



BALTIC JOURNAL OF LAW & POLITICS

A Journal of Vytautas Magnus University
VOLUME 15, NUMBER 1 (2022)
ISSN 2029-0454



Cite: *Baltic Journal of Law & Politics* 15:1 (2022): 499-510
DOI: 10.2478/bjlp-2022-001029

The Spatial Variation of the Aspects of Environmental Pollution in Al-Hilla City and its Environmental Effects

Zahraa Qasim Lafta

College of Education for Human Sciences/ University of Babylon-Iraq

Corresponding Author's E-mail: zeraaqasem@gmail.com

Asst. Prof. Dr. Mahmoud Mohamed Hassan Al-Shamry

College of Education for Human Sciences/ University of Babylon-Iraq

E-mail: hum.mahmoo.mohammed@uobabylon.edu.iq

Received: July 6, 2022; reviews:2; accepted: October 8, 2022.

Abstract

The study coped with the environmental effects of visual pollution and how it varied spatially throughout Al-Hilla city. It is one of the most significant and severe issues the city faces, that people coexist with, and become accustomed to, and accept as part of daily life rather than experiencing it firsthand. This pollution occurs as a result of human activities which leads to the weakening of the aesthetic view inside a city. The study relied on field work to measure the degree of visual pollution through a variety of characteristics, including photographs and the distribution of questionnaires in the form of a random sample, in order to achieve its objectives. A questionnaire form reached (970) that included all neighborhoods of Al-Hilla city and revealed the extent of the problem of visual contrast in the city. The study also relied on three main aspects to know the aspects of visual pollution, which were (visual pollution of the urban pattern, visual pollution and heterogeneity of the street scene, and the environmental appearance of visual pollution). These aspects were based on (28) indicators to determine the causes of pollution in residential neighborhoods in Al-Hilla city, and then arrive at the extent of the problem affecting the city, which hardly any place is devoid of the aspects of visual pollution. One of the greatest methods to address the issue of visual pollution and lessen its effects is to apply regulations to all facets of society and implement the notion of levying penalties on those who produce it.

Introduction

One of the most significant issues that cities face is visual pollution, particularly in Al-Hilla city, where the aspects of pollution have become deadly phenomena as a result of a number of circumstances and have spread extensively.

The most significant, in light of the lack of environmental regulation and inadequate urban and urban planning, is the lack of planning and individual behavior of the populace in building and technological progress. The study also sought to detect and track the actual levels of visual pollution while highlighting the many types of pollution that Al-Hilla city experiences. This research is a first step in supporting decision-makers in making decisions, coming up with acceptable solutions to urban environment challenges, and enhancing the environmental situation in Al-Hilla city.

Research Problem

The problem of visual pollution, which is difficult to be controlled, emerged as a result of the deterioration of the general situation, the poor visual vision of some residents, the lack of planning standards and the inconsistency of the visual image of the city components. Therefore, the study problem can be formulated by raising the following set of questions:

1. Do the aspects of visual pollution vary from one place to another in the city?
2. What are the health and environmental effects of the aspects of visual pollution in the city? Are there ways and means to reduce the apparent spread of visual pollution in the city?

Research Hypothesis

1. The aspects of visual pollution in the city vary from one place to another, especially in poor neighborhoods with a low urban and economic level.
2. The aspects of visual pollution in cities have a number of negative consequences on human health and the environment, including how colors make people feel, their level of happiness, their sense of security and comfort, and how they alter the urban environment. It takes a determined effort from both individuals and the government to eradicate the phenomena of visual pollution.

Purpose of the study

In order to uncover practical answers and treatments that can help treat and control its expansion in Al-Hilla city, the research seeks to examine visual pollution in Al-Hilla city and to pinpoint the most significant causes and aspects contributing to its spread.

Research limits

The limits of the study are represented in Al-Hilla city, as it is astronomically determined between latitudes (30 3 2) and (27 3 2) north and longitudes (27 4 4) and (23 4 4 4) east .which covers an area of (5173.11) hectares, and is the center of the province of Babylon, whose number of its neighborhoods is about (97) neighborhoods. As for the temporal limits of the study, it was specifically defined between the years (2021 - 2022).

The spatial variation of the aspects of environmental pollution in Al-Hilla city and its environmental effects.

One of the most crucial fundamental components that goes into constructing a city is its look, which attracts attention when it is right in front of the observer. The urban buildings of Al-Hilla city are distorted in a number of ways that make the viewer uneasy, including the contrast in the height of the buildings, differences and the absence of a unified architectural style, the difference in colors, packaging materials, haphazard construction, waste, and overlapping land uses. Additionally, one of these indicators is the disregard for heritage and historical structures and their sustainability, as well as the failure to consider the architectural heritage, which resulted in the loss of the city originality, architectural identity, cultural, social, and religious privacy, as well as the absence of a renewal character. All of them contributed to the distorting of the urban landscape, and the following are the most significant examples of visual pollution of the urban pattern in Al-Hilla city (Suard, 2020)

First - The architectural style:

As Western patterns, models, and molds emerged throughout time, Al-Hilla city was subjected to a great deal of visual distortion in terms of shape and substance. However, these effects did not contribute to the city growth. Instead, they caused it to lose its style. The buildings in Al-Hilla city center, which are made of ancient stones, wood, and bricks and appear to be created in a variety of architectural styles, do not share a common architectural style that would designate an architectural harmony (1). Through the field study, it was found that (78.2%) of those included in the field study confirm that most of the buildings in Al-Hilla city do not belong to a unified architectural style. This led to distorting the city and being away off the Arab aspect due to the lack of aesthetic values in the designs of buildings and the methods of their engineering. (21.8%) of those surveyed confirmed that the city belongs to a unified urban style (Tumitit, 2020).



Image (1) The ornate Islamic architectural style in Al-Hilla city
Source: Field study on March 29, 2022

Table (1) and Figure (1) show that the architectural style in Al-Hilla city is not subject to any legal controls, but most of the buildings are constructed according to the owner’s desire and to the opinions of engineers and planners. Most of them are influenced by Western architecture because the media contributed to transfer the designs from various countries of the world, as well as the openness to global markets and importing various and diverse building materials. Through the use of responsible and pertinent authorities, the city was kept away from the uniqueness that is meant to connect the present with the character of the past. We see high structures with expansive glass windows, different packaging materials and finishes, glass, and aluminum that do not match the hot summer, resulting in significant visual distortion and producing an unsettling visual impression in the urban environment of the city (Utomo, 2021).

Table (1) The aspects of visual pollution of the urban pattern in Al-Hilla city.

No	Variables	Respondents’ answers				
		Yes	%	No	%	Total
1.	Do the buildings belong to a unified architectural style	212	21.8	758	78.2	970
2.	Is the variance in the heights of the buildings a polluted visual landscape in your area	508	52.3	462	47.7	970
3.	Are the facades of buildings similar and homogeneous	298	30.7	672	69.3	970
4.	Are the buildings characterized by homogeneity in terms of colors and architectural style	122	12.5	848	87.5	970
5.	Is there an overlap and confusion between the uses of the land?	792	81.6	178	18.4	970
6.	Do the historical and heritage buildings currently in your city give a beautiful visual view	491	50.6	479	49.4	970
7.	Are urban spaces visually polluted in your area	851	87.7	111	11.3	970
8.	Do the looks of squatter areas bother you?	883	91	87	9	970
9.	Do unfinished buildings in your area create a visual distortion?	721	74.3	249	25.7	970
10.	Is the writing on the walls of the buildings considered a polluted visual landscape in your area	967	99.7	3	0.3	970

Source: Field study on 4-8-2022 and the questionnaire form

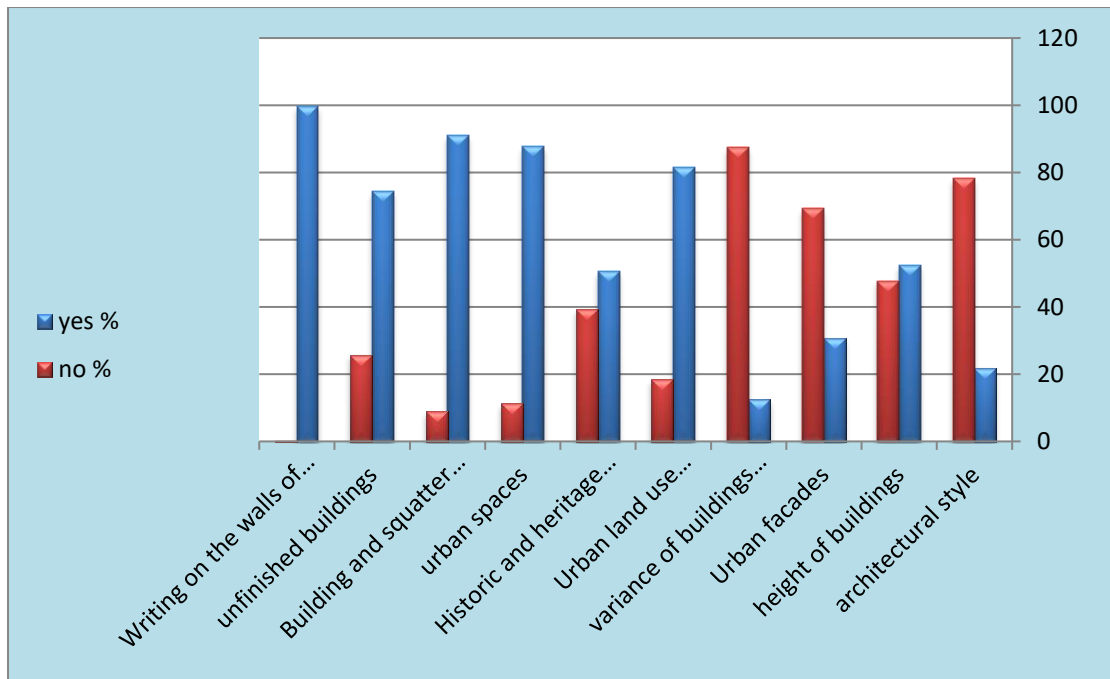


Figure (1) The percentage of visual pollution aspects of the urban pattern in Al-Hilla city

Source: Based on Table (1)

Second: The height of buildings:

They are the buildings whose height is distinct and clear in relation to the surrounding environment, or which have a clear effect on the sky line. It is the building whose height differs in terms of construction, design and works from existing and common buildings in a specific area and for a specific period of time (1). See picture (2). It became clear through field work that about (52.3%) of those surveyed agreed that the variation in the heights of buildings constitutes a polluted visual landscape in the city, while about (47.7%) confirmed that the heights of the buildings and housing are harmonious and of one level that have achieved a distinctive aesthetic of the city.



Image (2) Variance in the heights of the buildings on street 60.

Source: Field Study 4-8 - 2022

Third - Urban facades:

The variation in materials and designs for the architectural facades spread throughout Al-Hilla city, whether in commercial or residential areas, government departments, medical complexes, and others, leads to the variance of building blocks in terms of design and shape. It was noted through the field study that the city used a variety of architectural facades. The most important ones are: (natural and artificial stone, cement, alabaster, ceramics, glass, colored cladding forms, iron and others). It was found through field work that about (69.3%) of the study sample express their opinion that the packaging and finishing materials are not homogeneous and do not give a beautiful visual image of the city, while the percentage (30.7%) of the study sample agreed that the facades and finishing materials give a beautiful view of the city.

Fourth: The variance of buildings color:

The majority of city walls, structures, urban buildings, and residences sport vibrant hues. That is, disturbing colors that are fast growing to the point where they are impairing vision. The city palette changed from soft to bold, turning the urban environment into a scenario that was both harmonious with the prevailing aesthetic and visually distorted. Colors play a significant part in establishing Al-Hilla visual identity. These colors were supposed to match the nature of the prevailing climate in the city. Therefore, the contrasting and stark colors were observed in most of the city's buildings, whether they were residential or commercial buildings, shops or restaurants, and in various areas. These colors were used in a chaotic, inconsistent and harmonious manner, and are not subject to the simplest standards and legal controls imposed by the municipality, but rather due to personal judgments and convictions or according to the cultural level that varies from one person to another. As a result of the multiplicity of colors used on the facades of housing and buildings in the city and the multiplicity of tastes of the population. See image (3). Through the field study, it was noted that (12.5%) of the study sample confirmed that the buildings are characterized by homogeneity in terms of colors and architectural style. 87.5 % of the survey group agreed that the colors employed in the majority of city buildings affect perceptions of the city architectural style.



Image (3) A glaring color in shops
Source: Field Study 4-8 - 2022

Fifthly: Urban spaces

Urban spaces are any area in between buildings, each of which has a certain purpose and personality. Additionally, every space has a shape, size, depth, and color, whether they are parks, sidewalks for pedestrians, playgrounds, meeting places, or vacant, undeveloped squares. Through the locations they offer for relaxation or psychological peace for city dwellers, these spaces play a significant role in people's lives and the urban environment. It became clear through the field study that the urban spaces contributed significantly to the distortion of the city due to the large number of scenes of visual pollution in those places. These spaces have become a place designated for dumping waste, stacking rubble, building materials, scrap, and others. This gives a bad picture of the city aesthetic view, as well as other monuments, as these spaces were used for raising animals or used as places to sell animals such as sheep. These spaces are also used for parking cars and for placing private generators that cause noise for residents. In addition, these places have become areas for collecting sewage water that comes out of citizens' homes and where insects and rodents gather and plants grow, which distorts the urban environment of the city. See image (4). Through the study sample, it was found that about (87.7%) express their dissatisfaction with these urban spaces because of the distortion they cause to the urban view of the city, as they are a source of inconvenience because of the waste and debris they contain, and they have become a breeding ground for animals. 11.3% of those included in the study sample deny that urban spaces have an effect on distorting the visual landscape of the city.



Image (4) Urban spaces becoming a landfill

First: Solid Waste Accumulation in the City:

It is one of the common views in Al-Hilla city, especially within its neighborhoods and shops

Source: Field Study 3-5 - 2022

Sixth: Squatter housing and construction:

Squatter areas can be defined as unplanned areas that haven't been mentioned in the basic design, that is, that are outside the framework of urban planning and that do not reflect the city plan (3). Its construction is random and lacks the services and necessities which are necessary for life. It represents a state of urban degradation that clearly affects the urban fabric of the city. See image (5 and 6). Table (2) and Figure (2) show that the number of housing units ranked first in Al-Salam sector, as their number reached about (8150) housing units, at a rate of (57.4%), while the Al-Furat sector ranked last about (900) housing units with a percentage of (6.4%) of the total number of squatter houses in the city. Through the study sample, it was found that about (91%) are bothered by the view of squatter houses in the city because of the distortion it causes to the general urban view, while (9%) of those included in the study sample confirm that squatter houses do not bother them visually.



Image (5) The construction and squatter houses in Hilla city on the outskirts of the Askari neighborhood

Source: Field Study 3-5 -



Image (6) The construction and squatter houses in Hilla city, the outskirts of the Mohandessin neighborhood

2022 Source: Field Study 3-5 - 2022

Table (2) The squatter units of Al-Hilla city by sectors for the year 2017

No. of squatter houses	Percentage %	Sector area in hectares	Squatter area in hectares	Percentage %	Sector
8150	57.4	1658.8	501.9	60.5	Al-salam
2655	19	800.8	57.1	7	Al-fayhaa
1325	9.3	1883	187.4	22.6	Al-zuhaar
1150	8	1311.8	76.1	9	Al-firdows
900	6.3	663.3	6.9	1	Al-furat
14180	100	6317.4	829.4	100	Total

Source: Donia Shukr Abbas Al-Najjar, Spatial Analysis of the Random Housing Phenomenon in Al-Hilla city, Master's Thesis (unpublished) College of Education for Human Sciences, University of Babylon, 2017, p. 41.

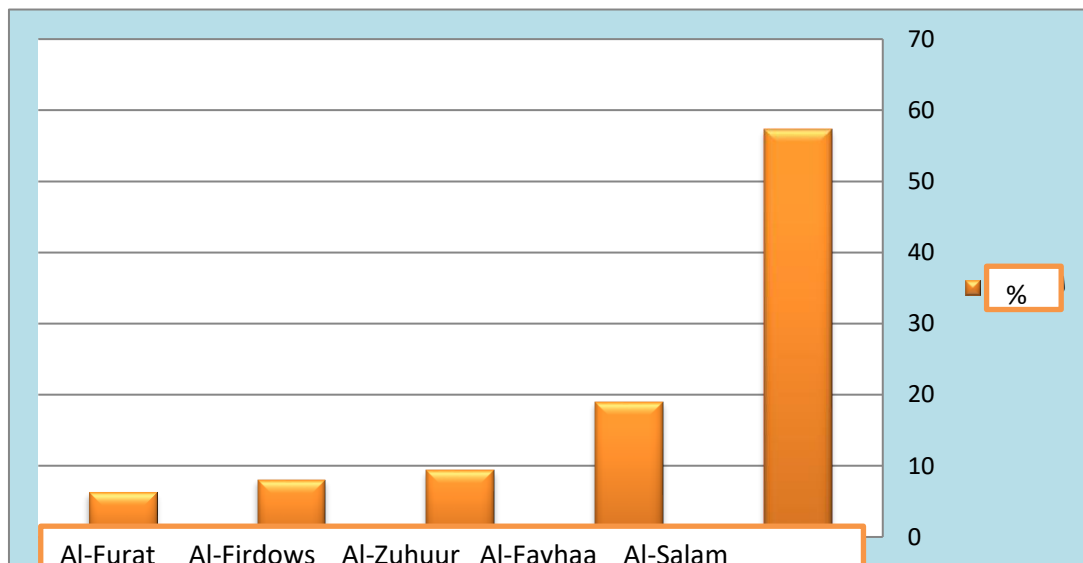


Figure (2): Percentage of squatter houses in Al-Hilla city
 Source: Based on Table (2)

Seventh: Unfinished buildings

It is any building that is incomplete, whether in terms of its construction, front or side facades, or the utilities connected to. Unfinished constructions have a significant negative effect on the city urban view since they clearly affect the city overall appearance. It is clear from the field study that there are many unfinished buildings in Al-Hilla city, whether they are governmental or private. It is noticeable that most of them have multiple floors, especially unfinished ones in terms of completing the facades. This is reflected in the distortion of the aesthetic image of the building, which is a phenomenon that spreads in most of the city streets, especially in (Street 60, Street 80, and Street of health physicians) as well as the service streets in the city center. This has created a lack of harmony and the absence of visual unity, especially that most buildings give a chaotic appearance and asymmetry on the lengths of the streets. See image (7).

About (74.3%) of the study sample believe that these buildings give a distorted visual view for the city owing to the long neglect and lack of completion. (25.7%) of the study sample showed that the unfinished buildings give a beautiful view of the city environment.



Image (14). Unfinished building on Street 40
Source: Field study dated 8-4-2022

Eighth: The writing on the walls of buildings:

The writing on the walls is a striking phenomenon, especially in public roads, schools and the walls of houses, where some of them contain obscene words. These vulgar terms, if indicated, indicate a thought, creation, or conception that the writer is trying to embody in this or that wall. This type of writing deforms the view neighborhoods and distorts the walls, especially it is widespread. The phenomenon of writing is not only seen on the walls of homes and public roads, but also reached schools, where young people mastered their drawings through the use of many means, including the use of spray, chalk, pens, and broad brushes. This phenomenon is also considered of connotations and meanings, which has turned into an uncivilized behavior that contradicts the public taste when its meanings, concepts, goals and locations have reflected sabotage. It is a psychological expression experienced by the writer of these phrases and a reflective mirror of himself, which created a visual distortion. It became clear through field work and through the study sample that about (99.7%) express their dissatisfaction with this phenomenon, as it distorted the visual view of public facilities, whether they were buildings, bridges, and even the walls of housing. See image (8)



Image (8) Some writings on one of the school walls in the city
Source: Field Study 3-5 – 2022

Conclusions

- 1- Via research results, it was found that Al-Hilla city lacks a unified architectural character due to the multiplicity of design patterns resulting from its rapid growth and the repetition of changes occurring in its urban fabric.
- 2- The study showed that the intensity of the concentration of visual pollution aspects in Al-Hilla city was higher in the city center and the commercial area, compared to the percentage of its concentration in the residential neighborhoods of the city and outskirts.
- 3- The large number and multiplicity of aspects of visual pollution present in the city, led to the loss of the urban environment of good looking and splendor, the lack of arrangement, organization and coordination of all components of the urban landscape. So, these ingredients, whether natural or synthetic, often look messy, random and unorganized.
- 4- The architectural and urban designs in Al-Hilla city do not fit with the prevailing climate, but the technical and technological progress contributed to a few of these defects, but it clearly created aspects of visual pollution in the city.
- 5- The study showed that the percentage of visual pollution in Al-Hilla city is very high, according to the respondents' opinions , as their answers were limited to (100-75%).

Recommendations

- 1- It is recommended to develop effective solutions to address the problem of squatter housing and its spread in the center and outskirts of Al-Hilla city, because of its significant negative effects on the general urban view and the great planning effects it reflects. It is to focus on the human aspect when trying to address the phenomenon of squatter housing and issuing planning laws that are compatible with the capabilities of those with limited incomes to get suitable housing.
- 2- It is also recommended to introduce the sensory regulation of the building heights and the design of the facades within the instructions and controls set by the municipality of the city.
- 3- Working on finding unified designs for the facades of buildings (residential and commercial buildings, and shops) and allocating architectural designs for each residential neighborhood within the city to ensure its consistency and visual harmony.
- 4- The municipality of Al-Hilla must set strict laws that force the residents to abide by them and force to choose specific designs and colors in order to lessen visual pollution.
- 5- It is recommended to issue ad hoc laws that vouch for the preservation of the beauty of the urban identity of the urban fabric of old buildings, especially (pendant lamps and heritage and archaeological buildings) and the preservation of their identity, culture and urban history.

- 6- Incomplete structures shall be finished, because the impact of the unfinished structures on the urban view of the city is very enormous, as it contributes to a clear degree on the distortion of the general view of the city.

References

- Al-Ahbabi, SM, H, & Al-Aqili, M, A. (2013). *Vertical urban design: The impact of high buildings (Skyscrapers) on the urban structure of the contemporary city*. Babylon University Engineering Journal. No. (3), vol. (21) p. 1100.
- Faouzi, M, (2017). *The impact of unfinished buildings on the urban landscape of the city - a case study of the city of Setif*. Master's thesis (unpublished) Mohamed Boudiaf University, Faculty of Architecture. p. 16.
- Saleh, I. (n.d.). *The phenomenon of writing on walls, its causes and treatment methods*. An article published on the Internet, <https://hyatok.com>
- Suard, I. G. W. (2020). Challenges of Implementing Deradicalisation Programs for Terrorist Prisoners: An Examination of Indonesian Prison Officers' Experiences. *International Journal of Criminal Justice Sciences*, 15(2), 173-190. <https://ijcjs.com/menu-script/index.php/ijcjs/article/view/250/187>
- Tumitit, A. A. (2020). Volunteer Probation Assistants' Awareness of Functions and Problems encountered alongside Probation and Parole Officers. *International Journal of Criminal Justice Sciences*, 15(1), 142-156. <https://ijcjs.com/menu-script/index.php/ijcjs/article/view/259/198>
- Utomo, L. (2021). Criminalizing the Freedom of Expression by State during COVID-19 Pandemic in Indonesia. *International Journal of Criminal Justice Sciences*, 16(2), 415-425. <https://ijcjs.com/menu-script/index.php/ijcjs/article/view/418/341>
- Yassin, H, F, J. (2015). *The Role of Site Coordination Elements in Enriching the Aesthetic and Functional Values of Urban Spaces in the Unknown Soldier Area – Gaza*. Master's Thesis (unpublished), The Islamic University, Faculty of Architecture, 2015, p. 13.
- Zangana, H, M, H. (2013). *Residential squatter housing: A Study in the Geography of Cities*. Al-Farahidi Publishing and Distribution House, Baghdad, p. 13.