



An Analytical Review of Attempts to Mitigate Visual Pollution in Urban Settings

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Abstract

Visual pollution is the main issue rising in urban settings these days. The residents of the built environment or the surrounding communities are negatively impacted by this sort of pollution. Visual pollution reduces quality of life and has an impact on the community's overall wellbeing. Urban planning developments in Qatar are progressively recognizing the issue of visual pollution in urban settings. Therefore, there are various efforts and actions that were adopted to minimize such an issue. This paper's primary aim is to formulate a set of suggestions to help in mitigating visual pollution impact. The aim will be achieved by focusing on producing an analytical review of methods to mitigate visual pollution impact in many countries generally and in the state of Qatar mainly, besides highlighting the country's laws, regulations, and act towards visual pollution. The methodology used was qualitative approach to review adopted methods and used solutions in mitigating visual pollution impact. The findings proposed a set of recommendations to help in reducing visual pollution impact and enhancing the attempts of mitigating visual pollution in urban settings. The paper concludes many practices used previously in various countries and mainly in the state of Qatar and identifies the most appropriate methods to control visual pollution and enhance the attempts of reducing its impact in urban settings.

Keywords: Visual pollution; Urban settings; Qualitative approach; The State of Qatar

1 Introduction

Humans have attempted to alter their environments repeatedly throughout history in an effort to fulfil their goals. Many concerns were raised because of changes in the environment and by the needs of the expanding population and industrial growth. Land, water, air, and noise pollution are the first things that come to mind when discussing environmental issues. However, visual pollution is not as significant as other sorts of pollution are; visual pollution is a type of pollution that has recently gained attention since it affects individuals psychologically and spiritually.

In an urban setting, it is difficult to find beauty in a single building; rather, beauty or visual chaos can be seen in relation to the whole urban context. Investigating visual pollution focuses on the unity as well as the disparities in urban design of the urban settings, such as architectural principles of the urban fabric, signage and advertisements, buildings' design, structural materials, and various existing physical objects, in order to investigate the visual quality and visual distortion in urban settings and the built environment.

According to Bodur and Kucur (1994), visual pollution is the act of bringing undesirable changes in

the environment that disrupt healthy people's visual acuity. Visual pollution can alternatively be characterized as the entirety of the erratic formations that are typically present in both natural and built settings, which are typically observed in an indirect manner and make a bad impression on people's thoughts (Oner & Konakli, 2009).

Oner & Konakli (2009) highlighted some of the visual pollution causes in cities, including poor judgement, legal shortcomings, a lack of oversight, usage that is incompatible with its intended purposes, lacking in culture and knowledge as well as insensitivity on the part of local government (Oner & Konakli, 2009). Both the city as a whole and the specifics, such as specific areas of buildings or urban spaces, reflect visual pollution.

Visual pollution is caused by environments that are monotonous, congested, lack greenery and distinctive character, as well as abandoned buildings with an unbalanced number of levels and poorly designed transportation networks. In addition, enormous billboards at the city's entrances and exits, garbage bins, direction signs, signboards, utility lines, cell phone towers, transformer structures, and air conditioning units affixed to building exteriors, and satellite dishes, all contribute to visual pollution.

Studies from both developed and developing nations have attempted to investigate the causes of the visual pollution problem, but all of these efforts have been limited by the complexity, subjectivity, researcher preferences, statistical measurement of the degree of visual pollution, and the visual pollution objects (Bankole, 2013; Nasar & Hong, 1999).

This paper's primary goal is to create a set of recommendations and principles to minimize the effect of visual pollution impact in urban settings. The goal will be accomplished through an analytical analysis review of internationally and locally used strategies for reducing the effects of visual pollution affect in urban settings by emphasising international and local laws, rules, and actions on mitigating visual pollution impact.

2 Methodology

The methodology in this study depends on qualitative approach to collect data about attempts and methods for mitigating visual pollution impact in urban settings through an analytical review of literature and relevant research papers. Firstly, it addresses the international attempts from different countries for reducing the impact of visual pollution based on reviewing their relevant laws, regulations, methods, and acts. Consequently, this study highlights local attempts for mitigating visual pollution impact in urban settings in the state of Qatar by reviewing governmental laws, authorities' actions and adopted solutions. The analytical review will be presented in detail as follows.

3 Analysis

3.1 International Attempts for Mitigating Visual Pollution

Since the city of Sao Paulo assigned the Clean City Law in September 2006, prohibiting the display of any outdoor advertising, such as billboards, transit, and that especially in front of shops. The city made a radical action in 2007 to remove all outdoor commercial signs.

The term "visual pollution" has gained popularity around the world, and scholars are studying it in relation to the excessive commercialization of public areas and urban settings (Baker, 2007; Koeck & Warnaby, 2014).

In the United States, they started to reduce the visual pollution since 1956 through the Highway Beautification Act, which restricts billboard placement on highways and roads (Nagle, 2009),

especially with regards to retail shops located near a highway that may have huge billboards, which creates visual problems and distractions. After the Beautification Act, another way for advertisers is gradually preventing the problem of visual pollution. For instance, signboards that direct drivers without deforming the urban settings are increasingly used and considered as the first step to mitigate visual pollution on highways in the United States (Maguire et al., 1997).

Moreover, there were many initiatives to make the public more aware of urban settings appearance and visual pollution, therefore, the Dunn Foundation organization was developed to design educational programs for students from grade 3 to grade 12. These programs highlight the impacts of visual pollution, and create awareness among students on how to enhance the appearance of their communities and enhance the visual environment (The Dunn Foundation, 2012). Another non-profit organization called Scenic America is seeking the reduction of visual mess and ensure scenic conservation.

One of their movements towards preventing the visual pollution was hiding the communication towers with artificial trees (Scenic America, 2013).



Fig. 1: Artificial tree to hide a communication tower.

3.2 Local Attempts for Mitigating Visual Pollution

In the State of Qatar, billboards were controlled since 1980 by a governmental law No (4). In 2012, Qatar set out a new Law No. (1) with additional requirements to control the advertisements/boards placement (Salt & Earley, 2012).

In order to display an advertisement board in Qatar, an approval from the municipality must be obtained. The applicant must submit the license application accompanied by a sketch of the advertisement content details. There are many requirements the advertisement must follow prior to the approval of the advertisement license, such as; a) the advertisement design must not be similar to directional signs, in terms of colour, size, or form, to avoid the distraction, b) the placement of advertisement must not harm the public facilities aesthetics or obstruct the pedestrians, c) if the advertisement is installed on a building it must not hinder the ventilation outlets or block the visibility.

In addition, the advertisement owner is responsible for maintaining the sign, if he didn't respond to the Municipality notification within seven days, the advertisement sign may be removed.

Moreover, the Advertising Law prevents placing an advertisement on historic buildings, religious sites, traffic signals and trees or plant containers (Law No. 1, Article 11).

In addition, Ashghal which is the Public Works Authority of Qatar, has launched the directional sign development strategy, that seeks to standardize and control the implementation of directional signs on roads and highways to make them easy to be read and reduce the confusion to drivers. The standardization will create an aesthetic characteristic and harmony on the roads in Qatar. Also, in some areas, where it's hard to place directional signs, some destinations are written on the asphalt road which reduce the signboards' visual impacts.

Regarding the communication towers and cellular mobile base station location, Qatar has assigned some requirements and regulations to control the visual impact of installed towers. The height and the appearance of the towers must meet the beautification principles of the Ministry of Municipality and Urban Planning. The installed communication towers must be designed, painted, and hidden with the respect to local pattern of streets, city skyline, building traditions, to reduce the contrast among these towers and the surroundings (Communication Regulatory Authority, 2014).

Moreover, Qatar attempts to minimize the visual pollution caused by various elements, in parallel to that the General Cleanliness Department, on behalf of the Ministry of Municipality and Environment (MME), has cleared the ports of Al Wakrah and Al Khor from abandoned motorboats and dhows that had become a problem. The Assistant Undersecretary for General Services Affairs at the Ministry of Municipality and Environment Safar al Shafi stated that abandoned boats “occupy a large space and produce visual pollution.” He further added that in order to prevent removal and legal action, boat owners must follow the rules and maintain their boats.



Fig. 2: The abandoned dhows removal campaign by the Ministry of Municipality and Environment, Qatar



Fig. 3: The abandoned vehicles removal campaign by the Ministry of Municipality and Environment, Qatar

Since Qatar is witnessing rapid development and many construction projects, a systematic scheme to reduce the visual harm caused by construction work was needed. The Gulf Organization for Research and Development (GORD) developed GSAS (Global Sustainability Assessment System) to improve the overall quality of the construction projects (Al Midani & Fadli, 2020).

GSAS evaluates the aspects of the construction processes based on many categories such as the outdoor environment. The objective of assessing this category is to minimize the visual impacts during the construction phases. Negative visual impacts during the construction process could be formed by many factors, such as cranes, machines, trucks, site fencing, landscape alteration, etc.

GSAS proposed many mitigation measures to reduce the visual pollution resulting from any construction project. These measures must ensure the following: a) the fence material must respect the surrounding land use and act as a visual barrier, b) the piles must be covered with netting to minimize their visual impacts, c) any dirt or mud which has been spread onto the public streets by the construction vehicles must be cleaned and removed, d) reduce ground and vegetation disturbance that cause negative visual impacts in terms of contrast of texture, form, and colour, e) in order to give the suggested trees a chance to grow while construction work is being done, plant temporary tree nurseries earlier if it's possible, to mitigate visual pollution (GSAS Construction Management: Guidelines & Assessment, 2017).

4 Findings

Many cities thrive to have a beautiful urban image with well-known landmarks, advertisements, and other stimuli. However, many have accumulated so much that it has adversely changed the surrounding environment. Several cities make a concerted effort to precisely balance their aesthetics, although this effort often fails. A neighbourhood's atmosphere can be significantly disrupted by having too many structures and attractions.

The majority of cities and smaller towns have an excessive number of billboards. Even if it is pleasant to see advertisements, too many of them may worsen the town's surrounding visual. Cities should therefore restrict on how many advertisements are allowed while encouraging companies to advertise their goods online or through other means, like social media. As authorities consider upgrading the town centre, learning and educating the public and designers about visual pollution will enable the users to protect their cities from such issue and enable the architects change the future plans to incorporate more of the surrounding environment.

Based on the previous analysis, this study addresses a set of recommendations for reducing visual pollution to create techniques that lessen the detrimental effects of various visual pollution objects, such as:

1. When installing cellular mobile base stations, the architectural style of the nearby structures must be taken into consideration.
2. Instead of constructing new structures, consider about the possibilities of using existing structures as beacons, streetlight poles, mosque towers, etc. to hide transmitting equipment.
3. Regulate where directional signs are placed and make sure that their size, shape, and colour are all the same. To reduce the visual effects of signboards, write the destinations on the road's surface.
4. Control outdoor advertising and implement maintenance policy.

5. Choose the least obstructive locations for the new traffic management components, such as lights, radar, etc.
6. Implement a site fence with the right colour and material to minimize the unsightly effects of construction sites.
7. Remove any neglected items, including vehicles, bicycles, commercial signs, boats, etc., and impose a fine on the owners to stop them from occupying the space and ruining the view.

However, this paper identified that the most appropriate methods to control visual pollution and enhance the attempts of reducing its impact are to: a) assign governmental laws and implement strong acts that protect cities and towns from visual pollution, b) consider strong regulations and legislation for future development projects and take urgent action against violators.

5 Conclusion

Despite its severe effects on people's mental health and the quality of urban environments, visual pollution is a concern that urban areas often ignore. It is our responsibility to lessen environmental visual pollution and offer solutions. Controlling visual pollution remains difficult because of its complexity and subjectivity yet assessing it and enacting laws in urban contexts is a significant step towards reducing and preventing its effects. In keeping with the previous discussion, this paper highlights that visual pollution is an arising issue that affects the quality of urban environment and impact user's behaviour. Therefore, this issue started to gain attention from decision makers in several countries. Hence, this paper highlighted international and local efforts and acts in mitigating visual pollution impact in urban settings. Various approaches and techniques that had been used in different countries were addressed in this paper, besides a set of recommendations to boost and strengthen the efforts of mitigating visual pollution impact was provided.

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