
Politics maybe... visual pollution: No!

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Abstract :

Visual pollution is an underexamined form of environmental degradation that affects both aesthetic and ecological aspects of natural and anthropogenic landscapes. This discussion paper provides a comprehensive analysis of visual pollution, with a focus on its exacerbation by political advertising in coastal cities in the Caribbean region of Colombia. Despite existing regulations, such as Colombia's Law 140 of 1994, ineffective enforcement has led to an escalation of the issue. The study proposes a multipronged mitigation strategy that includes regulatory measures, technological solutions, stakeholder collaboration, sustainable campaigning, and monitoring and evaluation. The findings have broader implications for addressing visual pollution globally, emphasizing the need for cross-disciplinary research and stringent policy enforcement.

Highlights

► Visual pollution is an important form of environmental degradation. ► The role of political advertising as a significant source of visual pollution is emphasized. ► Issue with a broader global relevance, affecting coastal cities worldwide. ► The ineffectual enforcement of existing regulations has contributed to the exacerbation of visual pollution. ► Multi-disciplinary approach and stringent policy enforcement are necessary.

Keywords : Visual pollution, Political advertising, Environmental degradation, Coastal city, Mitigation strategies

Coastal pollution encompasses human-induced activities that negatively impact the coastal environment, such as the introduction of harmful substances or energy, as well as alterations and destruction of natural landscapes (Russell 1974). These activities culminate in detrimental outcomes, including ecosystem degradation, risks to human health, impediments to marine operations, diminishment of resource quality, curtailment of amenities, and erosion of aesthetic value (Vikas and Dwarakisj 2015; Kumar 2021). While coastal pollution has persisted since the initiation of large-scale agriculture and industrial processes, meaningful international regulatory frameworks specifically aimed at mitigating this issue have only been established in the latter half of the twentieth century (FAO 2017; UNEP, 2020).

Visual pollution may be less addressed inside all existing types of coastal pollution, despite its high importance and adverse effects on the environment (Rangel-Buitrago 2019). Visual pollution is a form of environmental degradation that results in the visible deterioration of both natural and anthropogenic landscapes. This form of pollution triggers secondary impacts that affect the aesthetic and ecological quality of various landscapes (Kay and Alder 1999). It compromises the functional integrity of these areas, thereby negatively affecting the well-being of human and nonhuman species within the affected ecosystems (Pilkey et al., 2011).

Coastal cities in the Caribbean region of Colombia provide a poignant case study on how political advertising aggravates visual pollution. The implications of visual pollution, particularly in the context of political campaigns, are multifaceted and significant, affecting ecological health, public well-being, and urban infrastructure.

Ecologically, the unrestricted use of political banners and billboards degrades landscapes and possibly ecosystem services, especially in ecologically sensitive coastal areas. The materials used for these advertisements often contribute to environmental degradation due to their nonbiodegradable nature, exacerbating landfill issues.

From a **public health** standpoint, visual clutter leads to psychological stress, as it makes overstimulation difficult to evade. The negative consequences also include a diminished quality of life and increased biological stress, impacting the overall well-being of the population. In urban settings, excessive political advertising not only endangers road safety due to driver distraction but also invades public spaces, undermining their intended utility and contributing to urban decay.

Sociocultural ramifications are also equally concerning. The saturation of political messages in the public sphere tends to erode the unique identity of a location, leading to a homogenized, less distinguishable environment. Moreover, the visual dominance of political messages can disproportionately influence public opinion, giving rise to potential polarization. This could, in turn, create social divides that may be hard to bridge, thus weakening the social fabric of the community.

From an **economic** perspective, areas suffering from visual pollution are less attractive to tourists, adversely affecting local economies. Furthermore, property values may decline in regions beset by visual pollution, impacting the economic stability of residents.

Visual pollution exacerbated by political advertising is a global phenomenon, with varying levels of severity influenced by regional governance, political cycles, and cultural norms. Coastal cities are notably vulnerable due to their prominence in tourism and recreation. For example, in the United States, regions such as Florida experience clutter from billboards and political signage along oceanfront highways, impacting both aesthetic and ecological quality. Brazil's coastal cities, such as Rio de Janeiro, face similar issues, especially during election cycles, with advertising material occupying beachfronts and potentially affecting tourism. In India, cities such as Mumbai not only see an increase in political banners but also unauthorized hoardings, contributing to visual clutter. Additionally, Mediterranean countries such as Italy and Greece, known for their scenic coastlines, experience a surge in visual pollution during election periods, thereby diminishing their natural appeal.

In Colombia, the severity of visual pollution has intensified, primarily attributable to political advertising. With impending elections, the extent of visual pollution has reached critical levels (Figure 1). Billboards, banners, posters, and signs inundate public spaces, including sensitive coastal zones. Although authorities occasionally remove these visual obstructions, the scale of the problem outpaces their efforts.

Colombia's existing legislation, Law 140 of 1994, governs outdoor visual advertising nationwide. This law aims to regulate mass communication in public spaces, encompassing pedestrian and vehicular routes. Unfortunately, lax enforcement has amplified the issue.

In the Colombian context, the Consejo Nacional Electoral (CNE) establishes overarching regulations concerning the quantity and locations of political billboards, as well as the volume of political advertising in media channels. These rules are intended to be supplemented by municipal directives, issued through decrees, that specify conditions and public locations for installing electoral propaganda such as banners, billboards, and posters. The ultimate objective of these combined regulatory measures is to prevent excessive and visually obtrusive advertising that could degrade municipal aesthetics or contribute to visual or auditory pollution.

Unfortunately, "everything that is not regulated is allowed," in Colombia. The above means that in the absence of restrictive local decrees, candidates may exploit this loophole to saturate public spaces with electoral material. For example, in many rural coastal areas of the Colombian Caribbean, the absence of local regulations detailing the number of banners for each candidate may have resulted in unrestricted display.

This dual-level regulatory approach has significant implications for managing visual pollution. While it allows for adaptability to local contexts, it also creates opportunities for regulatory lapses and inconsistencies, exacerbating visual pollution. Therefore, this situation

underscores the pressing need for stringent, coordinated policy enforcement across different levels of governance to effectively mitigate the adverse impacts of visual pollution due to political advertising.

The scale of the issue becomes particularly evident when considering the recent statistics of electoral participation. In the upcoming elections, there are 132,553 candidates, marking a 14% increase compared to the last electoral cycle. At least 95% of these candidates resort to the use of billboards, banners, posters, and signs as a primary mode of campaign advertising. This high percentage is not surprising, given that these forms of advertising are among the most cost-effective. However, the sheer volume of visual elements introduced into public spaces, including environmentally sensitive coastal zones, further exacerbates the visual pollution problem.

Integrating these statistics into the current framework, it becomes clear that both the quantity and density of visual advertising materials are overwhelming, stretching the capabilities of existing legislative and regulatory measures. The proliferation of such advertising—intensified by a growing number of candidates exploiting cost-effective yet visually polluting mediums—highlights an urgent need for more rigorous policy reform and enforcement. The data on the number of candidates and their overwhelming reliance on cheap, but visually intrusive, advertising modes underscore the necessity for a more robust and integrated multilevel governance approach to effectively manage and mitigate visual pollution.

The case of visual pollution exacerbated by political advertising in Colombia serves as an illustrative example of how existing legislative frameworks can fail when not rigorously enforced. Given the cyclical nature of political elections, this problem requires strategic, multifaceted solutions. While complete elimination might be impractical given the role of political advertising in democratic societies, management is feasible through a multipronged approach. We propose an approach based on five key areas: regulatory measures, technological solutions, stakeholder collaboration, sustainable campaigning, and monitoring and evaluation.

Regulatory Measures

- **Stringent Enforcement of Existing Laws:** Rigorous implementation of existing legislation, such as Colombia's Law 140 of 1994, is crucial. Compliance must be stringently monitored, and punitive measures for infractions should be sufficiently severe to serve as deterrents.
- **Spatial Zoning:** To curtail the geographic extent of visual pollution, specific zones should be demarcated for the erection of political advertisements. This spatial zoning will confine visual pollutants to prescribed areas, thus minimizing their widespread dispersal.

- **Time-Bound Limitations:** Implement temporal restrictions on the display duration of political advertisements, specifically aligning these limitations to a defined period before elections.

Technological Solutions

- **Digital Billboards:** Transitioning from conventional banners to digital billboards can diminish the aggregate number of needed billboards, thus reducing visual pollution. These digital platforms allow for the sequential display of multiple advertisements.
- **QR Codes:** Employ QR codes on smaller signage to convey additional information, mitigating the need for more voluminous and intrusive billboards.

Stakeholder Collaboration

- **Interagency Cooperation:** A cohesive regulatory framework demands collaboration among urban planners, environmental agencies, and electoral commissions.
- **Public Awareness:** Utilize civic engagement campaigns to heighten public consciousness about the adverse effects of visual pollution, thereby influencing policy adjustments.

Sustainable Campaigning

- **Eco-Friendly Materials:** Promotion of the utilization of environmentally benign materials for political advertising to attenuate its ecological footprint.
- **Online Campaigning:** Leveraging digital platforms for a segment of the political campaign can alleviate the burden on physical spaces, thereby reducing visual pollution.

Monitoring and Evaluation

- **Regular Audits:** Conduct routine evaluations to assess the efficacy of the implemented regulatory and technological measures.
- **Adaptive Strategies:** Strategy adjustment is essential and should be informed by the outcomes of periodic audits to meet the challenges of an evolving landscape.

Policy measures are crucial for managing visual pollution aggravated by political advertising. Effective strategies include legislative revisions, such as bolstering Colombia's Law 140 of 1994 to enforce stricter penalties and target coastal visual pollution specifically. Implementing a rigorous permitting system that includes environmental impact assessments is also essential, especially in ecologically sensitive coastal areas. Public-private partnerships can facilitate the development of responsible advertising guidelines, potentially incorporating

eco-friendly certifications. Tax incentives could encourage investments in sustainable advertising technologies such as digital billboards or biodegradable materials. The establishment of citizen advisory committees can foster community involvement in regulatory decision-making, while environmental offsetting requirements could compel advertisers to invest in remediation efforts proportionate to their campaigns' environmental impact. Surveillance systems and tiered penalty mechanisms can ensure compliance, rendering repeated offenses increasingly punitive.

The issue of visual pollution due to political advertising presents a complex challenge with wide-reaching implications, extending beyond mere aesthetic concerns to impact ecological health, public safety, and socioeconomic conditions. A comprehensive, multipronged strategy is essential for mitigating the detrimental effects of visual pollution. Such a strategy offers the potential not only for aesthetic and ecological improvement but also for enhancing public health and safety.

The ubiquity of visual pollution and its exacerbation by recurring political events have implications that go beyond the Colombian context. Hence, we invite further empirical studies to quantify the impacts and assess the effectiveness of the proposed mitigation measures. A cross-disciplinary approach involving environmental science, urban planning, psychology, and political science could provide a comprehensive understanding of this pressing environmental issue.

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Fig. 1. This figure illustrates the critical escalation of visual pollution in public spaces, including sensitive coastal areas, in the lead-up to elections. The proliferation of billboards, banners, posters, and signs is depicted, emphasizing that the scale of the issue often outstrips authoritative interventions for removal.

