

Visual pollution manifestations negative impacts on the people of Saudi Arabia



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ABSTRACT

Visual pollution takes many forms, but it shares its essence with regard to its relationship to confusion in the brain's processing of inconsistent visual inputs, which negatively affects the individual's health in general, and in particular his mental and psychological health. This research is shedding light on the benefits and significance of physiological health positive impacts aspects of visual pollutions. It also highlights the problems associated with Visual prolusion and suggested the way and significance of removal and getting rid of it. Negative visual views are surveyed and documented by displaying some pictures reflecting the current view of the visual pollution. It also displays the directives and plans of the ministry of municipal and rural Affairs to remove and get rid of visual pollution in the kingdom. The paper suggested that policies should be created, rules should be activated and different media should be encouraged to aware people of the importance of the removal of Visual pollutions and its hazardous on people's health as well as the general view of the environment.

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1. Introduction

Nowadays the issue of pollutions has become an issue since many kinds of pollutions have been classified and they have negative impacts on our routine lives (Manisalidis et al., 2020). Besides water, land, and air pollutions there are some other types of pollutions effects on our lives. One of these types is visual pollution which is new and affects our life significantly (Manisalidis et al., 2020). Two types of negative pollutions are found in the field of pollutions, these are; visual blight which refers to views such as high-tension lines, signboards, ugly buildings, etc. and visual clutter which can be experienced in daily life such as congested streets congested car parks, etc. (Asher et al., 2013).

The research problems intend to find out suggestions for reducing the negative impacts of visual pollution manifestations on the surrounding environment. The researchers believe that this study

will be of interest to the reader as it can be a source of information to the negative impacts of visual pollution manifestations reduction on the surrounding environment and, therefore, finds ways and means of getting rid of such wastes. This study will also be of interest to people, who do not have enough knowledge about the negative impact of visual pollution manifestations reduction out of the reachable sights of residents and passers-by's as well as to those who need to boost their commercial race without negatively impacting the visual pollution, can as well benefit from this research. Developers and construction engineering firms and their counterparts in the building industry who are held responsible for the negative impacts of visual pollution manifestations accumulation on the surrounding environment can also benefit from this research. In this research, it assumed that people of all ages being both family members and their servants who personally dispose of waste, passersby who threw away waste everywhere they go and the municipality health authority waste collectors who suffer the most from waste disposal have to be aware of the significance of proper waste disposal and the proper placing of stickers on walls and street poles on their surrounding environment in search for avoiding visual pollution manifestations. Exemplars of the negative impacts of waste disposal

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on the visual pollution of the surrounding environment, waste disposed of nearby a tree box in front of residences in Buraydah (Fig. 1), Municipality Health Authority plastic waste containers in front of houses in Buraydah (Fig. 2) and chemical reactions of disposed of liquids in front of a building block in the Qassim University in Buraydah (Fig. 3), all photographed by the researcher between the 17th and the 26th of September 2020. A reckless placing of stickers on walls and street poles at Assir region (Fig. 4) and the same is happening at the Jubail Municipality Health Authority where billboards were removed (Fig. 5).

Visual pollution is an aesthetic issue referring to the impacts of pollution that impair one's ability to appreciate a pleasant view. It causes destruction in the visual environment surrounding people by disturbing their surrounding sceneries. Disposing of the various waste types as well as the reckless placing of stickers on walls and street poles in addition to the random placing of antennas and overhead electric power wires has a negative physiological impact on humans' modes. According to Nagle (2009), nowadays cell phone towers have worsened the situation. People and vehicles overcrowd in an area cause visual pollution. Visual pollution is defined as the whole of irregular formations mostly found in nature. Effects of exposure to visual pollution include distraction, eye fatigue, decreases in opinion diversity, and loss of identity. It has also been shown to increase biological stress responses and impair balance as Yilmaz and Sagsöz (2011) affirmed. Based on Yilmaz and Sagsöz's (2011) studies; it is more serious in historic cities as silhouettes, the faces of the physical structure, and historical accumulation of cities, add to the visual pollution negative impact.



Fig. 1: Waste disposed of nearby a tree box in front of residences



Fig. 2: Municipality Health Authority Waste plastic containers in front of houses



Fig. 3: Chemical reactions of disposed of liquids in front of buildings



Fig. 4: Reckless placing of stickers on walls and street poles at Assir region



Fig. 5: The Jubail Municipality Health Authority where billboards were removed

2. Visual pollution constituents

Municipality Authorities of urban areas sometimes lack control over what is built and assembled in public places. As businesses look for ways to increase the profits, cleanliness, buildings and the general use of space in the form of different structural types are suffering from visual clutter. Lynch (1960) identified visual elements of the mental image that shape the city's memory: Paths, edges, districts and neighborhoods, landmarks, and nodes. According to Lynch (1960), the nature of these elements varies from one city to another in terms of size, shape, and function. Variations in the Architectural and urban elements in any built environment are determined by the location of street furniture such as public transport stations, garbage cans, large panels, and stalls. Street name signs identify streets for the unfamiliar, especially benefiting visitors, postal workers, and emergency services. They may also indicate the district in which a street lies. Benches are usually found in central parts of settlements, such as plazas and parks. They are often provided by the local councils or contributors to serve as a place to rest and admire views. Armrests in between are sometimes provided to discourage lying down and unwanted closeness. Bollards are posts, short poles, or pillars placed to prevent vehicle movement into areas where they are not desired and to protect buildings and other site features. Litter bins are strategically placed to try to entice people into not littering on the streets. Postboxes, also known as mailboxes, are found throughout the world and have a variety of forms. Phone boxes or telephone booths are prominent in most cities. While they range drastically in the amount of cover, they offer users. Streetlamps are designed to illuminate the surrounding area at night, serving not only as a deterrent to criminals but more importantly to allow people to see where they're going. The color of streetlamp bulbs differs but is generally white or yellow. Traffic lights or traffic signals usually include three colors: Green indicates vehicles should proceed through an intersection; amber indicates vehicles should prepare to stop, and red indicates vehicles should not enter the intersection. They are generally mounted on poles or gantries or hung from wires. Traffic signs

communicate road conditions to inform safe driver behaviors. Postings may specify aspects such as speed limits, intersection protocols, and slippery road conditions, or reduced visibility. Direction signs tell the reader the way to a location through diagrams or written instructions. Signs may be illuminated to aid night-time users. Public lavatories offer restroom facilities, either for free or for a fee. Fire hydrants and Poster poles or advertising columns provide space for advertising. Waste containers or litter bins are receptacles for public garbage disposal. Collection and separation of recyclable materials are becoming more common in urban centers. Insensitivity of local administration is another cause of visual pollution. For example, poorly planned buildings and transportation systems create visual pollution. High-rise buildings, if not planned properly or sufficiently, can bring adverse change to the visual and physical characteristics of a city, which may reduce said city's readability. A frequent criticism of advertising is that there is too much of it. Billboards, for example, have been alleged to distract drivers, corrupt public taste, promote meaningless and wasteful consumerism and clutter the land. However, with the introduction of new communication technologies, the fragmentation and incentive nature of advertising methods will improve, reducing clutter. Advertising or marketing clutter refers to the large volume of advertising messages that the average consumer is exposed to on a daily basis. One explanation, in a general sense, is that advertising clutter is often a result of a marketplace that is overcrowded with competing products. Heightened competition from this phenomenon has led to the emergence of other

advertising strategies, including Guerrilla marketing coined by Levinson (1984), which is an advertisement strategy in which a company uses surprise and unconventional interactions in order to promote a product or service. An eyesore is something that is largely considered to look unpleasant or ugly. Its technical usage is as an alternative perspective to the notion of the landmark. Common examples include dilapidated buildings, graffiti, litter, polluted areas, and excessive commercial signage such as billboards. Some eyesores may be a matter of opinions such as controversial Modern and Contemporary architecture such as the Spite house, transmission towers, or wind turbines. Natural eyesores include feces, mud, and weeds.

2.1. Visual pollution in the Kingdom

The Kingdom has 13 regions (Fig. 6). Everything related to the spatial environment in the squares of cities, villages, and suburbs, and even in the wilds and seas, hurts the eye and distorts nature, it is considered as visual pollution, and certainly, visual pollution is man-made making changes leading to distortion in so many places.

Visual pollution differs from one region to another and from one city to another, and the Ministry of Municipal and Rural Affairs is focusing on it, as it is the authority concerned with reforming what has been happening as a result of the visual pollution in the Kingdom, and the urban landscape program is the basis for removing visual pollution defined in 30 manifestations.



Fig. 6: The Kingdom has 13 regions among which Hail is divided into four administrative provinces

The programs that aim to improve the urban landscape, launched by the Ministry of Municipal and Rural Affairs, take multiple stages, processes, and procedures, as part of the ministry's endeavor, to preserve the urban identity in the cities and villages of Saudi Arabia by adhering to the national urban

strategy within the municipal transformation program emanating from Saudi Vision 2030 And the National Transformation Program 2020.

Some types of visual pollution that occur is either due to the overlapping of specializations between different ministries and agencies and remain without

a decisive solution, or by the action of the profitable sector of companies, institutions, and employers who have carried out improvements but caused defects, faults and distortions in some areas, or because of individuals who lack a sense of responsibility in carrying out acts of sabotage and pollution of the spatial environment to which they belong, therefore, visual pollution increases by time.

There are undeniable and commendable efforts made in the Kingdom by the ministry, the secretariats, and the concerned municipalities, but besides the programs and budgets some ideas, opinions, and visions require the cooperation of the private sectors and businessmen. These culminated efforts by these community partnerships in real national initiatives are necessary to remove the elements of visual pollution.

In the year 2018, the Ministry of Municipal and Rural Affairs of the Kingdom entrusted the municipal councils to limit the manifestations of visual pollution, which they identified as 30 manifestations, in the neighborhoods, streets, and squares of cities and towns in the Kingdom. Based on a decree issued by the Ministry of Municipal and Rural Affairs directing the municipal councils, in coordination with the municipalities, to address and remove the specific aspects that are considered pollution, and to develop solutions to remove and get rid of them urgently, as part of an initiative launched by the ministry to improve the urban landscape of Saudi cities.

Exemplars of the 30 manifestations of pollution are; the poor urban planning, the repulsion of building facades and their colors, the random spread of street vendors, and the Poor coordination in public service projects. In order to remove and get rid of the manifestations of pollutions, the Ministry of Municipal and Rural Affairs suggested the commencement by improving the urban landscape in the cities of the Kingdom to be initiated by the municipal council in each region making an inventory of the existing features or any aspect that the members may see distorting the general view within the scope and supervision of the municipal councils, then coordinating with the other municipalities to study and discuss them, to eventually develop programs and solutions to remove and get rid of the manifestations of pollutions. In this regard, the Ministry of Municipal and Rural Affairs directed that this task should be completed as soon as possible.

2.2. Directives and plans of the ministry of municipal and rural affairs to remove and get rid of visual pollution in the Kingdom

For the removal and getting rid of Visual Pollution in the Kingdom, the Ministry of Municipal and Rural Affairs set a plan within which two steps were made and handed over to the municipal councils. In the first step, the 30 visual pollution manifestations were categorized into two main

types; Buildings Side facades and Circulation Obstructions and distortions.

2.3. Building side facades

Building Side facades according to [Knaack et al. \(2014\)](#) are generally referred to as exteriors, frontages, or faces of the building's sides, usually the front or the one mainly seen by passersby. The list determined by the Ministry of visual pollution in cities in the Kingdom included 30 manifestations, most notably poor urban planning, [Fig. 7](#) diversified land uses within cities ([Fig. 8](#)), the dissonance of building facades and their colors ([Fig. 9](#)), different cladding materials, and non-homogeneous architectural styles ([Fig. 10](#)).



Fig. 7: Poor urban planning



Fig. 8: Diversified uses land within cities



Fig. 9: Dissonance of building facades and their colors



Fig. 10: Non-homogeneous architectural styles

In addition to the many defects in construction ([Fig. 11](#)) leaving the side façades in some buildings on the main roads without external cladding or plaster ([Fig. 12](#)), and the heights of buildings dissonant with each other ([Fig. 13](#)), their irregularity and proportionality with the surrounding urban spaces ([Fig. 14](#)), the lack of urban spaces within cities to the aesthetic elements, afforestation, and landscape elements ([Fig. 15](#)).

2.4. Circulation obstructions and distortions

The list included the congestion of road networks ([Fig. 16](#)), and the random parking of cars in the streets and squares ([Fig. 17](#)). There is as well the indiscriminating spread of vending cars and street vendors on sidewalks and city streets ([Fig. 18](#)), and the communication towers on the roofs of buildings and in the vacant lands of public facilities ([Fig. 19](#)).



Fig. 11: Many defects in construction



Fig. 12: Leaving the side façades on the main roads external cladding or plaster



Fig. 13: Heights of without buildings dissonant with each other



Fig. 14: Building's proportionality elements, afforestation, urban spaces



Fig. 15: Lack of urban spaces irregularity and within cities to the aesthetic with the surrounding and landscape elements



Fig. 16: The congestion of road networks



Fig. 17: The random in the parking of squares cars the streets and squares



Fig. 18: The indiscriminating spread of vending cars and street vendors on sidewalks and city streets



Fig. 19: The communication towers on the roofs of buildings and in the vacant lands of public facilities

In addition to the continuous construction and restoration of buildings inside neighborhoods and the resulting waste (Fig. 20), poor coordination in the implementation of public service projects (Fig. 21), in addition to concrete bridges and the visual obstruction and distortion they cause to the surrounding areas (Fig. 22), and the spread of concrete castings and excavations in the roads and streets of cities as a result of the continuous implementation of public service projects in neighborhoods and main roads, and their construction waste (Fig. 23), and the continuous demolition in vacant lands and neighborhood streets inside cities, in valleys and torrents, and open places outside cities (Fig. 24) and lastly the spread of advertising and commercial boards randomly (Fig. 25).



Fig. 20: Construction and restoration of buildings inside neighborhoods



Fig. 21: Poor coordination in the implementation of public service projects



Fig. 22: Concrete bridges and the visual obstruction and distortion they cause to the surrounding areas



Fig. 23: The spread of concrete castings and excavations in the roads and streets of cities



Fig. 24: The continuous demolition in vacant lands and neighborhood streets inside cities

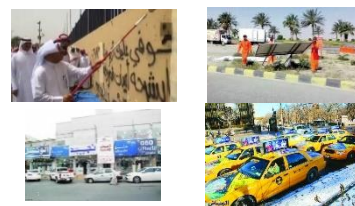


Fig. 25: The spread of advertising and commercial boards randomly

2.5. Steps to improve the urban landscape

The Ministry of Municipal and Rural Affairs suggested four steps to be followed by the municipal councils to ensure the removal and getting rid of Visual Pollution in the Kingdom. These steps are as follows; making an inventory to all visual pollution manifestations by the municipal councils, Coordination of the municipalities among themselves to study and discuss all visual pollution manifestations, developing programs and solutions in regards to all visual pollution manifestations, submitting what is done in this regard to the Ministry. The Ministry made an inventory in which it suggested the most common scenes of visual pollution as follows; The repulsion of building façades and their colors (Fig. 9), the different cladding materials and architectural styles Fig. 10, Poor urban planning, and contrasting contiguous uses within cities (Fig. 7), Poor coordination in implementing public service projects (Fig. 21), The indiscriminate spread of vending vehicles and street vendors, figure 18 and lastly the spread of advertising and commercial boards randomly (Fig. 25).

2.6. Visual pollution and the psychological aspects of the individual

Inevitably, it should be said that visual pollution has negative repercussions on the general health of the individual, especially his mental health, (Vuilleumier and Driver, 2007). The following are six of the most prominent negative repercussions that individuals may suffer from visually polluted environments; first, the distraction and lack of focus: as it is often noticed in our daily life that the presence of visual chaos around us can weaken our ability to focus, especially when performing tasks that require a high level of focus. Some researchers consider that the presence of visual distractions around us most often leads to intellectually parallel dispersion, (Banerjee, 2017). So, experts advise arranging the working environment for greater efficiency. However, this claim should not be generalized to everyone, as there are creative models that were at their height regardless of the surrounding chaos around them, such as the physicist Albert Einstein and the philosopher and poet Gaston Bachelard. However, the results of psychological research indicate that the nature of the human mind often adapts to the nature of the surrounding environment around it.

The second is stress; the results of some research in this regard indicated that visual-spatial disruption is negatively related to individuals' stress levels. This has been proven through several experimental and field studies, all of which indicated the existence of a compelling relationship between visual pollution, spatial pollution, and the level of stress the individual encounters. The third is Anxiety; as despite the clear similarity between the symptoms of stress and anxiety, the latter differs psychologically

in that it is general and chronic, and it may include more mental components according to the known psychological classifications. Some studies indicate that being in visually disturbing environments may lead to chronic anxiety, sleep problems, and thoughts that contribute to feelings of panic. It seems that the human mind naturally prefers the arrangement around it, so it begins to get disturbed, reflected in the physiological state, due to the connection of mental aspects with physiological aspects. The fourth is the disorder in the mental processing of the visual inputs. It is known scientifically, as mentioned earlier, that the brain processes a large number of visual inputs per second, but the problem is when the number of visual inputs is enormous, and unorganized, in this case, the brain is likely to have difficulty recognizing objects in the environment, as thoughts begin to interfere, and it is difficult for the brain to relate objective objects to associated meanings. All this leads to a slowdown in mental processes, which will negatively affect the nature of human interaction with the surrounding environment around him. The fifth and the last are the problems with thinking and mental health. As a result of the earlier mentioned points, visual pollution in the environment almost inevitably leads to problems at the level of ideas. Some researchers estimated that there is a relationship between spatial arrangement and some mental disorders, such as some personality disorders, schizophrenia, and bipolar disorder. Those who suffer from these disorders and similarities tend to neglect the order and arrangement in their environment, which will negatively affect the internal balance.

3. Conclusion

Visual pollution is one of the forms of pollution that is no less dangerous than other common types of pollution (such as noise pollution, air pollution, and others). Visual pollution takes many forms, but it shares its essence with regard to its relationship to confusion in the brain's processing of inconsistent visual inputs, which negatively affects the individual's health in general, and in particular his mental and psychological health. Perhaps it is important to pay attention to the repercussions of this phenomenon in the concerned people context in particular, given the neglect we see in this aspect by their counterparts and those who do not care much about visual pollution with its negative impact on their physiological aspects. The responsibility of avoiding visual pollution rests first on the individual, in terms of his interest in arranging and harmonizing the narrow environment around him beginning by his house or wherever he resides, then extends to the wider surrounding environment as his district and neighborhood and then comes the role of local governments and organizations as the Ministry of Municipal and Rural Affairs and its municipal councils who are working hard to ensure the removal and getting rid of Visual Pollution in the Kingdom. It must take into account the individual's

comfort and safety by taking collective measures that reduce the level of pollution in all its forms, without diminishing the importance of the different types of pollution, taken into consideration all visual pollution manifestations together and whatever pose a real threat to the safety and balance of the individual. The ever-continuing efforts of the Ministry of Municipal and Rural Affairs and its municipal councils together with the efforts of the Ministry of Education in trying to benefit from primary schools students, intermediate level schools students, high secondary schools students most importantly university students as human forces in initiatives that motivate them in presenting social responsibility to the nation are one of the solutions proposed in order to contribute to ensuring the removal and getting rid of Visual Pollution in the Kingdom presently and in the very near future. The Culture and significance of the removal and getting rid of Visual Pollution manifestations should be incorporated in school curricula as early as the nursery, primary, intermediate and secondary level reaching to university level where the Culture and significance of the removal and getting rid of Visual Pollution manifestations programs should be encouraged and career opportunities for graduates should be abundantly provided in the Ministry of Municipal and Rural Affairs to contribute in its present and the upcoming future promising removal and getting rid of Visual Pollution manifestations projects as the New Future (NEOM) projects. People working to create visual pollution awareness should be focused on in the media by creating TV, Radio and all other Social Media visual pollution awareness programs especially those managed, directed, and followed by the government. These people should be called upon to these public media to tell the experience, show contributions and reflect the psychological healthy state of the of mind benefits gained out of the removal and getting rid of Visual Pollution manifestations as they do in their daily interesting life. Research papers shedding light on the culture and significance of the removal and getting rid of Visual Pollution manifestations and on the different ways and means to boost one of the most significant psychological health positive impacts aspects should be encouraged and most significantly seeks the implementation of their realistic and practical recommendations at the various aspects ranging from religious aspects advocated by Islamic clergies to cultural aspects advocated by TV programs, Cinema and Theatre shows and recreational aspects advocated by the Drama and the like. The different media should provide, create, encourage TV, Radio, and all other Social Media the removal and getting rid of Visual Pollution manifestations programs especially those managed, directed, and followed by the government in form of documentaries, series, film shows, stage shows, drama, open theatre performances, and all other means possible to spread the culture and significance of the removal and getting rid of Visual Pollution manifestations. Food ball tournaments

arenas should as well play a vital role by showcasing such activities at local, regional, and international levels on their field sides' digital screens advocating the culture and significance of the removal and getting rid of Visual Pollution manifestations. The Ministry of Municipal and Rural Affairs and its municipal councils should adopt means of encouragement as awarding shields, medals, and money prizes for those who volunteer in spreading the culture and significance of the removal and getting rid of Visual Pollution manifestations as well those who volunteer in the campaigns organized for the removal and getting rid of Visual Pollution manifestations in their localities and other places. They should also devise smart means and ways of removing and getting rid of Visual Pollution manifestations as the smart recycling machines and the payable getting rid of the waste machines. The role of strict penalties that must be issued and enforced by the Ministry of Municipal and Rural Affairs and its municipal councils against every sector, entity, or individual who has committed a crime against the land, water, and air Visual Pollution would be one of the best ways and means of the removal and getting rid of Visual Pollution manifestations in the Kingdom. The kingdom has commenced the removal and getting rid of Visual Pollution manifestations since 2008. And is seriously and restlessly working towards achieving that and will definitely and eventually succeed in this attempt depending on its people's awareness, collaboration, and their belief in the significance of their health in the sustainable development of their state which they so much admire. The result of this research is the same as the result of [Jana and De \(2015\)](#). Both results have indicated the importance of reduction of negative pollutions from the environment ([Jana and De, 2015](#)).

Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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