becoming another buzzy concept in rhetoric theory and application (Davoudi, 2012). Perhaps the most fundamental divide lies in identifying which definitions of resilience indicate a system thinking in "ability of adaptation towards dwelling with change", and which are not. Three overarching frameworks of resilience are provoked; *engineering, ecological and socio-ecological resilience*; in which resilience is conceptualized as a quality, as a state or as a process (Weichselgartner and Kelman, 2015). Within engineering resilience, the resilience is modestly evolved in mean of bounce- back, which refers to the time it takes to return to a state of dynamic equilibrium after a disturbance hits a system. The resilience term is significantly envisioned as a condition that demonstrates the ability to return a particular situation of something to its original state after a disturbance/ crisis/shock. A stable state ideology is asserted as a resultant of dynamic interactions between system components that guide the system to return in time to a controlled equilibrium after an attractor-disturbance-shock. Therefore, a stable equilibrium in a system adjusts stability, robustness, rapidity and constancy, of which a system is efficient to return a stable equilibrium state after a perturbation. Different than engineering resilience perspective in ecology; the resilience is considered more as a capacity measure for absorbing disturbance. In this mean, ecological resilience regards to ability of anything to accord a disturbance (Folke, 2006). Therefore, ecological resilience fundamentally admits the amount of change and a system's absorbing ability which is preventing system's initial state to enter in other state. As a main attempt in this direction, resilience is suggested as an ability of absorbing change and remaining the system in persistence, in which same relationships between system's components are preserved (Holling, 1973). In contrast to single state equilibrium of engineering resilience, ecological resilience indicates multiple equilibrium states an understanding. Ever last, multiple equilibrium states promote characteristics of persistence, redundancy and resourcefulness in function, structure and identity of a system. In social sciences, the term is re-viewed in form of a novel revelation where resilience is approached within notion of adaptation-adaptability. Though in socio-ecological systems, the mean of resilience is critically distinguished from '*absorbing disturbance/stressor/threshold*' to '*moving disturbance/stressor/threshold away*' by promoting transformability with an adaptive self-organizing attribute (Walker et. al., 2004) (Table 1).

Table 1. Resilience framework development path



2.2 Critical Attributes

The resilience and change relation in a system is tended to be discovered within stability framework ignoring single equilibrium (Levin, 1998). In other words, a system's resilience is relied in having more than one stability state (Gunderson, C. Allen, & Holling, 2009; Holling, 1973). Bunse suggests understanding ecosystem dynamics by defining their attributes in a valley of stability framework (Bunse, undated). Yet, the character of change is dynamic, and it is not linear. Levin (1998) challenges implement of a single stability state thinking in a complex system. According to him, a complex system is coherently the amalgamation of other dynamic subsystems, of which forms an entire complex adaptability from non-linearity and uncertainty (Levin, 1998). And, into such a context; "*single stable framework*" could not be valid especially when inherent uncertainty and complex dynamism is the domain praxis (Schefferet al. (2001). Therefore, nature of complex systems discard to impel a single stable state, other than modestly move or fluctuate in between a set of interacting variables (Genkai-Kato, 2007). As Folke addresses, these systems impose multiple interrelationships in multiple-states to absorb or adapt the change at different scales (Folke et al., 2003). The system is more heterogonous by multiple states across scales create heterogeneity in system character, which remains the system stable. In other words; heterogeneity draws stability of resilience at a system. And this restrains the system state to shift in to a different stability state among the interrelation act of multiple states across scales. Such a condition poses regime shift/s in system structure/identity/function. Therefore, the stability is not a state appears as a contribution of linear interaction, but dynamic equilibrium formed by interaction among multiple states. In significant, resilience approach significantly distinguishes essentiality of multiple states as a significant path for system to absorb or adapt the change.

However a system may not always ascertain adaptation and stability state may shift from one to another state. A regime shift is dependent on the characteristics of change, as continues or discontinues or degree of change as small or large (Scheffer et al. 2001). Specifically, it is possible to resemble crudity of non-linear relationships endorsing a dynamic regime or state shift transformation or shift appears from one state to another. In fact, regime shifts are the conceptual approach breaking the linearity and providing analytical explorations on casual spirit of change and systems dynamics. Thus, basically they are defined as the possibilities of change with small or large disturbance posing big effects, where characterizes a system state. Regime shifts are primarily characterized as large, abrupt, persistence changes in the function and structure of any particular system (Rocha, et. al. 2014). As if; regime shifts are the drastic large-scale changes that are interconnected with thresholds, step trends, critical thresholds, rapid transitions or tipping points (Simon et. al. 2009). Different set of processes reside a particular regimes at specific scales of space and time (Gunderson, L. H., (2002). As Scheffer and Carpenter (2003) have noted, it would seem that regime shifts should be largely driven by external perturbations to a system where uncommunicative set of processes reside across scales of system whole. In reality, both external and internal conditions can influence a system and pose system state to reach a critical threshold (Holling 1973). Regime shifts are result of the high level of thresholds in system where control the system behavior between system components (Scheffer and Carpenter 2001). More simply, they emphasize regime shifts as where feedbacks of system are changed. Walker and Meyers (2004) notify the regime shifts as the change in the nature of feedbacks that the controlled level of system components are cracked by the maximal zone of thresholds (Walker and Meyers, 2004). On the other hand Cumming and Collier (2005) define regime shifts as the phase of change, when systems experience new versions of current former function-structure-identity as a result of loss of resilience (Cumming and Collier, 2005). On this basis, it is notable to define the regime shifts as large, abrupt and persistence changes pushing the system to enter into a new state, when a system experiences the change in its internal feedback interactions operating self-organization. Since the amalgamation of various feedback loops aims for a common goal; they basically cooperates to keep the system character self organizing. Which means, a set of particular feedback loops over in time tend to come together to form a dominant feedback loop to provide self-organization in system structure. On this basis, the regime shifts appear while dominant feedback loops loss "*resilience*". Those with reduced resilience; a disturbance may pose to the system entering from one stability state into another.

To preserve resilience after a disturbance/catastrophe, resilience indicates a

system of progressive organization into the model of adaptive cycle. Adaptive cycle is the accumulation of a series of phases that fortify a metaphor of continues change (Scheffer, et. al. 2001). These series of phases regards adaptation in structure/function/identity of a system under uncertainty (Gunderson, 2009). The cycle describes a metaphorical sequence how an organizational order is experienced under change (Li, 2013). The adaptive cycle is a model of natural patterns of change in ecological and socio-ecological (Gunderson and Holling, 2002). It consists of four distinct phases; *growt*h or *exploitation* (r), *conservation* (K), *collapse or release* (Ω) and *reorganization* (α) - (Figure X). *Growth* or *Exploitation* (r): is the process of rapidly initiating the exploitation of the resources through expanding new opportunities on the collapsed old systems. The (r) phase is transitory phase of the systems after collapse. Thus the system does not emphasize high stability. But system structure becomes more diverse due to accumulation and more new connections between networks are accomplished. Thus, the system has high resilience. *Conservation* (K): is the phase where the systems get mature. Therefore, the systems demonstrates slower growing, entities are entered the system. Thus, the system goes into maintaining process of existing matured structure. The networks in system are progressively connected. Thus, the system is in the locked-on condition and does not build a novel structure. It demonstrates less flexibility, more vulnerability and more stability. *Collapse or Release* (Ω): is the phase where external environment pose stress on system and enforces the systems to perturb. In this the connectivity between networks decreases due to release of accumulated-stored resources. The system enters to the level of creative destruction with the potential in short period of time. Thus, revolution can occur in system. *Reorganization* (α): is the phase after systems collapse due to perturbation. The system state enters to a new stability state through reorganization (beginning) process. The system in reorganization phase leads the system towards growing phase upon novel cycle.

The process in adaptive cycle is asserted on the three disguised types of change; incremental change in r and K phases, abrupt change in the transitional phase from K through Ω and α and meaning change through interaction between different scales (Gunderson. 2002). Therefore, it is probable to determine the first two phases are the phases of system maturation and they are called forward loop of cycle. They are in need of accumulation of capital, slow incremental growth predictability and stability (Garcia, 2013). Furthermore, the other two phases are called back loop of cycle that involves the rapid phases of reorganization leading the renewal. As a consequence, adaptive cycle mainstreams the empirical visualization of metaphoric change at a rich framework to understand the persistence and renewal of the complex dynamic systems.

3. City as a Complex Living Organicism

An organism is *an autonomous individual form of life* considered as an *complex and organized system analogous* to a living being, where a composed of mutually interdependent parts functioning together (Random House Kernerman Webster's College Dictionary, 2010). Any organism has distinct physical and behavioral characteristics, a specific size and boundary of which contains differentiated parts, but form and function are always linked (Collins English Dictionary –2014). The physical morphologies of living organisms define the specific traits of organisms and they are generated by processes in which a given species evolves as the product of many small changes at the most elemental level (Darwin, 1859). These changes are embodied in an inherent code that dictates the way the organism mimic itself (Batty and Marshall, 2009). However, cities are the form of life. Likewise, as an organism they demonstrate a distinct physical and behavioral characteristic within a specific size and boundaries. Since the cities involve dynamics of social, economical and environmental impacts; they contain different, but interdependent parts processing together. The process between parts is complex and dynamic, but organizational. Therefore, it is possible to realize common analogies of living organisms into cities (Geddes ,1913; 1915; Le corbusier, 1933; 1964; Mumford, 1961) and many other scientists, scholars, professions etc. envision the city in analogy to ecological term-living organism and uses tools from the biology (Decker *et al.* 2007). In a broader sense; the "living organism" term is widely been used in diverse means (as a method or a methodology) to describe the cities and architecture in the context of dynamic changes (Mumford, 1961; Miller 1989; Samaniego & Moses, 2008;carrol,2008).

Ever since, the views related organicism conception in relation to cities and architecture have attempted to form an analogous to nature and its laws and

processes. In history; the conceptual enterprise of organisism in relation to cities and architecture arose from the growth of science in the eighteenth and nineteenth centuries. In the book of architectural historian Caroline van Eck, the organicism idea is defined as an intangible phenomenon that appeared from classical antiquity era. In classicistic tradition, the nature is functioned as a role model for perfect imitation to create the illusion of life. Into this, the architecture is seen as a part of living nature where the natural processes are convinced as a tool of imitating for divine uniformity in architecture. In classical organicism era, the architecture entitles a more philosophical character of the organicist interpretation of nature. For example, this intangible phenomenan more clearly emphasized in the gothic era and is suited to the religious connotations. However, with the impact of growing science between the period of in 18ht-19th centuries, the philosophical characterization of organism concept is resided more propelled and evolved with more radical shifts in approach. Also, with the impact of rapid industrialization in 19th century, a very fast interval increase in human population in cities affected the urban areas to growth. Moreover, the new implications of industrialization figured out a new role in the fast urbanizing civilizations. In sudden, the cities resided in space of growth in the context of dynamic changes. In significant, the urban planning in growing areas is facilitated by new mass production technologies (Bettencourt, 2013). Ever since, many theorists, researches professions, scholars, etc. have searched for understanding and defining the city and architecture in the context of dynamic changes of growth (Batty& Marshall, 2009). According to Bettencourt (2013), the industrial revolution- 19th century as a benchmark posed two splits in urban planning conceptions (Bettencourt, 2013). On one hand, the city is viewed as systems subject to optimization (Batty& Marshall, 2009). On the other hand, the city within growth parameter is seen subject to gradual evolution as an open-ended process. Those viewing the city as a gradual evolution embedded a note on organic features of the cities (Geddes, 1915) with/out implying a fixed relationship between the parts and the wholes (Batty& Marshall, 2009). In this era, the organisms phenomenon is more evolved with radical characterizations. We see that it is evolved with a profound synthesis of nature and technology (Gandy, 2004). Into this synthesis, the philosophical classicist notion of organicism- "as a source of uniformity" is redefined in terms of a metaphoric functionality. Biologist urban theorist Patrick Geddes initiated cities as evolutionary as an ecosystem in urban and town planning of - in mean of cities born, growth, and die (Geddes, 1913). That needed to subject the cities in mean of organisms interacting with their environments, in a similar way of a living being (Geddes, 1915). Here the city is a large of body as an organism that is accommodated through parts and architecture is the product of this functionalist organic entity, where it acts for structuring processes in the functional phases (born, growth, die) of a city. in the era of functionalist organsicism, we also see a profound coherence of other pragmatic conjunctions as well. For example ; Le Corbusier exploited the biological functionalism of a living organism to settlements with the purpose of improvement of living conditions Behne asserted a position in between nature and society with suggesting organic design; Alderman Adri Duivesteijn implemented the ideal of organic urban development. Especially at the early beginning of 20th century the tradition of functionalism the body of an 'organic entity' had been transformed into a fragmented body under the discourse of metabolic organcism (De Solà-Morales, 1995). The city is entitled in an organic form of high-tech self-retained machine, where the fragmented body (architectural units) accommodates a flexible adaptation as organs of living organism (Kurokawa, 1998).

In late nineteenth-early twentieth-century, the organicism traditions (biological and physiological connotations of organicism) also largely employed a living phenomenon to urban development. In order to eliminate the chaos between city and the loss of natural landscapes due to rapid urban development, the organic metaphor of the city is resembled through concerning the nature as the major fact revealing urban uniformity, not only for visual uniformity (organic city), also a new integrity of human life based on spiritual, psychological and material needs (social organicism) (Schilders, et.al 2001).Urban planning theorist Howard motivated the modern planning era by conceptualizing garden city; a living cluster/system of settlements optimizing a healthy living environment by decentralizing the settlements from city center (Sdoutz, 2013). Following the Howard, in 1904, Raymond Unwin and Richard Barry Parker (1904) progressed the Howard's organism notion into planning method with

assuming suburbs a practical for greenbelt surrounding the town as living organisms (Unwin and Parker, 1904). However, with the publication of Zevi, Towards Organic Arhitecrture; the organisicim conception is removed from its traditional provokes that nature and its processes/laws are perfect tool for imitation. Zevi induced the notion of organic into a social conception, where city embody an organic spatial organization for social contentment (Zevi,1950).The humanized urbanity of organicism is also recognized by Mumford. Mumford a difference from Zevi utilizes the functional, physical and social molds of organicism notion in organic form. According to him, the city in an organic form is a symbolic image of an organism, which can stand in natural environment as an interconnected and of itself as a symbol of organic form and function (Mumford 1961).

However, with the alert of 21th century crises of rapid population and urban development and unsustainable nature of modern cities; organicism notion in planning is reintroduced with ecological footprints (Owiti A. K'Akumu, 2007). The contemporary organicism following this 'sustainable concept' is developed for assessing balance with nature. To model the fast changing environmental, social and economical conditions; the new era of planning embodied the discourse of thinking city as a living organism; that also appealed in the context of many movements such as new urbanism, intelligent urbanism, smart growth, biomimicry etc. The living organ is paradigm to indicate potential relationships of city with entire metabolism of the development with ecosystem based, that concerns the long-term social, economical and ecological wellbeing of cities, town, villages etc. (Wheeler, 2004). Thus, sustainable development phenomena intended to put the dogma of ecosystem based relations between living organism-living environment- nature in cities etc.. However, the eco-centric planning approaches of sustainable development has resided into a chaotic transition, and attained an ordinary meaning - from a popular form to darkness of failure/fuzziness. Thus, ecological organicisist metaphors of sustainable era remained rhetoric and partial. The organic analogies to city and architecture have been unspoken and unexploited. Many suggestions also left fragile. Their consequences have not been fully worked through. They are blurred in many impacts, and bounded to uncertainty (Batty & Marshall, 2009), where dynamic interactions in structuring processes at different spatio-temporal scales are pulsed in. In this case, many scholars argued the lack of understanding the dynamic interactions in actual development within a zoned area posed a shift in thinking organicism not a source to balance nature, but a self-sufficient process evolved organism (Bogunovich, 2014) (Table 2).

Table 2. Organicism Conceptions in relation to architecture and urbanism

Century	Connotation	Vision
Classicist Era 17th century	Classical Organicism	Architecture Imitating Nature
Modernism Era 18-19th century	Functional Organicism	Form Follows Function
	Metabolic Organicism	Architecture as an Extension of the Body
	Formalistic	Organic Architecture'
	The Organic City	Unification of City and Nature
	Social Organicism	Planning for Human Happiness
Contemporary Era 20-21st century	Process Organicism	Flexible Planning for Gradually Growing Cities

4. Revealing two Scale in Adaptive Cycle: city and architecture

Cities are complex and heterogonous living systems. Cities impel a stream of inter-reliant duality between its subsystems. However, many invalid paths have been projected on how cities grow and develop as a system in linkage of dynamic processes and interlinked variables. Such misinterpretations challenged admiring social, built environment, economical flows and the other inputs making a city as a system that progresses inter-reliant duality for resilience. Several questions arise from here to understand in theory and practice cities as self-organizing resilient systems at the stipulation of possible (Chelleri, 2012). In thinking of 'city as a system of organism'; all social, economical and environmental variables append the process of operating the transition of cities toward more resilient and self-organizing paths (Holling and Goldberg 1971). Yet, uncertainty and discontinuities are inherent characterization of cities. With the potentiality of diverse and inter-reliant variables at subsystems; a city easily could process an internal resilience by assorting multiple stabilities, which are organized at different scales and time (Batty, 2009). As Zhao et.al (2013) defines 'city as a whole is far from equilibrium and is more than the sum of its subsystems.' (Zhao et.al , 2013). A complex system mode of interconnected networks is coherent and patent. Into this, a certain development is interconnected to historical experiences of the system and nonlinear events of ongoing change. A system when begins to get mature; it becomes over connected fixed and rigid through ordered patterns of interactions increases, where a system could be more sensitive to a breakpoint to a disturbance (Wahl, 2017). Indeed, the matured old patterns in case of a disturbance get affected more and impose the system to the chaos. In fact, the cities as complex and living systems becomes more creative while a chaos hits inter-reliant stability of the city. It should be notified that cities are drastically in episodic correlation between persistence and growth; order and chaos; between stability and transformation as the fundamental stream of self-organizing character (Wahl, 2017).

To think, cities as a self-organizing living organism conferring resilience at urban systems, understanding how a city starts to grow and acts more creative during a chaos could be a causal obstacle. This aspect endorses a scale tenet in thinking. Yet, cities fundamentally grow from the bottom to up through an organizational order between interconnected parts (Batty, 2009). They accomplish a large-scale complex artifact. The integrity of bottom-up is not controlling, or stopping the growth towards uncertainty of change; but predicting the behavior of development or transformation by focusing smaller scales. In fact; the bottom- up thinking infers the processes of cities that are organized at the bottom scales and reached to the whole. However, 'organicsim conceptions up till now would seem to suggest a comprehensive urban development is crucial of top-down planning. The top-down planning vision stayed limited in its unified form and did not allow meeting with processes at smaller scales. As Batty (2009) mentions "the city is not conceived of as a unified whole following a developmental programme, but is more usefully seen as a collection of interdependent, co-evolving parts (Batty, 2009). The parts of city must be seen in the role of which operate organizational structuring processes for a self-sufficient whole. A self-sufficient city reveals ability of persistency in its function/identity/ structure through fast changes of urban growth. In order to attain persistency; the processes infer the interdependent scale-relations. That means, in a city as a self-sufficient organism is not scale-free. It is in the high level of multilevel hierarchical interactions, where high–degree of connectivity interplay between scales of parts. In fact, that implies the holistic systems thinking utilized the two-way interactional connectivity between different spatio-temporal scales- from bottom-up and top-down: cross scale interaction (Levin 1999.). Into this, small scale observations provide an important route to explore dynamics interactions across-scales. The observation in smaller scales is critical to understand the patterns and processes operated at larger scale. Likewise, it is important to understand how the processes at large-scales communicate with smaller scales (Nash et. al, 2014). In the sequence of this two-way interactions, the smaller scales of parts are in the role of determining the data about the generated processes for self-sufficiency/ or the shift from a persistent to non-persistent structure. Hence, the abrupt changes at smaller scales ensue frequently in a short time period, due to fast variables are dominant then the slow variables in the system structure. That means at smaller scale the change is faster than larger scales. At large scales the slow variables are dominant towards fast variables. Therefore, change appears more slow in a long

time period. In the structure of a city top-down planning control emerges when several bottom-up fragile occurs- smaller variables appear to control the system for periods of time (Gunderson 2009). Thus at large scale disturbance is the result of cascading phenomenon of the fast changes (non-persistence structuring processes) in smaller scales (Holling, 1973). Therefore, small-scale observations provide an important route to explore urban growth and development dynamics.

Yet, cities are artificial environments composed of smaller scale artifacts as a result of human interactions with their environment However, considering the city as an organizational progress does not only questions space and time together with the human spirit and metaphor of change into new tools, terms and images; it also raised varied questions such as re-thinking the landscape and city expansion relations, unplanned urban sprawl though the essence and power of architecture which is endorsing essential flexibility to cope with interference/disturbance. Here, the self-organizing thinking infuses to conduct with the architecture as the smaller scale artifact of the biggest artifact which is the city. And the urban space is seen at the larger scale domain. The organizational order is polarized through declaring urban spaces as larger-macro scale and architecture as smaller-micro scale elements of a city. in fact; the first trial of the idealization of urban and its architectural extension in an adaptive cycle is adjusted in architectural studio of Kenzo Tange, in 1960. In the studio project of Tange (1960) at MIT, the growth and change aspects are amalgamated to external growth- internal regeneration affiliation. Here, the main goal of Tange is to formulate a new relationship between the part (architecture) and whole (city). Two particular quadrants are maintained for parts- *transient elements and* for whole -*permanent* element (Lin, 2010).The shorter cycles are the fast changes appearing at the smaller scales of urban clusters. They are the parts forming the whole. And, the long cycles are the slow changes structured at larger scales (urban clusters) to be inherent in long-life duration (Tange, 1960). In '*Emerging Complexities*' symposium which held at Colombia, Asada (1997) ensures the complexity of a city as a living organism has been demarcated as a simple system of hierarchical cycle between transient and permanent elements. In the detail, the hierarchical inclusion between parts and whole have been demarcated as a narration between the function and structure into a cycling model. This thinking provides potential to estimate cities as a creative self-organizing organisms responding to disruptions and change whereas resilience theory reveals upon same core. At this point, the architecture could be linked as the domain part of the urban design. Only when architecture is diagnosed to as part of the urban space, the city as a system of multi-layers could be defined within the metaphoric sequence of self-organization. Such a correlation does not only combine the architecture and urban towards to understand the city with architectural concerns, also makes a critical criticism towards relationships contextual essences and physical aspects of architecture in the traces of urban space. While this relationship is transmitted to the view of adaptive cycle; architecture endorses internal regeneration in the system and leads urban spaces to exploit external growth within a certain domain of stability. During graining internal regeneration; transiently acting an architectural system is crucial in thinking. In fact, architecture could be thought as a regenerative magnet to convey an internal resilience. Transient characterization accomplishes a nested set of hierarchal interaction and a higher level of adaptation by defeating flexibility. This allies a bond for city to adaptively polarize a permanent urban clustering. Into this, urban spaces demonstrate a slower growing. The urban space is mature and all other networks are connected, conserved and locked-on mode. The system stability is significantly infused by permanent urban clustering.

Conclusion

Approaching to a city should be intensive for identifying change- transformation-adaptability through varied interfaces of urban space. This devises an integrative design understanding between architecture and urban design critically essential. Here, the fundamental contradiction is to re-think the nature of growth-transformation-city relation adaptive, rather than a new episode of destruction. Since, current cities came into a parallel catastrophic trunk; the study infuses to adjust (re)thinking the urbanism and architecture as an integrated whole, a restrained coordination resiliently coping with collision of urban growth. Thus, the study opens a new argument that consolidate cities as a self–organizing system; in which change is dependent on, and human-environment

relation is operated towards change in an adaptive cycling path. However, the main point is to understand the city and architecture more specifically in terms of a resilience framework. Moreover, the study reveals cultivating cities in the context of adaptive cycle of resilience thinking. By this way; the study accumulates a novel way of thinking on how a city acts as a complex but self-organizing system that indicates a stable stability at macro-scale by integrated multiple-stability configuration at micro-scale. In general, the argument admires bringing the domain notions of resilience thinking as an integrative elucidation for analyzing the cities as a self-organizing and adaptive organism towards urban transformation, growth and change.

Acknowledgements
This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests
The author declares no conflict of interest.

References

Alexander , D.E. (2013). Resilience and disaster risk reduction: An etymological journey, *Natural Hazards and Earth System Sciences,* 13(11), 2707–2716. https://doi.org/10.5194/nhess-13-2707-2013 .

Batty, M., and Marshall, S. (2009). Centenary paper: The evolution of cities: Geddes, Abercrombie and the new physicalism, *Town Planning Review*, 80(6), 551-574. https://doi.org/103828/tpr.2009.12 .

Bettencourt, L. M. A. (2013). The Kind of Problem a City Is, SFI working paper: 03-008. Retrieved from URL: https://www.santafe.edu .

Bogunovich, D. (2014). *The Sustainable City VII: Urban Sustainability 2.0: Resilient regions, sustainable sprawl and green infrastructure,* Vol. 1, 3-10, Southhampton: WIT Press.

Brueau, M, Chang S.E., Eguchi, R.T., Lee, G.C., O'Rourke, T.D.O., Reinhorn, A.M., Shinozuka M., Tierney K., Wallace W. A., and Wibterfeldt D. (2003). A Framework to Quantitatively Assess and Enhance the Seismic Resilience of Communities, *Earthquake Spectra,* 19 (4), 733–52. https://doi.org/10/1193/1.1623497

Bunse, L. (undated). The importance of ecosystem resilience and phase shifts for biodiversity management. Retrieved from URL: https://citeseerx.ist.psu.edu

Carlson, L., Bassett, G., Buehring W., Collins M., Folga S., Haffenden B., Petit, F., Phillips J., Verner D., and Whitfield R. (2012). Resilience Theory and Applications, ANL/DIS-12-1, Argonne National Laboratory. Retrieved from URL:https://publications.anl.gov.1-7

Carroll, S. (2009). Are Cities Just Very Large Organisms?. Retrieved from URL: http://www.blogs.discovermagazine.com

Chelleri, L. (2012). From The Resilient City» to Urban Resilience. A review essay on understanding and integrating the resilience perspective for urban systems Documents, *d'Anàlisi Geogràfica*, 58 (2), 278-306. https://doi.org/10.5565/rev/dag.175

Collins English Dictionary – Complete and Unabridged, 12th Edition (2014). HarperCollins Publishers 1991, 1994, 1998, 2000, 2003, 2006, 2007, 2009, 2011, 2014.

Cumming, G. S., and Collier, J. (2005). Change and identity in complex systems, *Ecology and Society,* 10(1),29 . (online)URL: http://www.ecologyandsociety.org/vol10/iss1/art29

Davoudi S. (2012). Resilience: A bridging concept or a dead end?, *Planning Theory and Practice*, 13(2), 299–307. https://doi.org/10.10.80/14649357.2012.677124 .

Folke, C., Carpenter, S., Elmqvist, T. , Gunderson, L., Holling, C.S and Walker B. (2002). Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations, *Ambio*, 31(5), 437- 440. URL: http://www.ambio.kva.se, Retrieved from URL: http://www.citeerx.ist.psu.edu

Folke, C. (2006). Resilience: The Emergence of a Perspective for Social–ecological Systems Analyses, *Global Environmental Change*, Resilience (Vulnerability, and Adaptation: A Cross-Cutting Theme of the International Human Dimensions Programme on Global Environmental Change), 16 (3), 253–67. https://doi.org/10.1016/j.gloenvcha.2006.04.003 .

Gallopin G.C. (2006).Linkages between vulnerability, resilience, and adaptive capacity, *Global Environmental Change* ,16(3), 293–303. . https://doi.org/10.1016/j.gloenvcha.2006.02.004

Gandy, M., (2004).Rethinking urban metabolism: Water, space and the modern city.
City, 8(3), 363-379. https://doi.org/10.1080/13604810420003133509

Garcia, E. J. (2013). The Application of Ecological Resilience to Urban Landscapes, PhD thesis, Victoria University of Wellington. Retrieved from URL: http://hdl.handle.net/10063/30/34

Geddes, P. (1913).Two steps in civics: cities and town planning exhibition and the international congress of cities, *Town Planning Review*, 4(2), 78–94. http://dx.doi.org/10.3828/tpr.4.2.g0x027743vp43033

Geddes, P. (1915). *Cities in evolution: An Introduction ot the town planning Movement and to the study of Civics*, London: Williams &Norgate. URL : http://citiesinevolution00gedduoft

Genkai-Kato, M. (2007). Regime shifts: catastrophic responses of ecosystems to human impacts, *Ecological Research,* 22(2), 214-219. https://doi.org/1007/s11284-0060304-5

Gilbert, S.W. (2010). *Disaster Resilience: A Guide to the Literature*, U.S. Department of Commerce, National Institute of Standards and Technology, NIST Special Publication 1117

Greene, R.R. (2002). *Resiliency: An integrated approach to practice, policy, and research*. Washington, DC: National Association of Social Workers Press.

Gunderson, L.H. (2000). Ecological Resilience—In Theory and Application, *Annual Review of Ecology and Systematics* 31 (1), 425–39. (online) URL: https://doi.org/10.1146/annurev.ecolsys.31.1.425

Gunderson, L. H., and Holling, C.S.(eds.) (2002). *Panarchy: Understanding Transformations in Human and Natural Systems*, Island Press.

Gunderson, L.H. (2009). Comparing Ecological and Human Community Resilience, CARRI Research Report 5. Retrieved from URL: https://www.jstor.org/stable/26268155

Holling, C.S and Goldberg, M.A. (1971). Ecology and Planning, *Journal of the American Institute of Planners*, 34(4), 221-230. https://doi.org/10.1080/01944367108977962.

Holling, C.S., (1973). Resilience and Stability of Ecological Systems, *Annual Review of Ecology and Systematics*, 4, 1-23. https://doi.org/10.1146/annurev.es.04.110173.000245

Holling, C. S., and Gunderson L. H. (2002). Resilience and adaptive cycles. Pages 25-62 *in* L. H. Gunderson and C. S. Holling, editors. *Panarchy: understanding transformations in human and natural systems,* Island Press, Washington, D.C., USA.

Howard, E., 1898. *Garden Cities of Tomorrow: a peaceful path to read reform*, London, Faber and Faber (Reprinted, edited with a preface by Osborn F.J [1902] and Introduced essay by Mumford L. [London: Faber and Faber, 1946, 50-57, 138-147).

Kahan, J., Allen, A., George, J. , and Thompson, G. (2009). An Operational Framework for Resilience, *Journal of Homeland Security and Emergency Management,* 6 (1), 1–48. https://doi.org/10.2202/1547-7355.1675 .

K'Akumu, O.A. (2007). Sustainability implications of the ecological conceptualisation of urban development, *City*,11(2), 221-228. https://doi.org/10.1080/13604810701395829 .

Klein, R. J. T., Nicholls, R. J., and Thomalla, F. (2003). Resilience to natural hazards: How useful is this concept? *Global Environmental Change Part B: Environmental Hazards, 5*(1-2), 35-45. https://doi.org/10/1016/j.hazards.2004.02.001

Kurokaw, K. (1998*). From The Machine Age To The Age Of Life*, Book Art Ltd.

Laboy, M. and Fannon, D. (2016). Resilience Theory and Praxis: a Critical Framework for Architecture, *Enquiry,* 13 (1), 39-52. https://doi.org/10.17831/enq:arcc.v13:2.405

Le corbusier (1933, 1964), *The Radiant City*, London, Faber and Faber.

Ledesma , J. (2014). Conceptual Frameworks and Research Models on Resilience In Leadership, *Sage Open*, 1-8. https://doi.org/10.1177/2158244014545464.

Levin, S. A. (1998). Ecosystems and the biosphere as complex adaptive systems, *Ecosystems* 1:431-436. https://doi.org/1007/5100219900037.

Levin S. A. (1999). Fragile Dominion: Complexity and the Commons.Reading (MA): Perseus Books.

Longstaff, P.H., Armstrong, N.J., Perrin, K., Parker, W.M, and. Hidek, M.A, (2010). Building Resilient Communities: A Preliminary Framework for Assessment, *Homeland Security Affairs,* 6(3), 1-23. URL: https://www.hsaj.orglarticles/81 .

Mehaffy, M. and Salingaros, N.A., (undated). What Does "Resilience" Have to Do With Architecture?. Retrieved from URL: https://www.metropolismag.com

Miller, D.L. (1989). *Lewis Mumford: A Life*, New York: Weidenfeld &Nicolson.

Morrish J. (2016). Where Does the Word Resilience come from?. Retrived from URL

https://www.managementtoday.co.uk/does-word-resilience-from/any-other-business/article/1401232

Mumford, L. (1961). *The City in History: Its Origins, Its Transformations and Its Prospects*, Harcourt, Brace and World.

Nash, K.l, Allen, C.R., Angeler, D.G., Barichievy, C., and Eason, T. (2014). Discontinuities, cross-scale patterns, and the organization of ecosystems, *Ecology*, 95(3), 654-667. https://doi.org/10.1890/13-1315.1

Random House Kernerman Webster's College Dictionary, (2010) K Dictionaries Ltd. Copyright 2005, 1997, 1991 by Random House, Inc.

Rocha, J.C, Peterson, G. and Biggs, R. (2014). Regime shifts in Anthropocene: Drivers, Riks and Resilience, PLoS ONE, 10(8)e013 4639. https://doi.org/10.1371/journal.pone.0134639

Samaniego H., and Moses, M.E. (2008). Cities as organisms: Algometric scaling of urban road networks, *Journal of Transport and Land Use,* 1(1), 21–39. https://dx.doi.org/10.5198/itlu.v1i1.29

Scheffer, M., Carpenter, S., Foley, J.A., Folke, C. and Walker, B. (2001). Catastrophic shifts in ecosystems, *Nature*, 413, 591–596. https://doi.org/10.38/35098000

Schilders, P. (2001). The Organic City: Method or Metaphor? The Meaning of 'Organic' in Architecture and Urban Planning, INTI. Retrieved from URL: www.newtowninstutute.org

Sdoutz, F. (2013). Architecture Theory.Net in the making Urban Garden Cities. Retrieved from URL: www.mediaarchitecture.at

Solà-Morales i Rubió, M. (1995). Terrain vagues. In C. Davidson (Ed.), *Anyplace* Vol. 1, pp. 271., New York: London: MIT Press.

Tange, K. (1960). A Plan For Tokyo 1960. Retrived from URL: http://www.archeyes.com .

Thrush, S.F., Hewitt, J. E., Dayton, P. K., Coco G., Lohrer, A. M., Norkko, A., Norkko, J., and Chiantore,M. (2009).Forecasting the limits of resilience: integrating empirical research with theory, *The Royal Society Journal*, 276, 3209–3217. https://doi.org/10.1098/rspb.2009.0661

Tierney, K., (2009). *Disaster Response: Research Findings and Their Implications for Resilience Measures*, CARRI Research Report 6. Retrieved from URL: www.resilientus.org

Zevi, B. (1950). *Towards An Organic Architecture*, Faber & Faber.

Zhao, J., Zheng, X., Dong, R. and Shao, G. (2013). The planning, construction, and management toward sustainable cities in China needs the environmental internet of things, *International Journal of Sustainable Development and World Ecology,* 20(3), 195-198. https://doi.org/10.1080/13504509.2013.784882

Walker, B. H., Holling, C. S., Carpenter, S. and Kinzig, A. (2004). Resilience, adaptability, and transformability in social-ecological systems, *Ecology and Society*, 9(2), 5. (online) URL: http://www.ecologyandsociety.org/vol9/iss2/art5/

Walker, B, and Meyers, J.A. (2004). Thresholds in ecological and social-ecological systems: a developing database, *Ecology and Society*, 9(2), 3. (online) URL: http://www.ecologyandsociety.org/vol9/iss2/art3/

Wahl, D.C. (2017). The adaptive cycle as a dynamic map for resilience thinking. Retrieved from URL: https://medium.com/age-of-awareness.

Wheeler, S. (2004). *Planning Sustainable and Livable Cities*. New York: Routledge.

Weichselgartner J., and Kelman, I. (2015). Geographies of resilience: Challenges and opportunities of a descriptive concept, *Progress in Human Geography*, 39(3). 249–267. https://doi.org/10.1177/0309132513518834

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 104– 108

Impact of A Community Place in Regards to Sustainable Design towards Decreasing Social Crime

*MA. NADEREH AFZHOOL

Faculty of Architecture, Girne American University, North Cyprus
E mail: nadreh.afjool@gmail.com

ARTICLE INFO:

Article history:
Received 9 January 2018
Accepted 23 April 2018
Available online 26 June 2018

Keywords:
Crime,
Urban Community;
Sustainable Design;
Community Place.

ABSTRACT

Human settlements have constantly provided to accommodate the wellbeing, security and the prosperity of their residents regarding plan and closeness of area to water, sustenance and other crucial assets. Safety and security have been critical issues all through history, from early ancient period to medieval and present day urban areas. In light of the populace development and quick urbanization that propels everywhere throughout the world, crime has turned out to be a standout amongst the most genuine social issues. Actually, governments and diverse specialists are attempting to vanquish this marvel by contributing a colossal measure of trade as invasive measures. Regardless, this issue is as yet uncertain as crime rates far and wide continue heightening. Dealing with and diminishing the pessimistic impacts of crime on human life will provoke more conspicuous controls and further welcome more enthusiasm of both the general population and the Community. This exploration will talk about crime and economical design concerning man and its condition with a view to decreasing the effect it has on man and nature. Designers and other design experts should mull over the encompassing condition keeping in mind the end goal to lessen. The design of structures and the game plan public offices and other outside spaces can influence the chance of crime and the level of dread of crime.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 104-108.
https://doi.org/10.25034/ijcua.2018.4687

www.ijcua.com

1. Introduction

Crime is considered to be understood as being destructive to human and it's surrounding and a lot ought to be done to handle this. (Hillier, 2005) defined a sustainable community as safe, perceives itself to be safe and is considered by others to be safe. However, both sustainability and security are two important factors to be considered during the design process. Sometimes these two elements complement each other. In light of these considerations, mitigating crime and fear of crime may improve the quality of human life (Schneider & Kitchen, 2007) which is a basic human need. Safety and security have always been major human needs throughout history.

Sustainable design has been defined as development that meets the needs of the

***Corresponding Authors:**
Faculty of Architecture, Girne American University, North Cyprus.
E-mail address: nadreh.afjool@gmail.com

present without compromising the ability of future generations to meet their own needs. The concept of sustainability presents the urgent need for radical change in man's thinking and behavior, so much so that it is termed the 'global revolution .. Sustainability is a common and a contemporary goal of many urban development policies in various countries (Chan & Lee, 2008). Sustainable development includes extensive discussions on the various levels and activities, including an international scale, regional, provincial, city, neighborhood and building scale. According to existing researches neighborhoods are the main places where people feel the lack of safety and insecurity in these areas (e.g. Abdi, 2012). An urban community place can be thought to be brimming with consumption of energy, waste creating and heat producing activities. This can be caused by high populace focus, industrialization forms, and vehicular activity clog and development operations. As per (Mabogunje, 2011), numerous nations are moving towards having 40 to 50 % of their populace living in urban communities. The high populace thickness in the city makes challenges in the parts of urban housing quality and quantity, financial and infrastructural improvement, environmental quality and in addition energy request.

2. Crime and social problem

Crime has been characterized in the Oxford English Dictionary (1989) as a demonstration deserving of law, as being illegal by statute or damaging to general society welfare; a malevolent or harmful act; an offense, a transgression, particularly of a grave character (Abdi, 2012) Therefore, it is essential to consider elective choices to take care of the current issues. There is most likely that crime is impacted by an assortment of elements, for example, monetary, social, and administrative and also physical components. In the interim, the commitment of the manufactured condition towards the diminishment of crime has gotten impressive consideration over the most recent four decades. The omnipresent issues of crime and the dread of crime keep on representing endemic issues for post-modern urban social orders. In the UK, for instance, crime has expanded all things considered by 5.1% every year since 1918 (Home Office, 1999). Despite a noteworthy descending pattern in the UK, since 1995 (Home Office, 2010), and the variety of unpleasant designs in the UK, the USA and Australia, the issue of crime remains a noteworthy worry for governments, the police, especially the counteractive action of offenses. Researching the urban community stage, where (and when) crime is found, can along these lines contribute much to our current information and comprehension of crime and aid the creation and support of more secure, energetic and more sustainability urban community. Indeed, there is a growing body of research That links urban sustainability with crime (Du Plessis, 1999; Cozens, 2002) It is increasingly recognized that a sustainable community is one that is both safe and perceived by its residents to be safe from crime. Upgrading an urban community infested with crime using sustainable design have different reactions in different neighbourhood. Figure 1 illustrates how people in crime infested places react to a new environment, mentally, socially and physically. Firstly from the physical and mental point of view there is a reduction in stress level, control in stress level, secondly from the aspect of metal health and social activity there are loads of issues such as low self-esteem or self-confidence and thirdly is the aspect of the Physical and social activity here there is a feeling of safety and a breath of positive life.

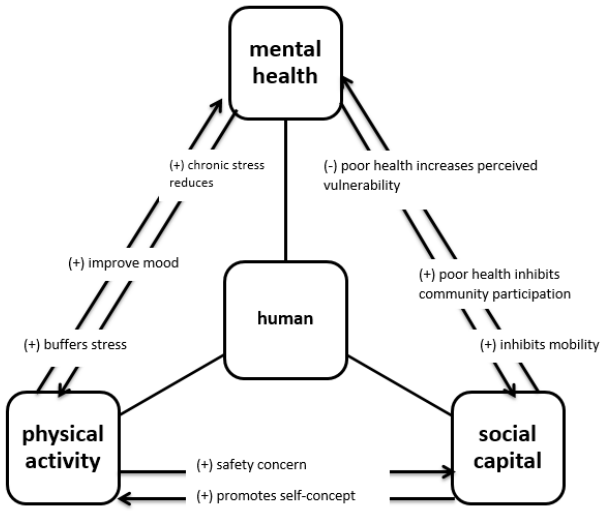


Figure 1: Reaction of upgrading an urban community infested with crime using sustainable design (designed by author).

3. An insight on Sustainable design on reducing crime rate

Sustainable design is awareness for substantial development which has come to stay, all over the world today architects, engineers and developers are generally searching for approaches to mirror their new ideas of building and particularly to design. In today's world building professionals take diverse examples that incorporate either a superior design, coordinated design, sustainable design or green building. A sustainable venture is designed, assembled, remodeled, worked on or reused in an environmental and asset proficient way (Cozens, 2002). To a vast degree sustainable design has appeared as a response to

unravelling the clear negligence for our natural and social environment and one type of sustainable design is building reuse where the exemplified vitality of the first structure is kept in place, sustainable development is an advancement that addresses the issues (such as crime) of the present without trading off the capacity of future generation to address their own issues (Mohit, 2010). It is comprehended that the prerequisite of sustainable design comes in various ways, for example, the worry for the neighborhood, the experience of happenings in the area and the necessities. The thought is to have a neighborhood that is assembled shrewdly and wisely with a specific end goal to utilize a low measure of non-sustainable power source, create little contamination and waste, and has zero crime rate, while then again it enhances and improves the wellbeing, security and welfare of the general population who live and work in a specific neighborhood. Crime has a tendency to dynamically degrade and influences the neighborhood adversely which thus makes major problem that includes lack of open space for social interaction. Sustainable design approach in present-day time has turned into a basic mission in the redesign of the weakened neighborhood, keeping in mind the end goal to distinguish the root cause of criminal activities and find sufficient solutions with the guide of the sustainable design approach.

4. Crime infested neighborhood and its impact on the community

A Crime infested neighborhood is a fabled place that negatively affects its surrounding and its inhabitants which eventually leave little or no space for growth of all sorts. A new kind of built environment with higher prospects should always be considered, which would directly affect the people who live is such environment. The problems with Crime infested neighborhoods includes external and internal factors, the external factors include corruption and unemployment in which corruption portrays the economic instability while unemployment shows the level of people that are productively active by means of the job being provided thereby showing that those that are unemployed end up becoming a boarding to the society. The internal factor is divided four, Firstly over population this show were the population is more than the available infrastructure and amenities thereby putting pressure on the infrastructure, Secondly illiteracy this show the level of education, experience and exposure, therefore people aim for a better life but with a high level of illiteracy there is no aspiration for a better life, thirdly family structure it is 0popularly said that charity begins at home so therefore the structure a family on how it runs and perceived by everybody is as important as having a stable society that aims for the best for themselves and others around, also the ability to have a good family plan in order to avoid a very high fertility rate, and finally we have recreational center (it is said that all work and no play make jack a dull boy) this helps to provide a balance in the sense that having open packs, playing ground and other social centers creates a relaxed and welcoming atmosphere All this if not properly combated will result to low or lack of safety and security of lives and property which can lead to total brake down of law and order, it also results to low or lack of social life, this is vital to the balance of human life in order to have a happier life.

Figure 2. Slum areas that can breed criminal activities in Brazil.

It is challenging enough to characterize what a Crime infested neighborhood is, but it identifies with an extensive array about the wellbeing and quality of life. Looking at urban renewal, this term is by and large used to depict a living domain involving the physical, social and economic measurement (Nieboer, 2005). In managing a Crime infested neighborhood, we can't abstain from considering nearby group communities. A few European urban regions are encountering neighborhood issues, as brought up by European-based analysts, post-war neighborhoods are physically falling apart. Various urban areas in Europe are encountering rotting forms with resemblances in factors prompting decay. A few neighborhoods are no more appealing living conditions and have lost their intensity on the city level. Structures were arranged in view of the idea of optimistic housing, which means open, well-spaced, well lighted and well-ventilated area while having a wide green area. Be that as it may, the huge accessibility of green is frequently seen by inhabitants as a positive factor.

Figure 3: Slum area transformed into a fully sustainable community place in Brazil.

The effect of neighbourhood attributes on individuals' mental change fluctuates noticeably, depending on individuals' circumstance and behaviour (Cutrona et al., 2000) A few people with especially strong identities can adapt effectively, even in unsafe and Crime infested neighbourhoods. Nonetheless, other individuals are very susceptible to depression when they live in the unfriendly environment. It might be that living in an impeded and disorderly neighborhood hinders positive thinking and replaces it with misery and negative attitude. Because of the absence of successful administration and misappropriation issues, the general nature of the neighborhood is dynamically diminishing, and a few side effects of this decline include physical disintegration and crime which in the most exceedingly terrible circumstances joins with disruptive conduct vandalism. Since organizations and institutions regularly need appropriate control, inhabitants don't feel safe in their own place and social connection gets affected (Calzolaretti, 2011; Carini et al., 1978). Notwithstanding, managing neighbourhood issues in a coordinated way, in this manner, considering social, physical and economic viewpoints isn't new. Initially, endeavors can be found around two decades back as actualized by governments and key performers to react to the expanding multifaceted nature of urban issues. Just when those activities demonstrated achievement, they swung to be regulated at higher political levels. It appears that in the mid-80s, United Kingdom, France and the Netherlands were the primary European nations actualizing incorporated urban strategies.

The physical rot of neighbourhoods is related with social conditions, for example, illness risk, poor mental wellness, and the dread of crime (Cohen, 2000). Actually, the "Chicago School" of Sociology firmly accentuated the effect of neighbourhood physical rot on health medical issues (Faris & Dunham, 1939; Park & Burgess, 1925). One examination found that a neighbourhood record measuring the quality of houses, deserted cars, spray painting, crime, and state-funded school decay clarified a greater amount of the difference in gonorrhoea rates than did a destitution list measuring salary, joblessness, and low education (Cohen et al., 2000). Neighborhood qualities impact the likelihood that individuals will shape ties with each other at the point when private turnover is high, individuals are more averse to frame connections. So also, individuals do not tend to shape connections when they live in neighborhoods high in social issue, since they mistrust their neighbors (Hill et al., 2005) Relationship disturbance may have a few distinct outcomes applicable to despondency, including lower levels of casual social control, insufficient social help, and poor family role execution. The term sustainability has turned out to be well known in policy situated research as a statement of what open policy should accomplish. The idea of sustainability was initially instituted in forestry, where it implies that the forest should not be harvested beyond what it yields (Nieboer, 2005) the word Nachhaltigkeit (the German expression for sustainability) was first utilized with this importance in 1713 (Wilderer).

5. Conclusion

It is fine to say that sustainable design plays a major role in drastically reducing crime rate, Looking at the situation at hand crime infested neighborhoods are usually neglected and usually not given much attention because it contributes in defacing and devaluing the community area. Thus more attention should be devoted in reviving a neighborhood that is obsoletely deteriorated and crime infested because if it is improved upon it would add immense value to the neighborhood and environment at large.

In a clear view of thing it has been seen that there has always been an increase in the population of a certain class of people in crime infested area such as those seeking shelter, seeking a hideout and seeking a base for criminal activities. On the other hand it has become a global issue that is constantly deliberated upon in developing countries, shown by the continues effort of the global community to provide a more sustainable environment and way of leaving. It is also known that more people are constantly migrating from rural areas to urban area with nothing in their pocket and eventually settling in an urban crime infested and deteriorated neighborhood because it is probably cheap, free or easy to access.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests
The author declares no conflict of interest.

Reference

Abdi, F. (2012). Promotion of environmental security and reduction of urban crimes with emphasis on CPTED Approach in DEHKADE FARAHZAD TEHRAN. Master dissertation. *Iran University of Science and Technology School of Architecture and Environmental Design* https://www.sciencedirect.com/science/article/pii/S1877042815048429

Assauer, J.l., Opdam, P. (2008). Design in science: *extending the landscape ecology paradigm. LandscapeEcol.23,633–644.* https://doi.org/10.1007/s10980-008-9226-7

Calzolaretti, M., (2011) La Rigenerazione Dei Quartieri Di Edilizia Residenziale Pubblica: Il Caso Di Tor Bella Monaca. Ar Bimestrale Dell'ordine Degli Architetti DI ROMA E PROVINCIA. . *Ordine degli Architetti di Roma e Provincia.* http://www.tafterjournal.it/2011/10/04/inspiring-principles-for-liveable-and-sustainable-residential-neighbourhoods.pdf

Chan and Lee, Chan, E.H.W. & Lee, G.K.L. (2008). *A sustainability evaluation of government-led urban renewal projects. Journal of Facilities, 26(13), 526 – 541.* https://doi.org/10.1108/02632770810914280

Cozens, P. (2002) Sustainable urban development and crime prevention through environmental design for the British city; towards an effective urban environmentalism for the 21st century, Cities: *The International Journal of Urban Policy and Planning, 19(2),pp.129–137.* https://doi.org/10.1016/s0264-2751(02)00008-2

Cutrona., (2000). Family Support: Direction from Diversity https://books.google.com.cy/books?hl=en&lr=&id=vH59Vyjpgv4C&oi=fnd&pg=PA103&dq=Cutrona+et+al.,+2000)&ots=Vd92KhEz47&sig=h8EkC2Rqx_WCiMF31ZDlD0qTUsg&redir_esc=y#v=onepage&q&f=false

Cohen, (2000). Specificity and mechanism of action of some commonly used protein kinase inhibitors Stephen http://www.biochemj.org/content/351/1/95.full-text.pdf

Crowe, T. D. (1991). Crime Prevention through Environmental Design: *Applications of Architectural Design and Space Management Concepts, Boston: Butterworth-Heinemann* https://books.google.com.cy/books?isbn=0124116337

Du Plessis, C. (1999) The links between crime prevention and sustainable development, *Open House International, 24(1), pp. 33–40* www.scirp.org/(S(i43dyn45teexjx455qlt3d2q))/reference/ReferencesPapers.aspx?

Faris & Dunham, Park & Burgess, (1925). Overall "Sense of Community" in a Suburban Region *The Effects of Localism, Privacy, and Urbanization* http://journals.sagepub.com/doi/abs/10.1177/0013916596281002

Harold Hotelling (1931), "The Economics of Exhaustible Resources," *Journal of Political Economy 39,no.2*137-175. https://doi.org/10.1086/254195

Hillier, B. & Sahbaz, O. (2005) High resolution analysis of crime patterns in urban street networks: An initial statistical sketch from an ongoing study of a London borough, in*: A. Van Nes (Ed.), Proceedings of the Space Syntax 5th International Symposium, Delft. Available at* http://www.spacesyntax.tudelft.nl/media/Long%20papers%20I/hilliersahbaz.pdf (accessed 25 January 2008).

Home Office (1999) Digest 4: Information on the criminal justice system in England and Wales, in: G. Barclay & C. Tavares (Eds) Home Office Research, Development and Statistics Directorate (London: Crown Copyright). https://www.ncjrs.gov/pdffiles1/Digitization/133730NCJRS.pdf

Home Office (2010) Home Office statistical bulletin. *Crime in England and Wales 2009/2010 Findings from the British Crime Survey and police recorded crime, ed. J. Flatley, C. Kershaw, K. Smith, R. Chaplin & D. Moon (London: Home Office).* https://doi.org/10.1037/e511902010-001

Mohit, M.A. & Hannan, M.H.E. (2010). Crime and Housing in Malaysia: Case Study of Taman Melati Terrace Housing in Kuala Lumpur, *Asian Journal of Environment-Behaviour Studies, 1 (3), 25-36.* https://doi.org/10.21834/aje-bs.v2i2.177

Mabogunje, (2011).Akinlawon Mabogunje. published in Nigeria by bookbuilders. https://books.google.com.cy/books?id=aMSDDAAAQBAJ&pg=PR3&lpg=PR3&dq=Mabogunje+(2011)&source=bl&ots=zxKy2nmvoX&sig=RF_CHoyrkKELjHJgt7N4PufPm04&hl=en&sa=X&redir_esc=y#v=onepage&q=Mabogunje%20(2011)&f=false

Nieboer, A. P. (2005), Life-events and Well-being: *A Prospective Study on Changes in Well-being of Elderly People due to a Serious Illness Event or Death of the Spouse Thesis Publishers Amsterdam* https://www.rug.nl/research/portal/files/3222909/File0168.PDF

U.S. Green Building council. (2003). Public Buildings Service Office of Building Technologies Center for Architecture, Engineering Federal Energy Management Program and Urban Development Energy Efficiency & Renewable Energy https://www.usgbc.org/articles/part-2-green-building-explosion-2003-2009

Schneider, R. & Kitchen, T. (2007) *Crime prevention and the built environment (London: Routledge)* https://doi.org/10.4324/9780203098813 .

Wilderer PA, Wilderer MC (2005) On the role engineers may play in the attempt to meet basic demands of man and nature In: *Wiley, Weinheim, https://doi.org/10.1002/3527604251.ch15*

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 109–120

Effects of Architectural and Urban Design Project Competitions on Built Environment and New Discourses Brought Thereby

* M.Sc OSMAN UMIT SIREL [1], Dr. AYSE SIREL [2], M.Sc BURAK TURSOY [3]

[1] *Bahçeşehir University, Faculty of Architecture and Design, Istanbul, Turkey*
[2] *İstanbul Aydın University, Faculty of Architecture and Design, Istanbul, Turkey*
[3]Eastern Mediterranean University, Faculty of Architecture, Famagusta, Cyprus
[1]Email: umitsirel@yahoo.com [2]Email: aysesirel@aydin.edu.tr [3]Email: buraktursoy@gmail.com

ARTICLEINFO:

Article history:
Received 08 January 2018
Accepted 13 April 2018
Available online 03 July 2018

Keywords:
Competition;
Culture of Competition;
Architectural Design;
Built Environment;
Urban Design.

ABSTRACT

Competition system is considered to be the most objective project selection method in a country's architectural and urbanism organization and is a mechanism which promotes professional creativity. Both national and international competitions have a significant potential in terms of providing knowledge and accumulation to contemporary architecture history. It is stated by the studies conducted on design competitions that while competitions contribute to the architecture environment of the country where they are held, they also provide opportunity for monitoring the architecture and accordingly changing discourse of the environment. The aim of competitions is to obtain "the best project" for a building or building group or a specific area, designs of which are predetermined. Furthermore, it has been stated that competitions are one of the methods to obtain qualified buildings and environments in Turkey, there are problems in their being sufficiently developing, leading and raising awareness. The reasons why there are still a few qualified buildings (besides exceptions) have been stressed. Recommendations as to institutions organizing design competitions, creation of specifications for design competitions and establishment of jury in design competitions have been offered for eliminating issues in design competitions.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 109-120.
https://doi.org/10.25034/ijcua.2018.4688

www.ijcua.com

1. Introduction

Design competitions, results of which are anticipated with anxiety, are conducted in numerous countries with an eye to select the best in their disciplines. Both national and international competitions have a significant potential in terms of providing knowledge and accumulation to contemporary architecture history. It is stated by the studies conducted on design competitions that while competitions contribute to the architectural environment of the country where they are held, they also

***Corresponding Author:**
Bahçeşehir University, Faculty of Architecture and Design, Istanbul, Turkey.
E-mail address: umitsirel@yahoo.com

provide opportunity for monitoring the architecture and accordingly changing discourse of the environment. Sure enough, considering the remarkable buildings of the second half of the 20th century, the project competitions and the competition colloquiums as regards the cited buildings are observed to have significant influences on architectural and urban environment in terms of theoretical discussions and innovations.

Objective, nature and achievements of the project competitions are discussed primarily in the study. In this context the buildings which have been built by competitions and which are known as the important examples of the architectural history of Turkey and the world have been examined by taking their periods into consideration. The importance of competition models in the European and Nordic countries where new and different discourses are brought forward, extreme points of design are questioned and criticizing and groundbreaking unique products are revealed are underlined. On the other hand, it has been stated that competitions are one of the methods to obtain qualified buildings and environments in Turkey, there are problems in their being sufficiently developing, leading and raising awareness. Recommendations as to institutions organizing design competitions, creation of specifications for design competitions and establishment of jury in design competitions have been offered for eliminating issues in design competitions.

1. Objective of the study

The objective of this study is to determine the effects of new ideas, technologies and talents brought forward through the architectural and urban design project competitions on the built environment. Contributions of competitions made in the U.S.A., some European countries and Turkey and the applications obtained by such competitions on architecture and urban environment obtained within this framework have been explained.

2. Architectural and Urban Design Project Competitions and Achievements

Different definitions of project competitions are available in different sources. According to the "International Union of Architect / UIA" regulations which are valid in international projects, competitions are held in order to find the best solution among many designs and ensure that the designer is included in the process during the application phase of the project (UIA, 2000). SAFA, the Finnish Architects Association, which is highly experienced in competitions, defines competition as a method of obtaining the most important projects which is focused on quality and developing the fine skills of the profession and which contributes to the beauty of the built environment for a democratic society. Competitions are regarded as opportunities for professionals to train themselves more, test new theories and improve their skills. It is stated that competitions provide learning experience to participants of the competition during the competition process by virtue of evaluation alternatives from different points (URL 1). The concept of competition in Turkey is defined as "an organization necessary for the realization of a subject related to architecture, landscape architecture, engineering, urban design projects, urban and regional planning and fine art works ... " (Regulation on Architecture, Landscape Architecture, Engineering, Urban Design Projects, Urban and Regional Planning and Fine Arts Competitions", 2004).

As it can be understood from the definitions, a competition is aimed to obtain the "best project" for a specified building or built environment or for a specific area. Competition system is the most objective system in selection of architectural, urban design and urban planning projects. It is a mechanism which establishes the society's connection with architecture and which promotes professional creativity. At the same time, competitions are important tools for drawing attention to how effective the role of designers (architect, urban designer, landscape architect) is in the development of society (Rönn, 2009).

A competition is a platform where a tool and new ideas are produced, new arguments are put forward and the most extreme ideas are questioned in order to obtain a design. The achievements of competitions, in this context, can be summarized as follows:

- Encouraging fine arts and architecture,
- Selection of a qualified project in line with the architectural and urbanism approach of our day,

- Contribution to the development of urban texture by virtue of application of qualified projects,
- Contributing to the development of the architectural and urban environment thanks to their educational and developmental aspects,
- Encouraging designers for new quests and researches and educating them,
- Ensuring designers to be able to see the projects together and have a chance to compare them,
- To bring different architectural-urbanism approaches together on a common platform by virtue of international competitions and cause designers to think in universal dimensions,
- Determination of talented young designers,
- Creating new business areas by giving the chance of application to the winning designers and
- Assuming an important role in the development of architecture and urbanism in the country thanks to the idea archive that created thereby as well as its means of accumulating knowledge to new generations.

4. Design Competitions in the World and Turkey and New Discourses Brought Thereby

4.1 Design Competitions in the World and Important Buildings

The first registered competition in history which has directed the world architecture was carried out for Acropolis which was elected and applied by the people of Athens to symbolize the end of Persian wars in 448 B.C. This is followed by the competition organized in 1419 for designing the dome of the Cathedral of Florence. The competition which Filippo Brunelleschi won is considered as the first product of the Renaissance (Şentek, 2013) The approach of obtaining the best project by virtue of competitions has been often practiced in the U.S.A. and Europe as from the 19th century and there are numerous buildings constructed by means of competition. The rate of constructing buildings by means of competitions in Europe is more widespread compared to the United States. This fact is based on two factors. The first factor is the different approach to architecture while the second one is the nature of the institutions which conduct the contests. In the United States, the architectural bureaus consider the issue as being large capitalist investor organizations, while artistic approaches are applied by small-scale architectural bureaus operating in Europe (Akansel, 2003). Another factor is "the European Union's European Competition Regulations" is. According to the regulation which has came into force in 1992, it is obligatory to obtain projects of large-cost public investments by virtue of competitions. Furthermore, the manual prepared by American Institute of Architects (AIA) on architectural design competitions directs employers to competition while referring to the neutral position of AIA as a professional organization during the process at the same time (AIA, 2011; Şentek, 2013), (URL 2).

Germany is an exemplary country in terms of competitions. Competition rules were set in 1867 in Germany. Projects of all public buildings are obtained through competitions thanks to the tradition of competitions dating back to 1870s. "German Competition Principles and Directives Applied for the Fields of Physical Planning, Urbanism and Architecture/GRW 1995" defines competition as; "not only the best design concept but also the project owner who will implemented the project by developing at a later stage is obtained by virtue of intensive works performed by transparent methods through an impartial jury" (Özbay, 2003).The fact that nearly 35 competitions are organized each month in Germany is an important indicator in determining the level of urbanism and architecture, and professional development of the country. Wettbewerbe Aktuell (WA) publishing competition projects periodically since 1980, is Germany's most prestigious competition magazine (URL 3).

There are also laws in France and Spain to build all public buildings by virtue of design competitions. The giant projects obtained by national and international competitions in France draws attention of both French and the world people. Competition rules were set in 1872 in England through the Royal Institute of British Architects (RIBA). The Finnish Architects Union (SAFA), founded in Finland in 1919, created the "Board of Competitions" in 1947 (URL 4). The mentioned board is obliged to submit the most accurate information to the competitors and write the specifications. In Finland, the buildings obtained through competitions held by the state as well as private firms, are among the important world examples. It can be seen that the rules to be applied in design competitions were set by the regulations in

the 19th century in European and Nordic countries as well as in America. The projects selected and applied by virtue of the competition projects have created a database reflecting the architectural and urbanism approach of that period they have been made in (idea archive) and have played a significant role in the development of those country's architecture and urbanism.
The selected buildings obtained through competitions and known as important examples of architecture and urbanism history by the innovations they have brought and the countries where they are located in are mentioned in the following tables (Tables 1 to 5).

Table 1. Selected competition examples from the U.K

ENGLAND	BUILDING	PHOTO	YEAR	PART.	WINNER ARCHITECT	INNOVATION
London	British Parliament Building		1835	97	Charles Barry, Augustus Welby Northmore Pugin	Architect Barry, who has adopted the classical style in general, has tried the Gothic style, the most appropriate national English style of the time in this contest
London	Crystal Palace		1854	233	Joseph Paxton	The building has become the first example of glass facade applications. All components of the construction have been manufactured industrially and assembled on site through utilization of prefabrication method.
Wales	Cardiff Parliament Building		1998	55	Richard Rogers	The building has expressed democratic values of "openness and participation" thanks to its transparent architecture while becoming an example for new public buildings in England.

Table 2. Selected competition examples from Germany

ALMANYA	BUILDING	PHOTO	YEAR	PART.	WINNER ARCHITECT	INNOVATION
Berlin	Reichstag / Parliament Building		1872 /1992	14	Paul Wallot / Norman Foster	The glass dome attached built on the Reichstag after the unification of Germany, expresses the 21st century's understanding of democracy and freedom. It is a spatial design of the"individual-public-city" trio in the abstract sense.
Berlin	Berlin Philharmonic Concert Hall		1960		Hans Scharoun	It is considered as one of the masterpieces of expressionist modernism thanks to the originality, dynamism and sculptural mass thereof.
Stuttgart	Art Museum		1989		James Stirling	It is one of the most successful examples of postmodern approach.
Berlin	Jewish Museum		1989	165	Daniel Libeskind	It is important in terms of adoption of deconstructivist movement in Europe.
Frankfurt	Commerzbank Tower		1991		Norman Foster	It is one of the world's rare smart buildings. It has pioneered the development of environmentally sensitive ecological structures in Europe.
Berlin	Postdam Square Urban Transformation Project		1991	16	Master: Hilmer-Sattler/Kollhof-Piano-Rogers-Moneo-İzosaki	Private sector managed leadership model has been chosen as the organizational model. The public has undertaken the role of directing and supervising while professional chambers-non-governmental organizations have undertaken the role of acting as representatives of the public.
Wolfsburg	Phaeno Science Center		2000		Zaha Hadid	It has been designed in deconstructivist style with the dynamic, ambitious and intriguing sculptural appearance thereof.

Table 3. Selected competition examples from France

FRANCE	BUILDING	PHOTO	YEAR	PART.	WINNER ARCHITECT	INNOVATION
Paris	Paris Opera House		1861	171	Charles Garnier	The building bearing the traces of French and Italian Renaissance in Neo-Baroque style has pioneered the emergence of Neo movements.
Paris	Pompidou Cultural Center and Museum		1970	681	Renzo Piano ve Richard Rogers	It has a special place in architecture history due to its being shown as a prototype of 'high-tech' movement.
Paris	La Grande Arche		1982	424	Johan Otto von Spreckelsen	The building, constructed within the scope of the "big projects" approach of President François itterand, is expressed as the power demonstration of the government in architectural language.
Paris	Parc de la Villette		1982	471	Bernard Tschumi	It has provided a brand new perspective to the urban park concept. It is the park with the largest landscape plan of Paris.

Table 4. Selected competition examples from Finland

FINLAND	BUILDING	PHOTO	YEAR	PART.	WINNER ARCHITECT	INNOVATION
Helsinki	Finland Bank		1876		Ludvig Bohnstedt	The building has been constructed subsequent to the first architectural competition conducted in Finland.
Helsinki	Central Station		1904	21	Eliel Saarinen	The building has brought to the agenda the request for designing large public buildings in modern style.
Helsinki	Kiasma Contemporary Arts Museum		1992	616	Steven Holl	The building, representing the uniqueness of art, received the AIA award in 1999.
Helsinki	South Port of Helsinki		2012	201	Boegbeeld, Meren syleily, Stadi terassi and Tori	The competition is considered important in terms of its being an example of the concept of "participatory design".

Table 5. Selected competition examples from Austria, Australia and Sweden

PLACE	BUILDING	PHOTO	YEAR	PART.	WINNER ARCHITECT	INNOVATION
AUSTRIA / Vienna	Austrian Post Office Savings Bank		1903	32	Otto Wagner	The building in which steel and glass was used for the first time and in which ornamentations were not used is one of the buildings which have guided the 20th century's modern architecture.
AUSTRALIA / Sydney	Sydney Opera House		1956	233	Jørn Utzon	The building completed in 17 years despite the high cost and design problems thereof has been included in the world heritage list in 2007.
SWEDEN / Stockholm	Stockholm Public Library		2006	1170 /6 teams	Heike Hanada	The project for the old Stockholm Public Library designed in 1928 by G. Asplund having an original architectural value, has been chosen as a result of a competition having the highest number of participants.

Issues such as the conditions in which the designs are prepared, the place of the designs in social, political and cultural contexts specific to that place and the actors of the competitions and significant effects of discussions made on these issues on the architectural and urban environment of the country have been observed in the examined world samples of competition projects.

4.2 Design Competitions and Important Buildings in Turkey

Obtaining architectural projects, through competitions in Turkey, dates back to 1860s. The first competition held in Turkey was the project competition organized in 1867 for the summer residence of the British embassy in Tarabya district (Cezzar, 1991). The competition had to be conducted in the UK because conditions for opening a competition in Turkey were not suitable in that period, however there is no information on whether the winning project was implemented or not. This competition was followed by the Turkish-German Friendship Foundation Competition held in 1916. The project of Bestelmeyer's project from Germany which won the 1st prize in the competition could not be applied due to the outbreak of World War 1 (Figure 1). Paul Bonatz, one of the participants of this competition among other participants such as Martin Elaesser, Teodor Fisher, Hans Poelzig and Bruno Tau (one of the important names of modern architecture), later served in Turkey (Özkan, 1995).

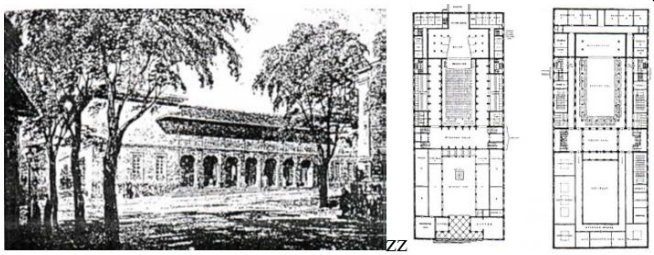


Figure 1. First Prize for House of German-Turkish Friendship

Project competitions in Turkey have undergone significant changes periodically in parallel with the political and social developments of Turkey. In this context the process of competitions in Turkey from the establishment of the Republic until present was examined in four periods.

1930- 1950: Beginning Period of the Competitions

The principle of taking the modern cities of Europe as model and thus achieving the level of contemporary civilizations was adopted in the development of cities within the newly established Republic of Turkey in this period. Architectural project competitions organized for the prestigious public buildings of the newly established state has become a means of expressing the ideals of the state while also being an important means of directing designers. Initially important public buildings were designed through "international competitions" and by virtue of foreign architects. Subsequently, important buildings and urban areas started to be projected through "national competitions" upon the successes of the Turkish architects in the later periods. The most important approach of the period was the desire of spreading the architectural culture throughout the country by virtue of competitions (Özbay, 1993). Outstanding projects of this period are specified below.

Table 6. Selected competition examples of 1930-1950 period

TURKEY (1930-1950)	BUILDING	PHOTO	YEAR	PART.	WINNER ARCHITECT	INNOVATION
Ankara	Exhibition House		1933	26	Şevki Balmumcu	This building represents the modernist style of the period. It is considered as Ankara's architectural and cultural icon. It has become an important reference point in the success of Turkish architects against foreign architects.
Ankara	Grand National Assembly of Turkey		1937	14	Clemens Holzmeister	The building symbolizing the power of the Turkish Republic is considered a milestone in the Turkish architectural line evolving from modernism to nationalism (Neoclassical).
Ankara	Mausoleum of Mustafa Kemal Atatürk		1941	49	Emin Onat, Orhan Arda	The victory of Turkish architect with the design in the neo-classical style thereof reveals the importance of architectural project competitions in the struggle given by Turkish architects against foreign architects.

1950-1980: Modernism Period / New Life and Culture of Architecture

Since the 1950s, the effects of the National Architecture movement began to weaken subsequent to beginning of transfer of the developments in the world architecture gradually to Turkey. After smoothing the way for liberal economy, the private sector began to be included in the architectural environment which was determined publicly until then. The architectural environment began to change in line with the quest for new architectural forms and technical possibilities, (Batur, 1983; Sözen, 1996), (URL 5). Regulations as regards of competitions were put into effect in 1952 under the "Regulation on Architectural and Urbanism Competitions" issued by the Ministry of Public Works and Settlement. Project contests, especially for public affairs within the new regulations encouraged the establishment and development of private sector architectural firms. Meanwhile, establishment of the Chamber of Architects made an important contribution to the institutionalization of project competitions.

Cultural liberalism showed itself in theory and practice of architecture in Turkey in 1960s. The efficiency of trade associations and universities also increased in this period. Ministry of Public Works played a decisive role in project competitions, and "regional planning" and "urban planning" disciplines started to gain effectiveness thanks to the establishment of new institutions such as the State Planning Organization. Urban planning and design, which was previously the subject of architecture, became multidisciplinary (Aygün, 2004), (URL 6). İller Bankası (the bank of provinces) contributed to the development of the scientific content of urban planning by virtue of the zoning plan competitions organized for big cities. As it can be seen, the greatest works were carried out by the public and through competitions in the years 1950-60. Competitions opened during this period became a main activity area for private sector architectural firms and were defined as "school environments" providing a second chance of education to Turkish architects (Tekeli, 1998).

Some restrictions were imposed to competitions in the 1970s due to Turkey's economic conditions. (Such as making the size of windows smaller in order to save energy, preferring cheaper materials and using sloping roofs instead of flat roofs). An approach of preferring ordinary designs instead of innovative designs began to emerge with the foregoing restrictions. The language of modern architecture became neoclassic and architecture was reduced to ordinary project types through ministerial competitions (Balamir, 2003).

Important projects of this period are specified below.

Table 7. Selected competition examples of 1950-1980 period

TURKEY (1950-1980)	BUILDING	PHOTO	YEAR	PART.	WINNER ARCHITECT	INNOVATION
İstanbul	İstanbul Justice Palace		1948	37	Sedad Hakkı Eldem, Emin Onat	The project of the structure has pioneered the concept of "midway modernist" (between neoclassical and modern architecture) design with functional planning approach and simplicity thereof.
İstanbul	İstanbul City Hall		1953	28	Nevzat Erol	It is the first "native" example of International Style in architecture.
Ankara	Middle East Technical University Ankara Campus		1961	55	Behruz Çinici, Altuğ Çinici	architecture. "Béton brut technique" has been developed here for the first time in Turkey. Precast concrete, plexiglass and plastic industries have also been encouraged.
Ankara	Stad Hotel		1964	55	Doğan Tekeli, Sami Sisa, Metin Hepgüler	It is one of the most qualified applications of brutalism. It has become one of the pioneer buildings of the period with the use of gross concrete in addition to its success in mass plastics.
Konya	Central Bank of the Republic of Turkey		1976	5	Coşkun Erkal, Filiz Erkal	The structure, which has original modern lines, enriches to the region with its different architectural facade in the historical texture surrounding it.

1980-2000: Neo-Liberal Political Period

A process in which the social interventions of the state decreased while the powers and responsibilities of local governments increased began subsequent to the application of neo-liberal policies at the end of the 1970s (Şahin, 2010). Effectiveness of professional organizations and universities decreased in this period when the country's architectural environment was affected (Bozdoğan, 1998). The planned development process was neglected and the discourses of modernization began to be abandoned during the 1980s. The invited/restricted competitions organized by the private sector in line with neo-liberal policies led to a turning point. While "modern" style was abandoned in architecture, "postmodern" designs began to emerge also in competitions. The urban design phenomenon gained significance in these periods by virtue of competitions. The "Urban Design" concept was used for the first time in the competition platform in Turkey in 1981 by the "Eskişehir Fair and Entertainment Culture and Leisure Areas Urban Design" competition (Çimen, 2013).

The trend named New Modernism and expressed by a simple and geometric language is observed in project competitions organized in the second half of the 1990s and in the 2000s. A significant decrease was observed in the number of competitions in the 1990s, with termination of the task of the Ministry of Public Works and the Ministry of the Presidency on this issue. 6 competitions were organized each year in average between 1990 and 2002. It is observed these values, compared with Germany (300-500 per year, 30-35 per month) are inadequate. Selected important projects of this period are specified below.

Table 8. Selected competition examples of 1980-2000 period

TURKEY (1980-2000)	BUILDING	PHOTO	YEAR	PART.	WINNER ARCHITECT	INNOVATION
Eskişehir	Eskişehir Fair and Entertainment Culture and Leisure Areas Urban Design		1981	43	Cengiz Eren, Canan Erselçuk	The "Urban Design" concept was used for the first time in Turkey. The competition pioneered many urban design competitions which were organized subsequent thereto.
Ankara	Halk Bank Headquarters Building		1983	5	Doğan Tekeli, Sami Sisa	The building has been symbolized by turning it into a concrete city gate in line with the high block approach brought by the function.
Muğla	Muğla Dalaman Airport's International Terminal		1999	96	Emre Arolat, Bünyamin Derman	The building represents the integration power of Turkey's architectural environment with its new design which is also called Neomodernism.

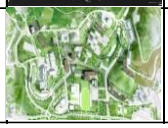
Post 2000: Changing World Conditions and Globalization

The 2000s in which the political and social buildings have entered into a reorganization process in line with the changing world conditions have revealed the need for discussing the architectural environment and occupational problems in Turkey. In this context, "The Regulation on Architecture, Landscape Architecture, Engineering, Urban Design Projects, Urban and Regional Planning and Fine Arts Competitions" entered into force in 2002 to regulate the principles and procedures related to competitions. This regulation, which covers defining the competitors, professional chambers and the rights and authorities of the project owners, has become a legal tool which all public institutions and organizations have to comply with during the competition process.

The 2000s have become the years in which the content and presentation of competition projects have changed due to the impact of globalization. The development of modeling (simulation) technologies in the design process has caused the creation of a virtual design process. The content presentation of the competition projects have become impossible to be dealt with separately from the utilization of technology. The use of appealing demonstrations incompatible with human perception in the projects submitted to the competition in recent years, has made the competition juries to make choices by being affected through the presentations rather than the ideas (Şahin, 2010). The importance of "image" instead of "solving problems in designs" has made the competitions a tool of the production and selection of the images. "Image" causes production of exciting projects, but the

selected projects are not implemented due to the inadequacy of construction standards and the tender regulations. The economic dimension of the competition has increased too much. This has reduced both participation in the competition and inexperienced jury members have made selections of by being affected from presentations rather than ideas, and numerous quality projects have been overlooked (Özbay, 2013). Selected important projects of this period are specified below.

Table 9. Selected competition examples of post 2000 period

TURKEY (Post 2000)	BUILDING	PHOTO	YEAR	PART.	WINNER ARCHITECT	INNOVATION
İzmit	Izmit Coastal Area Urban Design Project		2010	49	E. Garip, B. Garip, A.Ö. Albayrak, K. Özaydın	Condition of presence of at least one architect, one city planner and one landscape architect was stipulated. Three landscape architects were included in the jury of the competition.
İzmir	Izmir Metropolitan Municipality Opera House		2010	177	M. Kütükçüoğlu, E. Uçar, M. Üçer, O. Akın, C. Bilgin	Location context was emphasized on coast-public space-structure relation culture and art was symbolized by architecture
İstanbul	Yenikapı Transfer Point and Archeopark Area Project		2012	9	C. Bozkurt, Atelye 70, Aytaç Architects/ Foreign Partners	together different transportation alternatives. An Archeopark Area has been established after the archaeological findings. The project has been discussed in terms of its organization and
Düzce	Düzce University Konuralp Campus Development Plan		2015	56	D. Kaptan, S. Uğurlu, S. Kurt, O. Tabanoğlu, E. Göray, A. Köksal	The University is considered important in terms of addressing campus plans as a whole and in line with sustainability principles and setting an example for other university campuses.

5. Problems of Design Competitions' in Turkey

Although the competitions in Turkey are one of the methods to obtain qualified building and environments, there are certain problems in creating awareness. The number of competitions is still low although they are organized since 1930's. Many of the designs obtained by competitions organized at various fields have not had the chance to be applied. The failure to implement these projects, which may lead to significant changes in the environment, requires re-questioning what the meaning is for not only the designers but also the institutions which organize such competitions (Şahin, 2003). On the other hand; it raises questions that competitions which are accepted as the most democratic project selection method, are sometimes used as a tool by the governments to make legitimate the project they want to have. The basic problems in design competitions in Turkey can be stated to be as to institution organizing the competition, formation and working of the jury, creation of the specification and the competitors. Expected results cannot be received from competitions due to problems listed as follows:

The Competition Authority

- Institution organizing the competition cannot correctly determine the way and objectives of the competition,
- Investments allocated to the competition projects are postponed or canceled due to the economic inadequacies of the institutions,
- Loss of time and money based on the fact that many of the winning competition projects including large-scale work in architectural and urban design type cannot be implemented by municipalities or ministries,
- Announcements cannot be made openly to everyone due to limited of the competitions organized by the private sector,
- Deficiencies in the arrangement of the colloquiums organized at the end of the competitions and in the exhibition of the projects. Lack of debates with high level to make the designer group and audience (local people) take action.
- Failure to create a "user participation" organization during the design and

construction stages. The lack of sharing of project selection and the competition results and the place with the users (for example, making the final selection by the jury members by allowing the participation of the local people as in the Helsinki Harbor Competition and the Toronto Coastal Arrangement Competition).

Formation and Working of the Jury:

- The prerequisite for obtaining qualified environment and buildings through competitions is "qualified and competent jury". The identity of a jury member in a competition is critical. There are shortcomings in the criteria in creation of the jury lists specified in Article 19 of the Regulation on Competitions in Turkey. Although the aforementioned criteria are necessary; it is criticized that the persons who are accepted by the professional communities in terms of honesty, transparency and proven design ability are not included in the juries sufficiently.
- Failures as to ensuring the determination ways and objectives of competitions correctly of which the jury member is responsible , forming the requirement program, controlling of the functional areas, determination of the requirements correctly, ensuring compliance with the competition regulations, making the control of the booklet and the documentation to be given to the competitor, giving importance to the question and answer phase and issues of continuity, seriousness and fair execution,
- Failures as to the jury's working principles: Disagreements between the jury members or keeping the duration of evaluation short, inadequate comprehension of the projects, unexplanatory jury reports and delays in the publication process,
- Not being able to find a work worthy of first prize from time to time or giving the first place to more than one party and making price bargains with the winners,
- When the flashy presentation style of the computer environment precedes the content of the design and the qualified projects are ignored (visual presentations are being liked by the jury members)
- Creating the Specifications:
  - Not preparing the specifications in a clear enough way to show the requirements of the institutions organizing the competition,
  - Not taking the design subjects (content-scope) into consideration in determination of the prize amount in specifications.

In terms of the Competitor:

- The failure in application of the winning team's project or application thereof by different people or teams,
- Not meeting the material and moral efforts of the participant spent in the project preparation process,
- Unbalanced award distribution (examples are also found in the world),
- Keeping the delivery time short in some competitions,

In addition, lack of participation to discussions and criticisms taking place within a narrow framework consisting of several internet forums (kollokyum.com, arkitera.com and etc.) also prevents access to the expected level of competition.

6. Conclusion and Evaluation

Competitions, when considered universally, are an important component of a country's architectural and urbanism culture. Which buildings and open spaces are prepared by competitions, how much labor, time and money can be allocated to competitions, whether the selected project is applied or not and how the applied project is criticized is one of the indicators of the country's level of urbanism and architecture. Proposed projects can be defined in terms of their design qualities. For example; Exceptional, ordinary, innovative, strategic, fashion, experimental, provocative, protest and such qualities can be made. The literature on competitions states that competitions contribute to the theory and culture of the architecture and the built environment. Architects develop a conceptually readable vision by comparing their ideas by virtue of competition projects and practices. Theoretical and empirical works made on design competitions are important sources of information for professional practice (Çağlar, 2013).

In the European and Nordic countries where the competition phenomena is examined, it is observed that there is a process in which the critical points of design are questioned, and the critical and epoch-making original products are produced by virtue of

architectural and urban design projects, which speak new and different words. However, although it is stated that competitions are "methods of achieving qualified buildings and environments" the number of qualified buildings is still low. Although there are significant opportunities competitions provide to the architectural environment in Turkey, there are problems identified in the fifth article.

In order to solve the problems mentioned hereinabove, transparency, openness, democracy, sharing, competitiveness and objectivity issues must be rearranged in the process beginning from the announcement of the competition until the resultant product (participating projects) is criticized. This is because; design competitions create a public platform in which all the stakeholders, including institutions, politicians, investors, designers, researchers and students, participate, as well as laymen (local people) participate. As such, competitions should be buildingd as tools for obtaining qualified urban environments and constructions.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The author declares no conflict of interest.

References

American Insitute of Architects (AIA). (2011). *The Handbook of Architectural Design Competitions*. Washington, DC: American Institute of Architects. https://network.aia.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=a808a388-14e2-430d-beb5-8d6ad49b56f1&forceDialog=0 (Access: 12.06.2015)

Akansel, M. (2003). Mimari yarışmalar [Architectural Competitions], *Bülten – Eylül 2003*, TMMOB-Ankara, pp.12-19 http://www.mimarlarodasiankara.org/dosya/bulten-14.pdf

Aygün, M. (2004). Tarihsel Dönemeçte Proje Yarışmaları (Project Competitions in Historical Turning Point), *Mimarlık / 320* http://www.mimarlikdergisi.com/index.cfm?sayfa=Ozet&DergiSayi=38&MenuID=265

Balamir, A. (2003). Mimarlık ve Kimlik Temrinleri I [Architectural and Identity Exercises I], *Mimarlık, sayı:313*, pp.24-29 http://www.mimarlikdergisi.com/index.cfm?sayfa=mimarlik&DergiSayi=6

Batur, A. (1983). 1925-50 Döneminde Türkiye Mimarlığı, *75 Yılda Değişen Kent ve Mimarlık [Turkish Architecture 1925-50 Period, City and Architecture Changed in 75 Years]*, Tarih Vakfı Yayınları, Istanbul, pp.209-234 http://www.mimarlikdergisi.com/index.cfm?sayfa=mimarlik&DergiSayi=413&RecID=4357

Bozdoğan, S. (1998). Türk Mimari Kültüründe Modernizm: Genel Bir Bakış, *Türkiye'de Modernleşme ve Ulusal Kimlik, [Modernism in Turkish Architecture Culture: An Overview, Modernization and National Identity in Turkey]* Tarih Vakfı Yayınları, Istanbul https://www.eren.com.tr/kitap/turkiyede-modernlesme-ve-ulusal-kimlik-p13114400.html

Cezzar, M. (1991). XIX.yy Beyoğlusu [Beyoglu in 14th century[, Akbank Yayınları, Istanbul, p.173 ISBN: 9757630234 https://www.pandora.com.tr/kitap/xix-yuzyil-beyoglusu/10489

Çağlar, N. (2013). Mimarlık Yarışmaları İyi Şeyler (mi)dir? [Are Architectural Competitions Good?], *Dosya 31*, pp.4-8 http://www.mimarlarodasiankara.org/dosya/dosya31.pdf

Çimen, D. (2013). Söylemsel Düzlem Olarak Türkiye'de yarışmalar: Kentsel Tasarım Yarışmalarını İsimlendirmek [Competitions as Discoursal Plane in Turkey: Naming Urban Design Competitions], *Yarışmalar ve Mimarlık Sempozyumu*, Istanbul, pp. 86-95 https://issuu.com/arkitera/docs/sempozyum_2013_tr_web

De Haan, H. and I. Haagsma. (1988). *Architects in Competition: International Architectural Competitions of the Last 200 Years* First Published in the USA in 1988 by Thames and Hudson Inc, New York, pp.22-168, ISBN 90 290 81341 https://trove.nla.gov.au/work/15703446?q&versionId=45663608

Özbay, H. (1993). Yarışmalar Sahip Olduğumuz Tek Sağlıklı Kurumdur [Competitions are the Only Healthy Institutions We Have], *Mimarlık 93/251*, pp.24-27 http://www.mimarlikdergisi.com/index.cfm?sayfa=mimarlik&DergiSayi=310

Özbay, H. (2003). Tasarım Yöntemi Olarak Yarışmalar [Competitions as a Design Method], *Bülten-2003*, TMMOB, Ankara, pp.34-35 http://www.mimarlarodasiankara.org/dosya/bulten-14.pdf

Özbay, H. (2013). *Dosya 31*, Yarışmalar Tabii ki, Ama Nasıl [File 31, Competitions Of Course,

But How], p. 40. http://www.mimarlarodasiankara.org/dosya/dosya31.pdf http://docplayer.biz.tr/620269-Tmmob-mimarlar-odasi-ankara-subesi-mimari-proje-yarismalari.html

Özkan, S. (1995). Türk-Alman Dostluk Yurdu Öneri Yarışması 1916 [Turkish-German Friendship House Proposal Contest 1916], *ODTÜ Mimarlık Fakültesi Dergisi, Cilt 1, sayı 2, 1975/1*, pp.177-210 http://jfa.arch.metu.edu.tr/archive/0258-5316/1975/cilt01/sayi_2/177-210.pdf

Rönn, M. (2009). Judgment in the Architectural Competetion-rules, policies and dilemmas, *Nordic Journal of Architectural Research, Architectural Competetitions, Volume 21, No 2/3*, ss.52-66, Sweden http://arkitekturforskning.net/na/article/view/87/58

Sözen, M. (1996). *Cumhuriyet Dönemi Türk Mimarisi [Republican Turkish Architecture]*, Türkiye İş Bankası Kültür Yayınları 1995-11-29, Istanbul, ISBN: 975-458-078-2 http://katalogtarama.cekulvakfi.org.tr/cgi-bin/koha/opac-detail.pl?biblionumber=1262

Şahin, R. F. (2003). İdeoloji, Yarışmalar ve Ankara [Ideology, Contests and Ankara], *Bülten–14, Eylül 2003*, TMMOB-Ankara pp. 40-41 http://www.mimarlarodasiankara.org/dosya/bulten-14.pdf

Şahin, S. Z (2010) İktidar, Meşruiyet, Planlama ve Kentsel Tasarım Yarışmaları İlişkisi: Araçsallıktan Platformluğa Uzanan Bir Yol [The Relation Between Power, Legitimacy, Planning and Urban Design Competitions: A Road to the creation of Platform from Being a Tool], *Planlama, TMMOB Şehir Plancıları Odası Yayını, 2010/3-4, ISSN 1300-7319, sayı:50* http://www.spo.org.tr/resimler/ekler/0338a963b913bf2_ek.pdf

Şentek, A. (2013). Mimari Tasarım Yarışmalarına İlişkin Dışardan Bazı Görüşler [Some External Views on Architectural Design Contests], *Dosya 31*, 2013/1, pp.19-20 http://docplayer.biz.tr/620269-Tmmob-mimarlar-odasi-ankara-subesi-mimari-proje-yarismalari.html

Tekeli, İ. 1998). Türkiye'de Cumhuriyet Döneminde Kentsel Gelişme ve Kent Planlaması, *75 Yılda Değişen Kent ve Mimarlık [Republican Era Urban Development and Planning in Turkey, City and Architecture Changed in 75 Years]*, Tarih Vakfı Yayınları, Istanbul, pp.1-2 https://www.academia.edu/30885669/T%C3%9CRK%C4%B0YEDE_CUMHUR%C4%B0YET_D%C3%96NEM%C4%B0NDE_KENTSEL_GEL%C4%B0%C5%9EME_VE_KENT_PLANLAMASI

International Union Of Architects (2000), UIA *Guide for International Competitions in Architecture and Town Planning*, UNESCO Regulations, http://iwamura-atelier.com/wpat/wp-content/uploads/2017/11/2015.1-UIA-Guide-for-International-Competition.pdf http://portal.unesco.org/en/ev.php-URL_ID=13134&URL_DO=DO_TOPIC&URL_SECTION=201.html

Regulation on Architecture, Landscape Architecture, Engineering, Urban Design Projects, Urban and Regional Planning and Art Competition Competition [Mimarlık, Peyzaj Mimarlığı, Mühendislik, Kentsel Tasarım Projeleri, Şehir ve Bölge Planlama Ve Güzel Sanat Eserleri Yarışmaları Yönetmeliği], *Resmi Gazete, Sayı:*24973, 24.12.2002 http://www.mevzuat.gov.tr/Metin.Aspx?MevzuatKod=7.5.4716&sourceXmlSearch=&MevzuatIliski=0 (Access: 12.06.2015)

The History of Finnish Architectural Competitions, Finnish Association of Architects, SAFA Retrieved from: URL 1: http://www.safa.fi/eng/architectural_competitions/history_/(Access: 12.06.2015)

Architectural Design Competitions, The American Institute of Architects, The Handbook of Architectural Design Competitions Retrieved from: URL 2: https://network.aia.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=a808a388-14e2-430d-beb5-8d6ad49b56f1&forceDialog=0 (Access: 12.06.2015)

WA-Wettbwerbe Aktuel, Fachzeitschrift für Architekturwettbewerbe, 10/201, 5 ISSN-0179788 URL 3: https://www.wettbewerbe-aktuell.de/ (Access: 10.012.2015)

Finnish Association of Architects, SAFA, Helsinki-Finland URL 4: https://www.safa.fi/eng/safa/ (Access: 12.08.2015)

Atatürk ve Türkiye Cumhuriyeti, URL 5 "Tüm Yönleriyle Anıtkabir Teklif edilen Projeler http://www.ataturk.net/ata/proje.html (Access: 12.08.2015)

Yapi.com.tr, Tarihsel Dönemeçte Proje Yarışmaları, Metin Aygün URL 6: http://www.yapi.com.tr/haberler/tarihsel-donemecte-proje-yarismalari-metin-aygun_95561.html (Access: 12.08.2015)

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 121– 131

Cultural Landscape Devastation because of Poor Sustainable Urban Development Practice Case Study: Kostanjica, Boka Bay, Montenegro

* PhD Candidate KOSARA KUJUNDZIC [1] and Dr. SLAVICA STAMATOVIC VUCKOVIC [2]

[1] Faculty of Architecture, University of Belgrade, Belgrade, Serbia
[2] Faculty of Architecture, Podgorica, address: Bulevar Dzordza Vasingtona bb, Podgorica, Montenegro
E mail: kosarak@gmail.com E mail: slavicas@t-com.me

ARTICLE INFO:

Article history:
Received 15 January 2018
Accepted 26 April 2018
Available online 08 July 2018

Keywords:
Cultural Landscape;
Sustainable Urban Development;
Investors' urban planning

ABSTRACT

Natural and Culturo-Historical Region of Kotor, Boka Bay, Montenegro, is well known for its exceptional beauty, evaluated by UNESCO. The unique universal value has been embodied in the cultural landscape: vernacular architecture harmonized with the cultivated terraced landscape on the slopes of high, rocky mountains. Kostanjica is an old settlement in Boka Bay, former fishermen village, recognized for valuable elements of the cultural landscape: chestnut tree and laurel forest, terraced gardens with arable land, fruit gardens, traditional architecture in stone: clusters of houses, piers and docks, pedestrian pathways, pavements, retaining walls, well integrated in the autochthone Mediterranean vegetation. Since Montenegro has pronounced itself Ecological state in 1991, environmental protection has become the highest priority in all Sustainable Development agendas and policies. Furthermore, preservation of regional peculiarity and fostering distinctive identity of a place, is one of the crucial sustainable development goals. The paper aimed to seek for ways of overcoming profoundly harmful building practices, thus leading to the more efficient and sustainable urban development. .

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 121-131.
https://doi.org/10.25034/ijcua.2018.4689

www.ijcua.com

1.Introduction

Cultural landscape is defined as a synthesis of natural and anthropogenic factors within a landscape, emerged over time. This includes a well-balanced, symbiotic relation: vegetated landscape has been shaped and cultivated by humans building their settlements, and, at the same time, natural, influential resources of a landscape (topography, vegetation, sources of water) directed the transformation of the artificial environment, providing essential conditions for life. The balance and harmony achieved through this synthesis of man and nature can be preserved only through

***Corresponding Author:**
Faculty of Architecture, Belgrade, Serbia, address: Njegoseva 171, Kotor, Montenegro.
E-mail address: kosarak@gmail.com

sustainable development: "In the past, societies were either sustainable or they died out. Because their buildings were so harmoniously enmeshed with their surroundings, culturally authentic and imprinted with values at once spiritual and ecological, they couldn't but have beauty that speaks to us today" (Day, 2002). Ecological aspect of sustainable development has always been of a crucial importance, since nature has provided life for humans and therefore its protection and preservation has been a necessity, a survival condition *sine qua non*, especially during the pre-industrial times. Nowadays, unfortunately, we have to be reminded of how important the environment is; hence, how beneficial its preservation and protection is for our life. The Case Study of Kostanjica, a small, former fishermen village in Boka Bay, Montenegro, provides an insight into negative and highly unsustainable tendencies of Investors' urban planning and profit-driven architecture, devastating for the cultural landscape, a unique and valuable spatial, natural and Culturo-Historical resource. The analysis of this harmful phenomena includes exploration of some influential social, political and cultural factors that have leaded to its occurrence. Furthermore, theoretical and empirical aspects have been involved. Finally, some exemplary architectural principles and models will be addressed in order to approach to a solution to this socio-cultural problem that threatens Boka Bay to be erased from UNESCO's World Heritage list. This deteriorating spatial phenomena not only deprives the community of a valuable natural and cultural resource, but also jeopardizes the ecosystem and natural cycles, and thus the life in this area, which is the reason why it has to be halted and the consequences minimized. In addition, the sustainable development principles have to be addressed and applied since it is the only way for us to maintain healthy life for ourselves and the future generations.

2. Sustainable development in Montenegro

Montenegro is a small Mediterranean country well known for its natural beauties. Situated among Balkan Mountains, in the southern part of the Adriatic Sea, it is a contrasting mosaic of steep mountains, clear blue sea, sandy and rocky beaches, dramatic river canyons, varied lakes, rich and abundant wildlife.

Attractive and diversified landscape is one of the most important natural resources of Montenegro. According to Spatial plan (2012), ten landscape types have been distinguished, among which the four of Mediterranean character. These landscape categories have been divided into 21 landscape units, among which is the unique Boka Bay.

Landscape is an image of a scenery that cannot be observed merely on the base of individual elements, but as a spatial- ecological, economic and cultural entirety (Pasinovic, 2008). Cultural landscape, a combination of autochthone, natural elements and various local traditions, has emerged as a result of complex cultural, historical, social and economic conditions and circumstances reflected on the natural background. Perceived as both, natural and cultural heritage, it contains a significant potential and value in terms of the ecological and cultural sustainability. Therefore, its protection and revitalization is a precondition of the sustainable development.

Owing to its complex history which included various nations and civilizations supremacy over this area (Ancient Greeks, Romans, Illyrians, Venetian Republic, Russia, France, Austro Hungarian Monarchy), and the authentic, natural landscape beauties, Montenegro includes numerous valuable and unique cultural landscapes. Boka Bay is the only bay on Montenegrin coast, exceptional in the quality and value of both dramatic natural environment and architectural and cultural heritage, described in the notes of the Russian officer Vladimir Bogdanovic Bronevski in 1836: "I haven't seen more terrifying and yet more beautiful place. Giant, rocky hills in reddish color, piled up irregularly one upon another. Lovcen is the highest mountain showing its peak above clouds. The longitudinal bay looks like a lake lying on the bottom of a dark, deep basin whose shores are interspersed with settlements and fortresses. Wonderful buildings, numerous ships and vegetation of fertile gardens in the narrow valleys decorate this truthfully romantic place creating a splendid contrast to the gloomy appearance of the barren hills in the surrounding" (Grgurevic, 1997).

1. Sustainable development policy and agendas

The first recognition of sustainable development principles in Montenegro was in the regional *Spatial plan of Southern Adriatic,* introduced in

1969, sponsored by United Nations and the SFRY[1] Government. Sustainability was the main criteria in the so called "development points" defined by Montenegrin, French and Italian urbanists and planners, 23 years before the Rio Declaration on Environment and Development in 1992. It was the first *Spatial plan of the Republic of Montenegro* in 1986 that mentioned the "environmental protection".

The awareness of valuable, abundant, natural resources and beautiful nature has led to the *Declaration of Ecological State*, proclaimed in 1991, while Montenegro was still a Republic of SFRY. This Declaration implying that nature is the source of health and inspiration of our freedom and culture, and thus its protection is the highest priority, has been later implemented in the Constitution of Montenegro. In 2001, a strategic document called *Ecological State of Montenegro Development Directions* was legislated, upon which a *National Council for Sustainable Development* has been appointed. Soon after Montenegro gained its independence in 2006, the spatial development policy has been reformed, following the legislation and models of the European Union. The first *National Strategy for Sustainable Development* was issued in 2007, followed by *Environmental Law* (2008), *Nature Protection Law* (2008, amended in 2013) and *Cultural Heritage Preservation Law* (2010) which has introduced the term cultural landscape.

The European Landscape Convention of the Council of Europe, also known as *Florence Convention*, brought in 2000, the first international treaty devoted to protection, management and planning of European Landscapes, has been approved in Montenegro in 2008. According to this Convention, landscape has been recognized as an integral part of the Environment, the manifestation of Cultural and Natural Heritage diversity and the foundation of the Regional Identity.

Finally, the *National Strategy for Sustainable Development until 2030*, brought in 2016, involved comprehensive analysis of the sustainable development in Montenegro, through various social, cultural and ecological aspects.

2.1 Environmental protection in practice

Despite the fact that Montenegrin sustainable development policy and legislation have followed successful models and practices of the European Union, the space, and thus the cultural landscape, has not been protected and preserved. The cultural landscape devastation has occurred as a result of excessive and uncontrolled urbanization, inadequate distribution of touristic capacities, illegal building[2] and inappropriate projects of infrastructure. The most significant difference between the legislation and realizations appears in the coastal zone, since this area is the most attractive for both, local and foreign developers. "Investors' urban planning", that is the urban planning directed by fulfilling investors' needs and wishes where private interest takes supremacy over the public one, has been a negative practice in Montenegro for more than a decade. Even though this trend has been occurring throughout the entire coast, the Boka Bay has been the most affected by it, due to the closed morphology of the Bay where interventions in space are the most easily noticeable, while the elevated risk of being erased from UNESCO World Heritage list makes the problem more serious and relevant.

In the *National Strategy for Sustainable Development until 2030,* numerous weaknesses and problems in the sustainable development system have been recognized, such as poor interinstitutional cooperation, as well as insufficient and underqualified human resources. Furthermore, there is no unified environmental informational system, nor the functional cadastre of the polluters. In addition, public and private interest have not been synchronized and methods of environmental protection are more of a reactional than a preventive character. Overall, neither administrative nor the operational (technical) capacities for the application of environmental protection regulations have been developed. In terms of the cultural landscape, spatial devastation occurs mainly due to the lack of integrative approach towards environmental and cultural heritage protection. Regional Institute for Protection of Cultural Monuments, founded in Kotor after the catastrophic earthquake in 1979 has been the only institution responsible for the Architectural Heritage protection in the Bay. However, its authority has

[1]Socialist Federal Republic of Yugoslavia (existed until 1992)

[2]It is estimated that around 100.000 illegal buildings exist in Montenegro. Legalization Law has been brought in 2016 aimed at ending the practice of illegal building and protecting the space and the environment

been limited to the protection of the valuable buildings, without the reference to the environment[3]. The harmony of the urbanized space and autochthone green areas represented in the cultural landscape of Boka Bay is a precious synthesis of natural and cultural heritage and therefore its preservation is of crucial importance for sustainable development and the development of tourism in the area (Lalosevic, 2010). In addition, new building transforms not only the appearance of the landscape (aesthetic aspect), but also the natural environmental elements such as topography, vegetation, climate, and ecosystem. This is the reason why maintaining ecological balance is essential for sustainability in Boka Bay, as well as the integrative approach to the heritage protection that would address equally natural and architectural (artificial) aspects of the cultural landscape.

3. Cultural landscape of Kostanjica

Boka Bay is naturally and culturally unique bay in the northernmost part of the Montenegrin coast. Its Natural and Culturo-Historical beauty has been recognized by UNESCO: "The Outstanding Universal Value of the Culturo-Historical Region of Kotor is embodied in the quality of the architecture in its fortified and open cities, settlements, palaces and monastic ensembles, and their harmonious integration to the cultivated terraced landscape on the slopes of high rocky hills. The Natural and Culturo-Historical Region of Kotor bears unique testimony to the exceptionally important role that it played over centuries in the spreading of Mediterranean cultures into the Balkans" (URL 1). Kostanjica is a small, former fishermen village located in the north-west area of the Bay of Kotor (Figure 1), founded in Ancient times and expanded during the Venetian Republic supremacy over Boka. It is distinguished by vernacular architecture harmonized with the sloping landscape by terraced gardens, local natural building materials (stone and wood) and autochthone vegetation. In addition, narrow coastline including piers and docks made of stone, accompanied by traditional stone houses, represents achieved balance and harmony of the natural and anthropogenic elements (Figure 2). This Cultural Landscape represents peculiarities of the place by reflecting socio-cultural patterns emerged from the needs and the way of life of the people who have inhabited this area over the centuries (fishermen, sailors, agriculturalists). It is a valuable Heritage expressing identity of Boka Bay, but only if perceived as an inseparable unity of natural and artificial, of vegetated landscape and architecture rooted in it.

Figure 1. Location of Kostanjica- northwestern part of the Bay of Kotor (Source: URL 2)

Figure 2. Coastline of Kostanjica- harmony of natural and anthropogenic elements (Source: SAHP)

3.1 Study of Architectural Heritage Protection in Kostanjica (SAHP)

The Cultural Landscape of Kostanjica has been profoundly analyzed in the Study of Architectural Heritage Protection, done by Boka-based experts for Architectural Conservation and a landscape architect, completed in 2008, prior to the Amended Detailed Urban Plan of Kostanjica, brought in 2009. Several main elements of the cultural landscape have been distinguished in the Study:

- Terraced gardens with arable land and fruit gardens, a representation of the cultivated landscape- hill slopes adjusted to agricultural use (Figure 3).

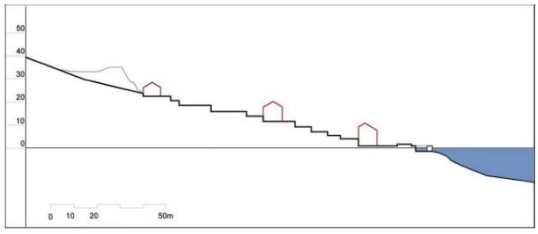


Figure 3. Terraced landscape of Kostanjica (Source: SAHP)

[3] Attempts made for the Institute to expand the authorities to the environment have failed, as it was the case with an initiative to provide employment for a landscape architect within this institution

- Chestnut tree and laurel forest, an abundant natural resource of Kostanjica[4]. Chestnut was used for food, and its wood as a building material, while laurel was mainly used as a food spice in some local dishes.
- Pedestrian pathways, paved in stone, connecting the distant settlements in the hillside with the coastline, in two directions: following the topography contour lines and perpendicularly to this direction as staircases (Figure 4).

Figure 4. Pathways- stairs in stone

Figure 5. Coastline of Kostanjica: piers, docks and old stone houses (Source: SAHP)

- Coastline with piers and docks, made of stone blocks, remains of once dominant fishermen and maritime culture in this area (Figure 5).
- Clusters of traditional houses, valuable examples of vernacular architecture in stone.
- Landscaping elements in the courtyards (stone pavement, retaining drywall, staircase on the ground, pergola- "odrina", stone bench- "pizuo").
- Autochthone vegetation in the gardens and courtyards (citrus fruits, olive trees, grapevine, flowers).
- Water features (old water tank, well).

Specific heritage and cultural landscape protection guidelines emerged from the Study: (1) Preservation and Revitalization of the chestnut tree and laurel forest[5]; (2) Preservation of the cultural landscape elements (terraced vegetated gardens, traditional landscaping elements); (3) Maintaining the existing spatial concept of the settlements (large open green areas between the clusters of houses). Furthermore, the directions for newbuilding areas were: (1) Maintaining the minimum of roads, introducing new roads only if absolutely necessary and by respecting the topography contour lines and existing retaining walls; (2) moderate and low-density newbuilding; (3)Consideration of the existing spatial capacities (land slopes, landscaping methods and elements) by planning buffer green zones towards the existing traditional architecture.

3.2 Amended Detailed Urban Plan of Kostanjica

In 2009, a year after publishing the Study, the Amended Detailed Urban Plan of Kostanjica was legislated, providing regulations and design guide lines for building in the area.

The Plan underlines that the entire area of Kostanjica is within a Natural and Cultural Heritage zone requiring the most cautious approach to planning and building. Therefore, preservation of the nature, sea, landscape, architectural and cultural heritage is the highest priority. In terms of the natural landscape, autochthone vegetation and land morphology should be preserved. Newbuilding in general and the touristic capacities in particular, should be adjusted to the existing topography, vegetation and to the entire natural and artificial environment. In addition, the conservation conditions and guidelines from the Regional Institute for Protection of Cultural Monuments have to be fully followed. Abundant, autochthone forest in the surrounding of the traditional settlements (chestnut tree and laurel forest) provides optimal air comfort, that is protects the air from pollution; and thus has to be preserved.

Landscaping regulations imply that the terrain around buildings has to follow the natural land configuration, as well as the retaining walls. Also,

[4] The name Kostanjica origins from the local word for Chestnut- "kostanj"

[5] The zone of chestnut tree and laurel forest has been clearly marked in the Study

it is prohibited to cut the authentic vegetation, especially chestnut and laurel trees. In addition, each new-formed urbanistic plot has to include new planted at least three laurel trees and one chestnut tree.

However, when the Map from the Study and the Map from the Plan are overlapped, the new urbanized area partly covers the zone of chestnut tree and laurel forest, meaning that it is not possible to preserve authentic and highly beneficial vegetation and build according to the new Plan.

Furthermore, when it comes to the more specific building regulations, there is a scarcity of graphic and numeric representations in the Plan. The only parameter of the vertical regulation is the maximal number of floors- three floors above ground regardless of the nomenclature. In this regard, no drawing section through the terrain has been provided in the Plan, nor the sketches of terraced buildings and retaining walls adjusted to the existing, natural land slope. If this was done, it would've been evident that it is impossible to preserve and respect Natural Topography of the land and yet build according to building lines and vertical regulation. To clarify, when new buildings are located according to the building lines, the ground floor level is already several meters (up to two floors) above the existing terrain-the accessing road. This is the explanation for the excessive height of the retaining walls appearing throughout the newly urbanized area of Kostanjica. Vertical regulations provided in detailed urban plans have to limit the height between the accessing road and the ground floor (usually up to one meter), in order to avoid having too high buildings in disharmony to the surrounding and the topography. In this case, there was not any kind of height limitation, neither for the ground floor level, nor the retaining walls. When the section through the newly urbanized area is compared to the section through the area where the traditional settlements are (given in the Study), significant height difference of 25 meters on the same distance from the sea occurs (Figure 6). This demonstrates the extreme land slope, three times steeper terrain in the new urbanized area than in the area of traditional settlements, which clearly confirms the lack of possibility to build in the newly urbanized area without destroying the natural land topography. Moreover, building on such a steep terrain is not feasible since it requires extensive excavations, especially in the case of rocky soil, such is this one.

Nevertheless, there is an advantage of building on such a steep terrain, which initiated this case of investors' urban planning. No building can block the view for the neighbor behind. Each apartment features 'captivating panoramic view' towards the sea, beautiful town Perast and the two islands in front of it. Also, the apartments are in close proximity to the sea and the rocky beaches. Hence, the selling price of these exclusive apartments will be significantly higher than average.

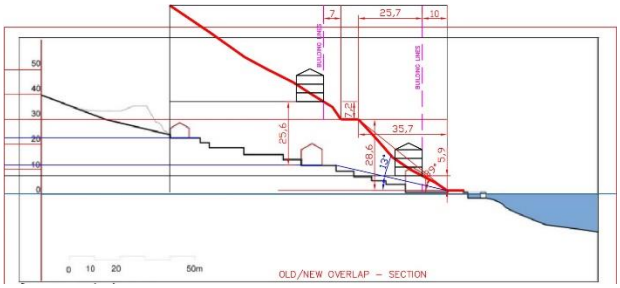


Figure 6. Section through the old/new urbanized area-overlap (Source: Kosara Kujundzic)

Going back to the cultural landscape protection guidelines from the Architectural Heritage Protection Study, evidently none of them has been respected in the Plan. Preservation of the chestnut tree and laurel forest has not been provided since the extended urbanized area partly covers the zone of the forest planned for new building. Also, traditional terraced vegetated gardens have been excluded from the new building and landscaping, replaced by the massive retaining walls needed in order to access ground floor level from the road. Finally, the existing spatial concept of the low density settlements and large green areas between the houses has not been maintained, since the building capacities given in the Plan imply dense building and numerous houses on a relatively small area.

Furthermore, the Plan has neglected the newbuilding directions from the Study by introducing a wide new road disrespectful to the topography contour lines (Figure 7), with only purpose to access urbanistic plots on the higher level, which was not necessary, but certainly improves the comfort for those buildings occupants; and thus confirms the private interest supremacy over the public interest- landscape and environmental preservation.

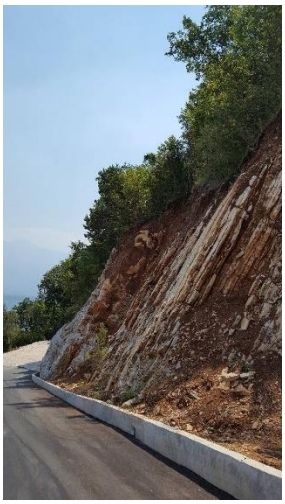


Figure 7. The new road (Source: Kosara Kujundzic)

Figure 8. Tourist resort 'Boka Gardens'-location (Source: Kosara Kujundzic)

4. Case study: Tourist resort **'Boka Gardens'**

The ongoing Development of Tourist resort 'Boka Gardens' has been under construction since 2012. Located in the extended urbanized area of Kostanjica that used to be covered by chestnut tree and laurel forest (Figure 8), it consists of 32 terraced houses with apartments for sale. In order to build this resort, extensive excavations of the rocky ground had to be made, destroying the natural existing topography. The devastation of the natural landscape has been completed by cutting the chestnut tree and laurel forest, precious natural resource embedded in the local tradition.

Nevertheless, the design and building has been following the Amended Detailed Urban Plan of Kostanjica, that is the poor and insufficient directions given in the plan, and yet it causes spatial devastation, which imposes the question which plan came first: the Urban Plan, or the Business and Design Plan for the Development? Since the height of the retaining walls was not specified in the Plan, nor the height of the ground floor in reference to the accessing road, the new buildings have extensive height apparently exceeding the height of 'three floors above ground' (Figure 9). Even though the floors nomenclature is ground floor, first floor and second floor or loft, which matches the vertical regulation given in the Plan, buildings appear oversized, significantly higher and bigger than the traditional archetypal models, in fact, without any reference to those. It seems like the land has been entirely occupied and there is no vegetation left, in opposition to the harmony of the natural environment and architecture achieved in the traditional settlements.

Figure 9. Excessive height of the new building and the retaining walls (Source: Kosara Kujundzic)

Furthermore, the design is described as 'Mediterranean style Architecture'. However, these houses by all means have no resemblance to the traditional architecture in stone, rooted in local building tradition, harmonized with the surrounding. The buildings do not belong to Boka Bay region, and could be equally placed elsewhere. In terms of the architectural elements, green shutters are the only vague link to the traditional wooden shutters. All the rest is a different architectural vocabulary. Complex roof planes, in opposition to the pitched roof on the local houses, distinctive eaves that cannot be found in traditional architecture, the locally unfamiliar manner of building in stone without any structural logic behind it. The arch is another element rarely and differently implemented in the vernacular architecture of the Bay. Overall, the new building is extremely disrespectful to genius loci and the cultural landscape of Kostanjica, causing a serious devastation of both, natural and architectural Heritage.

The apparent devastation of the cultural landscape has provoked numerous reactions of the professionals and the civil sector. The citizen of Boka have performed a theatre play called 'Koto(r) o Kotoru'[6], addressing political, social and cultural problems in Boka Bay. The case of Kostanjica has been included, presented in the ironic postcard distributed to the audience

[6] The title has ambiguous meaning and can be translated as "Kotor about Kotor" or "who (talks) about Kotor"

(Figure 10), where 'Boka Gardens' resort is shown in the background of the beautiful artificial island Lady of the Rock, which is one of the most valuable Culturo-Historical sites in the Bay. The postcard clearly demonstrates the tremendous destruction of the landscape and the island view from Perast.

Figure 10. "Greetings from Perast", an ironic postcard from the theatre play 'Koto(r) o Kotoru" (Source: Kosara Kujundzic)

5. Seeking solutions

The Investors urban planning reflected in the Amended Detailed Urban Plan in Kostanjica and the 'Boka Gardens' Development emerging from it, have resulted in irreversible spatial devastation. However, strategies and operational plans have to be made in order to minimize the consequences.

World Heritage Committee (UNESCO) hold a session in Istanbul in 2016 during which a great concern for Montenegro in general and Boka Bay in particular has been expressed, related to the uncontrolled building and urbanization that have jeopardized the status of Kotor on the World Heritage list. The session resulted in a decision – request delivered to the Montenegrin Government to provide insight and synchronization of all the urban plans in Boka Bay through the comprehensive Heritage Impact Assessment Study (HIA), based on the Guidance on HIAs for Cultural World Heritage Properties, established by ICOMOS. The specific section of the HIA study referred to Kostanjica, especially to the 'Boka Gardens' resort area, as the case of a major cultural landscape devastation.

This case has not only shown the flaws in the urban planning process directed by investors' private interest, but also urban development process deprived of monitoring and governing actions. To clarify, there is no control during the building process related to the landscape issues. As previously mentioned, the Institute for Heritage Protection doesn't have any authority regarding the natural aspect of the cultural landscape. Also, no control over the landscaping process in practice exists. That is, no institution is in charge of the landscape issue during the building process. The furthest the control reaches is during the obtaining building permit stage, when landscaping project included in the main project has to be done according to the urban plan.

5.1 HIA (Heritage Impact Assessment) Study

Heritage Impact Assessment Study (HIA) is a document aimed at maintaining Kotor on UNESCO's Word Heritage List, by regulating excessive spatial pressure of the touristic economy and commercial real estates. According to the methodology and nomenclature of UNESCO, the two relevant categories have been distinguished in the Study: *exceptional universal value attributes* (graded from 1 (lowest) to 5 (highest) value), and *danger/risks impact factors* affecting the attributes. The most important attributes refer to the cultural landscape, as views (axes), among which are the two related to Kostanjica: (1) the view from Perast toward the islands: Lady of the Rock (artificial island) and Saint George (natural island), and (2) the view from Risan toward Morinj and Kostanjica. Both views include devastated area of Kostanjica whose cultural landscape is mentioned in several categories of the Study, such as: "harmonized integration in the cultivated terraced landscape in the Mountain foothills", "the relation sea-coastline-mountains" and "the settlements adjusting to the natural environment" (HIA, 46-48). In addition, the transformations in this area have been recognized as close to catastrophic, that is almost the total devastation of one of the most important views (the view from Perast toward the islands) in the Natural and Culturo-Historical Region of Kotor (HIA, 18-19). In order to achieve a high level of Heritage Protection in Kotor area and Kostanjica, the following spatial elements have to be preserved: primordial landscapes with coastal settlements; horizontal structure of the landscape (excluding the possibility of continuous and dense building); vertical structure of the landscape (the silhouette and the integrity of the green slopes); architectural values of the traditional coastal settlements, and visual marks such are the islands close to Perast and their natural background (Kostanjica). The Heritage Protection methods referring particularly to devastated areas in Kostanjica are: inserting vegetation (mostly trees) between the buildings and halting further building in the area (suspension of the Amended Detailed Urban Plan of Kostanjica), until the new Plan done according to the

conclusions and directions from HIA is brought (HIA, 238-242).

5.2 Paradigmatic architectural models

In order to protect the Natural and Cultural Heritage, the *positive arrogance* approach has to be taken. This approach is peculiar to Montenegro, based on the concepts of the ecologically and culturally sustainable development, founded on the regional vernacular values, relied on the transparent political processes and the Heritage-worthy Education; and integrated in the locally regulated world economic trends (Radovic, 2005).

One of the most important sustainable (humane) design principles, aimed at Preservation of Natural Conditions; and thus improving the quality of life for humans and other species is to Respect Topographical Contours. Modification of the existing natural topography has negative effect on the environment: "radical terraforming is not only expensive but devastating to the site's microclimate. Alteration of contours will affect how water drains and how wind moves through a site" (Jong-Jin and Rigdon,1998). Therefore, buildings should adjust to the natural topography, and respect the existing topographical contours. A good example of this principle is Competition "Artist residence in Boka" winning project of Japanese architect Tomohiro Hata. The author designed the façade and retaining walls in stone, directed completely according to the topographical contours (Figure 11). Like this, terraced houses are blended into the surrounding, achieving harmony with the natural environment.

Figure 11. A Competition "Artist Residence in Boka" Winning project of Tomohiro Hata (Source: URL 3)

In the guidelines for urban planning and architectural design referring to the Kotor area (Lalosevic, 2010), respecting the natural topography is one of the principles. The retaining walls height should not exceed 2 meters (Figure 12). As previously mentioned, in the case of Kostanjica, the retaining walls have reached the height of two floors (7 meters).

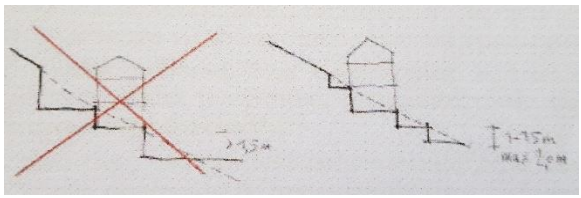


Figure 12. Design guidelines- retaining walls (Source: Lalosevic, 2010)

A successful example of architectural regionalism is house in Bigova (Kotor Municipality). This house, designed by Professor Vasilije Milunovic, is a contemporary realization reflecting peculiarities of the place. The autochthone vegetation and terraced landscape enabled the house harmonizing with the environment. In addition, the architectural elements typical for this region such as shutters, pergolas, reddish roof tiles and stone as main façade material, have been interpreted in the creative, contemporary manner (Figure 13).

Figure 13. House in Bigova- context-related design (Source: Kosara Kujundzic)

6. Conclusions

The case study of "Boka Gardens" have revealed many weaknesses of the Sustainable Urban Development practice in Montenegro. This touristic resort has evolved as a consequence of Investors' urban planning and profit-driven architecture.

Despite the fact that a comprehensive Architectural Heritage Protection Study has been made prior to it, the Amended Detailed Urban Plan of Kostanjica haven't followed the guidelines and principles from it, providing a base for the spatial devastation due to the

insufficient and poor regulations, especially in terms of the vertical regulation. Newly urbanized area has partly covered the zone of chestnut tree and laurel forest, a precious natural resource of Kostanjica. Furthermore, a new, wide road has been introduced, demanding excessive excavations and destruction of the natural topography. Also, densely urbanized area has replaced the traditional low-density settlements.

The "Boka Gardens" Tourist Resort have been following the scarce and inadequate regulations from the Plan. New buildings are not adjusted to the surrounding in any sense. In terms of the size, the houses appear heavy and massive, due to the oversized, two-floor high retaining walls. In addition, not only the indigenous vegetation has not been preserved, but also the new trees have not been planted, so that the resort looks greenless as opposed to the abundant vegetation in the surrounding.

In order to overcome profoundly harmful tendencies of landscape devastation by inappropriate newbuilding, an integrative, multidisciplinary, interinstitutional approach have to be taken, followed by precise, clear regulations and methods of the landscape protection. The paradigmatic models of the competition winning project of Artist residence in Boka and the regionalist approach in the house in Bigova provide a valuable architectural examples of achieved harmony with the environment.

Finally, cultural landscape has to be recognized and included in all significant sustainable development agendas and strategies, as well as in the operative measures of the landscape protection. Preservation and improvement of the landscape is a crucial part of the environment protection and thus the only way of achieving Sustainable Development.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The authors declare no conflict of interest.

References

Day, C. (2002). *Spirit & Place: Healing our environment.* Oxford, GB-USA: Elsevier, Architectural Press. https://play.google.com/store/books/details/Spirit_Place_Healing_Our_Environment_Healing_Envir?id=X1R0JQtRqggC&hl=tr

Dumbović Bilusic. B. & Obad Štitaroci. M. (2007). Kulturni krajolici u Hrvatskoj - identifikacija i stanje zaštite [Cultural Landscape in Croatia – Identification and Protection] in *Prostor*, (15 2(34)), 260-271. https://hrcak.srce.hr/18534

Grgurevic, T. (1997). Putopisi u funkciji propagande bokeljskog turizma In Martinovic, D. (Ed.), *Razvoj turizma u Crnoj Gori u XIX i prvoj polovini XX vijeka* (pp. 237-250). [Travel books as marketing means for promotion of Tourism in Boka In Martinovic, D. (Ed.), *Development of tourism in Montenegro in XIX and the first half of XX century*]. Podgorica, Montenegro: Faculty of Economics; Kotor, Montenegro: Faculty of Maritime Studies; Cetinje, Montenegro: Parliament of the capital.

Izmjena i dopuna DUP-a Kostanjica. (2009). [*The Amended Detailed Urban Plan of Kostanjica*] Podgorica, Montenegro: Montenegro projekt.

http://www.planovidozvole.mrt.gov.me/LAMP/PlanningDocument?m=KO

Jong-Jin, K. & Rigdon, B. (1998). *Sustainable Architecture Module: Introduction to Sustainable Design.* Michigan: College of Architecture and Urban Planning, The University of Michigan.

http://www.umich.edu/~nppcpub/resources/compendia/ARCHpdfs/ARCHdesIntro.pdf

Lalosevic, l. (2010). Zastita urbanih cjelina na Listi svjetske bastine na primjeru podrucja Kotora in *Novi koncepti zastite i obnove urbanih cjelina - integrativna konzervacija i odrzivi razvoj*, Zbornik radova, 107-122. Banja Luka, Bosna i Hercegovina: Arhitektonski fakultet [World Heritage Sites Urban Conservation - case study Kotor In *New concepts of preservation and revitalization of urban settlements - integrative conservation and sustainable development*, Conference Proceedings, 107-122, Banja Luka, Bosnia and Herzegovina: Faculty of Architecture]. https://www.ucg.ac.me/skladiste/blog_7/objava_36/fajlovi/Bilten%20272%20.pdf

Lalosevic, l., Kapetanovic, A., Gligoric, B. & Franovic, J. (2009). *Kostanjica: prirodno i kulturno nasljedje*. Kotor, Crna Gora: Expeditio, Arhitektonski fakultet [*Kostanjica: Natural and Cultural Heritage*. Kotor, Montenegro: Expeditio, Faculty of Architecture]. https://issuu.com/expeditiokotor/docs/kostanjica_publikacija assessed 5th April 2018.

Lješković Mitrović, S. (2014). *Priručnik za izradu plana predjela*. Podgorica, Montenegro: Ministarstvo održivog razvoja i turizma [*Rulebook for Landscape Planning.* Podgorica, Montenegro: Ministry of Sustainable Development and Tourism]. http://www.mrt.gov.me/ministarstvo

Ministry of Culture of Montenegro. (2017). *Procjena uticaja na baštinu za prirodno i kulturno-istorijsko područje Kotora*. Podgorica, Crna Gora: Arhitektonski fakultet Univerziteat Crne Gore, Ministarstvo kulture Crne Gore [*Heritage Impact Assessment Study of Boka Kotorska*. Podgorica, Montenegro: Faculty of Architecture University of Montenegro, Ministry of Culture of Montenegro]. https://portalanalitika.me/clanak/266856/ljumovic-procjena-uticaja-na-bastinu-rijesice-pitanje-gradnje-u-kotoru

Ministry of Sustainable Development and Tourism. (2016). *Nacionalna strategija održivog razvoja Crne Gore do 2030. godine*. Podgorica, Crna Gora: Ministarstvo održivog razvoja i turizma [*National Strategy of Sustainable Development of Montenegro until 2030*. Podgorica, Montenegro: Ministry of Sustainable Development and Tourism], http://www.mrt.gov.me/odrzivi/165045/Obavjestenje-Nacionalna-strategija-odrzivog-razvoja-do-2030-godine.html

Ministry of Tourism and Environmental Protection. (2007). *Nacionalna strategija održivog razvoja Crne Gore*. Podgorica, Crna Gora: Ministarstvo turizma i zaštite životne sredine [*National Strategy of Sustainable Development of Montenegro*. Podgorica, Montenegro: Ministry of Tourism and Environmental Protection]. http://www.mrt.gov.me/odrzivi/165045/Obavjestenje-Nacionalna-strategija-odrzivog-razvoja-do-2030-godine.html , assessed 5th April 2018.

Pasinovic M. (2008). Promjena kulturnog pejzaza Dobrote kao posljedica demografskih, socio-ekonomskih kretanja i intervencija u prostoru In Jovanovic, J. (Ed.) *Godisnjak Pomorskog muzeja u Kotoru* (pp. 367-393). Kotor, Crna Gora: Pomorski muzej [Change of Cultural landscape of Dobrota as a Conseguence of Demographic, Socio-economic Processes as well as of Spatial Interventions]. *Annual of Maritime Museum at Kotor*. Kotor, Montenegro: Maritime Museum. http://www.nbcg-digitalnabibliografija.me/bibliografija_tekuca/clanci_2009/autori018.html

Radovic, D. (2005). Pozitivna arogancija i revitalizacija vernakularnih vrijednosti In Vuksanović, D. (Ed.) *Tradicionalna arhitektura Crne Gore.* Podgorica, Crna Gora: Građevinski fakultet Univerziteta Crne Gore [Positive arrogance and revitalization of the vernacular values In Vuksanovic, D. (Ed.) *Traditional architecture of Montenegro*]. Podgorica, Montenegro: Faculty of Civil Engineering, University of Montenegro. http://www.montenegrina.net/pages/pages1/arhitektura/pozitivna_arogancija_d_radovic.html assessed 5th April 2018.

URL1 .https://whc.unesco.org/en/list/125 (assessed on September 5th 2017)

URL2.https://earth.google.com/web/@42.49264133,18.68084282,0.75707475a,3603.17958375d,35y,-161.43414374h,73.76443205t,0r (assessed on March 1st 2018)

URL 3 http://www.hata-archi.com/works/project_09 (assessed on September 5th 2017)

URL4 https://rm.coe.int/council-of-europe-european-landscape-convention-national-workshop-on-t/1680787920 (assessed on April 15th 2018)

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 132– 142

Urban Rights and Sustainability in Latin-America: First Steps towards Urban Justice Operationalization

* Dr. JAVIER ALONSO GOMEZ DAVILA

Faculty of Architecture, Universidad del Valle de México, Campus Monterrey Norte, Monterrey, Mexico
E mail: javier.gomez@uvmnet.edu

ARTICLE INFO:

Article history:
Received 10 February 2018
Accepted 23 April 2018
Available online 20 July 2018

Keywords:
Urban Sustainability:
Urban Justice:
Latin-American Urban Rights.

ABSTRACT

The following research is based on the affirmation that urban sustainability in developing regions, such as Latin America, is an impossible goal to be totally achieved, due to the circumstances of poverty, informality (slums), corruption, violence, among others that exist there. Therefore, the urban sustainability in the cities of this region has to be reached through survival efforts that seek to balance the existing inequalities (urban justice). So, the first step to take is to detect and measure those inequalities, in order to be able to take actions to eradicate or decrease them. To do that, urban rights were chosen to be used as measuring tools for those urban injustices. The research presents five priority urban rights contextualized to the Latin-American spatiality, called the Latin-American urban rights (right to a living place, right to the public space, right to alterity, right to mobility and accessibility, and right to good government practices and public policies), that were obtained after analyzing urban and social characteristics in different cities such as Santiago, Chile, Salvador de Bahía, Brazil, and Monterrey, México. Finally, a first proposal of operationalization of the Latin-American urban rights is presented, which was applied to a case study in the city of Monterrey, México, in order to prove the efficiency of the model.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 132-142.
https://doi.org/10.25034/ijcua.2018.4690

www.ijcua.com

1. Introduction

This paper states that although sustainability is a concept that initially seeks to achieve a common welfare status, this hasn't been able to be achieved due to several reasons, so it is proposed to make a critical review and a re-definition of that concept, in order to obtain more tangible tools that allow us to move forward urban justice in the contemporary city.

The "traditional" concept of sustainable development that has predominated in the political, academic and cultural discourses from the past two decades has been the one of a balance between the economic, social and

***Corresponding Author:**
Faculty of Architecture, Universidad del Valle de Mexico, Campus Monterrey Norte, Monterrey, Mexico
E-mail address: javier.gomez@uvmnet.edu

environmental areas that guarantees the resources of present and future generations.

It is a concept born from the different crisis provoked by the industrial revolution in the XIX and XX centuries, which produced changes and consequences that have generated more negative issues than benefits to the contemporary society, such as environmental depredation, social inequalities and poverty exacerbation, uncontrolled urbanizations, social and urban fragmentation, excessive water and energy consumption, among others.

But over time, the disenchantment has been constant, especially in the Latin-American region, where the expectations of sustainable development haven't been fulfilled in their contemporary cities, which are dynamic, flexible, effective, versatile and global, but are also places of violence, poverty and injustice, with an evident polarization of wealth and power, generating new urban crisis, and a need for staking out a re-thinking of the whole sustainability concept.

The sustainable development concept mentioned above, hasn't accomplished its proposed expectations, because its trialectics of an economical-social-environmental balance has created a "global sustainability" concept, with big generalizations that are applied as a unique "recipe" to any urban problem without taking into account the particular contexts of each city. And that general concept has lost sight of the interactions and simultaneities that are produced when its three elements crisscross each other, leaving open a lot of possibilities and problems to attend.

Therefore, that global concept of sustainability is an impossible goal to achieve given the mentioned urban circumstances. Different authors in the last years have suggested that the idea of urban sustainability as has been presented, is a utopia (Ruano, 2000) for different reasons, being one of them, that, because the general concept of sustainability refers to a state of balance, in which its economic, social and environmental elements remain stable, it is impossible to apply it to any city environment, which is anything but stable, static and balanced, due to its dynamic, changing, hybrid, and unstable nature.

That is why the efforts to achieve sustainability in the contemporary city don't have to be directed to balance their elements, but to shorten the distance between them, trying to adjust the spatial injustices presented in each specific context.

Another aspect to establish is that, in order to shorten that distance between the economic, social and environmental aspects of sustainability, it is necessary to complement its traditional approaches, which are mostly thought in quantitative terms, that is, the sustainability levels are measured in numeric units (poverty index, CO_2 tons in the atmosphere, deforested hectares, gross domestic product, population census, etc.), which is good and useful, but it needs a qualitative counterpart that can analyze and measure the people and their daily life processes, as well as the aspects of their culture, identity, and the spatial manifestations generated in their different urban geographies.

That is why, it is proposed, that contemporary urban sustainability has to be measured also in spatial units, justice units, and urban rights that allow us to monitor the relationship between people and their built environments, and with that, help to increase dignity and spatial justice in those environments, contributing to achieve "feasible levels of sustainability".

When the contemporary sustainability concept ceases to be only "global", and can have a "local" complement that contextualizes it into the different cities' spatialities, and in the moment when the sustainable analysis opens its trialectics (economical-social-environmental) and includes justice and considers it as a qualitative counterpart, then, we could talk about a "feasible" and "achievable" sustainability.

2. A proposal for an updated urban sustainability concept

To redefine the idea of sustainability, to a more updated concept, and transform it into an operable concept, that can be useful for urban issues interventions, the first step is to "spatialize" it, in the same way as Edward Soja did it with the concept of justice (Soja, 2010), that is, to generate a consciousness that the geographies in which we live in, can be changed and reconfigured, and with that new consciousness, to "land" the concept from the abstract, to a more specific contexts of the contemporary urban life, giving it different scales (local, regional, national, global), which will allow us to explore strategies to move towards fairer geographies.

The new concept of sustainability has to have the first name "urban", so that, when we talk about urban sustainability, we will be talking about a spatialized sustainability, not of a concept that belongs to ecology, economy, or sociology.

As a next step in the proposal of this new concept, we must take into account that cities in the world coexist in a division between the cities of the "North", which act as the global centers from which the power and dominant discourses are exercised, also known as first-world cities; and the cities of the "South", that are the megacities of the Global Periphery, the third-world, subordinated to the Global North discourses (Roy, 2009; 2011).

So, in the same way that the urban discourses cannot be the same in the Global North than in the Global South, the sustainability discourses and strategies developed in the Global North can't be the same as the ones developed in the Global South. Fernando Gaja (2005) raises about that, that the sustainability challenges in the Global North have to do with making cities attractive, sustainable, integrated, and solidary. But in the Global South, the challenges of sustainability have to do with stopping and controlling the growth of the cities, to guarantee dignified living conditions, such as the access to basic goods and services, or re-qualify the urban environment, because the urban hypertrophy process they experiment, is aggravated due to the absence and non-compliance of urban and economic planning, which has as a consequence, one of the main urban characteristics of these regions: the informal city.

Thus, for the development of urban sustainability as an applicable concept to the cities of the Global South, it is necessary that along with the traditional urban planning strategies, different strategies and survival efforts are also built from the context of informality and the "border" thinking, with all its elements and spatial components, because the urban sustainability cannot exclude the segregation processes produced in those cities' environments, and must include the fragments and different geographies that compose them.

There are authors like Roy, A. (2009), that propose that the concept of sustainability opens its trialectics and includes the element of public institutions that propitiate the needed legal framework to face the urban challenges in an integral way, thinking in transdisciplinary terms, in a proactive way that takes action and seeks solutions, rather than analyze problems without making decisions.

In the other hand, Larraín (2002), declares that excluding the political dimensions of the sustainability triad, has been decisive for its failure, and enunciates that a sustainable society does have to satisfy the needs of present and future generations, but also has to equally distribute the resources, impose growing limits, and above all, deepen in the democracy concept in order to achieve a social and environmental equity.

This way, urban sustainability has to be proposed also as a more open and transdisciplinary concept, that takes into account the multiple dimensions that act in it. When talking about urban sustainability in the XXI century, it is imperative to include the complex realities that each city presents and that makes them unique, because they derive from their own historical, temporal and spatial context.

The next step is to exemplify how the proposed urban sustainability concept can be flexible and focus in different and more specific contexts, that is, inside the Global South, in spite that there are some characteristics and values in common with the Global North, the realities and circumstances are not the same in Latin-America that in India, Africa, or the Pacific Asia. So, to re-think of an operational urban sustainability concept, it is necessary to consider the local aspects of each region. For example, Latin-America is one of the most urbanized zones of the planet: three of four people of this region live in cities, and it is estimated that almost 44% of the urban population of the region lives in informal areas. Therefore, the increasing informality, even in economical recovering circumstances of some countries, is a central subject in the Latin-American agenda because of its implications in the quality of life of the people that live in these areas, the dysfunctions that it generates in the entire urban society, the environmental commitments that entails, and the urban management problems that provokes (Viana, 2007).

And it is not that there have never been efforts to combat complex phenomena such as Latin-American informality, but most of those efforts have a deep background of political and economic convenience interests, that generate isolated and sectorial interventions (construction of social housing, rehabilitation of deteriorated urban centers, occupation of vacant land and properties, investment in infrastructure and urban services, among others), without a real integration into the broader urban context of the daily life of the inhabitants of the informal city (Fernandes and Smolka, 2004).

This helps to reaffirm the hypothesis that Latin American urban sustainability will be possible only from survival efforts in this context of changes and economic and social processes experienced by this region.

3. An overview of the Latin-American spatiality

The analysis of Latin-American spatiality through cities like Monterrey, México, Santiago, Chile, or Salvador de Bahía, Brazil, made in previous researches (Gómez, 2015; Gómez and Arantes, 2015; Gómez and Arantes, 2016), and the urban-architectural manifestations found there, reinforces what we already know about the region: that due to the economic globalization, the inappropriate release policies and the privatization schemes lacking regulation, among others, are provoking social and urban re-configurations in the Latin-American cities, increasing the contrasts between their "first" and "third" world structures, between the "formal" and "informal" realities that coexist, juxtapose, and mix simultaneously. And, as can be observed in the performed analysis, those contrasts translate into spatial injustices, in some cases, related to security, in others with accessibility and transport, with exclusion and social segregation, poverty, informality, or others. That is why as it has been said before, urban sustainability, especially in the cities of the Global Periphery, have to fight to shorten the distance between those injustices through different strategies.

The researches and analysis performed in the Latin-American cities mentioned before, using different strategies like direct observation, tours through different areas, and a set of interviews with the inhabitants of those areas, allowed to obtain more accurate information regarding some processes of their citizen's daily life. The obtained data and the urban-architectural manifestations found in the analysis, has helped to recognize some particular "habitats" that coexist in the Latin-American city, which are not the only ones, and obviously they take part of a larger urban scale, but were selected as representative for the purposes of this research. These habitats serve to make a more specific and detailed overview, and then, to sketch out a set of urban characteristics that will help in the urban sustainability concept contextualization. The mentioned habitats are the following:

The informal habitat: It refers to the informal settlements, or low-income formal settlements, marginal zones, with an illegal status. They are zones with high levels of poverty, unemployment, crime and socio-spatial exclusion. It is the forgotten city, the inexistent city for the traditional planning and public policies. In some cases, they are in the periphery of the city, and in some others, they are in central areas surrounded by "planned" settlements of medium or high class. They are zones that are stigmatized as areas to avoid by the rest of the citizens.

Figure 1 & 2. Contrast between formal and informal housing in Santiago, Chile (Gómez, 2015).

Figure 3 & 4. Informal settlements in Monterrey, Mexico (Gómez, 2015).

The habitat of fear: It refers to the settlements (horizontal and vertical) planned under the capital of fear and paranoia, that is, with urban-architectural elements that seek protection and self-segregation from its immediate exterior context, with high walls and perimeter fences, access booths with security guards, surveillance cameras, electrified meshes, among other

security devices. That culture of fear is not only observed in developments of recent creation, but also in older settlements, which, following the trend, modify their existing structure, closing streets with doors and bars, or by building the elements mentioned before.

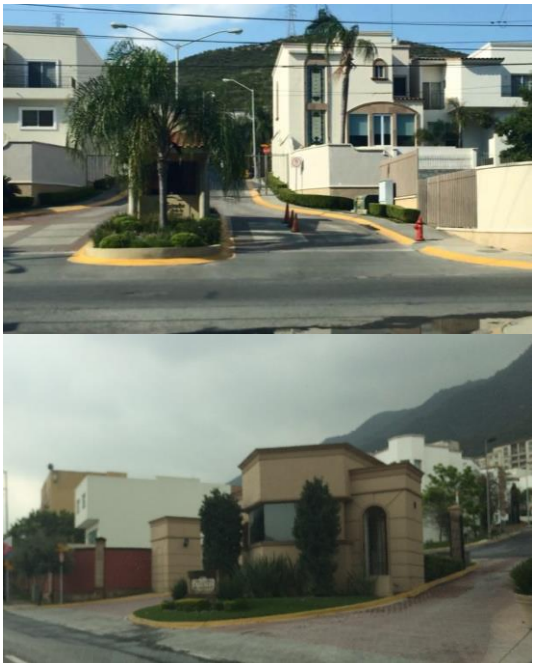


Figure 5 & 6. Access booths and surveillance devices in Monterrey, Mexico (Gómez y Arantes, 2015).

Figure 7. Self-segregation manifestation in Santiago, Chile (Gómez, 2015).

Figure 8 & 9. Access booth and surveillance devices in Salvador de Bahía, Brazil (Gómez y Arantes, 2016. Gómez y Arantes, 2015).

The formal-traditional habitat: It refers to settlements that are a little older in the city, whose urban structure and architectural design does not present the characteristics of the habitat of fear. These are settlements usually of medium class, with open streets and public spaces, consolidated and interconnected with the rest of the city (XX century urban planning), in relatively central or accessible locations within the city.

Figure 10 & 11. Formal-traditional habitat in Santiago, Chile (Gómez, 2015).

Figure 12 & 13. Formal-traditional habitat in Monterrey, Mexico (Gómez, 2015).

The global city habitat: It refers to the urban-architectural elements that function as urban "amusement parks" for the tourist and the global postmodern citizen that also lives in the Latin-American city. It is the habitat that has the shopping mall as a substitute for the traditional public space, which functions as a node that detonates urbanization of its immediate context. It is the urbanization based in commercial buildings of all sizes, hotels, museums, big office and services complexes designed with modern and avant-garde styles, to give the image of a first-world architecture.

Figure 14 & 15. Global city habitat in Monterrey, Mexico (Gómez, 2015).

Finally, the set of urban characteristics proposed after a more thorough analysis of these habitats is the one that follows:

Latin-American spatiality characteristics

- Informality/urban poverty
- "Border" spatiality: a contrast between first and third world structure
- Hyper-hybridization
- Urban-architectonic manifestations of exclusion and spatial segregation, especially between the "planned" and "not planned" areas.
- Urban vulnerability to natural disasters
- A government weakness regarding the urban planning decision making, and facing the real estate market forces
- Violence, insecurity and war against drug trafficking
- Corruption and a lack of transparency in all government levels

- A very strong urban imaginary of fear and insecurity in every sector of the population
- Deficient or non-existent transport and urban mobility systems
- Little or no regulation regarding environmental impact issues (water management, energy consumption, atmospheric pollution, among others)

This obtained information serves to verify that the Latin-American city is a "border" territory, where we find urban-architectonic elements product of capitalism and globalization combined with elements like informal settlements and urban peripheries.

All of the above contributes to form an image of the contemporary Latin-American city as a city of contrasts between different but simultaneous realities, a city that is not a first world city, nor a third world city, a city in which the limits between formal and informal structures juxtapose, a city that can no longer be planned under the traditional way, or from approaches generated in the Global North. That is why, the Latin-American city needs to contextualize concepts like urban sustainability and justice into more achievable goals, and into efforts of social and spatial fight and survival according to its real context.

4. The Latin-American Urban Rights (LAUR)

Therefore, the proposed unit to evaluate the urban justice/injustice conditions in the Latin-American city is the "urban right". That unit is derived from the concept of "right to the city" coined by Lefebvre and its re-definitions and updates made by several authors like Edward Soja (2010).

In order to be able to operationalize the "urban right" as an evaluation strategy, it was decided to start from the reinterpretation made by Jordi Borja (2013), in which he states that the right to the city is a democratic response that integrates the rights of the citizens and the urban criteria that makes them possible, and that is conditioned by the physical and political forms of urban development, stating that, in order to materialize the right to the city into citizen demands, it has to be linked to a critique of the current urban dynamics.

Borja also recognizes that as long as the current urban and political criteria are not replaced by those of competitiveness, social cohesion, sustainability, democracy, participation, and a strong will to reduce social inequities, every effort will only be a good intention. That is why, he proposes a fight for the urban rights as a strategy to give the first steps towards the mentioned changes.

He proposes, then, a catalogue of 21 urban rights to contribute to an urban and political renovation, and to carry out a democratic battle for justice in the cities that legitimate the local demands, and the existing territorial practices, which are listed below:

Right to housing and place, to the public space, to beauty, to collective identity, to mobility and accessibility, to centrality, to the marginal city legitimating, to have a metropolitan government, to political innovation, to information technologies access, to the city as a shelter, to government protection, to justice and security, to illegality, to employment and salary, to environmental quality, to intimacy and difference, to a same-citizen status, to international organizations participation, to transversal information access, and to international associations and governments networks.

This catalogue of urban rights is an important base to re-think the contemporary city in terms of democracy and justice as the qualitative complement of sustainability previously mentioned, establishing this way, a first overview of the various factors that need to be addressed. However, if we want to apply those urban rights to the spatiality of the Latin-American city, they feel incomplete, or a little un-contextualized, because they were stated from an "occidental" and "Spaniard" point of view, due to the cultural and formative contexts of the author.

Therefore, it was decided that a more specific analysis of those rights had to be done, in order to be able to contextualize them, by grouping their intentions and essence, and complementing them with the Latin-American urban characteristics mentioned before, with the purpose of obtaining the *"Latin-American Urban Rights" (LAUR)* that can be used as a more appropriate evaluation tool.

From that contextualization process, it was concluded that the fight for justice in the Latin-American city can be approachable through five general urban rights, that are not the only ones, but they can be the most priority to advance towards a Latin-American urban sustainability to the extent that strategies that involve them are developed:

LAUR 1. Right to a living place: It is not just the right to a shelter or protection, but a right that covers all the basic services needed for a healthy and worthy habitability, with a full freedom of choice their residence place. It's the right to housing with beauty and quality public

spaces nearby. Also, that housing has to contribute to strengthen the feeling of community and collective identity. It has to be accessible or connected to the rest of the city, physically and virtually, and has to guarantee security and tranquility through strategies that seek justice and fight crime. Finally, that housing and its urban environments have to be committed to cause the less possible environmental impact.

LAUR 2. Right to public space: It is a right to the free access to quality public spaces, spaces that help to articulate all of the urban fragments of the city, beautiful, democratic and worthy spaces that also recognize and include the existing spaces in the informal and marginal areas of the city. Spaces that strengthen the feeling of community, belonging and identity, spaces that are safe and that allow a connection not only physical between the people, but also virtual through the free access to the cyberspace and the information technologies. The public space has to be designed and intervened taking into account the best practices for diminishing the environmental impact.

LAUR 3. Right to alterity: Is the right to be recognized as a true citizen. The democratic city must be thought in matters of alterity, that is, including the "other". Its discourses and strategies must accept the difference, multiculturalism, heterogeneity and simultaneity. In the extent that the informal city stops being excluded, and all the citizens are recognized as equal without distinguishing race, beliefs, sexual orientation, gender, migrant situation, social class, etc., the city will move towards urban justice and democracy. It is also about give the same guarantees to everybody regarding security, justice, accessibility, infrastructure and quality of life, and include them in the public policies, giving them voice and decision power over their own urban reality.

LAUR 4. Right to mobility and accessibility: It has the objective of balancing the existing inequalities regarding the access to different transport alternatives in the city, without making one more privileged than the other. It is the right to move and transit freely in the city in the most sustainable and worthy possible way, a right that the city is not planned and designed only for the private vehicles only, but to have multiple and consolidated options for urban mobility, designed to make the citizen's life easier in their daily life activities, diminishing the environmental impact. Accessibility also has to do with stopping the excessive urban sprawl, and strengthen urban nodes/districts to create mixed centralities accessible to every person. Likewise, it has to do with making a city for vulnerable people like elderly or disabled. This right also seeks to guarantee connectivity, permeability, and mobility infrastructure in an inclusive public space that allows virtual free access to the cyberspace and the information technologies. The citizen also has to have freedom of organization and network creation in any level or scale, and has to have access to the government information (transparency).

LAUR 5. Right to good government practices and public policies: Every citizen has the right to their rulers to be in continuous updating regarding practices, government systems, public policies, citizen participation mechanisms, among others, which must be focused into including the demands of the different social movements, civil associations, academics, etc. It is the right to be considered by the authorities as a first-level citizen, and a right to the government to innovate and update its laws and management instruments according to the realities of the contemporary Latin-American city. A government that has the flexibility of exercise authority with a metropolitan reach beyond the municipal borders, that seeks justice, security and protection of every citizen. A government that is transparent in its actions and movements, without corruption and that not put up actions against the common welfare, but instead, builds associations between the public, the private and the citizens in local and global levels, pledging to watch over the environmental quality in the city.

It's important to note that these five Latin-American urban rights are written in a utopic structure or ideal scenarios of democracy and inclusion, but we have to be aware that achieving a full and complete justice is an impossible and overwhelming task due to the current complexities and the socioeconomic and political conditions, so these rights are not viewed as a set of goals to accomplish in a hundred per cent, but instead, as instruments of evaluation of the urban justice/injustice in the different fragments of the city, and as a guide that point us a direction to follow in the course to a more feasible urban sustainability.

5. Operationalization example in Monterrey, Mexico

According to Anaya (2008), the main issue regarding rights operationalization is that people usually go from enunciating the right to the operationalization process, without making a previous clear and solid definition of the right's

content, that is, establishing what does that right implies and what it means. So that, in order to make a more successful operationalization of an element as subjective as a right, it is necessary to establish with detail and clarity its content, identify its components, select a certain number of indicators, and finally, define the measuring technique of each one of them.
With that in mind, an example of the operationalization process of one of the five Latin-American urban rights is going to be presented, establishing its content and elements to measure. The selected right is the right to public space, and from the definition of the right established before, a set of nine elements that compose it is generated:

Right to public space content:

1. Free and safe accessibility to the public space
2. Accessibility, permeability/connection with the city
3. Beauty/Design/quality urban image
4. Maintenance and quality conditions of the public space
5. Strengthen of communitarian identity
6. Security
7. Design and construction with low environmental impact strategies
8. Public space status (formal or informal)
9. Accessibility/connectivity to the cyberspace

And with those 9 elements, turned into indicators, a measuring chart can be created, assigning values from 1 to 5 to measure them, based in the observations, tours and interviews made in the public space that is being measured:

Table 1. Measuring chart example

	LAUR 2. RIGHT TO PUBLIC SPACE	1	2	3	4	5
1	Free and safe accessibility to the public space					
2	Accessibility, permeability/connection with the city					
3	Beauty/Design/quality urban image					
4	Maintenance and quality conditions of the public space					
5	Strengthen of communitarian identity					
6	Security					
7	Design and construction with low environmental impact strategies					
8	Public space status (formal or informal)					
9	Accessibility/connectivity to the cyberspace					

In those 1 to 5 values, 1 is the lowest range value, and is assigned when the evaluated component is nonexistent or is really bad; and 5 is the highest range value, and is assigned when the evaluated component is perceived as consolidated, existent, or really good. For example, if in the "security" component, the interviewed people perceive that their public space is not completely insecure, but neither has a fully consolidated security, a number 3 value would be assigned to it. Obviously, the assigned values are going to vary depending on the perception of the interviewed people, but as it has been explained, this measuring allows us to have a first overview of the evaluated space.

5.1 Measuring example

In the city of Monterrey, Mexico, it has been observed that informal and segregated settlements lack of parks or sports facilities with quality, beauty and accessibility. For that reason, the inhabitants improvise their public space in wasteland, in private land that hasn't been developed, or at the sides of streams and urban rivers. This is an example from the neighborhood called Colonia Alfareros, in which the inhabitants use a non-developed land as a football court:

Figure 16. Aerial view of the analyzed space (Google & author digital manipulation, 2017).

Figure 17. Inhabitants improvising a football court in the non-developed land (Gómez, 2017).

This shows us that there is an important necessity of these kind of spaces, but by being an informal settlement, those spaces are not planned by the authorities, and people has to find their own way to create and use them, turning them into active and functional places.
Now, executing the measuring according to the observations and interviews, we proceed to fill in the measuring chart as follows:

Table 2. Measuring chart filled out

	LAUR 2. RIGHT TO PUBLIC SPACE	1	2	3	4	5
1	Free and safe accessibility to the public space					
2	Accessibility, permeability/connection with the city					
3	Beauty/Design/quality urban image					
4	Maintenance and quality conditions of the public space					
5	Strengthen of communitarian identity					
6	Security					
7	Design and construction with low environmental impact strategies					
8	Public space status (formal or informal)					
9	Accessibility/connectivity to the cyberspace					

With this first overview, we can acknowledge that, in order to consider this space as a fair and sustainable space, basically, actions and strategies are needed in all of the components, because there is no component measured in the values 4 or 5. Only the components of accessibility, communitarian identity and security are ranked with the value number 3.
With this guide, a set of punctual urban strategies or public policies, oriented to balance those detected inequalities, can start to be developed and established, so that the public space could have a more feasible sustainability.

6. Conclusions

As specific conclusions, we can mention the following: Due to the complexity of the contemporary cities, to reach a totally spatially balanced society is impossible, so it is important to work on efforts and actions that help to balance specific mismatches in the analyzed urban fragments. Traditional intervention strategies seek to solve already produced injustices, instead of intervene and change the processes that produce those injustices, that's why is important to comprehend those processes first, in order to change them and produce different results.
The traditional concept of sustainability, has a discourse that is global and universalist, and its rigid trialectics (economical-social-environmental) and intervention strategies are abstract and hard to contextualize to the different local environments. Therefore, the proposed concept of urban sustainability has to be a flexible concept, open and transdisciplinary that takes into account the concept of justice and urban rights as a qualitative counterpart that measures people's daily life processes in justice units.
The "urban right" is established as the justice measuring unit, and from its analysis and contextualization process, a set of five Latin-American urban rights were proposed as the more priority to face the issues of the Latin-American spatiality, and an example of how they can be operationalized was presented. Finally, it is important to mention, that this is not a finished research. The operationalization steps are currently being evaluated and taken into practice in others examples. This document only presents a first approach to the subject.

Acknowledgements
This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests
The author declares no conflict of interest.

References

Anaya, A. (2008). *Hacia una metodología para la medición del cumplimiento de los derechos humanos en México [Towards a methodology for measuring compliance with human rights in Mexico].* Arjona, J. y Guzmán, G. (comps). México: Universidad Iberoamericana. https://catalog.princeton.edu/catalog/6258188

Borja, J. (2013). *Revolución urbana y derechos ciudadanos [*Urban revolution and citizen rights]. Madrid: Alianza Editorial. https://www.alianzaeditorial.es/libro.php?id=1399849&id_col=100508&id_subcol=100520

Fernandes, E. and Smolka, M. (2007). Regularización de la tierra y programas de mejoramiento. En *Perspectivas Urbanas. Temas críticos en políticas de suelo en América Latina [*Regularization of land and improvement programs. In Urban Perspectives. Critical issues in land policies in Latin America]. Cambridge: Lincoln Institute of Land Policy. https://www.lincolninst.edu/sites/default/files/pubfiles/perspectivas-urbanas-cd-full.pdf

Gaja, F. (2005). *Revolución informacional, crisis ecológica y urbanismo [*Informational revolution, ecological crisis and urbanism]. Valencia: Editorial de la Universidad Politécnica de Valencia. https://books.google.com.tr/books/about/Revoluci%C3%B3n_informacional_crisis_ecol%C3%B3g.html?id=-Vc2YgEACAAJ&redir_esc=y

Gómez, (2015). *Sustentabilidad y derechos urbanos. Hacia un pensamiento metaurbano desde la espacialidad latinoamericana* [Sustainability and urban rights. Towards a meta-urban thought from Latin American spatiality]. Tesis para obtención de grado de Doctorado. Universidad Autónoma de Nuevo León. México. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwjL4l6PtJLfAhUai8MKHTMkA

hEQFjAAegQIABAC&url=http%3A%2F%2Feprints.uanl.mx%2F11003%2F1%2F1080215511.pdf&usg=AOvVaw05Va1CGNiNJeta5XRSKTau

Gómez, J. and Arantes, R. (2015). Segregación y privatización espacial en las ciudades latinoamericanas: Una mirada desde la justicia urbana [Segregation and spatial privatization in Latin American cities: A look from urban justice]. *Revista PLANEO*, 21. https://www.researchgate.net/publication/317586673_Segregacion_y_privatizacion_espacial_en_las_ciudades_latinoamericanas_Una_mirada_desde_la_justicia_urbana

Gómez, J. and Arantes, R. (2016). El imaginario urbano del miedo en Latinoamérica: evidencias de estudios en Salvador de Bahía, Brasil, y Monterrey, México [The urban imaginary of fear in Latin America: evidence from studies in Salvador de Bahía, Brazil, and Monterrey, Mexico] . *Temas sociológicos de Chile*, 19 (41-69). http://ediciones.ucsh.cl/ojs/index.php/TSUCSH/article/view/262

Larraín, S. (2002). La línea de dignidad como indicador de sustentabilidad socioambiental: avances desde el concepto de vida mínima hacia el concepto de vida digna [The line of dignity as an indicator of socio-environmental sustainability: advances from the concept of minimum life to the concept of a dignified life]. En: *Polis, Revista de la Universidad Bolivariana,* 1 (3). https://journals.openedition.org/polis/7695

Harvey, D. (2012). *Rebel cities. From the right to the city to the urban revolution*. Londres: Verso. http://abahlali.org/files/Harvey_Rebel_cities_0.pdf

Roy, A. (2009). The 21st-Century Metropolis: New Geographies of Theory. *Regional Studies*, 43(6), 819 — 830. Londres: Routledge. DOI: 10.1080/00343400701809665

Roy, A. (2011). Slumdog Cities: Rethinking Subaltern Urbanism. *International Journal of Urban and Regional Research*, 35(2), 223-238. Blackwell publishing. DOI:10.1111/j.1468-2427.2011.01051.x

Ruano, M. (2000). *Ecourbanismo. Entornos humanos sostenibles [*Ecourbanism Sustainable human environments]. *60 Proyectos*. Barcelona, Gustavo Gili. https://www.researchgate.net/publication/44563602_Ecourbanismo_entornos_humanos_sostenibles_60_proyectos_Ecourbanism_sustainable_human_settlements_60_case_studies_Miguel_Ruano

Soja, E. (2010) . *Seeking spatial justice.* Minneapolis: University of Minnesota Press. DOI: 10.2307/23042243

Viana, I. (2007). Informalidad, regularización y derecho de propiedad. En *Perspectivas urbanas. Temas críticos en políticas de suelo en América Latina [*Informality, regularization and property rights. In urban perspectives. Critical issues in land policies in Latin America]. Cambridge: Lincoln Institute of Land Policy. https://www.lincolninst.edu/sites/default/files/pubfiles/perspectivas-urbanas-book-full.pdf

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 143– 153

Evaluating Gender Based Behavior in Historical Urban Public Place
Case study: Grand Bazaar, Kerman, Iran

* Ph. D Candidate. AIDA JALALKAMALI[1], MA. ELHAM ANJOMSHOA [2]

[1] Faculty of Architecture, Eastern Mediterranean University, Famagusta, Cyprus
[2] Faculty of Architecture, Yazd University, Yazd, Iran
[1]Email: aida.jalalkamali@cc.emu.edu.tr , [2]E mail: e_anjomshoa@yahoo.com

ARTICLE INFO:

Article history:
Received 16 Marchl 2018
Accepted 30 May 2018
Available online 28 July 2018

Keywords:
Public Place;
Spatial Behaviour;
Fear of Crime;
Environmental Psychology;
Public Place Functionality.

ABSTRACT

The study evaluates the spatial behaviors of women in urban public place through 'fear of crime' and 'public place functionality' factors; by using direct observations and questionnaire within the Grand Bazaar as a historical urban public place in the center of Kerman, which is located in the Southwest part of Iran. The study provides a particular perspective to the analysis and understanding of how women make decisions and behave in a spatial setting based on environmental psychology studies. This study applies combinational research methods including qualitative and quantitative approach, including analytical, descriptive, correlation, and logical reasoning methods. This study also conducts direct observation in order to search the strengths and weaknesses of Grand Bazaar as a public place. The results of the study reveal that there is a significant correlation between fear of crime and women's environmental perception of Grand Bazaar. Furthermore, the research findings indicate that the anxiety of being in less crowded parts of Bazaar is more tangible among women than men. On the other hand, the results show there is a significant correlation between time periods and women's activities in Grand Bazaar.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 143-153.
https://doi.org/10.25034/ijcua.2018.4691

www.ijcua.com

1. Introduction

Altman & Zube in (1989) refer to the three critical human dimensions that every public space should provide; "the user's spatial rights", "their essential needs" and the meanings they seek. Regarding the equal spatial rights and fulfilling user's needs, Franck & Paxson (1989) mentioned that with considering the women presence and usages of public spaces, there are visible discriminations on women's rights and their satisfaction within public spaces. On the other side looking to the spatial behavior patterns of human, it shows that women behaviors in public spaces are affected by very deeply rooted psychological, social, and cultural environmental factors, which are created and nourished by societies. Although, the recent consideration of gender issues in designing new public spaces and places increased, and more women are using them frequently and freely, but still in some

***Corresponding Author:**
Faculty of Architecture, Eastern Mediterranean University, Famagusta, Cyprus
E-mail address: aida.jalalkamali@cc.emu.edu.tr

cases it seems there is an obvious difference between men and women spatial behavior in public spaces; and it requires more detailed investigation in order to conduct gender-based behaviors. Furthermore, systematic observations, applying questionnaires in case study indicate that there is a significant difference between women and men spatial behavior within the historic urban public place of Grand Bazaar in Kerman province.

2. Public Places and Spatial Behaviors

According to (Carr, Francis, Rivlin, & Stone, 1992) public spaces and places offering "an image of accessible urban, suburban, rural, and wilderness landscapes. The term "public" connotes the idea that these settings are accessible to everyone-people of a community, state, or nation, regardless of age, gender, ethnicity, physical handicap, or other characteristics." Public spaces can stay as a common ground, a place where people can build their communities by carrying out their functional and ritual activities. These activities can take place as daily routines or in periodic festivals. Public spaces are also hosting more "private" activities as well; such as selling and buying things, exercising, gardening, or simply finding a place to exist. (Altman & Zube, 1989)

The notion of public spaces is based on "daily interactions and activities" between people, and physical structure of public spaces. However, these activities and usages can be restricted by economic, social, cultural, and other constraints. Each one of these factors is defined as "hidden" structures of public spaces; therefore, there is a need to examine and elaborate them as a contextual dimension of behavior. (Golledge & Stimson, 1997).

furthermore, each public place should be defined according to first, which type of behavior is associated with or it may happen on that place, second how the physical parameters of that place are organized, and third "the descriptions, or conception which people hold of that behavior in that physical environment." (Canter, 1977) In this vain Dovey (1985) also specified that space holds ideas of "the interaction between people and a physical setting together with a set of meanings that both emerge from and inform this experience and interaction. (p. 94)"

Public place by definition is part of "public realm"; and public realm itself is considered as a set of behavior settings (Lang, 1987). According to behavior settings, public places consisting of a recurring (or standing) behavior pattern, a milieu (pattern of built form) and a time period. This "milieu" has the affordances to let the behaviors to occur. Each and every public place have their own patterns of behavior settings, it means that what will happen in each place depends on motivations, predispositions, competencies and knowledge of people involved. Therefore, the same set of build form (environment) may produce different behavioral patterns due to different users, different times of a day, week, or a year; also may some of them be occurring often time on a daily basis or even throughout the day or year, while others may occur only on special occasions (Lang J. , 2007).

Generally, in order to examine human – environmental settings, there is a need to consider all applicable variables and their functional relationships. These variables can consist of the physical and the built aspects of the environment, culture, social, and political systems of societies; also the other variable which is affecting spatial behavior is, "environmental psychology", this factor intervening and affecting the process, a human perceives the environment and acts within it.

However, these variables and process of their effectiveness are varied in each case due to different types of users in place. Therefore, it is necessary to narrow down the type of users and the context that these interactions take place. The study concern to focus on what are the hidden parameters that are defining and coding women's certain behavioral settings in public spaces, in an Islamic historical context.

In this manner, Franck & Paxson (1989) refer to the importance of understanding the context within which women do (or do not) use public spaces. Many of these contexts, do restrict women activities and do confine potentially positive aspects of their experiences. Women can use and enjoy public spaces alone without being accompanied by men, only if they overcome different obstacles and following specific restrictions. Men also may have some limitations, but this situation is different for women as it is more concern about fear of crime, in particular places and times. Still, women don't have the same "freedom of street" as men have significantly. In order to increase that freedom, it is required to understand and specify the ways in which women are restricted and the reasons behind them.

For the most parts of the world, girls (then women) have been raised in a different manner, they have been expected to act differently, to have different responsibilities, and

hold different attitudes than boys and (then men) in their societies. These and the other reasons cause women and men gain different attitudes, actions, and experiences toward build environments. Although knowing precisely what these differences are, they vary culturally and historically, also according to class, age, and many other environmental conditions but, the existence of powerful gender differences is universal. In order to understand any built environment, it is important to recognize how these gender differences perceive the space, how much they have enacted the space, and how they create different needs in the built environment. The first priority of any improvement in women's lives is to examine the existence gender difference's assumptions and see whether they show the women and men's everyday lives and whether the built environments do meet women's needs. (Franck K. A., 2002).

3. Identifying Gender Differences and **Women's Needs**

Looking closely to the key differences between men and women, it shows men and women through their lives gain different spatial behavior in built environments. The major motives behind these differences come through first, a different process of socialization they have, second, their male and female self-identity development, and third through the labor division process. As Franck & Paxson (1989) stated how girls from an early age have been encouraged to be more physically active, to be less exploratory and more fearful than boys. On the other study, Susan Saegert and Roger Hart (1978) shows that in United States the range of girls' spatial activities beyond the home is smaller than boys' spatial activities, and girls' play is less tending to manipulate the environment. Girls also being taught to occupy less space and cross their legs (Henley, 1977). Iris Marion Young discuss that generally women control their behavior in their bodily occupation of space, keeping their arms and legs closer to their body when they are moving. Also to put less effort and less movement in their engagement with activities which require lifting, pulling, pushing, or throwing. "Feminine existence appears to posit an existential enclosure between herself and the space surrounding her, in such a way that the space that belongs to her and is available to her grasp and manipulation is constricted and space beyond is not available to her movement" (Young, 1990, p. 151). It is important to specify that, in a lifetime these apparently come "rules" are applying to the behavior of adult women in their use of public spaces.

From a wider perspective, women's restricted movement and their constriction mobility, outside a home in public spaces do not just belong to western industrialized countries, but also in some other societies. Fenster (1999) and Moser (1984) noted, that This issue even is harsher in Muslim countries where they are expected to cover themselves with vail and limit their travels outside the local neighborhood unless to have a male accompany.

The kind of actions women and men value is also related to their self-identity as men and women. Male self-identity is defined to have a tendency to disregard domestic sphere and everyday life, and instead to give value to the abstraction, business, and the public world. Nancy Hartsock (1983) argues that men see the world in two dualism oppositions – abstract/ concrete, culture/ nature, mind/ body, wherein each one of the pairs, the first member refers to the male and the second one to the female. In opposite sphere, female self-identity is defined within the context of home and family and embrace everyday life with a wide range of domestic connections and continuities (Hartsick, 1983).

3.1. **"Domestic" and "Public" Realm**

Gender differences have got interesting terminologies of "domestic" and "public" realm in the field of 'environmental psychology'. Accordingly, women have been defined as domestic part of the society where they have been located at the house and being separated from the rest of the society, while men have been considering as public sphere of society where they have more chance to be integrated with the public realm of the city. Referring to Franck K. A. (2002)"The social and spatial organization of these two realms, the activities pursued, the meanings they have, and the degree to which women's movements are restricted all differ culturally and historically", But the willing of having divided sexual environment in two asymmetrical realms of the domestic and public is not specified for certain regions on the world. It seems, this tendency has been rooted throughout the history and continues today all around the world in different forms, form many Muslim countries, to Greek villages (Hirschon, 1981), to U.S. cities and suburbs (Franck & Paxson, 1989), and to Bedouin settlements in Israel (Fenster, 1999). This division prevents women to be

present fully in the society in their high performance and their mobility in public spaces. (Franck K. A., 2002)it is also possible to say, public spaces have been planned and designed by men's public realm, therefore public spaces despite of evident present of women couldn't fully address the needs of women ((Franck K. A., 2002).

The specific roles have been specified for women in societies are developed and strengthened by gender base division of labor in past and present. However, women accept the responsibility for house care, child care, and elder care. In a study that William Michelson (1985) conduct on employed women and their families in Toronto, he realized, that when all the duties of being an employed woman, taking the house care, child care, commuting, and shopping together; women become a full-time worker, without any "off work" who is spending 11 hours per day around her domestic responsibilities. She will have very restricted free times for herself and her individual activities. However, this issue also affects their usage of public spaces and places; ether they spent less time compare to the men in public spaces for leisure activities, or their most activities in public spaces will be specified to meet the needs of house like grocery shopping or taking their children to play or shop for them and so on. In a same line, Wilson (1991) state: "since women's 'proper' place has historically been in or near home, they generally not been welcome in public space as men, particularly when their reason for being there is not related to their homemaker role".

3.2. Fear of crime and Vulnerability

The other critical assumption in majority of studies which focused on women's usage of public spaces is "fear of crime and vulnerability" in physical environment. The studies show women's spatial behavior in public spaces are highly related to their perceptions of safety on that space. It is well defined in the sociology and criminology literatures of gender studies, that women adopt more fear of crime, and this is mostly related to their sense of physical vulnerability to men, especially to raping and sexual murder ((Baumer, 1978); Waar 1985; and Gordon et al. 1980). On the other studies which were conducted in United State and Canada, they reveal, women have significantly more fear of crime than men (Office of Solicitor General of Canada, 1985; Riger & Gordon, (1981)) however in the real-life women are less frequently victimized of crime (except of sexual assault) than are men. The perception of male violence in certain contexts, cause great effect on many women's use of space, in this way women accept two kinds of precautions to defense against probable dangerous situations: isolation or avoiding situations perceived as unsafe, and "street savvy" as judging carefully, and where to sit on a bus ((Altman & Zube, 1989); (Valentine, 1989)). Altogether the factor of 'fear of crime and vulnerability' and in its consequence the precautionary behaviors cause women to restrict when, where, and how they move in public space ((Franck & Paxson, 1989); (Day, 1995), (Day, 2000)).

4. Study Framework

This study has shown earlier that how psychological variables are intervening between women and built environment; and their importance in expanding the behavioral outcomes of these interactions in public spaces. Conducting the spatial behavioral patterns of women in an old commercial public place (Grand Bazaar), is the main goal of this research. Among all those factors which were discussed in the literature review, this study tries to draw women spatial behavior based on two factors of "fear of crime", and "public place functionality" (Figure. 1).

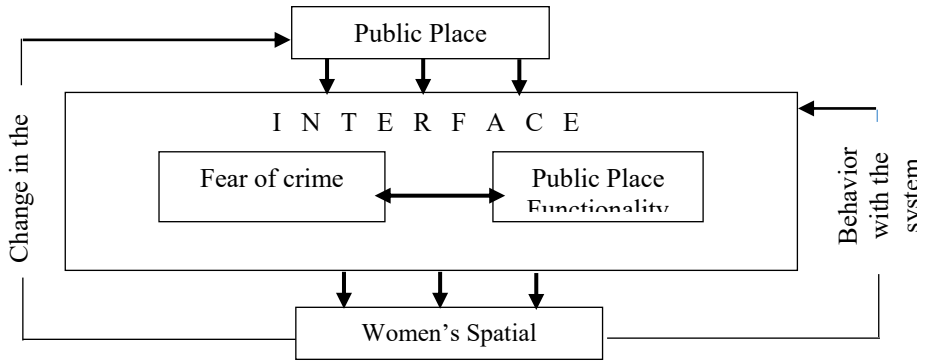


Figure 1. Women spatial behavior based on two factors of "fear of crime", and "public place functionality"

The behavioral interface is in the frame, within which women shape the image of their world. Framework for investigating the behavioral patterns is based on each one of those relationships that manifest themselves as spatial movements and location decisions.

4.1. Materials and methods

The study applies combinational research methods with a qualitative and quantitative approach which include, analytical, descriptive, correlation and logical reasoning methods. The study also uses direct observations and questionnaire in fieldwork within the context of study and desk study. Accordingly, the study evaluates the spatial behaviors of women within the historical urban context of Kerman, which includes the Grand Bazaar as an urban public place. The study conducts the questionnaire data analysis, in order to measure 'Fear of Crime' and 'Public Space Functionality' factors; within the case study through which it is possible to evaluate men and women's spatial behavior.

4.2. Data Collection and Field Study

In the field study, 40 randomly men and women have participated voluntarily; in order to have equal analysis, 20 men and 20 women were selected. All of the participants were users of Grand Bazaar, and there was not any limitation for their age, race, and their occupations. As it was mentioned in the former section, this study utilizes the questionnaire data analysis in order to measure factors of fear of crime and functionality in public space.

The survey conducts the questionnaire data analysis to measure the fear of crime in the physical environment of Grand Bazaar, which are anxiety towards the physical and social environment, and indirect places for crime victimization. As Valentine (1989), referred to some women's 'fear of crime' measures: avoidance and isolation which involved a sense of restriction in use and occupancy of a public place. Subsequently, some of the questionnaire items were as: (1) *"Do you feel Bazaar, is a safe place for you"*, (2) *"Have you ever faced the verbal or physical harassment in Bazaar"*, (3) *"Are you more cautious while you are walking in Bazaar environment"*, (4) *"Are you feel anxious in less crowded districts of Bazaar"*, and *"I prefer to ignore the shops on dead-end paths of the Bazaar"*.

On the other side, the questionnaire tries to measures how Bazaar as a public place is successful to meet its user's social, commercial and recreational needs. In this way, some of the questionnaire items were as: (1) *"I come to Bazaar just for shopping"*, (2) *"I come Bazaar just for having a good time"*, (3) *"Are you using cafes and restaurants in the Bazaar if you were alone"*, (4) *"Are you using mosques inside the Bazaar"*, (5) *"Is Bazaar one of your meeting place with your friends"*, (5) *"Are you participating in community programs such as ,periodical festivals, matches, exhibitions, and ceremonies inside the Bazaar"*, and *"Are you spending any time in Bazaar for setting, reading, sun bathing, playing, or chatting with your friends"*.

This study uses 5 – point Likert scale (1. All the time, 2. Usually, 3. In average, 4. Rarely, 5. Almost never). Moreover, the study utilizes 'cross-tab analysis' in order to measure the mentioned factors in the questionnaire.

5. The Case Study of Grand Bazaar

Kerman is one of the Greatest cities in Iran, and it is located near the central desert of Iran. This city has a historical central core, which includes Grand Bazaar as one of its urban public places (Figure. 2). The Grand Bazaar has two main East-West and North-South Axis. The main entrance portal of the East-West axis is located in the Arg Square (figure. 3). The East-West axis connects the Arg Square to the Moshtagh Square.

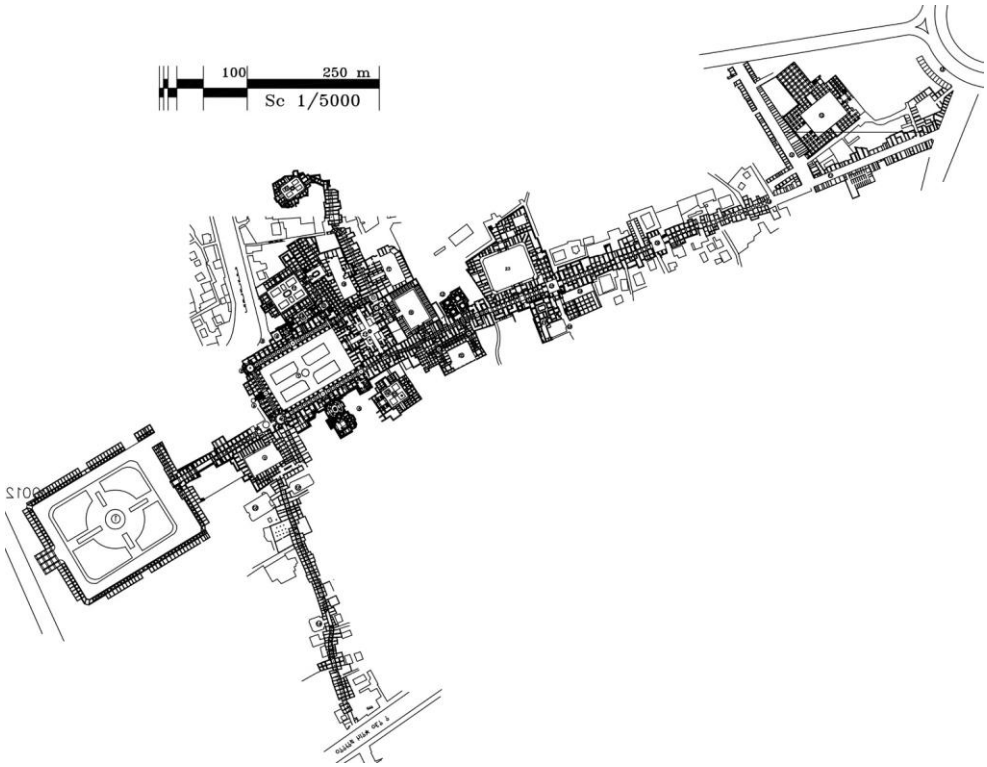


Figure 2. The map of the main of Grand Bazaar and its open public spaces

Areal image of the grand bazaar

Figure 3. Main open public spaces in the Bazaar

This Bazaar is considering the second biggest and longest Historical Bazaar in Iran after Tabriz's Bazaar. This complex in its design has all the required facilities, such as traditional Baths, traditional schools, mosques, public squares, and most importantly its commercial Axes (figures 4, 5, 6). This complex is still active and crowded today and it is representing a well-defined public place in Kerman province.

Figure 4-5. The main axis of Bazaar, including the shops and smaller sections

Figure 6-7. Public functions like the historic school and bath along the Bazar

Direct observation in Grand Bazaar indicates the strengths and weakness of the case study. Conducting direct observation in the field make it possible to extract the strength and weakness of Grand Bazaar as a historical public place; table 1 indicates the strength and weakness in terms of functional dimension, social, perceptual, and physical dimensions.

	Strengths	Weaknesses
Functional Dimension	• Mixed- used axis of the Grand Bazaar • Multifunctional facilities • Tourism attraction for its historical monuments • Active religion centers within the Grand Bazaar	• Deterioration and lack of maintenance in some neglected parts • Some parts of the Bazaar are completely abandoned
Perceptual Dimension	• Presence of historical buildings • The Grand Bazaar, itself as a strong path in the cognitive map of users. • Legibility, connection, and continuity of signs in the Grand Bazaar	• Fear of crime within the historical context • Visual deterioration as a result of poor maintenance in some parts of Bazaar • Lack of adequate lighting in some parts of Bazaar during afternoon and night time
Social Dimension	• Active commercial axis • Active mosques within the Bazaar • Active schools in Bazaar • Active traditional restaurants and cafes in the Bazaar • Active community programs related to the religious ceremonies in Bazaar • Diversity of users	• Immigration and newcomers in nearby neighborhoods • Lack of people participation • Lack of other social communities except for religious one • Lack of inclusive spaces for children
Physical Dimension	• Simple organic forms • Rhythmic and oriented axis • In closing two big public squares, and several smaller open areas	• Physical deterioration within historical buildings and axis in Bazaar • Inadequate seating areas in its public squares and other open spaces. • inadequate green areas in its public squares

Table 1. Strengths and weaknesses of functional, perceptual, Social, and physical dimensions

Table 2. Spearman Correlation between Gender, time of Usage and Fear of crime

		a1	A3	A4	A5	A7	A8	A9	A10
A1	Correlation Coefficient	1.000	-.098	.366**	.458**	.210	.540**	.196	-.244
	Sig. (2-tailed)	.	.435	.003	.000	.094	.000	.117	.050
A3	Correlation Coefficient		1.000	-.243*	.120	.142	.069	.119	-.027
	Sig. (2-tailed)q		.	.047	.334	.256	.583	.340	.829

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
A1- Gender
A3- Time of usage (ranges from early morning to late afternoon)
A4- Do you feel Bazaar, is a safe place for you
A5- Have you ever faced the verbal or physical harassment in Bazaar
A7- Are you more cautious while you are walking in Bazaar environment
A8- Are you feel anxious in less crowded districts of Bazaar
A9- I prefer to ignore the shops on dead-end paths of the Bazaar
A10- Do use the mosques in the Grand Bazaar

6. Results and Discussion

As it was mentioned, the study uses 5 – point Likert scale for questionnaire data analysis; therefore, in this study in order to analyses the Likert scale type data, Spearman correlation coefficient was conducted. Table 1 shows the existing relationship among the data. First raw (A1) expresses the correlation between Genders as the main goal of this study. The other row (A3) is showing the general relations between the time of using the space and other variables.

Due to the goal of this research, the data entry was conducted by giving the value 1 to female, and 0 to male participants. Accordingly, any positive correlation in the first row shows the women's agreement with the statement. And any negative correlation in the first row shows a stronger disagreement in female participant in comparison with male participant replies. Thus, if the correlation is closer to 0, it shows that the answers are very similar between male and female participates (there is no significant relationship between the given Question and gender).

In the first section of the analysis which is presented in Table 2, shows the correlations between the 'fear of crime' according to gender (A1 row).

The data shows a significant discrimination of female users as they report more feeling unsafe in compare with male users (A1*A4). Also, there is a strong correlation between gender and verbal and physical harassment according to this study (A1*A5), female users have reported being faced with such behavior repeatedly; as a consequence, this fear will cause their avoidance to use and participate in Bazaar as an urban public place. The female participants also feel more anxious in the less crowded axis of the grand bazaar (A1*A8); which can be another reason for them to feel uncomfortable and terrified in a public place. The A3 row shows how the time of usage affects the other variables. Interestingly, the data shows all participants feel more vulnerable as night approaches regardless of their gender.

In the second section of the analysis which is presented in Table 3, shows the Spearman Correlation between -Gender, time of Usage- and Public Place Functionality.

Table 3. Spearman Correlation between -Gender, time of Usage- and Public Place Functionality

		a1	A3	B1	B2	B3	B4	B5	B6
a1	Correlation Coefficient	1.000	-.098	.262*	-.282*	-.081	-.160	-.050	-.380**
	Sig. (2-tailed)	.	.435	.037	.023	.523	.204	.695	.002
A3	Correlation Coefficient		1.000	-.044	-.110	-.203	-.190	.011	-.295*
	Sig. (2-tailed)		.	.729	.378	.102	.128	.927	.016
	N		67	65	66	66	66	66	66

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

A1- Gender
A3- Time of usage (ranges from early morning to late afternoon)
B1-I come to Bazaar just for shopping
B2-I come to Bazaar just for having a good time
B3- Are you using cafes and restaurants in the bazaar
B4-Is Bazaar one of your meeting place with your friends"
B5-Are you participating in community programs such as periodical festivals, matches, exhibitions, and ceremonies inside the Bazaar
B6- Are you spending any time in Bazaar for setting, reading, sunbathing, playing, or chatting with your friends

The result shows that women do not identify the grand bazaar as a place for public leisure activities (A1*B2 & A1*B6). It seems that the place feels more relative to male usage. The analysis shows no gender-related differences in using the space as a place for community, meetings, using cafes and restaurants, attending religious ceremonies, and public exhibitions, therefore, it seems that both men and women use the Bazaar in those aspects similarly. As it was mentioned in the literature review women usually use public spaces as a place for their daily outdoor activities such as shopping, the analysis shows similar results, it shows that they put less time for leisure activities and more for the functional approach of shopping. In case of time, the analysis shows that people use the space as a place for setting, reading, sunbathing, playing, or chatting with their friends in the morning, and as the night approaches people start to evacuate the place.

7. Conclusion

The overall analysis in the case study of Grand Bazaar as a public place indicates that in most parts, there is an apparent discrepancy between two genders of male and female's environmental perception and public place usages. The study shows women's fear of crime puts significant effects on their spatial behavior in public place, this issue makes them avoid and restrict their movements within Bazaar public places at specific times during the day. It should be noted that Islamic local culture of the environment also affects the self-identity of women as they are not feeling quite comfortable to reveal their expressions, feelings, and their bodily movement in urban open public places.

The other part of analysis 'public place functionality' provides an explanation for differences between two types of usage in Grand Bazaar. Women mostly as it was discussed in literature review devote their times in public spaces to provide their house or their children's requirements, and they spent less time in public spaces for individual purposes such as chatting with their friends, seating, reading or participating in any leisure activities. However, men as analysis suggest, use the Grand Bazaar facilities more for recreational activities compared to the women's activates in this place.

Throughout the analysis, it is possible to extract patterns of spatial behavior which actually has a significant effect on women's lives formation. Therefore, this research concludes that any proposing public place design alternatives, should see women's needs in that context and decoding hidden socio-cultural parameters which makes them behave in certain patterns in urban public spaces. Meanwhile, awareness about the importance of women's usage and activities in public spaces should become the priority of urban designers and urban planners because women make up 50% of the population in each society; and good public space should be supportive and democratic to all its users.

Acknowledgements
This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests
The author declares no conflict of interest.

References

Altman, I., & Zube, E. H. (2012). *Public places and spaces* (Vol. 10): Springer Science & Business Media. https://www.springer.com/gp/book/9781468456035

Ardener, S. (1981). *Women and space: Ground rules and social maps*: Berg Publishers. https://books.google.com.cy/books?id=60-0AAAAIAAJ

Brooks, J. (1974). The fear of crime in the United States. *Crime & Delinquency, 20*(3), 241-244. doi:https://doi.org/10.1177/001112877402000303

Carr, S., Francis, M., Rivlin, L., & Stone, A. (1992). *Public Space* (S. Carr Ed. illustrated, reprint ed.): Cambridge University Press. https://books.google.com.cy/books?isbn=0521359600

Day, K. (1995). Assault prevention as social control: Women and sexual assault prevention on urban college campuses. *Journal of Environmental Psychology, 15*(4), 261-281. doi:https://doi.org/10.1006/jevp.1995.0024

Dovey, K. (1985). *An ecology of place and placemaking: Structure, processes.* Paper presented at the Place and Placemaking: proceedings of the PAPER 85 Conference, Melbourne, Australia. http://www.citeulike.org/user/eye_lean/article/6336547

Fenster, T. (1999). Space for gender: cultural roles of the forbidden and the permitted. *Environment and Planning D: Society and Space, 17*(2), 227-246. doi:https://doi.org/10.1068/d170227

Franck, K. A. (2003). Women and Environment. In R. B. Bechtel & A. Churchman (Eds.), *Hand Book of Environmental Psychology* (pp. 347-367): John Wiley & Sons. https://www.springer.com/gp/book/9780306446801

Franck, K. A., & Paxson, L. (1989). Women and urban public space *Public places and spaces* (pp. 121-146): Springer. https://doi.org/10.1007/978-1-4684-5601-1_6

Golledge, R. G. (1997). *Spatial behavior: A geographic perspective*: Guilford Press. https://books.google.com.cy/books?isbn=1572300507

Hartsock, N. C. (1983). The feminist standpoint: Developing the ground for a specifically feminist historical materialism *Discovering reality* (pp. 283-310): Springer. https://books.google.com.cy/books?isbn=0415945011

Henley, N. (1977). *Body politics: Power, sex, and nonverbal communication*: Prentice Hall. https://books.google.com.cy/books?id=u6x-AAAAMAAJ

Lang, J. (2017). *Urban design: A typology of procedures and products*: Routledge. https://books.google.com.cy/books?isbn=1317282914

Leavitt, J. (1988). Creating Architectural Theory: The Role Of Behavioral Sciences in Environmental Design. Retrieved from https://www.jstor.org/stable/43028893

Michelson, W. M. (1985). *From sun to sun: Daily obligations and community structure in the lives of employed women and their families*: Government Institutes. https://books.google.com.cy/books?isbn=0865981493

Moser, C. (1987). *Women, human settlements, and housing: a conceptual framework for analysis and policy-making*. London ; New York Tavistock Publications. doi:http://www.pastwomen.net/fr/bibliografia/women-human-settlements-and-housing-a-conceptual-framework-for-analysis-and-policy-making

Riger, S., & Gordon, M. T. (1981). The fear of rape: A study in social control. *Journal of Social Issues, 37*(4), 71-92. doi:https://doi.org/10.1111/j.1540-4560.1981.tb01071.x

Saegert, S., & Hart, R. (1978). The development of environmental competence in girls and boys. *Play: An anthropological perspective*, 157-176. https://www.bisp-surf.de/Record/PU198004011247/RIS

Valentine, G. (1989). The geography of women's fear. *Area*, 385-390. doi: https://www.jstor.org/stable/20000063

Wilson, E. (1992). *The sphinx in the city: Urban life, the control of disorder, and women*: Univ of California Press. https://books.google.com.cy/books?isbn=0520078640

Young, I. M. (1990). *Throwing like a girl and other essays in feminist philosophy and social theory*. https://books.google.com.cy/books?id=6Sw-AAAAMAAJ

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 154– 160

Establishment of Space syntax to read and analyze urban network; the case of study, Famagusta city of Cyprus

* Ph.D. Candidate EHSAN VALIPOUR [1], Ph.D. Candidate ABDOLLAH MOBARAKI [2]
Ph.D. Candidate MOJDEH NIKOOFAM [3], B.A SAMIRA TAYYEBISOUDKOLAEI [4]

[1 & 2] Faculty of Architecture, Cyprus International University, Nicosia, Mersin 10 Turkey
[3] Faculty of Architecture, Eastern Mediterranean University, Famagusta, Mersin 10 Turkey
[4] Islamic Azad University, Iran
Email: eh.valipour@gmail.com Email: a_mobarakie@yahoo.com Email: mojdeh.nikoofam@gmail.com

ARTICLE INFO:

Article history:
Received 24 December 2017
Accepted 05 February 2018
Available online 05 August 2018

Keywords:
Space syntax; studying spaces; urban road network; Famagusta city.

ABSTRACT

Architects and designers should be familiar with the city developmental process to know about all the city aspects if they are hidden the whole time. This matter shows the importance of studying the urban sections to find out the city critical points. The method is the space syntax in one view which is the consideration of urban network analysis and it would be presented by graphs and maps by a computational description of the selected places. The main target of the space syntax establishment is to study the urban network issue by clarifying the most logical routes in the urban road network. This study has the aim to implement the space syntax as a method to determine urban network problems in order to achieve the new suggestions to increase the urban network integration. In this regards, Famagusta city in Cyprus is chosen to study to present the new suggestion.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 154-160.
https://doi.org/10.25034/ijcua.2018.4692

www.ijcua.com

1. Introduction

As live organisms, the Cities are in permanent transformations. So, this development asks for suitable design solutions to respond the structural and social demands to make human contacts safe and healthy (Önder, D.E., Gigi, Y. , 2010). Scholars division about cities sustainable development consists of two main issues. As the huge building's collections are linked by a space, the human activity system is also connected by the urban network interaction (Vaughan, 2007).

Recently, most studies have changed their directions towards using more physics, mathematics, computer science and mechanics etc. Considering this matter, the urban space may access the network by a node structure. Then the edge has a bold position as a complex network with a close similarity to the other networks, for instance, a cooperative relation network with a specific structure by its own (Levinson, 2006)(Cardillo, A., Scellato, S., Latora, V., Porta, S., 2006) (Yuan, P.C., Juan, Z.C., 2013).

The history of urban network analysis is included various issues such as social, informational and

***Corresponding Authors**
Faculty of Architecture, Cyprus International University, Nicosia, Mersin 10, Turkey
E-mail address: eh.valipour@gmail.com

communicational networks but nowadays, there is a new issue in this context as the analyze of the urban road network (Wagner, 2008). Scholars' studies show that the groups of connected nodes have more structural data in compare with the single ones. For instance, to find knot or stroke in a city access network is a group of consecutive road parts which has an effect on the street length (Jiang, B., Zhao, S., Yin, J., 2008). Mainly, this issue has started from space syntax to show the urban road network could be like body neural network in which stroke has employed to make linear elements relatively simple and understandable in networks which would be able to show lines movement in network frame and to build natural functional units (Duan, Y., Lu, F., 2013).Space syntax is born inside the architecture as a spatial analysis theory. It has followed both the architecture field and knowledge. In addition, it has contained philosophy and mathematics, on one side as well as the other sciences on the other side. However, it also contains the philosophical base and mathematical principles in the evaluation cases (Hillier, B., Hanson, J., 1997; Reveron, 2009).

The aims of this study would be divided into two main parts, the first one is to study and identify the existed urban network and the second part is to propose some new connections to reach the qualified urban network as a suggestion. This study is planned to compare the present position and the suggested condition by pretending two selected methods. The first method is Space syntax logic employed by Depthmap software and the second one is SPSS establishment reached the numbers from the first part of the analysis. As a case study, the newly developed area of Famagusta in Cyprus is selected due to various reasons, such as dense settlements, urban traffic and being close to some places like commercial centers and EMU University campus. This paper has planned to review the literature and regional observations. It has also planned to identify the problematic points and deep place understanding. Based on these, suggestions are planned to diminish recognized problems about the selected area with the aim to grow the network quality in the selected region.

2. Methodology

Based on the regular viewpoint, Bill Hillier says "cities seem that could be seen but cities syntactic analysis shows that it has made to provide physical movements and being understandable to minds"(Stahle, A., Marcus, L., Karlström, A., 2005). Space syntax follows the principles of the graph theory by dividing the urban space into the single units to analyze their relationship with the other parts. Space syntax covers the various points based on space geometrical logic which can discover the invisible seated structure in the human environment. (Steadman, 1983; Peponis, J.C., Wineman, J., Bafna, S., 1998)(Penn, 2003)(Turner, 2003; Hillier, 2007; Tianxiang, Y., Dong, J., Shoubing, W., 2015).

This concept could be useful to study urban contextual features by an axial line employment as one of the main theory columns. The axial space map would have the fewest set of straight lines which cross via convex space. The collection of all axial lines and convex maps would have the fewest space collection to cover the whole space (Hillier, B., Hanson, J., 1984; Önder, D.E., Gigi, Y. , 2010; Rezayan, H., Delavar, M.R., Frank, A.U., Mansouri, A., 2010). In "The Social Logic of Space" Bill Hillier has defined (Hillier, B., Hanson, J., 1984) axial line presents the pathway of unblocked movement. In this concept, each path could be as an axial line and the linked by the other lines as intersections. It could be defined there is a spatial correlation between lines roots with each other. The Urban spaces are contained many numbers of axial lines while the axial maps are contained just fewest groups of axial lines which pass the city; they could be visible everywhere on the axial line map like any other disjoint parts or points which can be joined by the third axial line (Wagner, 2008; Han, Y., Jin-yeu, T., Jiangang, L., 2009; Hillier, B., Hanson, J., 1984; Tischendorf, L., Fahrig, L., 2000; Hargrove, W.W., Hoffman, F.M., Efroymson, R.A., 2004). The dynamic lines idea is shaped based on the breaking conception of boundaries. Multiple lines of different lengths have functioned to represent the detailed and specific Euclidean agent's geometry of agents reflected in the free space. By connection lines to the nodes and their junction to the links, it would be possible to obtain the topological network parameters by defining the Total Depth, Integration, etc. (Jiang, B., Claramunt, C., Klarqvist, B., 2000; Hillier, 2007).

3. Famagusta as a case study

Famagusta city is located in the East of Cyprus on the Mediterranean coast. It is one of the Cyprus historical cities. The core castle had a bold role during the medieval era. In British colony period, Famagusta was focused on tourism and commercial destinations. This fact made the city walls continue to the outer part in Ottoman period. In 1974, this city experienced the civil war which occurred

between the Greek residents and the Turkish people with the support of Turkey government. This war has resulted in the border between these two parts in the South. This matter has caused the development direction has changed from South to North. By developing the North part in Famagusta, Eastern Mediterranean University was established in the middle of two main roads to be accessed by the Northern cities. As mentioned, the university campus is located in the middle of two main roads. This blocked area prevents the direct access to the side roads. By further city development, free lands around the university campus have been built by the high-density inhabitants and commercial units. This kind of inhabitants compress has caused some problems such as pollution and traffic. This study follows the important points on how it would be beneficial to access the university campus as well as the completion of existed urban network. Fig 1 has defined some different regions in the selected area of Famagusta as a case study.

Figure 1. Selected area in Famagusta as a case study

4. Discussion and results

In order to understand the space physical features to examine features effects on human movements, an axial map of selected area is evaluated by employing Depthmap software. This study has a specific view on integration factor in Rn scale as a global integration and also R5 for local dimension.

The case study area has located in the middle of Gazi Mustafa Kamal Blv and Ismet Inonu Blv, which is in Hasan Barbocolli Sk neighborhood. The interface region between Gazi Mustafa Kamal Blv and Ismet Inonu Blv has a high potential to increase Rn and R5 rate by adding some new connections but unfortunately, as it is mentioned, Hasan Barbocolli Sk can be an example with just a few connections. As fig 1 shows, there are some organic urban patterns in this area and also some free lands that could complete their connections to reach the highest integration.

This study has two main areas and each of them has a kind of specific importance. The primary area is from the university campus to Topular Blv and the second region is from Topcular Blv to Walled city. The first region has more commercial values with most of the economical sources including the university campus. The Eastern Mediterranean University campus has an effective role in this region because of scale and location. Unfortunately, there is a problem with the university campus because the availability is hard to get, in the late evening as well as missing some connections to the side roads. Actually, university campus has the potential to play a more effective role to increase the integration of Gazi Mustafa Kamal Blv and Ismet Inonu Blv. University campus has inner streets which are not connected to the mentioned roads, although this potential could be useful to the residences to reach the Gazi Mustafa Kamal Blv and Ismet Inonu Blv via campus, fig 2.

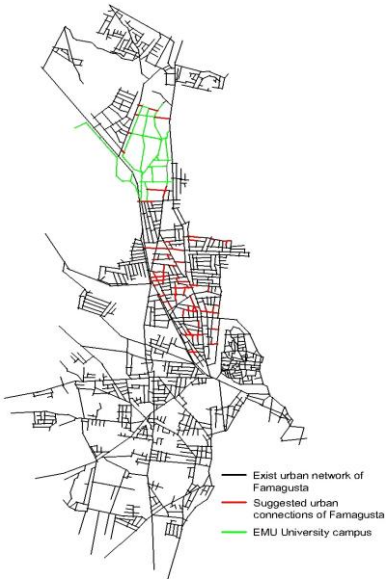


Figure 2. Axial map of the existing pattern and the suggested project.

The Second region in the case study is ended in Walled city. This area which is across from the northern part has more houses and population density. There are many connections remained undone so building them wholly can be effective in the integration of this region with Gazi Mustafa Kamal Blv and Walled city.

Mentioning the aim of this study, Famagusta axial map is established to make the analyzed selected area. As figure 2 shows, the green line is the university campus that is joined to existed urban tissue by the suggested line in red color.

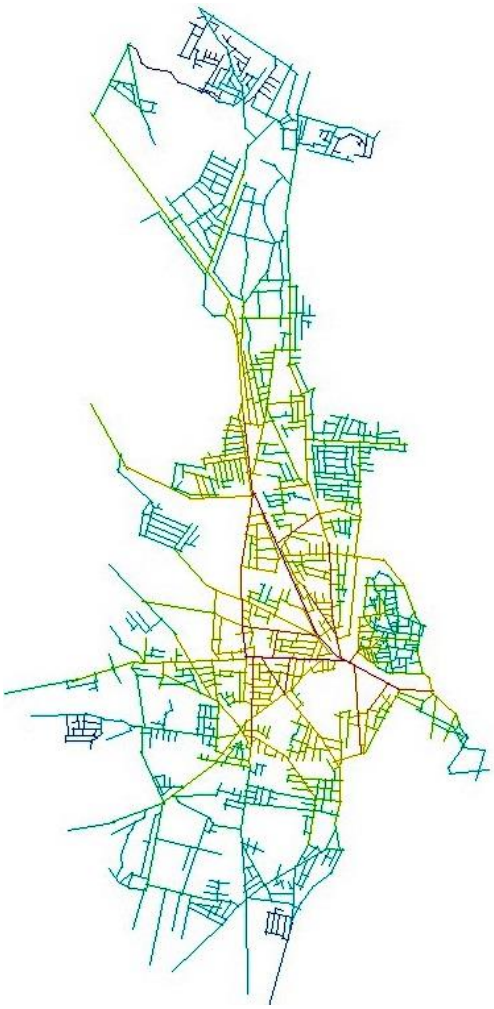


Figure 3. The axial map in the present condition and Rn values.

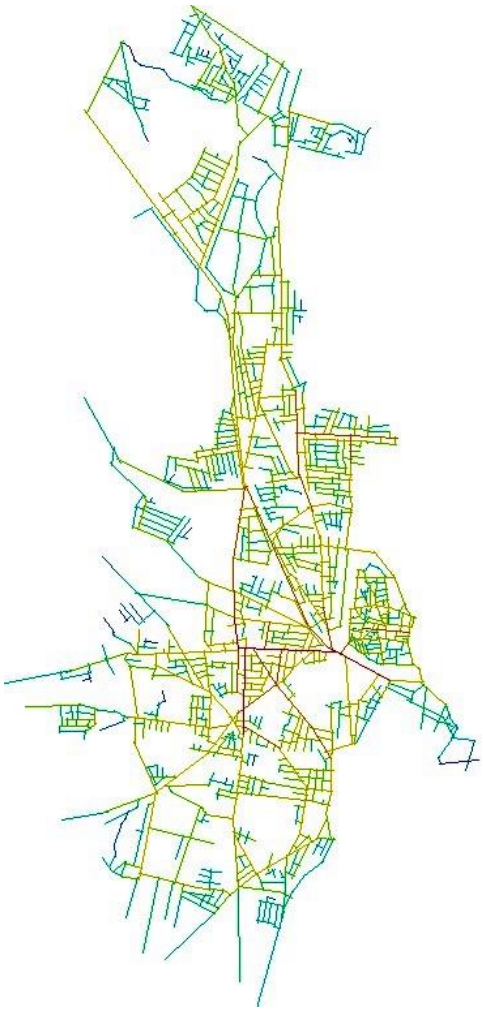


Figure 4. Axial map at the present condition and R5 values

In order to evaluate the differences between exist condition (fig 3, 4) and suggested plan (fig 5, 6), the axial map of the case study is established in this study mentioning two different scales, global integration value (Rn) and also the local one (R5).

Figure 5. Axial map of suggested connection and Rn values.

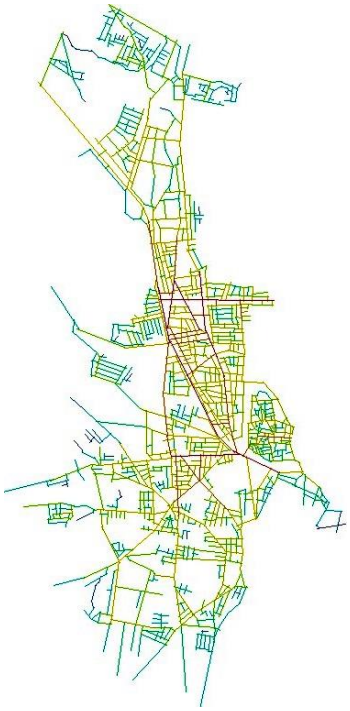
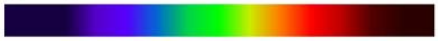
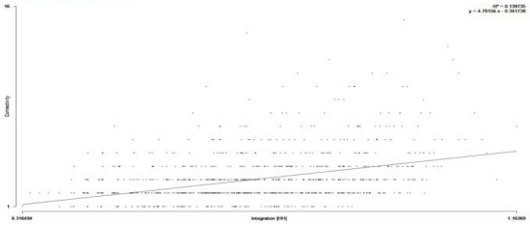


Figure 6. Axial map of suggested connection and R5 values

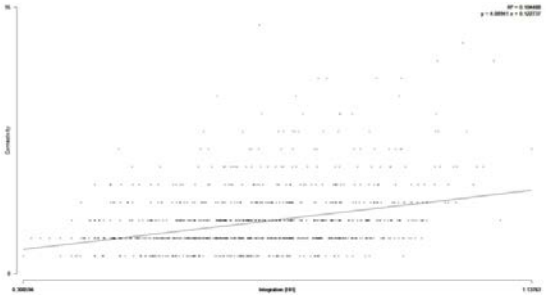
The most segregated spaces — The most integrated spaces



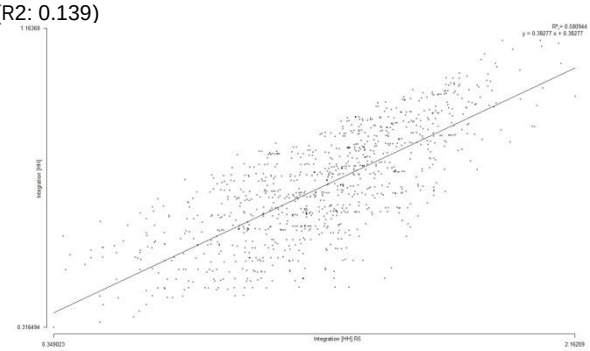
The R2 rate (determination efficiency), a value of global integration (HH) and the connectivity are 0.104 in the present issue. In the suggested project, this rate is increased to 0.139 and, R2 is 0.511 between the integration (HH) R5 and integration (HH) in the existed pattern, although the new pattern has been changed to 0.580.



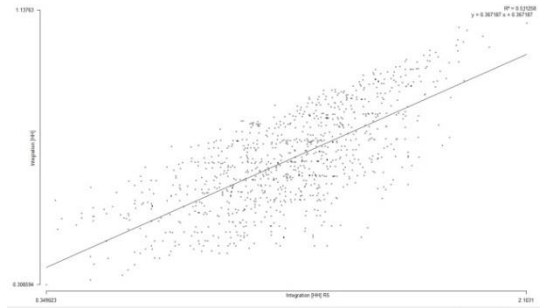
Graph 3. Rn Scattergram in the suggested project, value (R2: 0.139)



Graph 1. Rn Scattergram in the present tissue, value (R2: 0.104)



Graph 4. R5 Scattergram in the suggested project, value (R2: 0.580)



Graph 2. R5 Scattergram in the present tissue, value (R2: 0.511)

Attributed properties of this study have clarified; the average of R5 is 1.23 in the existed pattern, although, in the suggested project, it is increased to 1.28. The maximum R5 value is 2.11 in the existed tissue, but in the new pattern, it is changed to2.16. In contrast with the maximum value, the R5 minimum does not have any change. In Rn study, the average of the present tissue is increased from 0.682916 to 0.71466. In the global integration, the maximum value is changed from 1.13763 to 1.16369 and

for the minimum value; there is also change from 1.13763 to 1.16369.

5. Conclusions

This study is employed by the space syntax and SPSS methods to analyze the newly developed area of Famagusta before and after project implementation which may propose to resolve some identified problems. While in the current tissue, the urban networks are concentrated with low rate value integration, the proposed changes can make more accessibility with higher integration and the lowest places depth. This would significantly improve the overall experience of the area, as illustrated by improvements in the global integration value (Rn) from 0.68 to 0.71. Similarly, the local integration value (R5) would be increased from 1.23 to 1.28 and also the total depth would be decreased in the global scale from 13593.12 to 13201.06, but just the total R5 depth is increased from 307.65 to 374.06.

Here is an emphasis while this is not a significant numerical change; the intelligibility level can be changed by the application of the suggested design. The results are also important because the method is applicable to other problematic areas. This study has tried to propose some new suggestions to improve the physical and economic values of the case study by more accessibility also it wants to be useful for the city infrastructure and superstructure.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The authors declare no conflict of interest.

References

Peponis, J Wineman, S Bafna, M Rashid, S H Kim. (1998). On the generation of linear representations of spatial configuration configuration. Environment and Planning B: Planning and Design , 559 – 576. https://journals.sagepub.com/doi/10.1068/b250559

Alasdair Turner, Alan Penn, Bill Hillier. (2005). An algorithmic definition of the axial map. Environment and Planning B: Planning and Design 32,3 , 425 - 444. https://ideas.repec.org/a/pio/envirb/v32y2005i3p425-444.html

Alexander Stahle, Lars Marcus. (2005). Place Syntax, Geographic Accessibility with Axial Lines in GIS. Stockholm, Sweden: KTH School of Architecture. https://www.diva-portal.org/smash/get/diva2:469861/FULLTEXT01.pdf

Alexander, C. (1973). Notes on the synthesis of form. Cambridge, Massachusetts: Harvard University Press https://monoskop.org/images/f/ff/Alexander_Christopher_Notes_on_the_Synthesis_of_Form.pdf

Bill Hillier, Julienne Hanson. (1984). Social logic of space. Cambridge, UK: Cambridge University Press https://www.researchgate.net/publication/238786191_The_Social_Logic_of_Space

Bill Hillier, Laura Vaughan. (1970). The City as One Thing.London https://pdfs.semanticscholar.org/f391/45293ebb4fef5608434e66b62204d0e4a6d8.pdf

DenizErinselÖnder ,Yıldırım Gigi. (2010). Reading urban spaces by the space-syntax method: A proposal for the South Region, Haliç. Cities 27 , 260 – 271. http://papers.cumincad.org/data/works/att/ecaade2009_160.content.pdf

Habermas, J. (1984). The theory of Communicative Action. London: Heinemann Press. http://www.dphu.org/uploads/attachements/books/books_2795_0.pdf

Hapio, A. (2012). Towards sustainable urban communities.Environmental Impact Assessment Review 32 , 165 – 169. http://portal.research.lu.se/ws/files/5896149/8257947.pdf

Hilier. (2001). A theory of the city as object: or, how spatial laws mediate the social construction of urban space. 3rd International Space Syntax Symposium Proceeding. Atlanta, Georgia,USA. http://discovery.ucl.ac.uk/1029/

Hilier, B. (1996). Space is the Machine: A Configurational Theory of Architecture. Cambridge, UK: Cambridge University Press . nhttp://discovery.ucl.ac.uk/3881/1/SITM.pdf

HILLIER. (2008). BILL HILLIER MAPPING METHOD: Basis Of Space Syntax Technique. London: Space Syntax laboratory. http://www.cpas-egypt.com/pdf/Abd_ElBaser/M.SC/004.pdf

Hillier. (2003). The Knowledge that Shapes the City: The Human City beneath the Social City. Proceedings of the 4th International Symposium in Space Syntax, (pp. 1 - 20). London . https://pdfs.semanticscholar.org/66ca/725f31119d7307bb32ee101f53978f9ec47d.pdf

Hillier, B., J. Hanson. (1997). The Reasoning Art: Or, the Need for an Analytic Theory of Architecture. Proceedings.1st International Space Syntax Symposium, University College London, (pp. 11 - 15). London. https://www.ucl.ac.uk/bartlett/architecture/research/space-syntax-laboratory/1990s

Imad Al-Hashim, Mohammed Mansour. (2014). Developing a morphology-based Huff model using space syntax to analyse consumer spatial

behaviour: A case study of Amman. The Journal of Space Syntax , 255 - 271. http://joss.bartlett.ucl.ac.uk/journal/index.php/joss/article/view/186

Isaac Middle, PetaDzidic. (2014). Integrating community gardens into public parks: An innovative approach for providing ecosystem services in urban areas. Urban Forestry & Urban Greening 13 , 638 – 645. https://www.researchgate.net/publication/266147854_Integrating_community_gardens_into_public_parks_An_innovative_approach_for_providing_ecosystem_services_in_urban_areas

KatarzynaSoleckaa, JacekŻakb. (2014 , July 2 - 4). Integration of the urban public transportation system with the application of traffic simulation. Transportation Research Procedia3 , pp. 259 – 268. https://www.sciencedirect.com/science/article/pii/S2352146514001689

Lefebvre, H. (1991). The Production of Space. Oxford: Blackwell Press . https://www.amazon.com/Production-Space-Henri-Lefebvre/dp/0631181776

Leslie Martin, Lionel March .(1972). Urban space and structures. Cambridge, UK: Cambridge University Press. https://trove.nla.gov.au/work/21275284?selectedversion=NBD107356

Pasaogullari,N., Doratli, N. (2004). Measuring accessibility and utilization of public spaces in Famagusta. Cities, Vol. 21 , 225 – 232. https://www.academia.edu/1086175/Measuring_accessibility_and_utilization_of_public_spaces_in_Famagusta

Penn, A. (2003). Space syntax and spatial cognition or why the axial line?Environ.Behav. 35 , 30 - 65. http://discovery.ucl.ac.uk/3420/

Pieter Valkering ,CarijnBeumer. (2013). An analysis of learning interaction in a cross-border network for sustainable urban neighborhood development .Journal of Cleaner Production 49 , 85 - 94. https://www.researchgate.net/publication/264218712_An_analysis_of_learning_interactions_in_a_cross

Read, S. (2013). Intensive urbanization: Levels, networks and central places. Journal of Space Syntax 4 , 1 - 17. http://joss.bartlett.ucl.ac.uk/journal/index.php/joss/article/view/160

Reveron, F. O. (2009). Developing spatial configuration abilities coupled with the Space Syntax Theory for first year architectural studies. Proceedings of the 7th International Space Syntax Symposium, (pp. 082:1 - 10). Stockholm. http://www.sss7.org/Proceedings/10%20Architectural%20Research%20and%20Architectural%20Design/082_Reveron.pdf

Rien van Stigt, Peter P.J. Driessen, Tejo J.M. Spit. (2013). A window on urban sustainability Integration of environmental interests in urban planning through 'decision windows'. Environmental Impact Assessment Review 42 , 18 – 24. https://www.osti.gov/biblio/22246891

SebnemOnal, UgurDagli, NaciyeDoratli. (1999). The urban problems of Gazimagusa (Famagusta) and proposals for the future. Cities, Vol. 16 , 333 – 351.

Steadman, J. (1983). Architectural Morphology: An Introduction to the Geometry of Building Plans.London : Pion Limited Press. https://www.academia.edu/1147143/The_Urban_Problems_of_Gazima%C4%9Fusa_Famagusta_and_Proposals_for_the_Future

Vaughan, L. (2007). Review the spatial syntax of urban segregation. Progress in Planning 67 , 205 – 294. http://discovery.ucl.ac.uk/3445/

Wagner, R. (2008). On the metric, topological and functional structures of urban networks.Physica A 387 , 2120 – 2132. https://ideas.repec.org/a/eee/phsmap/v387y2008i8p2120-2132.html

Walsh. (2007). The Re-emergence of The Forty Martyrs of Sebaste in the Church of Saint Peter and Paul, Famagusta, Northern Cyprus.Journal of Cultural Heritage 8 , 81 - 86. https://www.academia.edu/165279/Walsh_M._The_Re-Emergence_of_the_Forty_Martyrs_of_Sebaste_Journal_of_Cultural_Heritage_March_2007_

Walsh, M. (2005).A Gothic masterpiece in the Levant.Saint Nicholas Cathedral, Famagusta, North Cyprus.Journal of Cultural Heritage 6 , 1 – 6. https://vdocuments.mx/a-gothic-masterpiece-in-the-levant-saint-nicholas-cathedral-famagusta-north.html

Yang Tianxiang , Jing Dong. (2014). Applying and exploring a new modeling approach of functional connectivity regarding ecological network: A case study on the dynamic lines of space syntax. Ecological Modelling. https://ideas.repec.org/a/eee/ecomod/v318y2015icp126-137.html

YU Han , TSOU Jin-yeu. (2009). Space Syntax analysis of Foshan street network transportation in support historic area redevelopment.The 4th International Conference of the International Forum on Urbanism (IFoU), (pp. 687 - 696). Amsterdam. https://core.ac.uk/download/pdf/48548298.pdf

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 161– 174

Concomitant Recital of a Prolonged Reign: Dilation of the Dutch Empire and Enticement of Ascendency, Delineating Batavia, Victim and Valedictorian

* B.A. SIEPAN KHALIL[1], B.A. PAKINAM ZEID [2]

[1] Department of Architecture, Faculty of Architecture, Design and Fine Arts, Girne American
[2] Department of Architecture, Faculty of Fine Arts, Alexandria University, Alexandria, Egypt
E mail: siepan_rizgar@hotmail.com E mail: pakinam_zeid@hotmail.com

ARTICLE INFO:

Article history:
Received 24 February 2018
Accepted April 2018
Available online 16 August 2018

Keywords:
Dutch East Indies; Colonialism; History; Urban Planning; Architecture; Batavia; Jakarta.

ABSTRACT

The VOC (Verenigde Oost-Indische Compagnie) was both the absolutist and the pacifier as it sought to colonize Sunda Kelapa through the displacement of indigenous population, architecture, and regimen; the VOC was deployed catalyst to the marking of a golden era, roughly spanning the 17th century through which architecture, trade, science, and military boomed, marking Jakarta a resilient harbour to the world's finest trades. Batavia, modern day Jakarta, welded a myriad of names, endorsing its irrefutable paramount; one of which, "Queen of the East", paraphrased an allusion to its urban beauty. Until its last derogatory stages, before the Dutch surrendered to the Japanese, the name Batavia ricocheted across the globe, as reverberation to its resilience, urban beauty, varsity of cultures, and robust trade as the Dutch East India Company. The VOC has, unequivocally, paved the road of prominence for the glorious city of Jakarta, manifesting a discourse of exalt. Analysing the egress and relinquishment of the Dutch Empire and its appurtenant colony, delineating the urban tableau, a prevalent architectural resplendence. The unravelling of holistic fabric through which urban planning, architectonics, politics and sociology interweave, meandering the gradual transition of the Dutch East Indies, yearning subordinate to Jakarta; the unwavering proclaimed prerogative.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 161-174.
https://doi.org/10.25034/ijcua.2018.4693

www.ijcua.com

1. Forge of an Empire

1.1. Introduction

The VOC, Vereenigde Oostindische Compagnie, acknowledged as the epitome to multi-national companies, was an amass joint company constituted of six different major Dutch companies. The Compagnie was a culmination of Dutch efforts to surpass competing European trading companies thriving in the East Indies, the world's largest archipelago, encompassing 17.500 islands, one of which is Java, a relatively young island acknowledged for its remarkable fertility due to its geographical constitution. A trade port since the twelfth century, Jayakarta, origin of today's name Jakarta, lied in central Java and was, therefore, sought by traders from Asia and

***Corresponding Author:**
Department of Architecture, Faculty of Architecture, Design and Fine Arts, Girne American University, Kyrenia, Cyprus
E-mail address: siepan_rizgar@hotmail.com

Europe due to its strategic location, breeding dispute and wage of wars as companies competed for sovereign foothold. The power-shift labyrinth is palpably manifested through each ruling power's attempt at alluding to its reign in the city's ever-changing urban morphology, architecture, culture, socioeconomics, and, subsequently, name. Batavia, an allusion to the Dutch republic's legendary ancestors, was assigned to the colonial city by the VOC Governor-General, Jan Pieterszoon Coen, and has quivered a ricochet in Jakarta's history as its ruling power, the VOC, laid the foundation to the city's thriving, prompting a golden age through which the East Indies' economy soared. This monograph is a historical, urban, architectural, and sociological record of Jakarta's colonial and post-colonial environs through which the Dutch Compagnie's influence is discernible, affecting both the Indonesian context and its dwellers. The methods employed in the study are therefore dependent on a thorough reconstruction of the historical events, surveying of the city's urban morphology, analysing of the sociological inbred hybridity, and conducting of a comparative analysis thereafter which, in turn, denotes a tenacious integration between the colonial past and post-colonial present, rendering both elements inseparable.

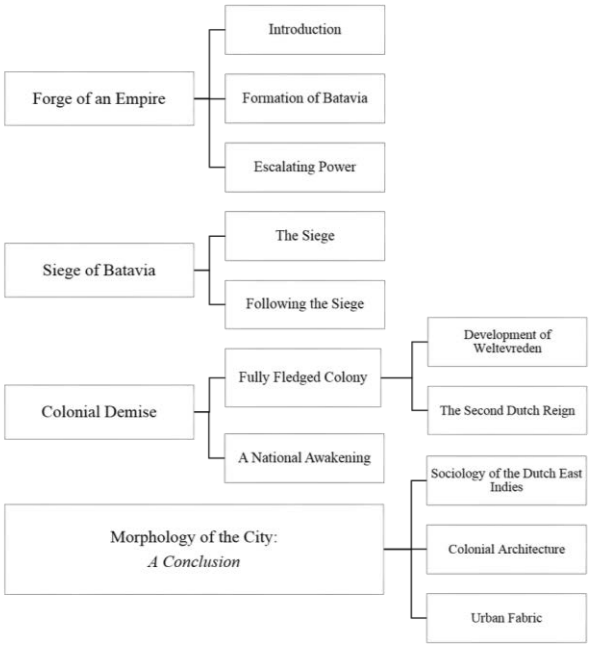


Figure 1. Structure of the Study (Developed by Author).

1.2. Formation of Batavia

Early Jakarta was part of Tarumanagara kingdom in the fourth century; Hinduism and Buddhism domineered the region, granting central Java the name Land of Thousand Temples. Amongst the integral apparatus to Jakarta's political and social power was Sunda Kelapa's port which was part of the Srivijaya Empire in the seventh century, a power that consolidated its tenure until the thirteenth century. A univocal trade sovereign first attracted Europeans into the region in the sixteenth century when the Portuguese merchants first ventured forays to the region and, eventually, established concord with the Sunda Kingdom, building their own port in 1522. It wasn't until 1527 that the city waned in the face of the powerful Banten Sultanate and was named Jayakarta.

Figure 2. Borobudar, 9th century Mahayana Buddhist temple located in Central Java, offers a glimpse of ingenuous Indonesian architecture, Indonesia, a Country Study, William H. Frederick.

The fifteenth century was marked by the Portuguese efforts to enlighten the Europeans of the world's broad oceans in hopes of emphasizing an annex to the European market through the cheaply provided spices of the East. It was the venturesome expeditions initiated by the Portuguese, followed by the Spanish that sparked an interest in the Dutch Republic to explore the Indies. The first Dutch expedition to Indonesia, taking place from 1595 to 1597, was instrumental to the viability of the soon to be founded VOC and its lucrative contribution to the Indonesian spice trade. Compagnie van Verre, the first Dutch expedition, raised 290,000 guilders, cobbling four ships: the Mauritius, Amsterdam, Hollandia, and Duyfken. The fleet faced plenty of obstacles, many of which were a direct result of bad leadership skills offered by Cornelis de Houtman, the de facto leader of the expedition. Suffering many losses and earning very few allocation of spices, Compagnie van Verre yielded many of its recruits due to illness or sporadic unfriendliness towards the natives which cost the Dutch wars the armada

couldn't handle. The following expedition, taking place from 1598 to 1600, raised a tremendous amount of 800,000 guilders, an unprecedented amount of money ever to be reconciled in the Netherlands for a private venture. Corelius van Neck brought strategic and administrative measures to the expedition as he exploited predecessor shortcomings into employing a route that cut the journey's duration in half. Van Neck, moreover, exerted greater control over the Bantamese natives as he shrewdly offered protection against a mutual enemy, the Portuguese, granting the Dutch fleet a surplus of spices in exchange for their assistance. Putting a democratic apparatus to work earned the expedition a tremendous success, netting a 400% profit for its backers. In light of the successful expedition and following successes launched thereafter, an apprehension of subsequent dispute rising between Dutch merchants declared it mandatory that the Dutch unify their efforts into a singular entity: Vereenigde Oostindische Compagnie. The VOC had a very clear objective: securing a Dutch foothold in Asian trade, which meant eradicating any competitors to achieve domination. The Staten-Generaal played a substantial role into the fulfilment of the VOC's goal by granting them rights to build fortresses, declare defensive wars, and amend treaties that served their end. In 1611, the VOC existed merely as a trading post in Jayakarta, confined by the power of Prince Jayawikarta whose tenure abode by the Banten Sultanate. It was the escalating Dutch power that ticked off Prince Jayawikarta, adhering to a discourse that sought the British Company's aid. The agitated prince initiated an attack with the help of the British on the Dutch Fort Jacatra. Shortly after the turbulent events, the Bantanese authorities addressed their exasperation of the unapproved alliance with the British forces to the prince. Jan Pieterszoon Coen, governor-general of the VOC, took advantage of the political plight in Jayakarta and razed it to the ground, marking the beginning of Batavia.

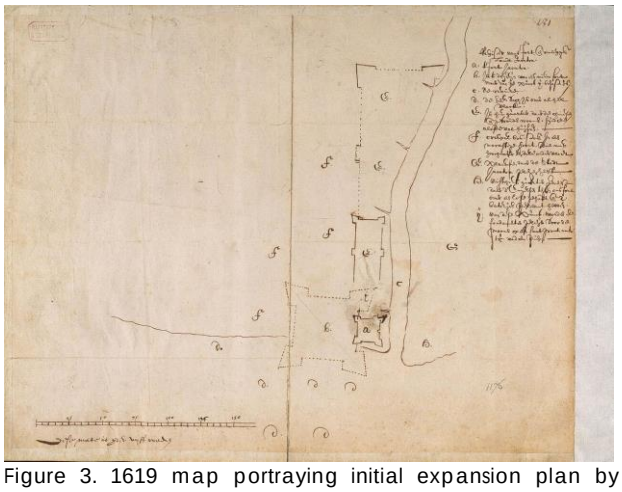


Figure 3. 1619 map portraying initial expansion plan by Coen

1.3. Escalating Power

> "Now we have defeated those from Bantam out of Jacatra and have foot and domini in the land of Java. Her (these are the English) wickedness has been punished within reason. Certainly, this victory and the flight of the haughty English will create much terror throughout the Indies. The honour and reputation of the Dutch will improve enormously by it. Everyone will search to be our friend. The foundation of the so long wished for rendez-vous has been laid. A large part of the most fertile land and seas of the Indies can be called yours"
>
> Governor General Coen write to the Gentlemen XVII in the Netherlands (Coen I, pp 472)

The Dutch left a strong imprint on Jakarta's urban fabric as well as on local affairs that have morphed radically in the 17th century, marking Jakarta's golden age. The Compagnie's growing jurisdiction is reflected through the commission of various constructions that still stand today in Jakarta's old town and Batavia's headquarters, Kota Tua; amongst which are factories and warehouses that tended to the booming of the city's welfare. After having taken control of Jayakarta, Coen started a spatial reconfiguration of the city that included a new fort, nine times the size of the old Fort Jacatra, and walled settlements, later separated from the fort and castle by a canal named Kasteelgracht, located south of the archaic city's centre. Saving very little of the original context of Jayakarta, Coen intended for the city to reflect Dutch sovereignty and encompass only Dutch residents, expelling all of Jayakarta's ingenuous occupants. Planned

settlements were shrewdly aligned parallel to the river and perpendicular to the sea, ergo, to the fort, ensuring the protection of the settlements. Land and water development in the orderly parcelling of the city establishes physical evidence to the Dutch persona sought to be deployed, which stood the test of time as the city continues to reflect that persona. A very intricate and elaborate urban scheme was unravelling from 1622 onward: the maps demonstrate a paraphrasing of the settlements, amassing a startling shift over the 1618-1627 interval.

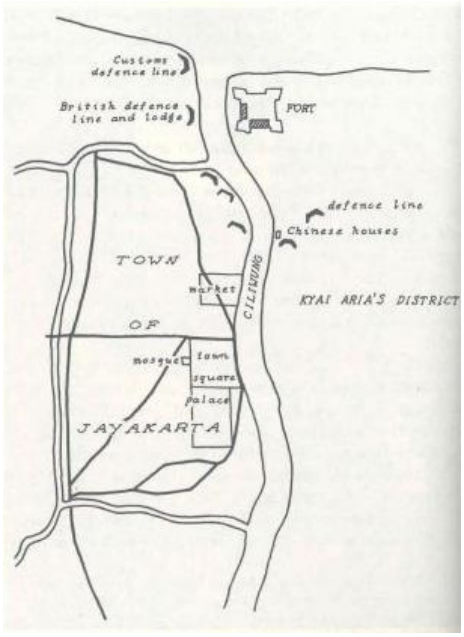


Figure 4. 1618 map shows the Dutch's limited jurisdiction in the city of then Jayakarta. F.de Haan, Oud Batavia

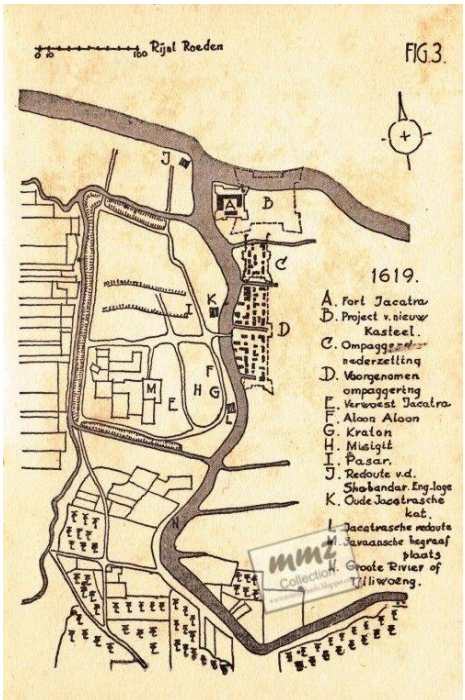


Figure 5. 1619 map shows Jayakarta after the Dutch annexed the city to the south. Het Voormalige Batavia

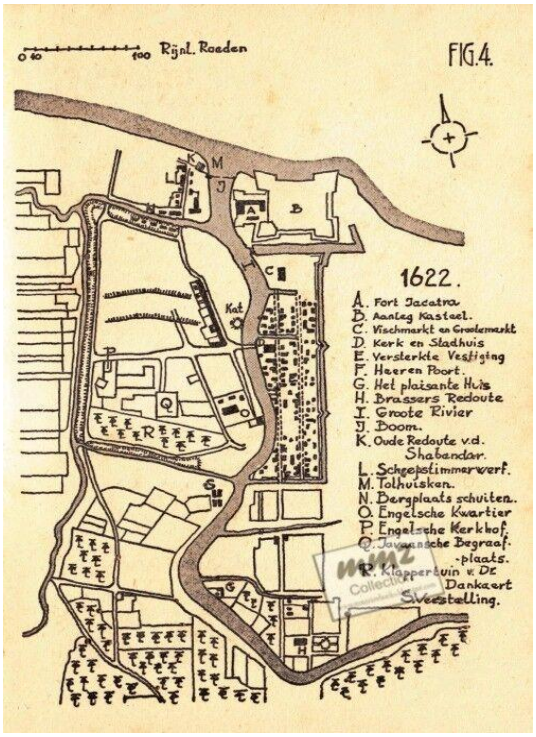


Figure 6. 1622 map shows stronger jurisdiction in the alignment of settlements and newly entrenched canals. Het Voormalige Batavia

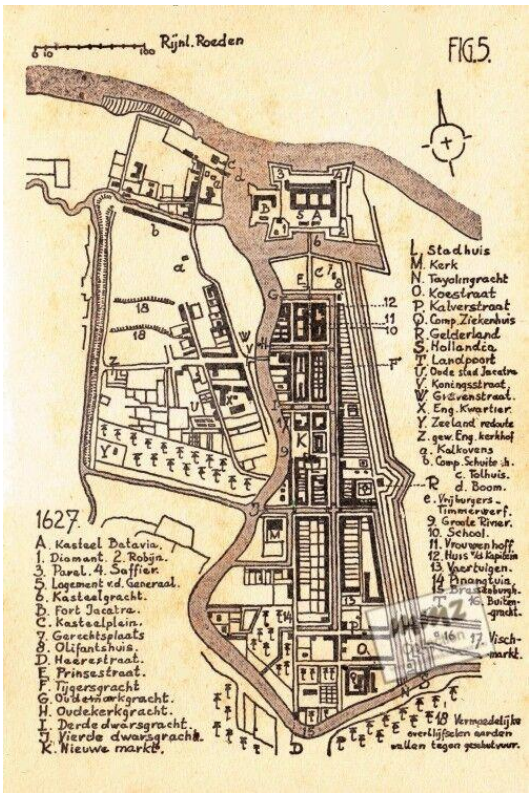


Figure 7. 1627 map emphasizes a well-defined layout of settlements as well as a new canal. Het Voormalige Batavia.

An evident pattern of influenced planning doctrine can be seen in maps of Batavia. An entrenching of three canals to the east of the Ciliwung river initiated in 1622, signifying signs of civilization through the orderly aligning of settlements and nuances of a walled city declared in the rudimentary map of Batavia. Leeuwengracht, Groenegracht, and Steenhouwersgracht, an exemplary manifestation of Dutch planning, extrapolated within their environs Batavia's first church and town-hall. Implements of connecting the three grachts through the Tijgersgracht started in 1627. A truly remarkable addition to Batavia's scape was the Tijgersgracht canal as its vista encompassed the rather cordial aligning of buildings and streets of Dutch design, welcoming its observer with "agreeable shadow", as one historian comments, and scenic outlook on Batavia.

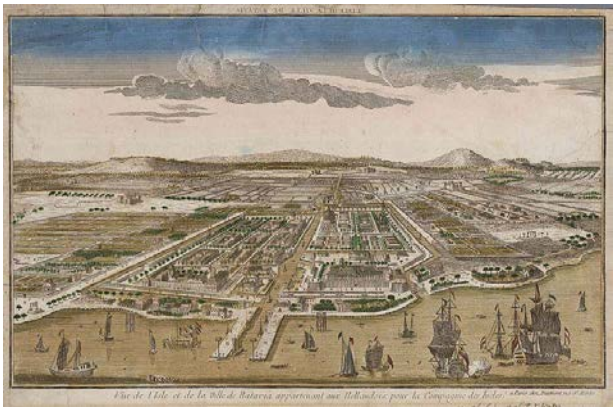


Figure 8. View of the island and the city of Batavia, underscoring Dutch planning doctrine. Daumont, Paris c. 1780. NL. Universiteit Bibliotheek.

2. Siege of Batavia

2.1. The Siege

Siege of Batavia occupies a cornerstone in Jakarta's historically bustling timeline. A military campaign was led by Sultan Agung of Mataram to capture the Dutch port settlement of Batavia. Batavia's future hung in the balance as it fell prey to Sultan Agung's desire to unite the whole of Java under his rule. The Mataram and the VOC's tense relationship dated back to the early years of Sultan Agung's reign. Sultan Agung Hanyakrakusuma, the third Sultan of Mataram in Central Java, was a skilled soldier and powerful ruler. Agung's reign denotes as the golden age of the Mataram as under his reign, almost the entirety of Java Island was reconciled. The European port and settlement, Batavia, became the single unattainable entity in Java Island. A treaty was forth between the two opposing forces, the Mataram and the Dutch East Indies, in the early 1600s; one that granted the establishment of the VOC's trading post in Jepara. The VOC, to return the kindness, had to aid the Mataram in the relinquishment of Surabaya. However, busy as the VOC was with setting foothold in Moluccas and eventually Jayakarta, the VOC refused to help the adamant Sultan with his endeavours, triggering a retaliation that burned the VOC's trade port in Jepara. Shortly after, the VOC counter-stroke the Mataram's capital, inflicting heavy damage. Since then, the relation between the Mataram and the VOC deteriorated gravely. With the surrender of Surabaya into the Sultan's forces in 1625, Agung was brought closer to fulfilling his longed-for dream of occupying Java and saw, henceforth, no reason to tolerate the Dutch's presence in what he considered his rightful domain. August 1628, a vanguard of Sultan Agung's navy had landed in Batavia as part of a scheme, ruse de guerre, that intended to deviate the Dutch's garrison into thinking the Mataram's landing was merely a trading urge. The size of the fleet, however, forebode a sense of hostility in the Dutch, prompting the VOC into moving artillery to Batavia's northern bastions; en garde.

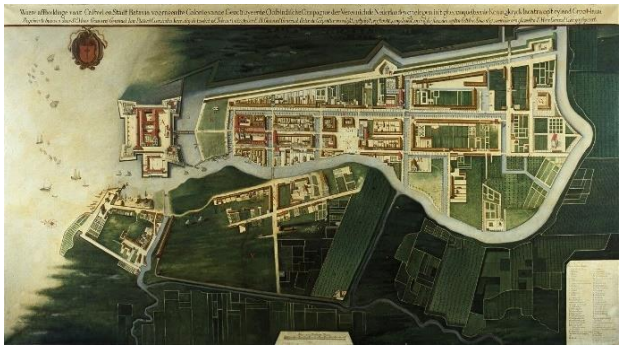


Figure 9. The old course of the Ciliwung River is still clearly visible here; the path of which will be straightened as a defence ditch; an event triggered mostly by the siege. Reproduction. Oil painting of the map of Batavia from around 1627 in the Westfries Mu

Confirming the Dutch's doubts, an escalating number of Mataram ships followed the vanguard several days later, prompting the Dutch to pull all personnel into the castle and open fire on incoming Javanese. Sultan Agung sent two forces: one by sea and another overland. Jan Pieterszoon Coen articulately handled the landing of Mataram on Batavia's soil by burning most of Batavia's bamboo shack suburbs, denying the Mataram of any shelter. As the number of Mataram ships arriving on Batavia's bay increased and eventually launched their first attacks on Fort Hollandia, 120 VOC troops fought back the

attack, inflicting heavy damage to the Javanese. The Mataram retaliated by blockading all roads running south and west of the city and tried, henceforth, to dam the Ciliwung river to limit the Dutch's water supply. Consequently, the Mataram's attempts were futile as they had not come prepared for a long siege so far from home, in an area devoid of local logistical support. The Mataram was running out of supplies and perseverance in the face of the Dutch's hefty military and fortifications. Shortly afterwards, the Dutch learned that their opponents had marched home. A second attempt arose as the Sultan was determined to conquer Batavia. The second strike was bigger and more prepared but was, however, of no success as the VOC burned down the Mataram's supplies, forcing the Sultan to retreat and surrender to the VOC's unassailable existence.

2.2. Following the Siege

The key element in Jayakarta's transition was the sequential morphing of its urban fabric and architecture that served as a testimony to the events the city has endured. Siege of Batavia foresaw a need to update the city's defence system. Batavia had only occupied the eastern sector of the Ciliwung River's vista. Governor-General, Jacques Specx, resorted to the planning stratagem of a renowned Dutch military engineer, Simon Stevin, designing a moat and extending the city walls to the west of Batavia. The defensive stratagem followed an application of arithmetic units, strict symmetry, and Dutch engineering and fortification works from the sixteenth and seventeenth centuries. Stevin's ideal city alludes to the typical Greek and Roman cities; the city followed a grid that yearned to the existence of a primary axis which, deployed by the river or a canal, allocated the city's functions. An ideal city had an encompassing water moat and a canal scheme that ran through the city's grid. According to Stevin's De Stercktenbouwing, military buildings were constructed like forts: with fortification walls, canals, locks, dikes, and bridges. De Stercktenbouwing also mentions the principles upon which the fortifications are built: a geometric basis which would be adapted to the projectile orbits of the new firearms, instead of the archaic cross-bow. Batavia's fortifications were constructed using earthen walls as they are, according to Stevin, more resistant to the impact of bullets. The ideal city bore an exhaustive canal system that tended to both the city's connectivity and protection; the canal system, however, caused a tremendous amount of problems to the capital both by its restricted capacity and unhygienic circumstances; a predicament that forebode a city centre shift.

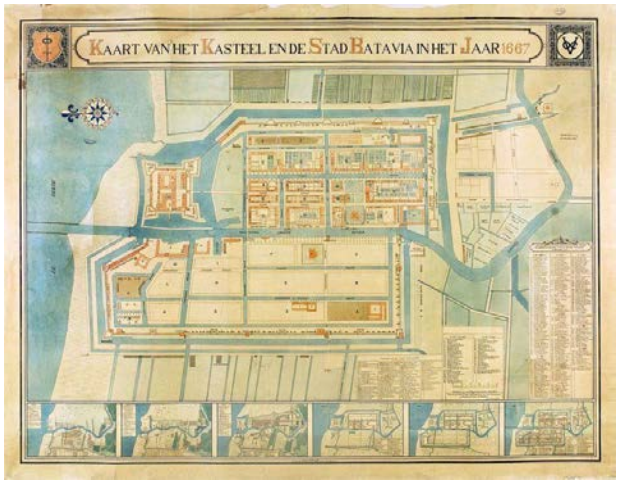


Figure 10. The development of Batavia based on the military defensive engineering stratagem by Simon Stevin. Tropenmuseum, part of the National Museum of World Cultures.

3. Colonial Demise

3.1. Fully Fledged Colony

Batavia continued to thrive affluently in the first half of the 17th century, drawing migrants from all around its environs. Since Batavia was built to reflect the centre of colonial administration, the city's walls welcomed only peers of that administration. Outside the walls, henceforth, offered settlement for rural migrants. The colonial town constituted a societal system, distinguishing the residents of Kota from the local residents in indigenous Kampungs. In this system of societal separation between the Europeans ranked as first-class citizens and the Chinese and other alien orientals second, an architectural and spatial configuration deployed physical emphasis in terms of infrastructure sufficiency, security, and building material that resulted in a drastic shift in architectural character between inside and outside the city walls. The activity carried out outside the walls eventually disturbed Batavia's equilibrium as large-scale cultivation of the hinterland resulted in coastal erosion of northern Batavia. Moreover, maintenance of the canals was extensive as a result of frequent closures. In the 18th century, Batavia grew to be more unsafe, a predicament that propelled Malaria epidemics, killing many Europeans, earning the city the nickname Het Kerkhof der Europeanen, translating to The Cemetery of the Europeans. It didn't take long until the wealthier settlers of Batavia abandoned Kota

and moved to southern regions of higher elevation. Somewhere in the middle of Kota's relinquishment, the VOC started to decline. The decline which eventually led to the dissolution of the Compagnie was caused by several internal and external factors. Lack of market for certain commodities and corruption amongst the VOC's personnel were among the reasons behind the Compagnie's downfall. After the VOC went bankrupt, eventually, and was dismantled in 1799, all of the Compagnie's assets and wealth were taken over and liquidated by the Dutch government, nationalizing the VOC's territorial claims into a fully-fledged colony, the Dutch East Indies.

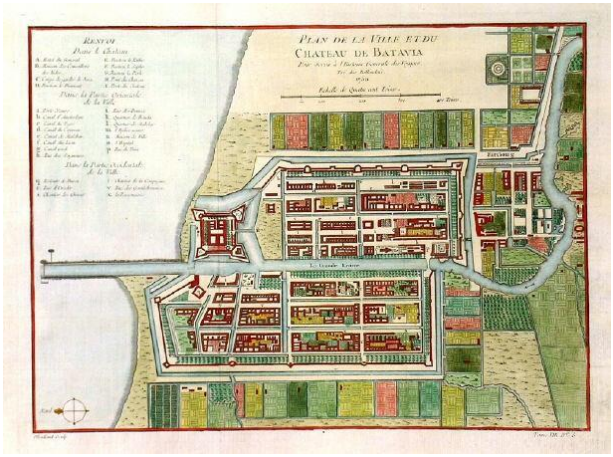


Figure 11. Batavia's spatial configuration map circa 1744 (Plan de la Ville et du Château Batavia, Jacques Nicolas).

3.1.1. Development of Weltevreden

Early nineteenth century marked the beginning of the French and British interregnum, taking place from 1806 to 1815; a relatively short period that had momentous influence in the history of the Dutch East Indies and Java's urban morphology. Java underwent vigorous infrastructure rehabilitation and reformation of administration in the colony. The French Empire and the British East India Company (EIC) contended for the control of Java. King Lodewijik Napoleon assigned one his generals, Herman Willem Daendels, to be acting Governor-General of the East Indies and strengthen Java's defence system to uphold the British-anticipated-invasion. A martial ruler, Daendels built new roads, hospitals, military barracks, and new arms factories in Surabaya and Semarang. Daendels also gave rise to a new city centre, namely several kilometres to the south of the old city and named it Weltevreden. Kasteel Batavia was demolished and replaced, in light of military appropriations against the EIC, by a robust structure in Surabaya named after the king, Fort Lodewijik. The rise of the British EIC was among the causes after which the VOC collapsed and it's in the culmination of their conflicts that the Dutch rises again and recaptures the Dutch East Indies. The period of the British Interregnum, 1811-1815, yielded a great many changes to the archipelago. Thomas Raffles, appointed lieutenant governor of Java by Baron Minto, implemented liberal economic principles and liberalized the system of land tenure, putting a stop to compulsory cultivation in Java. It was under Raffles that a large number of ancient Javanese monuments were rediscovered and excavated, contributing majorly to the welfare of the city's identity. In 1816 the Dutch regained full control of their colony and resumed conquering other independent polities in the means of fulfilling full control of the archipelago. Batavia prospered in the second Dutch reign. The city now held two city centres: Batavia-stad and Weltevreden. Batavia-stad, formerly Kota Tua, acted as the business hub where offices, warehouses of shipping, and trading companies were located. Weltevreden, on the other hand, served as the new home for government, military, and commercial insets. The two centres were connected by a canal, Molenvliet Canal, and a road that ran parallel to the waterway. A new architectural style emerged, exemplar of the era's prospering, and was named Indies Empire Style after the colony. The style deploys sophistication and beauty, deployable in its white plastered villas and grand front porches. The efforts dedicated to the beautification of Batavia earned it the nickname De Koningen van het Oosten or Queen of the East.

Figure 12. Javasche Bank, Batavia. Extract from Batavia-Weltevreden-Meester Cornelis,

Figure 13. Stadhuis, Batavia. Extract from Batavia-Weltevreden-Meester Cornelis, Centrale Bibliotheek, Amsterdam.

3.1.2. The Second Dutch Reign

Persevering a yet another influential reign, the Dutch effectuated a cultivation system in the mid-nineteenth century that imposed all agricultural productions of Batavia devote a portion to export crops; a cultivation tax, the Cultuurstelsel. The 1860s marked the start of a rather remarkable period, the Liberal Period, which highlighted an effort to right the injustices employed by the Cultuurstelsel and culminated at bringing an end to the system. Abolition of the system made way for the establishment of a great many advances to the city's trade and private enterprise. In light of the abolition, Kota or Batavia-stad replenished its deteriorating structures and replaced them with auxiliary structures that would serve as first hand recipient of goods brought through the Ciliwung River. Batavia continued to thrive as it established its first railway system in 1867, contributing to a more efficient transportation network throughout Java. Batavia's welfare drew a perpetual increase in the city's population which, in turn, gave rise to a general atmosphere of restlessness caused by the uprising demand for housing and dense living condition. In a time of change that few could adapt to, crop failures and outbreaks of disease concurred as a direct response to escalating absence of public amenities and subsequent poor sanitation. In 1901, the Dutch queen, Wilhelmina of the Netherlands, announced the government's willingness to bear "moral duty" towards their colonial polity and the subjects whom the Netherlands bore a "debt of honour" towards as a result to the remarkable Cultuurstelsel profits. This Politiek called for new and extensive government initiatives to expand public schooling, improve healthcare, modernize infrastructure, and reduce poverty. The goals set by the Politiek, however, delivered little real fruit as substantial funding was required to set-forth such drastic measures to the Indonesian population's welfare. The Politiek, however intangible some of its goals were, brought improvement to roads, communication, and flood control to Batavia which also cued transmigration policies to relieve population pressure in Java. By the late 1920s, the colonial government's efforts have moved a long way from the idealistic goals the Politiek had set for the now growing Indonesian demands for independence; demands that had grown as ricochet to the rising Indonesian awareness brought forth by the modernized and politically broad education system.

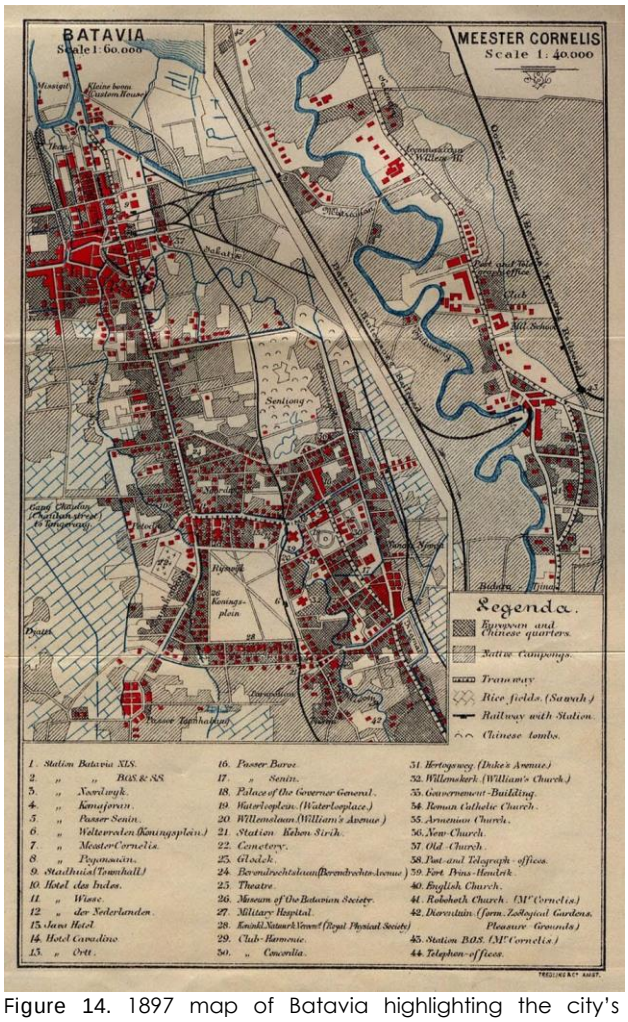


Figure 14. 1897 map of Batavia highlighting the city's center shift and the interweaving connection that lies between the two centers: Batavia-stad and Weltevreden; Meester Cornelis.

3.2. A National Awakening

A crucial sequential element to the upheaval of the Indonesian Nationalist conscience is the rise of westernized education; the notion that drew unbiased parallelism in the education of both indigenous and European students. In the process, Javanese students became quickly

aware of what a tiny majority they shaped up in their very own society. Beginning to coalesce as a society very much aware of their diversity, the indigenous graduates imagined a modern society of their own; based on achievement rather than innate traits that made up the race; devotion to modernity rather than tradition. They believed they could dictate rules to the remainder of the century and change history's course. Soon enough a discourse in action was mandatory to Indonesians who began to speak of Pergerakan; a concept aimed mainly at obtaining freedom from the Dutch rule. Nationalist movements developed rapidly in the first decade of the twentieth century upon which associations such as PKI prompted sabotage and rebellion in Western Java and Sumatra. Chants that posed a challenge to Dutch supremacy spread throughout the archipelago. The Dutch government grew outrageous and frightened of the perpetual insurrections, leading to brutal amendments as arresting and exiling thousands of communists which effectively shut the associations down only until the Dutch were abolished by the Japanese.

> "We have ruled here for 300 years with the whip and the club, and we shall still be doing it for another 300 years"
> Dutch Governor-General Bonifacius C. de Jonge

March the 5th, 1942, the Dutch formally surrendered to the Japanese occupation forces, transferring the rule of the colony to Japan under which the city has morphed drastically. Under German occupation, the Dutch barely acted to maintain its acquisition of Indonesia. The Japanese, unlike the Dutch, facilitated education, trained, and armed young Indonesians, bringing their existence and political voice into eminence. It was under Japanese occupation that the notion of Indonesian Independence emanated, and the city was renamed Jakarta. The Netherlands, sought to reclaim the Indies but the Indonesians' striving to maintain what they've only recently acquired, their identity, ensued a social and military struggle which resulted in the Netherlands' recognition of Indonesian Sovereignty in December 1949.

4. Morphology of the City: A Conclusion

4.1. Sociology of the Dutch East Indies

> "Whoever wishes to contemplate the Company in the possession of regal and princely power, must seek her in Asia, where she sits enthroned; is mistress of life and death; deposes and raises up kings; makes war and peace; has her own mint; and possesses all the attributes and signs pertaining to independent sovereigns"
> Jan de Marre, Batavia

The Dutch ubiquity in the East was determined by men throughout the 19th century. The phenomenon of a societal concept in the Dutch East Indies reverberates the gradient collimate in colonial political ideologies. Availing the ascendancy of phallic dominance. Portraying a condescending European colonizer to the native populace, an echoic of domestic male dominance, conveyed by policies reassuring concubinage and the discriminating prohibition of female immigration to the colony. An alteration in ideological principles, an exigency, a quodlibet of degeneracy and the endeavour of women. A preeminent change to a more European destined colony, where they were the superior race and in control of economic affairs, having a strong stable society based on families. As a reverberation, outmoded policies were abscised, acquainting novel regulations, allowing liberal immigration practices, the fiscal patronize of European families and the provision of inevitable amenities, endorsing a colonial society settled or dictated upon Dutch scruples. With the VOC becoming a contrivance templet for divergent metropolitan bourgeoises and sovereigns, exalting, amongst others, the English East India Company and the umpteen French Compagnies des Indes Orientales. Persisting as one of the most prospering, hybrid colonial endeavours. Authorizing mercantile emulation, noesis, traversing the globe. A deviation, ranging from the mercantilism of spices and clothes in Indonesia and India, to the industrialization of sugar in Brazil and the slave trade in Africa. An ensue, indispensable in the sociological field. A primal component, apprehending the formation of the global colonial system, elucidating the causal factors of an attainment, a downfall and systemic transformation. A perfunctory coup d'oeil at the dire straits of Indonesia, accenting Jakarta, the cardinal plinth and demesne of the Dutch empire, bewrays a radical and volatile modus vivendi of colonial domination. A concomitant,

the displacement of the ancien régime styles of accumulation and rule and the segue of Dutch colonialism from a company rule towards a more bureaucratic, socially interventionist system. The suburbanization of Jakarta, an efficacious pragmatic of sociology. With the emergency of accruing poverty, irrupting of slums and the lack of a safety net. The dependency of Jakarta's residents upon the dynamic inclement of the urban and built environment. As an emphasis, the Dutch East Indies, merely a class-conscious society.

4.2. Colonial Architecture

> "Cities and Thrones and Powers Stand in Time's eye, Almost as long as flowers, Which daily die; But, as new buds put forth, To glad new men, Out of the spent and unconsidered Earth, The Cities rise again"
> Rudyard Kipling, ''Cities and Thrones and Powers'', Puck of Pook's Hill

An imperative and expedient location, Batavia has been scrutinized in original old maps, delineating the chef-d'oeuvre in progress or furtherance. Culminating a vignette of the fortifications, a work that has progressed over the decades, raising questions regarding the efficiency of the town's defence. The study reveals the construction progress and its development over the years, keeping up with modern types of bastion construction. Castle of Batavia, proverbial, Kasteel Batavia, a fortification used as the administrative centre of the Dutch East India Company, settled at the mouth of Ciliwung river in Jakarta. An amalgam of Dutch and Italian contriver, a geometrical basis, adapted to the novel armament. Castle of Batavia, at its expanse, a framework square-shaped, was armoured or accoutred with four protrusive bastions, entitled to the appellation of inestimable stones; the sturdy bastions protruded from every corner. Perusing 17th century itineraries, one can decipher that those who visited the castle, described it as being substantially spacious.

The accretion or alluvion of the coast of Batavia depicts a mid-18th century conundrum. A prosaic agnise, the castle of Batavia unreasonably outlined the seashore as defence for the mouth of the harbour. In need of a more pragmatic alternative, the construction of a new fortification initiated in 1741; entitled Waterkasteel. Located at the end of the foreland, the fort was perceived as a preliminary palisade of the city, bringing forth the Trace Italienne, reiterated; the Italian outline was an exordium to a vogue, conglomerated with a gradualist plan of conquest. The fort was of profound influence to the settlers of the colony, rearticulating the colonial representations; the formation of a "culture of fear" where Colonial architecture and culture arrogated. Colonial culture has compelled the invention of a new post-colonial identity; nuances of Indonesian identity in architecture has sizeable imprint in the history of the nation, shaping the nation's political culture and its spatial configuration in urbanism. The role of racial and societal identity has direct impact on the nation's cultural politics. Moreover, the significance of space is accountable for unravelling of collective subjectivities and the 'culture of fear' in the urban space of contemporary Indonesia. It is therefore, discernible through the study that architecture and urban space can be interpreted as both historical and theoretical representation of political and cultural tendencies that characterize an emerging and a declining social order, concurrently. The map displays the formerly known Kasteelweg and Kasteelstraat, at the present-day street Jalan Tongkol, traverses through the centre where Castle of Batavia once stood. The area is designated as part of Kota Tua, Jakarta's old town. Also discernible are the Dutch urban planning practices of the seventeenth century in the Indies, demonstrating Dutch hierarchy. Jakarta presents a vivid illustration of how a city's very form served to expose the Dutch aspect, inherent in cities that has yearned to its dominion.

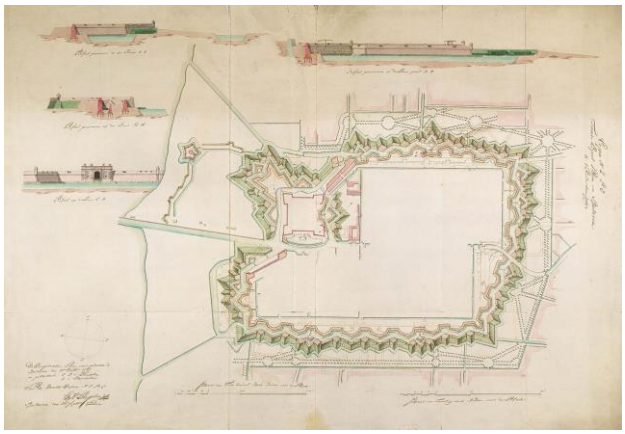


Figure 15. Plan, elevations and sections of the castle of Batavia, 1762. (Nationaal Archief, Verzameling Buitenlandse Kaarten Leupe, Inventaris nr. 1198)

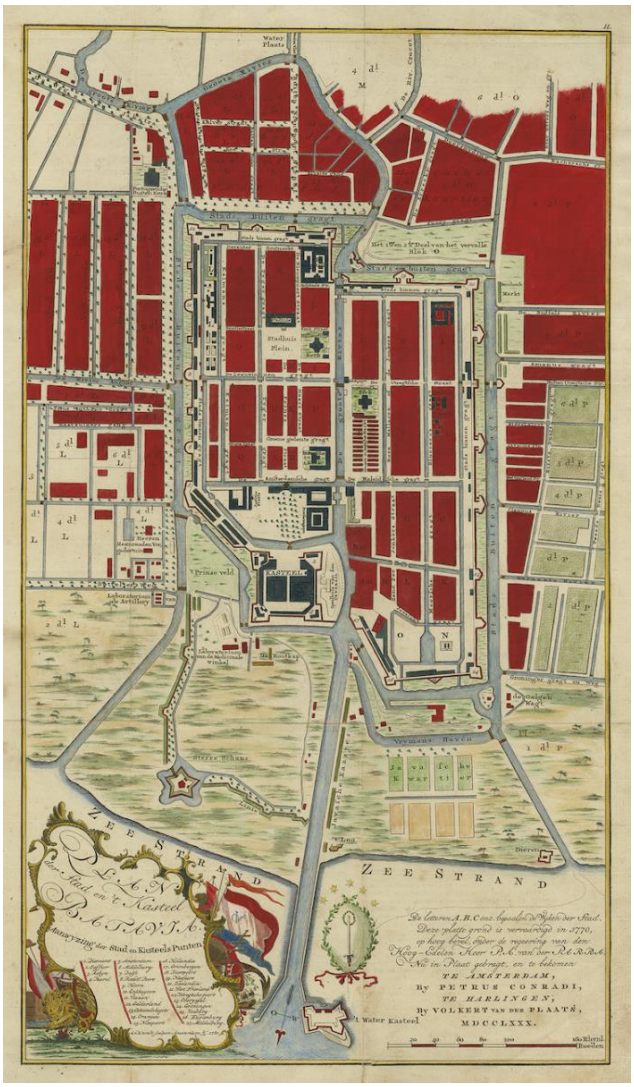


Figure 16. The castle of Batavia, at the mouth of the Ciliwung River. The map shows the outline of the city of Batavia and its defensive walls and bastions in 1780. Visible in the bottom is the Waterkasteel. A.

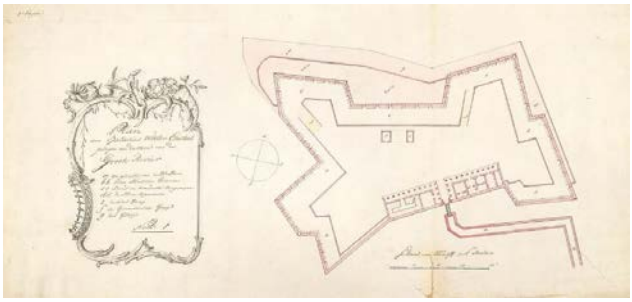


Figure 17. The design for the Waterkasteel, displaying the plan, circa 1762. (Nationaal Archief, Verzameling Buitenlandse Kaarten Leupe, Inventaris nr. 1212)

4.3. Urban Fabric

Jakarta's urban morphology remains an important testimony to the Dutch Compagnie's influence which gravely altered the archipelago's structure through its prolonged reign. Java constitutes a rather geographically prestigious site which justifies conflict over its acquisition. Moreover, one of the most remarkable features Jakarta's urban morphology deploys is the palpable shift in the city's planning, constituting a paradigm to the historical events the city has underwent and the culminating diverse identity. The city emanates at the northern port and diverges through canals and settlements that constituted the canals' vista. The city grew gradually to divulge evolution of elaborate military strength, sovereign, and economic welfare. The Dutch surrounded the city with sturdy walls and moats, a defensive stratagem typical Dutch planning manifests. It wasn't until wars like the Siege of Batavia that the city expanded grandly to outgrow the preliminary Jan Pieterszoon Coen drafts of Batavia and Fort Jacatra. The French and British Interregnum contributed greatly to the city's southern parceling and eventual configuration of two centers: Batavia-stad or Kota Tua and Weltevreden. Kota and Kampung were two distinct demonstrations of architectural character and spatial structure. Kampungs resembled informal settlements that resided outside city walls and lacked proper building materials and sufficient infrastructure which Kota affluently coveys. The city then underwent beautification initiatives in its second Dutch Reign which glorified the new city centre, Weltevreden, appropriating it with squares, parks, and elitist architecture. Mediating Kota, now a business hub, and Weltevreden was a canal and road that ran alongside the waterway, proliferating a medium that connected both realms of the future and past. The city continued to grow about these two media notably after the declaration of Indonesian Sovereignty in 1949. Modern-day Jakarta still cherishes the two centres in its urban formation as they hold the main canals, roads, the city's main functions, and heritage of both colonial and post-colonial Jakarta.

Figure 18. Study map manifesting the two city centers: Batavia-stad and Weltevreden (Developed by Author).

Figure 19. Study map manifesting the city's urban planning's core mediating the two city centres upon which the city relies greatly (Developed by Author)

Acknowledgments

As disclosure, a commemoration, the author would like to corroborate his sincere gratitude to his lecturer back at Aloysius College, as an inaugural to this paper, dedicated to her. And his mother, who, during this research study, guided him to persevere and complete it satisfactorily. The author would like to thank her father and mentor, Usama Nour for his continued support and constructive comments, greatly contributing to improving this work. The author would also like to thank Professor Sahar El Arnaouty for being the unrelenting support she is for she has deeply impacted the author's work and perception. A long overdue thanks to Dr. Ibrahim Maarouf for his ceaseless aid.

Conflict of interests

The author declares no conflict of interest.

References

1 Abeyasekere, S. (1990). *Jakarta: A History*. Singapore: Oxford University Press. https://doi.org/10.1017/S0165115300004873

2 Adams, J. (1996). Principals and Agents, Colonialists and Company Men: The Decay of Colonial Control in the Dutch East Indies. *American Sociological Review*, 61(1), 12-28. https://doi.org/10.2307/2096404

3 Anderson, B. R. G. (1990). *The Idea of Power in Javanese Culture*. Ithaca: Cornell University Press. http://readinglists.ucl.ac.uk/items/994AFF9D-55A6-1A9C-641E-226538B45384.html

4 Balk, L., Dijk, F. V., Kortlang, D., Gaastra, F., Niemeijer, H., & Koenders, P. (2007). *The Archives of the Dutch East India Company (VOC) and the Local Institutions in Batavia (Jakarta)*. Asian Studies E-Books Online, Collection 2007. https://doi.org/10.1163/ej.9789004163652.1-556

5 Barrington, B. (1997). *Empires, Imperialism and Southeast Asia: Essays in Honour of Nicholas Tarling*. Melbourne: MAI.

http://www.nzjh.auckland.ac.nz/docs/1999/NZJH_33_2_22.pdf

6 Bertrand, R. (2011). *L'Histoire à parts égales. Récits d'une recontre Orient-occident (XVIe-XVIIe siècles).* [The story in equal parts. Tales of an East-west Recons. (16th-17th centuries)] Paris: Éditions du Seuil. https://doi.org/10.1017/S1740022812000344

Brug, P. H. V. D. (2000). *"Unhealthy Batavia and the Decline of the VOC in the eighteenth century". In Jakarta/Batavia: Socio Cultural Essays* (pp. 43-74). Leiden: KITLV Press.

Carey, P. (1997). Civilization on Loan: The Making of an Upstart Polity: Mataram and its successors, 1600-1830. *Modern Asian Studies*, 31(3), 711-734. https://doi.org/10.1017/S0026749X00017121

Correa, F., & Strange, C. (2016). *Jakarta: Models of Collective Space for the Extended Metropolis*. Cambridge: Harvard University Graduate School of Design. https://issuu.com/gsdharvard/docs/jakarta

Crone, E., Dijksterhuis, E. J., Forbes, R. J., Minnaert, M. G. J., & Pannekoek, A. (1956). *The Principal Works of Simon Stevin. Vol. I: General Introduction – Mechanis by Simon Stevin*. Digital Library, Dutch History of Science Web Center. http://www.dwc.knaw.nl/pub/bronnen/Simon_Stevin-[I]_The_Principal_Works_of_Simon_Stevin,_Mechanics.pdf

Day, C. (1904). *The Policy and Administration of the Dutch in Java*. New York: The Macmillan company. https://archive.org/details/policyadministra00dayc/page/n7

Day, C. (1972). *The Dutch in Java*. Oxford: Oxford University Press. https://doi.org/10.2307/2942695

Dekker, E. D. (1967). *Max Havelaar, or The Coffee Auctions of the Dutch Trading Company*. Leiden: Luitingh-Sijthoff. https://dbnl.nl/tekst/mult001maxh14_01/

Dijksterhuis, E. J. (1943). *Simon Stevin*. The Hague: Martinus Nijhoff Publishers. https://www.dbnl.org/tekst/dijk027clio01_01/dijk027clio01_01_0010.php

Faludi, A., & Valk, A. V. D. (1994). *Rule and Order Dutch Planning in the Twentieth Century*. Dordrecht: Kluwer Academic Publishers. https://www.springer.com/la/book/9780792326199

Frederick, W. H., & Worden, R. L. (2011). *Indonesia: a Country Study*. Washington: Library of Congress. https://www.loc.gov/resource/frdcstdy.indonesiacountry00fred/?st=gallery

Hogan, T. (2003). Postcolonial Cities: A View from Jakarta. *Thesis Eleven*, 73(1), 113-121. https://doi.org/10.1177/0725513603073001008

Israel, J. (1995). The Dutch Republic: *Its Rise, Greatness, and Fall 1477-1806*. Oxford: Clarendon Press. https://doi.org/10.1086/ahr/101.5.1562

Kehoe, M. L. (2015). Dutch Batavia: Exposing the Hierarchy of the Dutch Colonial City. *Journal of Historians of Netherlandish Art*, 7(1). https://doi.org/10.5092/jhna.2015.7.1.3

Kehoe, M. V. L. (2008). The Paradox of Post-Colonial Historic Preservation: Implications of Dutch Heritage Preservation in Modern Jakarta. *Online Student Journal of Urban Studies*. (University of Wisconsin), 2(1). https://ar.scribd.com/document/131409434/2008-Kehoe-Article

Knaap, G. (2006). All About the Money: Maritime Trade in Makassar and West Java, Around 1775. *Journal of the Economic & Social History of the Orient*, 49(4), 482-508. https://doi.org/10.1163/156852006779048417

Knapen, B. (2005). *De man en zijn staat. Johan van Oldenbarnevelt, 1547-1619*. Amsterdam: Bert Bakker. https://doi.org/10.18352/bmgn-lchr.6539

Kusno, A. (2000). *Behind the Post-Colonial: Architecture, Urban Space and Political Cultures in Indonesia*. East Sussex: Psychology Press. https://www.crcpress.com/Behind-the-Postcolonial-Architecture-Urban-Space-and-Political-Cultures/Kusno/p/book/9780415236157

Kusno, A. (2000). *Behind the Postcolonial: Architecture, Urban Space and Political Cultures in Indonesia*. London: Routledge. https://ecommons.cornell.edu/bitstream/handle/1813/54288/INDO_75_0_1106938964_181_186.pdf?sequence=1&isAllowed=y

Lindsey, T. (2008). *Indonesia: Law and Society*. Sydney: Federation Press. https://www.jstor.org/stable/3351303?seq=1#page_scan_tab_contents

Loewen, J. W. (2000). *Lies Across America: What Our Historic Sites Get Wrong*. New York: Simon & Schuster. http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=3245&context=greatplainsquarterly

Marit, V. H. (1994). *The Lost Gateway of Jakarta: On the Portico of the VOC Castle of Batavia in the 17th century Dutch East India*. Perth: Western Australian Maritime Museum, Department of Maritime Archaeology. http://museum.wa.gov.au/maritime-archaeology-db/sites/default/files/no._092_batavia_portico.pdf

Masselman, G. (1963). *The Cradle of Colonialism*. New Haven: Yale University Press. https://doi.org/10.1017/S0035869X00123846

McClintock, A., Mufti. A., & Shohat. E. (1997). *Dangerous Liaisons: Gender, Nation, and Postcolonial Perspectives*. Minnesota: University of Minnesota Press. https://trove.nla.gov.au/version/45633227

Milton, G. (1999). *Nathaniel's Nutmeg: or, the True and Incredible Adventures of the Spice Trader Who Changed the Course of History*. New York: Penguin Books. https://archive.org/details/nathanielsnutmeg00gile

Mitrasing, I. S. (2014). Negotiating a New Order in the Straits of Malacca (1500-1700). *Kemanusiaan The Asian Journal of Humanities*, 21(2), 55-77. http://web.usm.my/kajh/vol21_2_2014/KAJH%2021(2)%20Art%203(55-78).pdf

Mostert, T. (2007). *Chain of Command. The Military System of the Dutch East India Company 1655-1663.* (master's thesis). Leiden University, Leiden, the Netherlands. Retrieved from https://www.scribd.com/document/101353007/The-Military-System-of-the-Dutch-East-India-Company-1655-1663

Mutch, T. D. (1942). *The First Discovery of Australia With an account of the Voyage of the "Duyfken" and the Career of Captain Willem Jansz*. Sydney: Project Gutenburg. http://gutenberg.net.au/ebooks06/0600631h.html

Parthesius, R. (2010). *Dutch Ships in Tropical Water: The Development of the Dutch East India Company (VOC) Shipping Network in Asia 1595-1660*. Amsterdam: Amsterdam University Press. https://doi.org/10.5117/9789053565179

Permanadeli, R., & Jerome, T. (2014). Understanding the Imaginaries of Modernity in Jakarta: A Social Representation of Urban Development in Private Housing Projects. *Papers on Social Representations*, 23(1), 1-33. http://horizon.documentation.ird.fr/exl-doc/pleins_textes/divers16-05/010067183.pdf

Ricklefs, M. C. (2001). *A history of Modern Indonesia since c.1200*. Hampshire: Palgrave Macmillan. www.univpgri-palembang.ac.id/perpus-fkip/Perpustakaan/History/Sejarah%20Indonesia%20Modern%201200.pdf

Robinson, M. S., & Fidler, P. J. (2002). *The Microfinance Revolution (Vol. 2): Lessons from Indonesia*. Washington: World Bank. http://hdl.handle.net/10986/14254

Ronald, G. (1995). *Jakarta's Urban Heritage: Restoration of the Urban Memory of Kota, Issues in Urban Development: case studies from Indonesia*. Leiden: CNWS Publications.

Roodbol-Mekkes, P. H., Valk, A. J. V. D., & Altes, W. K. K. (2012). The Netherlands Spatial Planning Doctrine in Disarray in the 21st Century. *Environment and Planning: Economy and Space*, 44(2), 377-395. https://doi.org/10.1068/a44162

Sekundiar, P. (2015). *The Dutch Trading Company-VOC In East Indies 1600-1800, The Path to Dominance.* (master's thesis). Masaryk University, Brno, Czech Republic. Retrieved from https://is.muni.cz/th/y5gpc/VOC_-_The_Path_to_Dominance.pdf

Sihombing, A. (2004). *The Transformation of KampungKota: Symbiosis Between Kampung and Kota, A Case Study from Jakarta*. Unpublished manuscript, University of Indonesia, Department of Architecture, Jakarta. https://www.housingauthority.gov.hk/hdw/ihc/pdf/phhkt.pdf

Simone, A. M. (2012). Securing the Majority: Living through Uncertainty in Jakarta. International *Journal of Urban and Regional Research*, 36(2), 315-335. https://doi.org/10.1111/j.1468-2427.2011.01028.x

Simone, A. M. (2014). *Jakarta: Drawing the City Near*. Minneapolis: University of Minnesota Press. https://pacificaffairs.ubc.ca/book-reviews/jakarta-drawing-the-city-near-by-abdoumaliq-simone/

Steinberg, D. J. (1987). *In Search of Southeast Asia: A Modern History*. Hawaii: University of Hawaii Press.

Stivens, M. (1991). *Why Gender Matters in Southeast Asian Politics*. Melbourne: CSEAS. https://doi.org/10.1080/03147538908712584

Tamara, L. (2001). *Colonial Modernity in Netherlands East Indies*. Ithaca: Cornell University Press.

Taylor, J. G. (1997). *Women Creating Indonesia: The First 50 Years*. Melbourne: MAI.

Yamamoto, M. (2004). *Spell of the Rebel, Monumental Apprehensions: Japanese Discourses on Pieter Erberveld*. New York: SEAP. https://ecommons.cornell.edu/bitstream/handle/1813/54310/INDO_77_0_1106927759_109_143.pdf?sequence=1&isAllowed=y

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 175– 190

Visual pollution phenomena and sensitivity of residences in heritage city centers Case of: Old district of Manama city, Kingdom of Bahrain

* Dr. ISLAM EL-GHONAIMY

Department Of Architecture and interior design, College of Engineering, University of Bahrain, Bahrain
E mail: eelghonaimy@uob.edu.bh

ARTICLE INFO:

Article history:
Received 08 February 2018
Accepted 15 May 2018
Available online 25 August 2018

Keywords:
Building façades; Commercial life-; Atheistic and Beautification; Visual discomfort

ABSTRACT

Image of the ancient cities across the Arab region have been changed. The urbanization progress and their subsequent urban changes are of rapid acceleration, due to the population increase in the named cities; affecting the encompassed old districts in many respects. The mentioned changes are forked into two main branches; controlled and uncontrolled. On one side, the controlled category abide by the urban regulations in terms of the visual representation of the old districts. On the other side, the uncontrolled counterpart breach these regulations and their logical assumptions ending up in many urban problems in general and visual pollution in particular. The objective of this research is to tackle those cases of visual pollution. The research methodology is staked on both of the data collection and theoretical background about old district in Manama City, whereas thorough historic background of the city and analytical studies of the selected data and questionnaire are carried out. Although there were a few open-ended questions, the majority were closed-ended taking the form of yes/no, multiple choice, or rating scales. Questions went through several renditions based on intra- and interdepartmental review before being presented.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 175-190.
https://doi.org/10.25034/ijcua.2018.4694

www.ijcua.com

1. Introduction

Treading along these ancient cities compels any researcher for visual quality analysis purposes. Albeit, touring across their streets is quite sufficient, to observe the devastating alteration within their urban state deforming their urban texture and architectural structure equivocally. It is way facile to track and detect the distinctive architectural set up of the buildings in regard of their affiliation to various decades. In addition, it is easy to the development of these cities and the lifestyle of its residents by examining the adjustments of their building volumes, forms, color, height, and design. (Elghonaimy, Environmental Assessment of Urban Area, 2000).

In Bahrain, old district of Manama city is a

***Corresponding Author:**
Department Of Architecture and interior design, College of Engineering, University of Bahrain, Bahrain
E-mail address: eelghonaimy@uob.edu.bh

witness on the economic, political and social eventuated over the last decade for Manama has been always the heart of civilization and vitality in Bahrain for a long time interval. It is acknowledged that the municipal architecture mirrors the cultural identity, social standard, political conditions and economic status of the homing civilization. Therefore observing the building chronological sequence in Manama indicates the sovereign historical eras of the Bahraini civilization.

It is a worth inspecting issue since the local residences of the ancient cities; Manama rely on their accommodating buildings in all their daily urban routine; living, trading, commercial activities, entertainment and social services in terms of education and health, to name a few. Yet architecture is taken for granted as part and parcel of our existence whereas it is not receiving enough attention nor contemplation. Nevertheless, considering architecture as an intrinsic part of our existence, then it ought to be enhanced regarding the visual quality of cities and counted as a window to its hosting cultural identity and its residents' self-esteem.

1.1. Diagnosis of the problem

Many urban problems occur due to malfunctioning treatment of old districts in cities, such as; overpopulated residential areas, infrastructure deficiencies, and indiscriminate distribution of city services deteriorating the life quality right there. The foreign workforce imported utilize the spaces as per their requirement and understanding, thereby altering the prime functions of spaces. Moreover, they are reluctant about the visual display of their place of inhabitance as they do not consider that it belongs to them and they know that their stay is temporary. Visual pollution has been the ultimate repercussion of the haphazard urbanization policy adopted in old district of Manama.

1.2. Significance of studying "Manama city

Manama is the former capital of Bahrain, besides. It is considered as a prime tourist attraction and investment zone. It has been the prime location in the past for activities and still holds its position as an important city of Bahrain. The factual image of Manama incarnates the status of Bahrain in general indicate that of Bahrain. Manama is the considered the hub of the social, economic and environmental issues in Bahrain.

1.3. **Motivation of selecting "old district of Manama "as case study**

Old district of Manama city is the core business activities and official buildings of Ministries in Bahrain. Moreover, it is rich in archaeological monuments and heritage architecture entities. Enhancing the visual quality would positively show on residents' life quality, and attract investors to do business activities and tourists to visit the heritage areas, which by turn improves the national economy of Bahrain.

1.4. Research Idea

The unsorted conflict between Bahrain 2030 regarding the enforced regulations and actions amongst local authorities degrades the visual quality in the old district in Manama city. The flow of this conflict should be curbed, to avoid downgrading the visual quality in old district of Manama.

1.5. Aim of the research

To find out the reasons of the deterioration of the visual quality in the old district of Manama, and the forms of the resulted visual pollution then how can we enhance it, which consequently will

- influence positively life quality of residences
- attract capitals of business
- Encourage tourists to visit the heritage areas,

Consequently, will leads to improve the economy of Bahrain

1.6. The research methodology

Research methodology consists of two cardinal sections, where the first compromises the theoretical background figuring out the motif of adjusting the urban texture of Manama followed by a survey interviewing its users, residences, businessmen and municipality officers. The second demonstrates the analytical phase concerning the collected data and the findings of the interview to generate the research guidelines.

2. Visual pollution problem in old cities

2.1. Definitions

In general, visual pollution is an aesthetic issue referring to the impacts of pollution that impair one's ability to enjoy a visit or view. Visual pollution is defined as the whole of irregular formations, which are mostly found in natural and built environments. (Yilmaz, May 2011). It could be also defined as encountering unfavorable sight that flaunts the aesthetic appeal of a specific area. Visual pollution

occurs when an individual cannot enjoy the view in a particular area due to the drastic changes taking place in a named natural environment.

2.2. Old districts and Urban Design Defects:

In old districts in cities, life style change affected the physical conditions of the urban plan in general moreover, architectural representation in particular. In Manama, by the oil mining success and modernization, most of the old residences moved out the old districts towards new districts looking for modern and more comfortable and spacious areas. Fascinated by their desire to lodge in the new residencies together with their unawareness of the value of the abandoned ones led to sweeping downfall of the old Manama and its traditional buildings as well. This reality has changed the character of the human settlement in these old areas depending on the variations of circumstances, actions and events such as migration and employment, balance of urban fabrics. (Hamouche, 2009)

In order to reconcile visual quality inside old district efficiency with physical and environmental constraints, the performance of policy and strategies in old cities seeking urban development needs to be monitored and evaluated. Reconciling visual quality inside old district efficiency required improving the quality of life reflect upon visual quality. The key factors of Reconciling coming from clarifying the value of these old districts and avoiding the conflict between policy and action plans. (Elghonaimy, Environmental Management and Economic , 1995). En masse, the planning process has to meet specific goals in terms of users, time and space. Behavior of the users' forces cannot always be predicted, so feedback information is necessary to reevaluate initial goals and objectives. The main features affected by the deterioration of urban quality are building condition, quality of life and standard of living. (Dalia Hussain El-Dardiry, Islam Hamdi Elghonaimy, 2010) The parallel impacts came in term of visual quality in old Manama city.

In many cases, failing in controlling visual pollution because of facing the economic power of business. For examples, as businesses look for ways to increase the profits, cleanliness; architecture, logic and use of space in archaeological urban areas are suffering from visual clutter. (Morozan, Cristian; Enache, Elena; Purice, Suzan., 29 March 2013).

2.3. Repellent factors in Site Attraction Sceneries

Visual formation is considered one of the significant factors, to get a full visual picture of cities in general. In old districts, traditional buildings are of unique characteristics. The major factors that affect visitors' scene for this area as follows:

- Site Treatment
- Study of visual interrelation between the buildings and surrounding outdoor spaces
- Site Furnishing
- Artistic element within the urban areas

2.3.1. Site Treatment

Street furniture plays significant factor in enhancing the visual communication between existing buildings and urban fabric. In old part of cities, visual studies take to embark the site treatment. It could be working on underscoring and preserving its nature, obliterating whatever spoils its homogenous set up. Moreover, it aims at introducing some additives, to highlight its natural composition on the one hand. It may be also an attempt to demolish this set all together or work on amending adjustments on the other.

2.3.2. Study of Visual Interrelation between the Buildings and Surrounding Outdoor Spaces

It comes second after the treatment process, where the buildings are studied as one block or limited variable ones. Thus, the visual image formation is not hard to handle. Using similar colors, details and materials end up in a homogenous rhythm along the blocks and spaces. It may be apparent in a systematic train of thought in control of the design; hence, the visual interrelation among the constituents of the site especially for those speedy highway travelers, for speed is known for correlating the nearest points to the farthest ones. Therefore, the named goal is realized.

Regarding free designs, they are double-edged weapon for their free block formation though their main problem lies in achieving continual block-space interrelation with variant functional surroundings. The design is termed successful, if it satisfies the spectators visually and psychologically meeting their expectations and satisfying their wants, bearing in mind their individual differences. Reaching out for this continuation and consistency, exaggerated repellent forms and size blocks must be cut down along with setting forth an overall controlling visual theme. This is either achieved by areal categorization; narrow

ranged areas must be separated from their wider counterparts, or opting for green areas and foresting for thematic supremacy.

2.3.3. Site Furnishing*:*

It is a crucial supplementary factor for completing the site scene in archaeological areas. The comprehensive site scene includes plants, fountains, lighting and other artistic factors, ruling out any repellent forms for homogeny purposes. Additives do maintain the color scheme and aesthetic touch necessary for an architectural design, yet they decrease the feeling of heat in high temperature areas, meanwhile they are despised in highly humid zones. Therefore, we can say that Site furniture is not of a sole visual function, but comprehensive seen as well.

Thus, their quantity and types must be allocated according to the homing environment circumstances in days and nights equally. From climatic perspective, regularly Bahrain is overwhelmed by sand storm. Thus site furnishing is also significant in enhancing the visual quality in sand storm attacked zones, for dust deposition areas, where evergreens perfectly fit, for their dropping foliage accumulates no snow. (Chmielewski, Sz., Lee, D., Tompalski, P., Chmielewski, T., J., Wężyk, P, 2016)

2.3.4. Artistic Element within the Urban Areas*:*

There are other elements that in crucial dense such as statues, sculptures. They connect different spaces and interfere in the curvature of the corridors in directing and clearing probable congestions within the site as well as the grading steps, kiosks, shops and billboards, in respect to the design consistency and the site visual coherence. (Elghonaimy, Historical preservation projects and urban developing plans, Impacts of Successful experiments in historical preservation projects upon Enhancing City urban conditions; Case of Bahrain, 2011).

3. Case Study: Governorate Road, "Bab Al Bahrain"

3.1. Historical Background

Bahrain has a prolonged history that goes back to before the birth of Christ era, where the oldest civilization took place "Delmon"; it was a center of trading from that time, until today. Till the time being, trading background still influences the Bahraini community. Manama is one of the most old cities in Bahrain emerged in 1780s, where Manama is the capital and largest city of Bahrain, it was an important trading center in the Gulf. Traders came to rest and feature their products. It means "the place of rest", Manama is a cosmopolitan castle embracing multi-ethnic origins within; Jews, Muslims, Christians, Hindus Buddhists, etc. It has been a melting pot for all these ethnic varieties lived door to door since the birth of the peaceful coexistent community

The case of studying locate in the old district Manama, Governorate Road, "Bab Al Bahrain" area. This Avenue is one of the liveliest streets in Bahrain, it is filled with locals and tourist filling this area, with Bab-AL Bahrain and the gold market is one of the busiest streets in Manama. Visual analysis will for this street to find out the common features of visual pollution then in return, it would be requesting some improvements that may enhance the users' experience. (Hamouche, 2009).

Figure 1. A map of Manama of the early '30s clearly show the morphological structure and the extent of the two fabrics at the beginning of the modernization process (Agriculture, 2007)

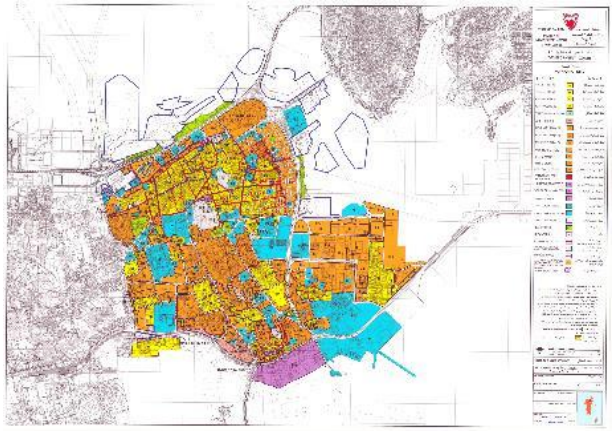


Figure 2. A map of Manama governorate clearly show the old district, Bahrain, in 2016s, Ministry of Municipalities Affairs and Agriculture

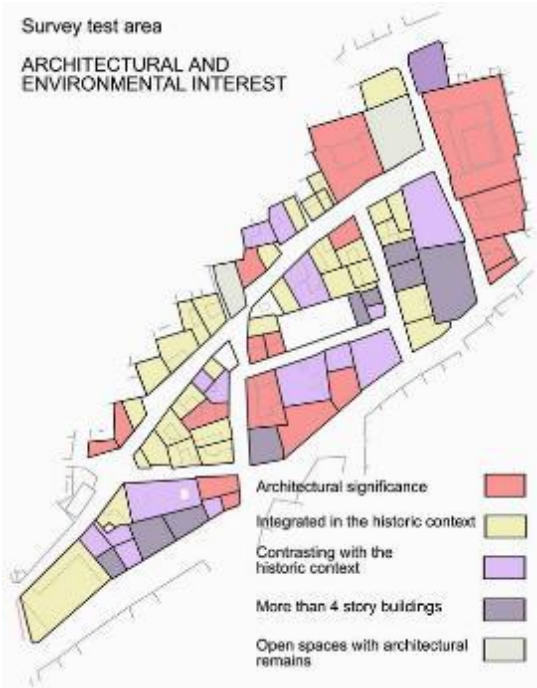
A sample of "transitional area" in Manama; the historic pattern is still kept, but some streets have been widened to become commercial trough fares. Several transformations have occurred in the built-up fabric as well,

especially along the "modernized" streets. The red perimeter show the survey test area.

Figure 3. A portion of Manama city, Bahrain, in 1950s showing the urban fabric and spaces usage in old district. (Hamouche, 2009)

Figure 4. A portion of Manama city, old district 2006, showing more focus the urban fabric and spaces usage in old district (Agriculture, 2007)

The survey test area in the "transitional" zone: a "modernized" commercial street and two "traditional" streets. The bases of the survey data (including ownership, state of occupancy, building typology, construction system, and so forth) the category of the permitted interventions are identified for each buildings (left). Some "sensitive" areas can also be defined to be possibly submitted to integrated conservation and regeneration projects. (Agriculture, 2007).



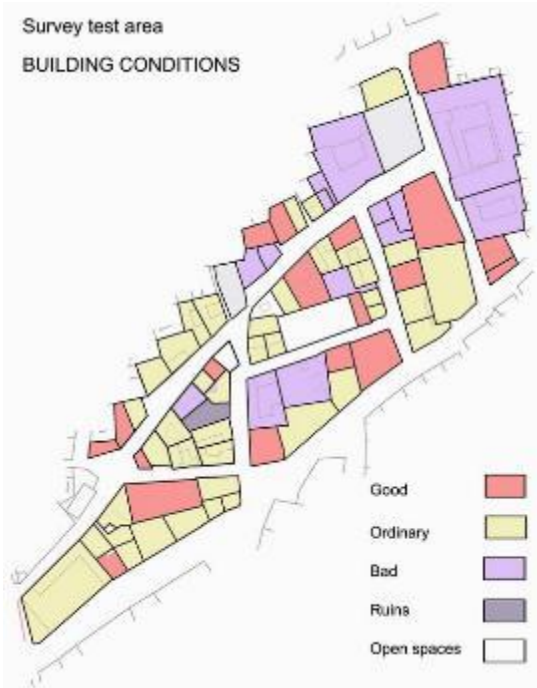


Figure 5. 1The survey test area in the "transitional" zone (Agriculture, 2007)

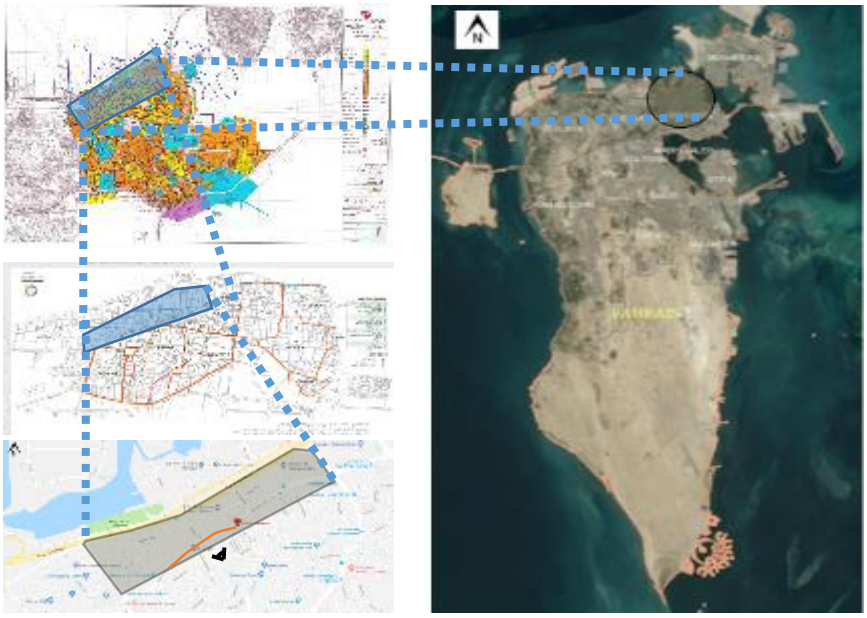


Figure 6. Location of the pilot study of: "Bab Al Bahrain", Governorate Road, Old Manama, Kingdom of Bahrain

4. Pilot study: Government road, Old district, Manama City

4.1. Location of the Pilot study

It is the Avenue that goes through Bab Al-Bahrain into Manama. Bab Al-Bahrain was built in 1949, and it has undergone eminent changes over the years but the Ministry of Culture undertook a project to preserve it as a cultural landmark; thus restored it to its former glory and eventually moved its tourism sector offices and visitor's center right into the building. Attached to Bab Al Bahrain is the old Manama Marketplace "Souq". The market is a vibrant collection of number of traditional coffee and shops offering a wide range of goods from gold, textiles, spices, incense, perfumes, handicrafts and souvenirs, as well as more modern products from all over the world. The souq offers a unique shopping experience that brings to mind the style of commerce from days long past (figure 7).

4.2. Historical background of the Area

The whole area had gone through many developments until this day; the first area is relatively the same as before. The second area had gone through major changes; it had been turned into a pedestrian path, which is similar to the international case that has been chosen, by turning a normal street into a pedestrian path.

Figure 7. Urban context of the study area, google earth map, 2017

Figure 8. The most famous buildings in the study area.

4.3. Users

Fig 9, illustrates the featured estimation for the use of Bab Al-Bahrain Avenue, where it is highest used twice a day; in the afternoon and evening. It records highest utilization rates in the weekends especially Friday. Both inhabitants and tourist use the street, as it holds a cultural attraction as well an economic attraction.

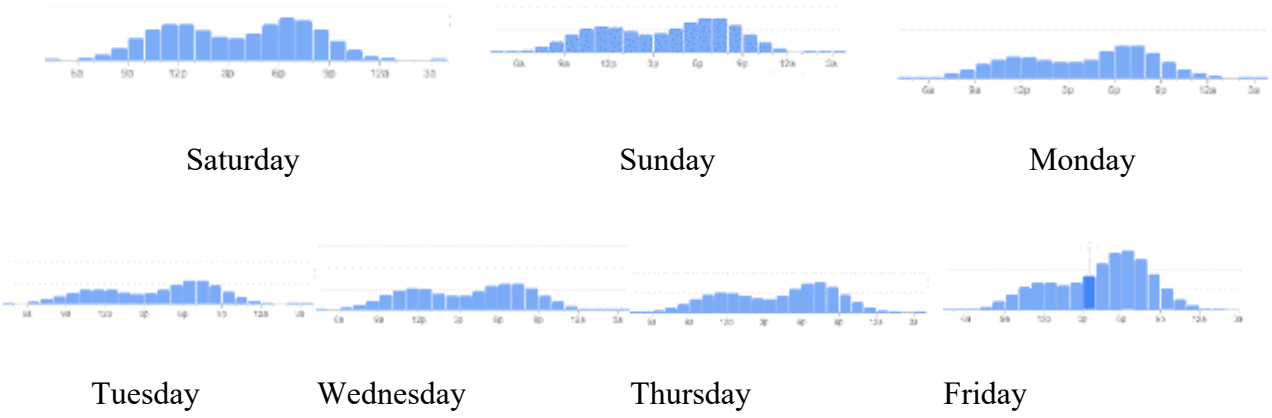


Figure 9. The featured an estimation for the use of Bab Al-Bahrain Avenue (Popular times in Bab Al Bahrain, 2018)

4.4. Activities

This area indulges many activities; capturing photos near the (heart) Bahrain structure or near Bab Al-Bahrain or near the hanging coins. For local residences, they can enjoy their time in the cafés they can also sit around and just enjoy the space. While the victors do some shopping and have rest in some traditional cafeterias.

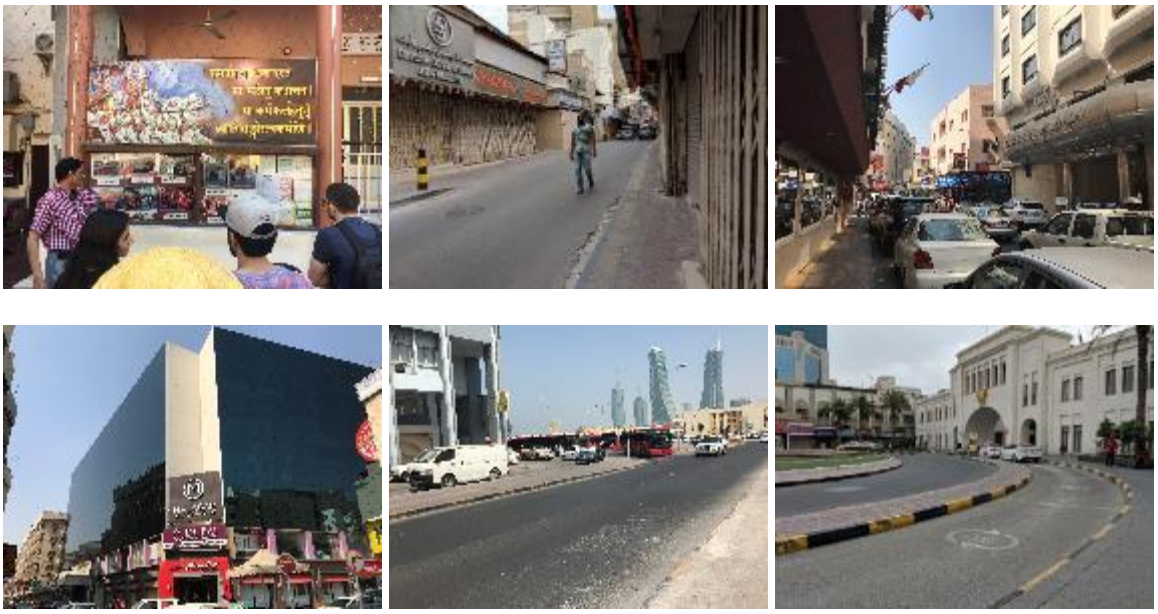


Figure 10. The common social and commercial Activities in the case study area

4.5. Symptoms of visual pol**lution in "Bab Al Bahrain", Governorate Road, Old Manama**

Unfortunately, the visual quality is deteriorating, which is but a distortion of the once inviting view propagating psychological unease in many places. In particular, the visual pollution appeared due to improper usage of the monumental and valuable wealth of the area disturbing the visual quality concerning its beholders. Infringing changes of the urban context forcing the seers to accept unaesthetic scenes as normal. Residences used to deal with deteriorated visual quality as normal issues. It is an aesthetic issue and refers to the impacts of pollution that impair one's ability to enjoy a vista or view. Visual pollution disturbs the visual areas of people by creating harmful changes in the natural environment. Therefore, the dealing with phenomena of Visual pollution in Manama Old districts is related to its handling methodology.

Figure 11. Miss use of vacant lands that harmful the urban context

From the inventory and field survey, it is deduced to be lacking the least artistic taste in dealing with building color or adding new one to the surrounding old buildings or disappearance of the aesthetic image of everything that surrounds from buildings to roads or sidewalks and others will provide some examples of this type of pollution:

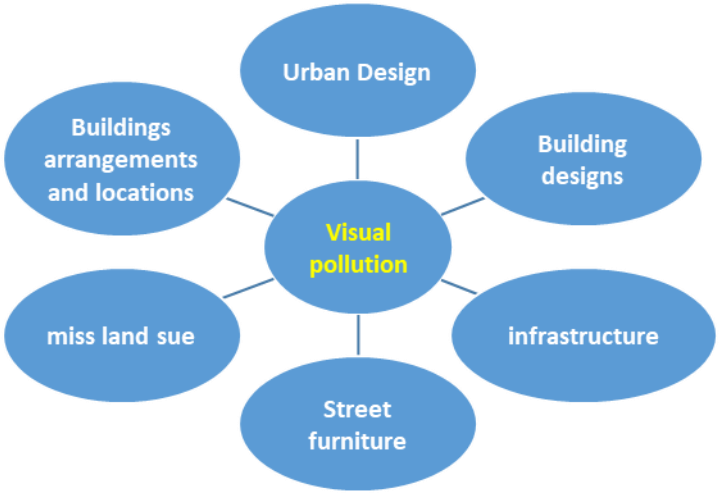


Figure 12. Common causes for visual pollution in study area

a. Urban Design;
i. Lack of urban controlled: Local managers of old urban areas especially in archaeological places over what is built and assembled in public places.
ii. Poor urban planning of some buildings, both in terms of spaces or in terms of the form of construction.
iii. Build buildings in front of beautiful scenery and hide it, for example hiding the sea
iv. Improper way in hiding waste and countless other examples.

b. Buildings arrangements and locations:
i. The spread of housing haphazardly in the vacant areas instead of having gardens.
ii. archaeological projects: Deficiency in dealing with the restoration projects in the archaeological areas in comprehensive level

c. Land misuses: in terms of
i. Miss land sue in the old districts in general
ii. open storage of trash, and automobiles movements and parking
iii. Crashed cars or those loaded with goods asymmetrical appearance.
iv. hopheads land use within the area
v. Waste disposals: Garbage cans in their forms that give rise to pessimism.
vi. Waste from the rubbish in the land space and around the crankshafts different colors of building facades.

d. Street Furnishings:
i. Street Lighting: Street lighting poles do not fit the streets while electrical wires are hanging on building' facades deteriorate visual quality of the area.
ii. Poor management of Billboards, Trash cans and dumping areas that are exposed,
iii. Signboards and billboards hanging in the streets in non-matching colors.

Figure 13. Street furniture: in term of Miss-use Billboards

i. Missing sitting areas and places for taxi drivers waiting areas.
ii. Missing shades and landmarks.
iii. low level of respecting the landmarks for example minor sculpture in the area
iv. Garbage bins: Garbage bins are provided in large numbers (15 or more) and distributed randomly along the street, with different sizes, materials, colors and forms. Pedestrians throw the garbage instead of making the street dirty with wastes.

Figure 14. Street furniture: in term of Miss allocating or designing trashcans and dumping areas

v. Fences and Barriers: Lots of barrier structure are used in the avenue to separate the pedestrian pathways from Vehicles Street using these different material and form barriers, so they prevent vehicles to enter some places. Some of these barriers are made of metal; some are made of concrete but in general are not matching with the traditional style of buildings.

Figure 15. Fences and Barriers are not matching with the traditional style of buildings.

vi. Sitting areas: All visitors of different ages can use sitting areas-the "Basta" sitting area used by adults more. According to time, the using for the areas, all day -used more afternoons and evening as preferable daytime for shopping and using the SOUQ. For taking rest after shopping or for enjoying the photo gallery and the entrance fountain view and for gathering. Shadings in many places are in ugly shape for shading the pathway in the shopping areas and the shading for the police officer.

Figure 16. Sitting areas: more visual pollution sources in term of the clear haphazard in allocating for sitting areas.

Figure 17. Mal-allocating for sitting areas

vii. shading devises

Figure 18. Shadings in many places are in ugly shape

e. Infrastructure: in terms of Antennas, electric wires hanging upon building facades

Figure 19. Haphazard car parking with low level of maintenance.

Figure 20: Deteriorating traditional building condition (air conditions are haphazard disrupted).

f. Building designs:

i. Building heights: Demolishing the traditional buildings amid to build high-rise buildings leads to miss the homogenous skyline for district buildings. Moreover, the creation of new high rise buildings invaded the visual privacy of older homes.

ii. Facades designs: The use of glass and aluminum finishing, which increases the sensation of heat. Moreover, they are randomly hanged for air conditioners in facades.

iii. Colors scheme: lack of harmony for the new parts with the old

iv. Demolishing the traditional buildings to build high buildings.

v. Missing the common style of Architecture design for building in terms of height, color, or design for buildings,

vi. Buildings roofs: Improper use for roofs in term of Antennas or storage are often considered visual pollution. (Chmielewski, S., Samulowska M., Lupa, M., Lee, D., Zagajewski, B, 2018).

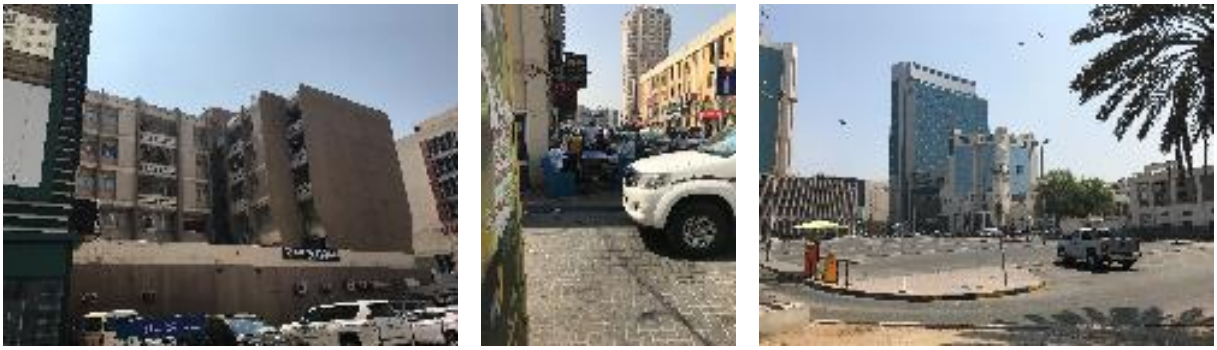


Figure 21: low quality of dealing with building Facades designs

5. Governmental actions considering visual pollution:

5.1. Legislations and regulations

Several legislations were issued to manage dealing with visual aspects while others were issued to deal with the old districts in Bahrain; like the legal codes in the years 1977, 1979, 1981 and 1998 and binding regulations in the years 1979,-1981, 1988, 1998 and 2005. Unfortunately, not all these laws and regulations controlled the visual pollution or the controlling the deteriorating of the old distrust.

Figure 22: Falling of laws and regulations in control the visual quality.

5.2. **Bahrain's Master plan 2030 –** Overview

Bahrain's Master plan 2030 deals with the Bahrain Strategies and Policies. There were many steps towards treating visual pollution in old districts in Manama as well for example:

i. Creating one comprehensive master plan for the old district.
ii. Built distinct communities.
iii. "The National Plan of Bahrain lays out key strategies that coordinate and focus development"

- Control Land Speculation
- Protect resources
- Preserve Historical & Ecological important sites
- Integrate transport & ensure public access to open space Waterfront. (Bahrain, 2007).

5.3. Benefit of analyzing the Master plan & Vision of 2030:

The Master plan & Vision of 2030 that will help in:

i. "Built distinct communities" and adding greenery to the area
ii. They want to lessen the sprawl, use the land more effectively, help preserve and keep the traditional Bahraini lifestyle, and the historical landmarks.
iii. Protection of the heritage, archaeological, & cultural sites
iv. Help encourage tourism through visual aesthetics to the archeological sites and traditional Bahraini lifestyle.

Figure 23: Bahrain's Masterplan 2030 – Overview

6. Conclusion

Visual pollution in the old district leads to loss the aesthetics and the sense of unity and common values for the areas in general in terms of:

a. The danger of visual pollution lies in its association with the old district of Manama City. The studied area is a very active pedestrian area, where people constantly use it at all time for the cultural representation it has and the economical center it is, so it is important to have a careful design for the area, which will assure the comfort of the users while using the street.

b. By contrast, the loss of beauty and the collapse of aesthetic considerations in the area deteriorating the general taste of residences in Bab Al Bahrain area, leads to the acceptance of the ugly image as dominate, and deteriorate the taste of the residences.

c. Tourists would never find it appealing to visit the old districts, and the investors and businessmen are to look for other beautiful urban context to inaugurate their business. . The real estate investors tend to invest in the reclaimed area opposite to the Manama souq because of sea view and modern infrastructure development.

d. Unpleasant spread until it became a domineering visual characteristic, where law still exists to detect the sources visual pollution and its manifestations in the streets, roads and neighborhoods of the city tracking some aspects.

e. Buildings design are characterized by its haphazard and deteriorating building conditions in terms of installations, color, height, building materials, structure systems, general noticeable exterior and leads to a clear truancy of harmony; utilized materials in covering the facades of buildings, the finishing materials.

f. There is a need to be sure of implementation the approved facades design by the municipality.

g. Absence respecting traditional architecture style in designing the new building.

h. Miss proper Implementing the relation between the followings elements:

Table 1. Visual pollution elements and forms in the old district

Element	Forms of visual prolusions
Site Treatment and Sitting of buildings	Garaging and parking
	Communal spaces
	Access while health service needed and emergency circumstances.
	Private spaces
surrounding land-use	Disappearing the artisan and the traditional workshops area
	Access to Commercial land-use
	Services (as land-use)
	Access to different buildings types (governmental – nongovernmental)
	Miss allocating the waste collection
infrastructure grid system and networks	improper Sanitary, electricity, communications
	Freedom from local hazards and nuisances
	Accident hazards.
Site furniture	Aesthetics, street lighting, hard scape and soft scape as well
Open space (recreational uses	Public safety
	Public recreational places
Roads and Transportation	effective capacity of roads
	Access to transportation
	Access (vehicles and pedestrians)

7. Recommendation: Authoritative contribution in controlling Visual pollution

Urban planning policy level, the flow of the unsorted of the conflict between Bahrain 2030 regarding the enforced regulations and actions amongst local authorities should be curbed, to avoid downgrading the visual quality in old district of Manama city

strategy level, there is a need to revise the points of controlling the visual pollution reasons that mares the beauty of old district of Manama city and gives the viewer an awful display; it should be proposed solutions to mitigate visual pollution. It is worth mentioning, that urban scholars are of authoritative contribution in controlling Visual pollution in Manama Old districts considering the Physical axes, Environmental (context) The social dimension and Economic conditions; (table 1) (El-Ghonaimy, 2013).

Table 2. Influences with phenomena of Visual pollution in Manama Old districts

Factor	Description
i- Physical (location)	Considering applying architecture building code, land use, and landscape architecture represents the maximum number of users for a certain period in a place without causing any damage to the environment
ii- Environment	Use a level, which you can tolerate without causing any destruction to the environment and their preservation.
iii- social and Cognition (awareness for users)	Human behavior and resources that Represented by the habits and behaviors, that characterize the users place (sociological psychological approaches)
iv- Economic (Returns)	Activities and management strategies. for example, Accounts for the level of use and consumption of a place for fuedal returns. Paying attention to attract capitals and tourists towards the old district.

Control visual pollution will in term of:

a. Urban design, regulation and coding; there is acute needs to adopt manuals of urban design/architectural guidelines, rules and restoration codes within the protected zones.

b. Skills of Urban Scholars: Raise the technical level of urban designers, landscape architectures and architects responsible to know how to deal with the vernacular buildings in term of Architectural designs, especially façade designs, colors, finishing materials and support section

c. Conservation Zone Area; to adopt temporary visual protection measures

including two prime protection perimeters for the traditional core areas of Manama. Moreover, to develop the conservation plan leading to the establishment of the urban conservation zones and their boundaries. And to adopt the policy of demonstrating to investors, businessmen, and residents, the government's commitment to these areas through the implementation of pilot projects.

d. Buildings arrangements and locations: prepare strong action roles in controlling the relation between the contractor and the Municipality. Tightening Supervision by municipalities on contractors and owners of the obligation to implement what has been done.
e. Street furniture: there is a need to reexamine the existing case of:

-Street lighting
-Garbage bins
-Soft scape and plants species
-Encouraging walkability
-Fences and barriers
-Sitting areas
-Pavement design
-Allocating bicycles parking

f. Design codes: implement design codes to control schemes, facades, and colors setting suitable landscape architecture.
g. Modern Technology: use it in infrastructure and construction.
h. Encouraging public participation: to share in enhancing and developing the old district.
i. Building designs: Design codes: implement design codes to control:

-Schemes and style of building architecture
-Building materials
-Structure system
-Facades colors and style
-Buildings roofs
-Landscape architecture
-

Acknowledgment

Special thanks to Deanship of Graduate Studies and Scientific research for supporting this research paper via Scientific Research Project number *2014*/7 and special appreciations for the respecting research assistant Architect Mohamed Elghoneimy, Architect Needa Javed and Architect Huma Mohamed for their efforts within the research.

References

Agriculture, M. o. (2007). URBAN DESIGN PROJECTS IN TRADITIONAL AREAS. Building for Enhancement Of Urban Governance. Manama: Ministry of Municipalities Affairs and Agriculture. Retrieved from https://www.mun.gov.bh/portal/pages/research/BuildingUrbanEn.jsp

Al-Nabi, Mohammad Noor. (2012). The History of Land use and Development in Bahrain (1 ed., Vol. 1). Manama, Kingdom of Bahrain: Information Affairs Authority. doi:978-99958-0-129-8

Bahrain, S. c. (2007). Bahrain National Planning Development Strategy. Manama: SOM consultancy project for Bahrain. Retrieved from https://wiki.epfl.ch/lapa-studio/documents/0910_BAH/Sourcebook/BAH-SOM-Masterplan.pdf

Chmielewski, S., Samulowska M., Lupa, M., Lee, D., Zagajewski, B. (2018). Citiezen Science and WebGIS for outdoor advertisement visual pollution assessment. Computers,. Environment and Urban Systems, 67, 97-109. Retrieved from https://www.researchgate.net/publication/320086937_Citizen_science_and_WebGIS_for_outdoor_advertisement_visual_pollution_assessment

Chmielewski, Sz., Lee, D., Tompalski, P., Chmielewski, T., J., Wężyk, P. (2016). Measuring visual pollution by outdoor advertisements in an urban street using intervisibilty analysis and public surveys. International Journal of Geographical Information Science, 30(4), 801-819. doi:doi.org/10.1080/13658816.2015.1104316

Dalia Hussain El-Dardiry, Islam Hamdi Elghonaimy. (2005). Urban developing and the environmental policy for the G.C.C. within GATT arrangements". The G.C.C engineering forum, Bahrain society engineering, Annual Gulf Conferences. 1. Manama, Bahrain: Bahrain society engineering,. Retrieved from http://www.mohandis.org/en/Conferences/Archive

Dalia Hussain El-Dardiry, Islam Hamdi Elghonaimy. (2010). Conflict Of Urban Planning Policy And Strategies In Cities Urban Developing. Journal of Assiout University, Engineering Sector. https://www.researchgate.net/publication/328518324_CONFLICT_OF_URBAN_PLANNING_POLICY_AND_STRATEGIES_IN_CITIES_URBAN_DEVELOPING_CASE_STUDY_MANSOURA_CITY_EGYPT

Islam Hamdi Elghonaimy. (1995, May 12). The relationship between Housing Conditions and unplanned other Land use in Rapidly Growing Urban Areas. Thesis, 1, 1. (1, Ed.) Alexandria,

Alexandria, Egypt: Alexandria University. Retrieved from https://www.researchgate.net/publication/320668111_THE_RELATIONSHIP_BETWEEN_HOUSING_CONDITIONS_AND_UNPLANNED_OTHER_LAND_USES_IN_RAPIDLY_GROWING_AREAS

Islam Hamdi Elghonaimy. (2011). Impacts of Successful experiments in historical preservation projects upon Enhancing City urban conditions; Case of Bahrain. Journal of Al-Azhar University Engineering Sector (JAUES). doi:1110-6409 https://www.researchgate.net/publication/325848156_Visual_pollution_phenomena_and_sensitivity_of_residences_in_heritage_city_centers_Case_of_Old_district_of_Manama_city_Kingdom_of_Bahrain

Islam Hamdi Elghonaimy. (2013). Landscape Architecture and developing Public Awareness in Saving Energy. Towards Sustainable Development. Kingdom of Bahrain: Bahrain International Exhibition Centre (BIEC),. Retrieved June 17-19, 2013. https://www.researchgate.net/publication/325848156_Visual_pollution_phenomena_and_sensitivity_of_residences_in_heritage_city_centers_Case_of_Old_district_of_Manama_city_Kingdom_of_Bahrain

Islam Hamdi Elghonaimy. (February, 2008). Environmental Impact of Changing in Land Tenure. Symposium of urban planning. 1. Manama, Bahrain: World Bank (WB) and Arab urban development Institute (AUDI. https://www.researchgate.net/publication/325848156_Visual_pollution_phenomena_and_sensitivity_of_residences_in_heritage_city_centers_Case_of_Old_district_of_Manama_city_Kingdom_of_Bahrain

Islam Hamdi Elghonaimy. (2000, January 12). Monitoring the Changes of Urban Expansion and Land Use Pattern and its Impacts on Residential Areas. PhD thesis, 1, 1. Al-Mansoura, Dkhalya, Egypt: Al-Mansoura University. Retrieved from https://www.researchgate.net/publication/321039541_Monitoring_the_Changes_of_Urban_Expansion_and_Land_Use_Pattern_and_its_Impacts_on_Residential_Area

Hamouche, M. B. (2009). Can Chaos Theory Explain Complexity In Urban Fabric? Applications in Traditional Muslim Settlements. NEXUS NETWORK JOURNAL, 11(2), 217- 242. doi:https://doi.org/10.1007/s00004-008-0088-8

Lynch, K. (1960). THE IMAGE OF THE CITY (Twentieth Printime. 1990 ed., Vol. 1). (1, Ed.) Massachusetts, and London, England: The M.I.T. Press. http://www.miguelangelmartinez.net/IMG/pdf/1960_Kevin_Lynch_The_Image_of_The_City_book.pdf

Morozan, Cristian; Enache, Elena; Purice, Suzan. (December 2012). "Visual Pollution: A New Axiological Dimension Of Marketing?" (Vol. 1). Brilla, Pite: University of Pite, Faculty of Management-Marketing in Economic Affairs Brilla. Retrieved from https://ideas.repec.org/a/ora/journl/v1y2012i2p820-826.html

Popular times in Bab Al Bahrain. (2018, 4 2). (google) Retrieved from google maps/timeline: https://www.google.com/maps/timeline?hl=en&authuser=0&ei=CujzW_-lKlHqau2RtuAG%3A27&ved=1t%3A17706&pb

Salim A. El Wazani & Jose L. Lerma. (July 4, 2006). CAPACITY BUILDING FOR ENHANCEMENT OF URBAN GOVERNANCE URBAN DESIGN PROJECTS FOR TRADITIONAL AREAS (Vol. STAGE 2: URBAN DESIGN PROJECT IN MANAMA BLOCK 301 REPORT). (U. N. PROGRAM, Ed.) Manama, Capital Governorate , Bahrain: KINGDOM OF BAHRAIN, MINISTRY OF MUNICIPALITIES AFFAIRS & AGRICULTURE. Retrieved from https://www.mun.gov.bh/portal/pages/research/BuildingUrbanEn.jsp

Uffelen, C. V. (2010). Street Furniture (Vol. 1). (V. Uffelen, Ed., & C. Talhouni, Trans.) Berlin, , Germany: Braun Publishing AG, The Deutsche Nationalbibliothek . https://www.amazon.com/Street-Furniture-Chris-Van-Uffelen/dp/3037680431

Yilmaz, D. (May 2011). In the Context of Visual Pollution: Effects to Trabzon City Center Silhoutte. The Asian Social Science Journal., 7(5), 99. http://contvis.blogspot.com/2013/05/tema-in-context-of-visual-pollution.html

Journal Of Contemporary Urban Affairs

2019, Volume 3, Number 1, pages 191– 201

The Effects of Built Environment Landscaping on Site Security: Reviews on Selected Shopping Centers in İstanbul

* Dr. Gökçen Firdevs Yücel Caymaz[1]

[1]*Department of Industrial Product Design, Faculty of Architecture and Design, Istanbul, Turkey*

ARTICLE INFO:

Article history:
Received 15 July 2018
Accepted 23 September 2018
Available online 28 September 2018

Keywords:
Site Security,
Safety,
Built environment,
Urban Open Space,
Shopping Mall

ABSTRACT

In recent years, the global increase in security concerns made it inevitable to develop new action plans in planning processes. Security concerns come with the necessity of considering building architecture processes together with environmental and landscape design processes. This study aims identification of which measures can be taken into account safely built environment design. It was made a safety checklist which can be adapted for every open spaces. Five shopping malls around the İstanbul were evaluated and some result have been achieved for their site security.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2019), ***3***(1), 191-201.
https://doi.org/10.25034/ijcua.2018.4730

www.ijcua.com

1. Introduction

The security issue plays an important role in making urban design decisions and determining quality of life criteria. Security is ranked after physiological and biological needs in the hierarchy of vital needs of human beings (Maslow, 1943). Presence of other people makes one feel safer (the concept of "eyes on the street": the more people, the safer the environment is) (Jacobs, 1961), and people living in the city need safe environments in their daily life cycle. Project for Public Space, and the studies carried out by Lang, Gehl and Turkoglu, which emphasize the importance of safety and trust for the space quality and healthy cities, are important (Lang, 1994; URL 1, Gehl, 2002; URL 2). Positive security perception enhances the urban senses of belonging and ownership. Improvement of social, economic and cultural living conditions besides the improvement of the design conditions of the physical environments influences the perception of positive security (Bal, 2012). Using durable materials such as steel and concrete in urban furniture, expanding the coverage of pedestrian zones, providing dense afforestation, constructing barriers, distributing

***Corresponding Author:**
Faculty of Architecture and Design, Department of Industrial Product Design, İstanbul Aydın University, İstanbul, Turkey
E-mail address: gokcenfyucel@gmail.com

transfer points of public transportation to multiple locations, and limiting vehicle access to the city center are important actions within the scope of the mentioned action plans (URL 3).

In urban outdoor designing, safe physical planning is important for being able to provide people with psychological comfort. Security planning requires considering the building's location in the city, its position on the land, its form, landscape design, car park and infrastructure facilities as well as the pedestrian and vehicle access as a whole. In addition to planning studies, security design of the building perimeter also includes the efforts to restrain the sources of unwanted external threats by means of artificial or natural restrictive means such as walls and fences. This kind of security restrictions are intended for keeping potential threat elements away from buildings. Despite all precautions, there may still be a risk of danger due to physical factors as well as budget and personnel restrictions (Hopper and Droge, 2005). Today, building perimeter security is an issue that concerns all buildings. This study examines the security of shopping centers and their perimeters, as environments with intensive human use that city-dwellers use to carry out their social, cultural and economic activities. According to the definition of the International Council of Shopping Centers (ICSC); "shopping centers are public commercial buildings covering a minimum gross leasable area (GLA) of 5,000 square meters and at least 15 independent departments, which are managed as a single entity. The terrorism threat in commercial shopping centers is an important source of concern due to the fact that 21 countries have had more than 60 terrorist attacks since 1998. According to the analysis results of the statistical data about these attacks, 17 of the terrorist attacks were carried out around and outside the shopping centers; and therefore, security planning is needed for the outdoor spaces of such public buildings (Figure 1) (LaTourrette et al., 2006, URL-2). The same concerns are shared in Turkey as well, regarding the modern shopping center buildings taking the place of traditional shopping centers, the number of which reached 299 in consequence of the increase in their number, experienced especially after the 1980s.

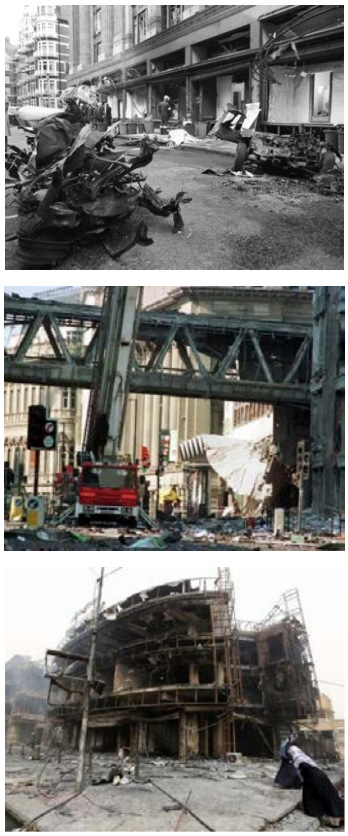


Figure 1. Images of damaged shopping center surroundings: Harrods; Corporation Street: Manchester; Karrada: Bagdad (URL 4)

The result of the investigation made within the scope of this study, on the laws and regulations applicable for building construction processes in our country, showed that no application provision and design criteria for site or urban security has been included in legislations, apart from several laws and regulations such as Construction Zoning Law No.194 enacted in 1985, the Regulation on Occupational Health and Safety in Constructional Works enacted in 2012, the Regulation on Making Spatial Plans enacted in 2014, and the Regulation on Shopping Centers enacted in 2014 (URL 5).

At this point, it is important to define site security of shopping centers besides security of all urban buildings, and establish their legal regulations as well as their planning and design standards. In this study, it is intended to define appropriate site planning principles by establishing standards for site security design.

2. Method Of The Study

In this study, an effort is made to form a checklist intended for measuring the security design processes of building perimeters. The checklist titles were taken by the American Society of Landscape Architects (ASLA) from the "*Security Design and Landscape Architecture*" titled study of the Landscape Architecture Technical

Information Series/LATIS, and the "*Risk Management Series*" titled study of the Federal Emergency Management Agency/FEMA (LATIS, 2016; FEMA, 2003, 2007). This checklist created basically for building perimeters was applied to five shopping centers in Istanbul. The measurement values of the control list were determined based on the results of a literature review. Afterwards, data were collected for each shopping center by carrying out field studies including on-site monitoring, observations and project analyses. Among the indicators considered to be potentially have an effect on the site security process, those considered to have a positive contribution were scored 1, whereas those considered to have a negative contribution were scored 0 during the formation of the checklist. In consequence of the study, the buildings thought to be relatively well protected were described.

3. Concepts About Building Perimeter Security

In security planning, minimizing the losses of life as much as possible will be the main objective that can be achieved by creating a detailed and integrative security program during the early stages of the site selection and/or design process. Proximity to risky buildings will require additional precautions in site planning. Other issues such as site selection, orientation of buildings, retraction distance, entrance control, activity areas and infrastructure deployment should be considered in the early stage of the design development process. A building structure deployed in a dispersed formation can protect the building from getting damaged completely during an attack. If the elevation of a building is higher than that of the street, it will enhance its security. Proximity to important transportation routes such as railroads, watercourses, highways etc. as well as the existing infrastructure elements such as tunnels should be evaluated because buildings may be subjected to terrorist attacks through these (LATIS, 2016; Russ, 2002, s.320).

Standoff Distance in Risk Analysis

Standoff distance can be defined as the distance between the building and the nearest point, where there may be an unauthorized vehicle access. A longer standoff distance will provide better protection (Figure 2) (National Capital Authority, 2003, p.7).

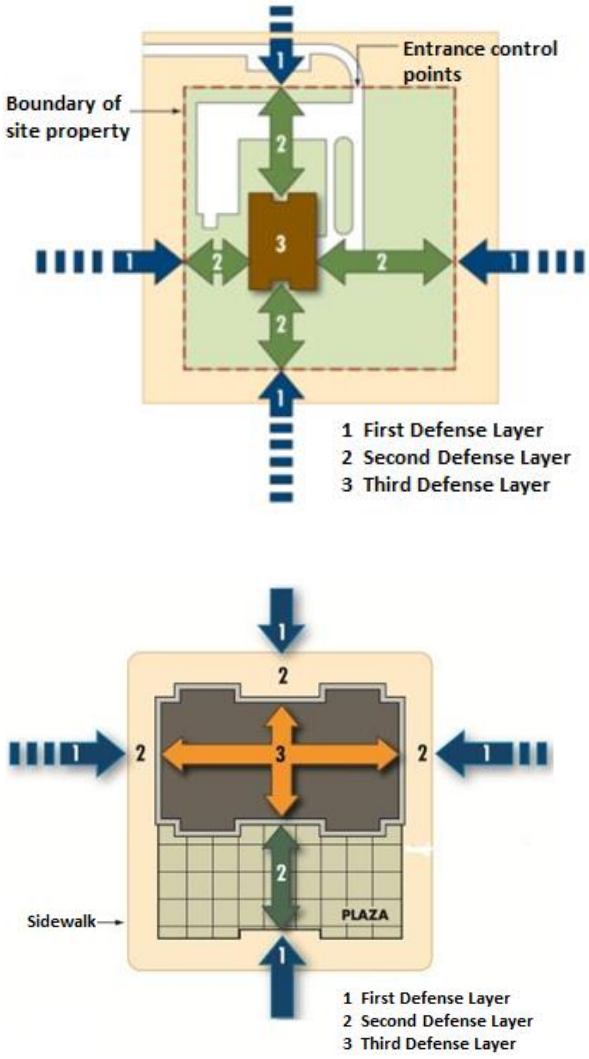


Figure 2. Defense layers; Up: Single building perimeter, Down: Plaza. Perimeter boundary (Site property boundary) determines the security distance around the building that can be uncontrollable for the owner of the building and the people living there (FEMA, 2003)

Security zones in risk analysis

Security zones between the building and streets can be defined as building perimeter, border/pedestrian path, border and parking zones (Figure 3). Measures are usually taken in the building perimeter and the border/pedestrian zones.

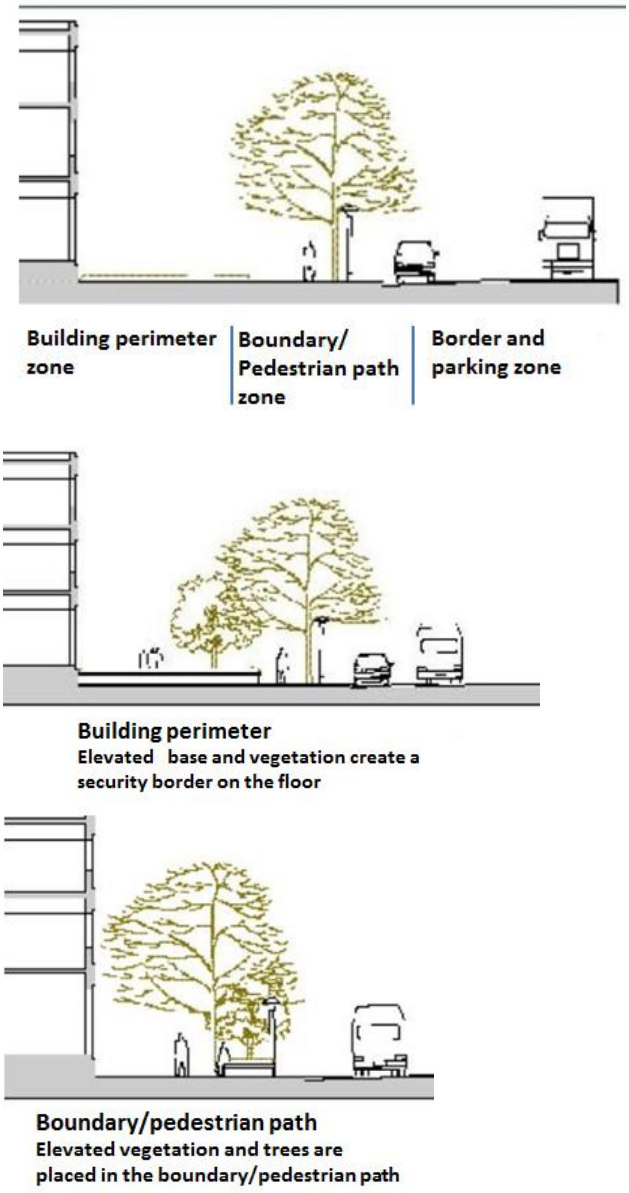


Figure 3. Up: security zones (National Capital Authority, 2003, p.7); middlel: building perimeter zone; down: border/pedestrian zone (National Capital Authority, 2003, p.9).

Security analysis includes the situation assessment of the site perimeter and outside the site. Topography, vegetation, adjacent land uses, fields of vision, storage areas, locations of the infrastructure facilities, existing lighting elements, service vehicles, entrance points for the personnel, and access and circulation system for visitors are the issues important in planning (The American Institute of Architects and Demkin, 2003, p.44).

Topography

The presence of natural physical barriers such as water elements, dense vegetation, and uneven terrain can be helpful for providing access control and consequently for ensuring the security of the site (Figure 4, 5).

Figure 4. Security protection has been designed in harmony with the architectural identity of the building. The Federal Complex containing the three iconic buildings of Mies van der Rohe and the statue of Alexander Calder (Chicago, Illinois) (Photo General services administration by teng and associates, Chicago) (FEMA, 2007).

Figure 5. The Minneapolis courthouse plaza. Small lawn hills and logs prevent possible vehicle attacks along the facade of the building (FEMA, 2007)

Vehicle and pedestrian access

The number of vehicle entrance points should be low as much as possible. The size of the adjacent streets and the traffic will determine the vehicle entrance points. Ensuring an adequate retraction distance along the entrance of the building will be effective particularly in controlling the access for vehicles. (LATIS, 2016; FEMA 2003).

Car park

Parking spaces should be away from the building, and should be controllable by the security staff (Russ, 2002, p.321). Underground car parks are highly risky in terms of potential bomb attacks, and they require high security control. Where possible, they should be designed to remain outside the building (LATIS, 2016).

Seating Elements

Open spaces with seating elements should be formed around the building (FEMA, 2007). Benches planned together with plant pots, bollards and other urban furniture can be used in security control in intensively use areas around the building. If the benches will be placed on the sidewalk zone, they should be positioned in such a way as to ensure that they face the street and the building, and if they will be placed in the building zone, they should face the street. The presence of benches can provide control against unwanted activities, by providing opportunities for natural monitoring of the environment (Phifer, 2005; American Planning Association, Steiner, Butler, 2006; Russ, 2002, p.319).

Landscape Design

Land forms, water features, vegetation, inclination differences in floor areas, boundaries, urban furniture series, bollards, benches, flagpoles, and sales units can play a role in limiting the access to the site and controlling the pedestrian and traffic flows. They should be placed in such a way not to hinder emergency vehicle entrances, pedestrian flow and pedestrian access. The use of thorny and sharp-leaved plants (Scarlet Firethorn-Pyracantha, Chandelier, Spanish dagger-Yucca gloriosa, Pampas grass-Cortaderia selloana, etc.) around the building can create a natural barrier (FEMA, 2007).

Physical Protective Borders

Physical protective boundaries can create permanent boundaries around the site, by helping in limiting, directing or blocking the access. In addition to their physical effectiveness, protective boundaries also provide a psychological deterrence against those who plan an unauthorized access attempt. Water elements, changes in the topography, vegetation, and outdoor furniture such as fences, walls, bollards, and fountains can provide protection by creating borders (FEMA, 2003). Crash-proof *vehicle barriers* prevent vehicle access for pedestrian protection and building security. Walls, berms, plant pots, bollards, heavy elements, reinforced urban furniture and trees, water barriers, fences, and sculptural restrictive elements can prevent vehicles from posing a threat to the building (Figure 7) (FEMA, 2007).

Figure 6. Up: sculptural forms, furniture and bollards serving as restrictive elements. San Francisco Federal Building (FEMA, 2007); middle: Times Square Tower, down: Wall Street, New York City, Rogers Marvel Architects (Phifer, 2005; FEMA, 2007)

Signing

Signing required to be designed correctly and adequately so as to avoid disorders at the transportation, car parks and entrance points should be located outside the site and in the entrances, and should not be used in sensitive areas as unless it is required (FEMA, 2003.)

Lighting

43 lux (= 4horizontal foot-candles) on average will be adequate to provide proper lighting at the entrance control points (FEMA, 2003). Security lighting that enhances natural surveillance for security staff and users is intended to ensure regular lighting in vehicular and pedestrian roads, and to protect people and the building perimeter. Security lighting

provides physical and psychological deterrence. Lighting elements with high poles provides a wider and more natural light distribution. They are aesthetically preferred over standard lighting elements (American Planning Association, Steiner, Butler, 2006, p. 275; Hopper, 2007, p.80, Bulla, 2004).

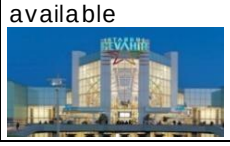
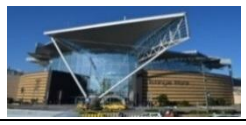
Infrastructure Systems

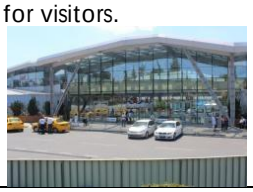
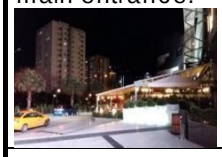
Infrastructure systems may be significantly damaged after an explosion. Besides constituting physical damages in the building, they may also prevent the evacuation of wounded people. Therefore, the landscape architect should be careful when working on the infrastructure facility. Where possible, substructure facilities such as telephone, electricity, gas and water installations etc. should be placed under ground. The fire safety lines should be well defined, and the water distribution system as well as the fire hydrants should be in a visible place (FEMA, 2007). Care should be taken to abstain from signing critical infrastructure elements as long as it is not necessary. When hazardous materials such as oil, gas and other chemicals are required to be stored, they should be placed downwards on the slope, at least 30.5 m away from the buildings. Garbage cans should be designed to be located 9.14 m meters away from the building, and car parks and vehicle roads should be designed to be at least 15.24 m away from the critical infrastructure systems.

4. Analyses of Sample Sites

4.1 Analyses of Building Perimeters: See the Table 1.

Table 1. Analyses of Building Perimeters

	NUMBER 1	NUMBER 2	NUMBER 3	NUMBER 4	NUMBER 5
RISK ANALYSIS	Standoff distance (Figure 7)				
	Adequate 	Inadequate 	Inadequate 	Adequate 	Adequate 
	Figure 7. 1,2,3,4,5				
	Security zone (Figure 8)				
	Adequate 	Security zone with retaining walls consisting of curbs and slopes, and with seaward terraces. 	No physical security measure is available at its entrance points. 	Adequate 	Adequate 
	Figure 8. 1,2,3,4,5				
TOPOGRAPHY	The presence of natural physical barriers at the entrances (Figure 9)				
	Statue 	Statues and water features are not available 	Water feature 	Statues and water features are not available 	Statue 
	Figure 9. 1,2,3,4,5				
	Dense vegetation	Dense vegetation	Dense vegetation is unavailable	Dense vegetation	Dense vegetation
	Stairs are available	Stairs are unavailable	Stairs are unavailable	Stairs are available	Stairs are unavailable
	Land Inclination (Figure 10)				
	Sloping terrain 	Rugged terrain 	Flat terrain 	Sloping terrain 	Sloping terrain 
	Figure 10. 1,2,3,4,5				

VEHICULAR AND PEDESTRIAN ACCESS	The presence of traffic signs and lights, and the drivers reducing the speeds of their vehicles by paying attention to the warnings. 	The chaos caused by the pedestrians and vehicles while accessing the main place from the coastal road. The traffic density at the main entrance caused by the valets providing VIP service for visitors. 	Unavailability of an arrangement in front of the main entrance gate of the building, and the hindered pedestrian access experienced especially during rush hours due to vehicles parked in front of the building. 	Ease of access from all directions 	Four different access points for pedestrians, and eight for vehicles 
	Figure 11. 1,2,3,4,5				
CAR PARK	A parking garage and a parking lot at the back of the building. 	Parking garage 	A parking garage and an uncontrolled parking lot 	A parking garage with three different entrances and exits, and a parking lot for LPG vehicles 	One is a parking lot for service and warehouse vehicles, and the other is for general use 
	Figure 12. 1,2,3,4,5				
SEATING ELEMENTS	Around the secondary entrance of the building and in the cafeterias located in the vicinity of the main entrance. 	Around the building and in the cafeterias 	No seating element is available	Seating elements facing inside the courtyard in the main entrance square 	Sitting areas on the right and left of the main entrance, located in parallel to the sidewalks; designed together with cafes, shops and parking spaces 
	Figure 13. 1,2,4,5				
VEGETATION	Vegetation that does not close the building perimeter 	Terrace landscape application extending from the seaside 	Green band at the right and left of the road heading only from the main entrance gate to the parking lot. 	Inadequate vegetation with plant pots 	Plantation distributed around the building 
	Figure 14. 1,2,3,4,5				

PHYSICAL PROTECTIVE BORDERS	Urban furniture and plant walls formed with the land slope at the main entrance. A separative wall and fence at the entrance of the parking garage that constitutes the boundary between the house and the shopping center 	Seaward terraces with plants, heavy plant pots placed along the perimeter of the entrance, and a fence determining the boundaries of the property. 	There is no physical protector or restrictive element apart from the split road formed for valets at the main entrance, and the green band between the main road and the shopping center at the side facing the airport. 	Restriction with vegetation, concrete blocks, stairs and ramps 	Sidewalks, design elements on the sidewalks, and the walls intended for security and restriction. 
	Figure 15. 1,2,3,4,5				
SIGNING	Direction sign (for transportation and parking) 	Simple portable traffic cones and signs placed in the direction of the parking lot entrance. 	Signing only for the car park area 	Symbols and signs intended for only emergency situations 	No direction signs for vehicles' access to the parking lot, signs for access to the building entrance. 
	Figure 16. 1,2,3,4,5				
	Adequate lighting except for the lighting on the road to the car park. The light on the building, cafeteria and outside wall that comes from the street. 	Inadequate lighting and dark areas in the front entrance. Stronger lighting systems on the sea side. 	The facade parallel to the motor way is lighter. 	Additional lighting coming from the street, and lighting elements placed at certain intervals in the landscaping areas outside the building. 	Lighting and lighting poles at the main entrance, and small lighting elements intended for landscaping. 
	Figure 17. 1,2,3,4,5				
INFRASTRUCTURE FACILITIES	Placed under ground	Fire hydrant around the building 	Placed under ground	Fire hydrant around the building 	Water distribution mechanism and fire hydrants near the building
	Figure 18. 2, 4,5				

4.2. Checklist Evaluations

While forming the checklist about building perimeter security, we first investigated certain subjects such as closeness to the risky areas related to the building layout plan, building's form, building's location and retraction distance, security zones around the building, entrance control points, and building's closeness to important motorways; then analyzed the topography covering the subject of BUILDING PERIMETER LANDSCAPING, vehicular and pedestrian use, car park, seating elements, vegetation, lighting, garbage cans, as well as the indicators of the infrastructure systems subjected to a detailed examination in Table 1, and ultimately obtained the results shown in Table 2.

Table 2. Score Analysis of Shopping Centers (LATIS, 2016; FEMA, 2007; FEMA, 2003)

	1	2	3	4	5
General Subjects					
Closeness to risky areas. close 0, not close 1	1	1	0	0	1
Is the building form is in a dispersed formation? yes 1, no 0	1	1	1	1	1
Has the building a retraction distance? yes 1, no 0	1	1	1	1	1
Has it security zones? yes 1, no 0	1	1	0	1	1
Is the access control adequate? adequate 1, inadequate 0	1	0	0	1	1
Is the building positioned higher than the street elevation? yes 1, no 0	1	0	0	1	0
Is it close to the railroad? not close 1, close 0	1	1	1	0	1
Is it close to the highway? not close 1, close 0	1	0	0	1	1
Is there a substructure facility? yes 0, no 1	1	1	1	1	1
Topography					
presence of natural physical barriers (water, dense vegetation, rough terrain etc.)					
stairs are available 1, unavailable 0	1	0	0	1	0
dense vegetation is available 1, unavailable 0	1	1	0	1	1
rough terrain is available 1, unavailable 0	1	1	0	1	1
Vehicular and Pedestrian Access is adequate 1, inadequate 0	1	0	1	1	1
The number of vehicle entries is limited 1, excessively high 0	1	1	1	0	0
Car park					
Security staff is available 1, unavailable 0	1	1	0	1	1
Underground car park is available 0, unavailable 1	0	0	0	0	0
Available outside the building 1, unavailable 0	1	1	1	1	1
Seating Elements					
Seating elements facing the street are available 1, unavailable 0	1	1	0	0	1
Seating elements facing the building are available 1, unavailable 0	0	1	0	1	1
Planting Design					
Vegetation that does not eliminate the visibility of the building perimeter is available 1, unavailable 0	1	1	1	1	1
Physical Protective Borders					
Water features are available around the building available 1, unavailable 0	1	0	1	0	1
Physical restriction (wall) is available 1, unavailable 0	1	1	0	1	1
Bollards are available 1, unavailable 0	1	1	1	1	1
Vehicle barriers are available 1, unavailable 0	1	1	1	1	1
Surface mounted plant pots are available 1, unavailable 0	0	1	0	1	0
Signing is adequate 1, inadequate 0	1	1	0	0	0
Is the parking space obvious? obvious 1, not obvious 0	1	1	0	1	1
Is the entrance point obvious? obvious 1, not obvious 0	1	1	1	1	1
Lighting					
Adequate entrance-control lighting is available 1, unavailable 0	1	0	0	1	1
Adequate car park lighting is available 1, unavailable 0	0	0	0	1	1
Adequate pedestrian path lighting is available 1, unavailable 0	0	1	0	1	1
High lighting is available 1, unavailable 0	0	0	0	1	1
Are the garbage cans away from the building? yes 1, no 0	0	0	0	0	0
Infrastructure Systems					
Are the fire hydrants apparent? yes 1, no 0	0	1	0	1	1
Total	26	22	12	26	27

5. Conclusion

A good security design involving technology, operational activities and operational processes is intended for protecting the building against existing and potential hazards (Hopper, Droge, 2005). In order to ensure an adequate level of protection, precautions should begin to be taken before the construction stage of the building, when taking design decisions related to the building. Particularly the terrain

topography should be well analyzed and the zones that will protect the building and the surrounding area should be formed during the site planning process. Ensuring an effective security protection requires arrangements and precautions related to the vehicular and pedestrian roads, car park locations, seating elements, vegetation, restrictions, signing, lighting, and infrastructure facilities. Well-maintained and well-illuminated areas protected by an adequate number of security personnel can play a role in preventing unwanted activities. An effective control can also be ensured through natural surveillance of people around the building. In the evaluation of the checklist created in accordance with these criteria; it was concluded that the site security qualities of the shopping centers 5, 1, 4, and 2 (respectively) were higher than that of the shopping center 3. Although the research results are not definite, they have a nature that can give information about outdoor security, including the subjects of constructional and vegetal landscape design of building perimeters. At this point, this study will have the nature of being a source that paves the way for analyzing the site security qualities of other building perimeters and the existing shopping centers, and for carrying out precautionary and revisionary studies intended for the future.

Acknowledgements
This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests
The author declares no conflict of interest.

6. References

American Planning Association, Steiner, F. R., & Butler, K. (2006). *Planning and Urban Design Standards*. (pp. 275, 278, 292). Hoboken, New Jersey: Wiley. ISBN: 978-0471760900. https://books.google.com.tr/books?id=3spWR8wdGaQC&printsec=frontcover&dq=Planning+and+Urban+Design+Standards&hl=en&sa=X&ved=0ahUKEwiujNaL0_veAhXq-ioKHcTaCxcQ6AEIMjAB#v=onepage&q=Planning%20and%20Urban%20Design%20Standards&f=false

Bal, İ. (2012). *İstanbul Kent Güvenliği [İstanbul City Safety].* Ankara: International Strategic Research Organization (USAK). ISBN: 6054030671. https://books.google.com.tr/books?id=25LHAgAAQBAJ&printsec=frontcover&dq=ISBN:+6054030671&hl=en&sa=X&ved=0ahUKEwjbk8HQ1PveAhWPtYsKHe2GBJEQ6AEIKjAA#v=onepage&q=ISBN%3A%206054030671&f=false

FEMA (Federal Emergency Management Agency) (2003). FEMA 426: Reference Manual to Mitigate Potential Terrorist Attacks Against Buildings (Risk Management Series). DC: Federal Emergency Management Agency. https://books.google.com.tr/books?id=LW0jYM4I7M4C&printsec=frontcover&dq=FEMA+430:+Site+and+Urban+Design+for+Security:+Guidance+Against+Potential+Terrorist+Attacks&hl=en&sa=X&ved=0ahUKEwiPrfaR1fveAhXSo4sKHXcrA9kQ6AEIYDAJ#v=onepage&q&f=false

FEMA (Federal Emergency Management Agency) (2007). FEMA 430: Site and Urban Design for Security: Guidance Against Potential Terrorist Attacks, Providing Protection to People and Buildings. Washington, DC: Federal Emergency Management Agency. https://books.google.com.tr/books?id=Atd4Pg2RXgQC&printsec=frontcover&dq=FEMA+430:+Site+and+Urban+Design+for+Security:+Guidance+Against+Potential+Terrorist+Attacks&hl=en&sa=X&ved=0ahUKEwiPrfaR1fveAhXSo4sKHXcrA9kQ6AEIKjAA#v=onepage&q=FEMA%20430%3A%20Site%20and%20Urban%20Design%20for%20Security%3A%20Guidance%20Against%20Potential%20Terrorist%20Attacks&f=false

Gehl, J. (2002). *Public space and public life city of Adelaide: 2002.* Adelaide: Adelaide City Council. ISBN: 9781876702670. https://books.google.com.tr/books?id=viYqPQAACAAJ&dq=Public+space+and+public+life+city+of+Adelaide:+2002&hl=en&sa=X&ved=0ahUKEwiayJOh1_veAhVGkywKHe96DxIQ6AEIKjAA

Hopper, L. J., Droge, M. J. (2005). *Security and Site Design: A Landscape Architectural Approach to Analysis. Assessment and Design Implementation.* New Jersey: Wiley. ISBN: 047165583X, 9780471655831. https://www.wiley.com/en-us/Security+and+Site+Design%3A+A+Landscape+Architectural+Approach+to+Analysis%2C+Assessment+and+Design+Implementation-p-9780471655831

Jacobs, J. (1961). *The Death and Life of Great American Cities*. New York: Random House. ISBN: 0-679-74195-Xhttps://books.google.com.tr/books?id=7xqruwEACAAJ&dq=The+Death+and+Life+of+Great+American+Cities&hl=en&sa=X&ved=0a

hUKEwicgN6_2_veAhVxqlsKHZclAbU4ChDoAQhSMAc

LATIS (Landscape Architecture Techical Information Series), (2016). Landscape Architecture and the Site Security Design Process. http://www.wbdg.org/resources/landscape_sitesecurity.php

Lang, J. (1994). *Urban Design: The American Experience*. New York: John Wiley & Sons, Inc. ISBN: 0471285420. https://books.google.com.tr/books?id=Rp8lSlY4DBsC&printsec=frontcover&dq=Urban+Design:+The+American+Experience,New+York:+John+Wiley+%26+Sons,+Inc.&hl=en&sa=X&ved=0ahUKEwjmsv3H3fveAhUFtlsKHT2EAlQQ6AEIKjAA#v=onepage&q=Urban%20Design%3A%20The%20American%20Experience%2CNew%20York%3A%20John%20Wiley%20%26%20Sons%2C%20Inc.&f=false

LaTourrette T., Howell D. R., Mosher D.E., MacDonald, J. (2006). *Reducing Terrorism Risk at Shopping Centers An Analysis of Potential Security Options*. Santa Monica, CA: RAND Corporation. ISBN-13: 9780833040404. https://books.google.com.tr/books?id=N_X4zw0h4g8C&printsec=frontcover&dq=Reducing+Terrorism+Risk+at+Shopping+Centers&hl=en&sa=X&ved=0ahUKEwjr98er3vveAhWxiqYKHcpQBDEQ6AEIKjAA#v=onepage&q=Reducing%20Terrorism%20Risk%20at%20Shopping%20Centers&f=false

Maslow, A. H. (1943). A Theory of Human Motivation, *Psychological Review*, 50: 370-396. http://dx.doi.org/10.1037/h0054346

National Capital Authority (2003). Urban Design Guidelines for Perimeter Security in the National Capital. National Capital Authority. https://www.nationalcapital.gov.au/downloads/corporate/publications/misc/Urban_Design_Guidelines_LR.pdf

Phifer, J. F. (2005). Perimeter Security for Public Spaces, *Implications*, Volume 3, Issue 12, University of Minnesota. http://rs.informedesign.org/_news/dec_v03r-p.pdf

Russ, T.H. (2002). *Site Planning and Design Handbook*. (pp. 319-321). McGraw Hill Professional. ISBN: 978007160559-5. https://books.google.com.tr/books/about/Site_Planning_and_Design_Handbook.html?id=lq9GxvXcxWAC&redir_esc=y

The American Institute of Architects, Demkin, J.A (2003). *Security Planning and Design: A Guide for Architects and Building Design Professionals. (p.44)*. Publisher: John Wiley & Sons. ISBN: 9780471271567. https://books.google.com.tr/books?id=165NDiCu2X8C&printsec=frontcover&dq=Security+Planning+and+Design:+A+Guide+for+Architects+and+Building+Design+Professionals.+(p.44)&hl=en&sa=X&ved=0ahUKEwiBsvyl5PveAhWBw4sKHZvtARsQ6AEIKjAA#v=onepage&q=Security%20Planning%20and%20Design%3A%20A%20Guide%20for%20Architects%20and%20Building%20Design%20Professionals.%20(p.44)&f=false

URL 1. Retrieved from https://www.pps.org/article/grplacefeat

URL 2. Retrieved from http://www.skb.gov.tr/wp-content/uploads/2011/09/Handan-Turkoglu.pdf

URL 3. Retrieved from http://www.aljazeera.com.tr

URL 4. Deadly terror attack around the world, Retrieved from https://www.express.co.uk/pictures/pics/9102/Terror-attacks-shopping-centre-London-around-the-world-pictures

URL 5.Retrieved from http://www.resmigazete.gov.tr (Offical Gazette of TR)

JCUA | International Journal of Contemporary Urban Affairs

Journal of Contemporary Urban Affairs

Publisher: Anglo-American Publications LLC