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Research Article

REPERCUSSION OF VISUAL POLLUTION AND ITS EFFECTS ON SOME PEOPLE IN DUHOK GOVERNORATE/IRAQ

Sagvan Ageed., NajmadinE.Hassan and SalihF.Ismael

Department of Environmental Science, Faculty of Science, Zakho University, Zakho, Iraq

A R T I C L E I N F O

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A B S T R A C T

In spite of the scientific development and the continuous technological progress in all different fields, the economic prosperity in many societies has increased. But at the same time has negatively affected health and the environment as a whole due to different cases of pollution that raised from caused by industrial progress, and visual pollution is one of those types of pollution, and therefore must be seriously taken into consideration**.** So visual pollution is an aesthetic issue referring to the impacts of pollution that impair one's ability to enjoy a vista or view. The term of visual pollution is also given to unattractive and man-made visual elements of vista, a landscape or any other things that make a person not to feel comfortable to look at. The purpose of this study was to identify repercussion of visual pollution and its influenceon public psychological health of some people in Duhok Centre and suburbs and also Zakho-Duhok Road. The results showed us from this study after presenting a group of photographs related to some cases of visual pollution on 500 people from of different age consisted of group of females and males during nine months from August 2017 to May 2018 from the Centre of Duhok and its Suburbs and the road linking the City of Zakho and Duhok that there was a discrepancy in the cases of Psychological discomfort for those people who were questioned resulting from looking at that image related to visual pollution and lead to the occurrence of some cases of Psychological illnesses. The good planning and managing is neglected by Government adding the lack of awareness about reducing the visual pollution and other types of pollution on a daily basis and working in harmony with a clean environment through activating and enforcing environmental protection laws.

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INTRODUCTION

We are aware of various types of pollution: water pollution, air pollution, noise pollution. All these kinds of pollution can be measured and quantified, but certain forms of pollution affect our aesthetic senses, are very difficult to measure and identify. This type of pollution is called aesthetic pollution. visual pollution is one of them [1]. The impacts of visual pollution are in tremendous enhancement tremendously day after day to understand what does visual pollution mean it disturbs the visual areas of people by creating negative changes in the natural environment. Billboard, open storage of trash, space debris, telephone towers, electrics wires, building and automobiles are forms of visual pollution. The overcrowding of an area results in visual pollution. Moreover, Visual pollution is defined as the whole of irregular formation, which is mostly found in natural and built environment [2]. Visual clutter can be experienced in daily life in messy desk to the congested street, it may impair a person's ability to find certain objects in such environments or in finding a person, we are trying to meet in the street [3].

Corresponding author:* **Sagvan Ageed
Department of Environmental Science, Faculty of Science, Zakho University, Zakho, Iraq

Cables or wires running in the urban areas in quite unorganized way, billboards are arranged and dazzling. Old dilapidated buildings dumped construction materials utility poles and sky writing [4]. Children closely associated with visual pollution from childhood are generally bereft of subtle aesthetics and they get familiar with these unsightly surroundings, even lose their natural desire to correct it [5]. The haze obscure visibility is occurred. It is caused when light is absorbed or scattered by pollution particles such as sulphates, nitrates, organic carbon compounds, soot, and soil dust. Nitrogen dioxide and other pollution gases also contribute to haze. Haze is most dramatically seen as a brownish-grey cloud hovering over cities, but also obscures many beautiful vistas in U.S national parks. At acedia national park in Maine, visual range on a clear day canreach 199 miles. On a hazy day, that can be reduced to 30 miles. At its worst, haze at Grand Canyon national park was so severe that people could not see across the 10-miles wide canyon. An enormous coal-fired electric plant, the Navajo power generating station, about 80 miles north Grand Canyon, was thought to be the source of the pollution causing canyon haze. In 1985 researching at Colorado State University injected methane-containing deuterium into the power plant's smoke emissions.

Deuterium is not normally present in the air, when monitors deter mind that the presence of responsible for much of the canyon haze. The result was a landmark settlement in which Navajo's owners agreed to a 90-percent cutback in sulphur dioxide emissions by 1999. Utility boilers and vehicular emissions are both major source of haze-casing pollution. The haze problem is greatest on the east coast of the united states because of the higher level of pollution and humidity in that region. The pollution that causes haze can travel thousands of miles, and improving regional visibility requires interstates cooperation. Wood smoke is a contributor in the west, and forest fire smoke and windblown dusts are natural source of haze. The pollutants that cause haze are also of great concern [6].

Visual blight-billboards, power lines, cell towers, even ugly buildings literally in the eye of the beholder are subjective for the businessperson, a well-placed billboard may be addressed as athing of beauty. However, to the traveller whose view of the rolling hills or the rustic village is obstructed, it is depicted visual pollution.

Billboards proliferated in the 1940s and 1950s, spurred by the growth of automobile traffic and construction of interstate highway system, but in 1965 ladybird Johnson, wife of President Lyndon Johnson, attacked their growing presence on our nation's roadway. Ugliness is so grim [4].

MATERIAL AND METHODS

1. Interview with 500 people of different ages and races from Duhok governorate
2. Presenting several images of visual pollution cases for (500) people to express their views and attitudes about visual pollution
3. photographs were taken for different types of visual pollution in (DuhokCenter) and (Duhok Suburbs) and also in (Zakho- Duhok Road) by using (Samsung galaxy camera)

RESULTS AND DISCUSSION

In the course of our interview with interviewees in the study, the number of people questioned by us was about 500 of different segments from Duhok governorate. How car accident and dust storm, waste, Graffiti and ugly view effect on their emotion and mind'' finally and in the end of our visit we obtained the result that 31% of people are very uncomfortable of these cases, 62% are uncomfortable, 7% are normal. We found out from their questioning that the largest number of them were very speculative. This means that evidence can be confirmed through some of the interviews, some of them have experienced tension and discomfort from looking sceneries of below figures, this means that evidence can be confirmed through some of the interviewees. Some of them have experienced tension and discomfort from looking sceneries of below figures, this is consistent with the obtained data to verify the validity of the results obtained from the study as shown in table (1).

To discuss this subject and its effects the researcher we based our study on some of the below figures form of pollution in Duhok region including fog, dust, public and commercial advertising, waste, sign of traffic and graffiti. In addition we found that most of the cases of pollution mentioned were of human's activism and a few of them were natural, such as fog and dust. Moreover, most of these cases can be solved and treated first through awareness and then through the enforcement of environmental laws.

Table 1 Response of 500 people

Response	Number	%
Uncomfortable	155	31%
Very uncomfortable	310	62%
Normal	35	7%
Total	500	100%

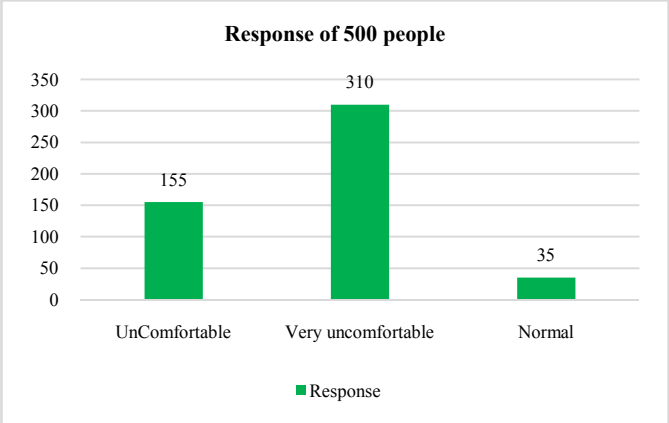


Table 2 Data analyzed by (one-way Anova)

"Kruskal-Wallis test"			
P value	0.3679		
Exact or approximate P value?	Gaussian Approximation		
P value summary	Ns		
Do the medians vary signif. (P < 0.05)	No		
Kruskal-Wallis statistic	2.000		
Dunn's Multiple Comparison Test	**Difference in rank sum**	**Significant? P < 0.05?**	**Summary**
Uncomfortable vs Very uncomfortable	-1.000	No	Ns
Uncomfortable vs Normal	1.000	No	Ns
Very uncomfortable vs Normal	2.000	No	Ns

Soil dust

This is the result of the wars that gripped Iraq in the Second Gulf War and the result of the heavy movement of military vehicles on the southern Iraqi territories, which directly affected the natural state of the components of the land earth, which made them loose and heavily affected from the air storms to the lack of rainfall and the scarcity of vegetation in the logic For these reasons, dust influences vision and overall health.



Figure 2 Illustrated the Soil dust pollution/visual pollution/Zakho-Duhok road



Figure 3 Illustrated the Soil dust pollution/visual pollution/Zakho-Duhok road

Haze

One form of visual pollution is also obscure visibility. It is made when light is absorbed or scattered by pollution particles such as sulphates, nitrates, organic carbon compounds, soot, and soil dust. Nitrogen dioxide and other pollution gases also produce haze. Haze is most dramatically observed as a brownish-grey cloud hovering over cities, but also obscures many beautiful vistas. The haze problem is greatest on the east coast of the united states because of the higher level of pollution and humidity in that region. The pollution that causes haze can travel thousands of miles. The state of fog in the area of Duhok and its environs rarely occur due to the lack of plants that results in the emission of gases, which lead to the emergence of the fog that affect the vision causing the visual pollution.

The phenomenon of random electric wires

The unplanned random electric wiring extended between the residential neighborhoods by the owners of the electric power generators transformers deployed in Duhok and its environs is another phenomenon and psychological scenes that influence the viewer and is consider as a case of visual pollution.

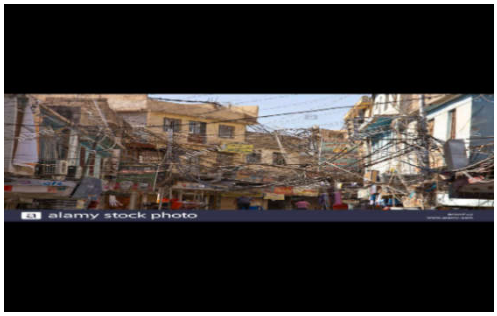


Figure 4 Illustrated the phenomenon of random electric wires/ visual pollution/DuhokCenter



Figure 5 Illustrated the phenomenon of random electric wires/ visual pollution/DuhokCenter

Unregulated commercial and public advertising

Unregulated public and commercial advertising in the city affects the psychological state of some people while looking at it and this is also a case of visual pollution.



Figure 6 Illustrated Unregulated commercial and public advertising/ visual pollution/DohukCenter

Graffiti Sign

Graffiti is an unhealthy phenomenon and expresses the psychological state of some people. This, in turn, affects the psychological state of some citizens during the consideration of these writings and diagrams. It is also a counted as a case of visual pollution.



Figure 7 Illustrated Graffiti Sign/ visual pollution/DuhokCenter



Figure 8 Illustrated Graffiti Sign/ visual pollution/DuhokCenter

Waste

The widespread waste in some residential neighbourhoods in Duhok and the administrative negligence by the concerned parties in removing and treating them in a timely manner leaves a negative impact on the mental state of citizens. This is another form of visual pollution.



Figure 9 Illustrated the waste pollution/visual pollution/Suburbs of Duhok



Figure 10 Illustrated the waste pollution/ visual pollution/Suburbs of Duhok

Traffic sign

Immediately after a car accident, and for several days afterwards, people usually experience being in shock. Shock can felt at different manners for everyone, but common signs include feeling numb, being in emotional distress, continuing to feel afraid even though the event is over, or having unpredictable mood swings.



Figure 11 Illustrated the traffic sign/visual pollution/zakho-Duhok Road



Figure 12 Illustrated the traffic sign/visual pollution/Zakho-Duhok Road

Recommendation

We recommend to the concerned authorities to take into consideration all necessary steps to decreases the rate of the visual pollution inside Duhok province.

1. Introducing new communication technologies.
2. Advertising on social media website and mobile device applications.
3. Decreasing the hours of watching TV.
4. Determining the distance between the person and the TV.
5. The best solution, most people agree, is the education of youth grades 1 through 6.
6. They must see that graffiti vandalism is unacceptable, negative behavior and learn community leadership and community responsibility.
7. Activation our communities, preservation our distinctive scenic heritage, and regaining our sense of place by stopping visual pollution.
8. Organizing the random electric wires associated with the various residential neighborhoods belonging to the civil electrical transformers andmust be preferably buried underground.
9. Organizing commercial, regular and electronic advertising
10. Coordination of the quiet colors during the cooking of the neighborhoods and reducing the stark types.
11. Reduction of the high lights within cities.
12. Removal and treatment of rubble and waste.
13. Encouraging intensivevegetation in the city.
14. Imposing the government to enforce environmental laws.
15. The Traffic Directorate of Dohuk should be urged to clarify traffic signs to suppress the unfortunate incidents that affect the psychological status during the consideration of such incidents and execution of strict laws against violators.

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